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Can Aspiring CEOs Mitigate Firm's Earnings Management?

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CAN ASPIRING CEOs MITIGATE FIRM'S EARNINGS MANAGEMENT?

by

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DEDICATION

I dedicate this thesis to the soul of my father, my beloved mother, my lovely husband, my beautiful daughters, my brothers and my sister for their endless love, support and encouragement.

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ABSTRACT

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This study investigates the role of subordinate managers in monitoring myopic CEOs' actions to mitigate the earnings management practices. Subordinate managers have longer horizon in the firm compared to the CEO and they have the power to withdraw their contributions to the firm, which will negatively affect the generation of cash flow in the current period. In this study, the researcher uses the mean age difference between the top four subordinate managers and the incumbent CEO as a proxy for the difference in appropriation horizon between the CEO and his/her subordinates. The findings suggest that internal governance, exercised by subordinate managers, can reduce the earnings management of the firm. In addition, the researcher finds that as the CEO age (CEO horizon) increase (decrease); it is more likely that the CEO will manage earnings. Furthermore, the results show a negative relationship between subordinate managers' power and earnings management. These results suggest that the powerful subordinate managers can provide effective monitoring to constrain and counterbalance the potential self-serving actions of the CEOs, otherwise, their ability to monitor the CEO is weak and internal governance would be less effective. Moreover, the researcher shows that internal monitoring is more effective in firms that require a higher degree of firm specific knowledge and skills. The findings are robust after controlling for other governance mechanisms and across different earnings management models and internal governance measures.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

Previous literature has used the term "internal governance" to describe different governance mechanisms such as board of directors, managerial incentives, and anti-takeover provisions (Gillan, 2006). Despite the importance of corporate governance topic, previous studies almost ignore the oversight role of the insider stakeholders as an effective internal governance mechanism. Therefore, the main objective of this study is to emphasize the role of subordinate managers as an alternative governance mechanism to restraint self-interested behavior on the part of the CEO, who wants to extract the maximum possible rent at the expense of the other stakeholders (Acharya, Myers, & Rajan, 2011). In particular, this study examines the effectiveness of internal monitoring, exercised by non-CEO executives, in mitigating the earnings management practices.

Background Information

Since SEC Chairman Arthur Levitt's "Numbers Game" speech before the NYU Center for Law and Business in September 1998, a considerable attention from the public, regulators, and academia has been directed to earnings management practices.[1] Several empirical studies have identified a number of corporate events in which the managers have strong incentives to manage earnings in order to achieve their own interests rather than to reflect the real underlying financial performance of the firms.[2] This trend resulted in adverse consequences to the quality of earnings and the quality of

[1]Levitt (1998) define earnings management as the gray area between legitimacy and outright fraud.

[2]For example, management buyouts (Perry & Williams, 1994), initial public offerings (IPOs) (Teoh, Welch, &Wong, 1998a), and seasoned equity offerings (SEOs) (Rangan, 1998; Teoh, Welch, &Wong, 1998b).

the financial reporting system as a whole. In addition, such practices weaken the investors' confidence toward the management team and the firm's financial reports.

Given the recent wave of accounting scandals that occurred in the international financial community, many criticisms of the financial reporting integrity have been raised (Agrawal & Chadha, 2005). These scandals have shown the necessity for major reforms in corporate governance structure to strengthen the control and monitor mechanisms. In this regard, a vast body of literature acknowledges the importance of different corporate governance mechanisms that might help to improve financial reporting quality. In particular, the link between corporate governance and earnings management practices has been strongly discussed to show that good corporate governance can reduce earnings management practices. Most of previous literature emphasis is placed on specific governance mechanisms such as board of directors and audit committee, ignoring the role of subordinate managers in monitoring the CEO (e.g., Abbott, Park, & Parker, 2000; Agrawal & Chadha, 2005; Beasley, 1996; Bedard, Chtourou, & Courteau, 2004; Davidson, Goodwin, & Kent, 2005; DeZoort & Salterio, 2001; Ebrahim, 2007; Klein, 2002; Park & Shin, 2004; Peasnell, Pope, & Young, 2000; Xie, Davidson, & DaDalt, 2003).

However, an extensive number of studies on corporate governance suggest that these traditional governance mechanisms have limited impact on reducing the agency cost. For example, Hambrick and Fukutomi (1991) and Hill and Phan (1991) argue that CEOs strengthen their position with the board overtime, which in turn may allow them to circumvent board monitoring. In addition, Monks (2008) argue that shareholders have little control over boards and that many boards treat CEOs generously (Bebchuk & Fried,

2004). Moreover, it is costly for institutional investors with short investment horizons to engage in monitoring activities in the firms (Burns, Kedia, & Lipson, 2010). Furthermore, Acharya et al. (2011) state that it is difficult for the operational decisions to be effectively controlled by the market. Moreover, Aggarwal, Fu, and Pan (2013) argue that strong or independent boards could be valuable in times of crises but are too far away from day-to-day operations to add much value to a firm.

Therefore, the academic attention has been turned out to focus on the monitoring role of stakeholders inside the firm, subordinate managers. Subordinate managers, in turn, has a great opportunity to closely monitor CEOs on a daily basis, which is impossible to be fulfilled by the board that only meet a few times in a year, or even by any other traditional governance mechanism. In this regard, Cheng, Lee, and Shevlin (2012) define internal governance as the process through which key subordinate managers provide checks and balances on myopic CEOs. In addition, Aggarwal et al. (2013) argue that bottom-up pressure from subordinates may be as or more important than the more heavily studied top-down board governance mechanisms in mitigating agency problem. Similarly, Acharya et al. (2011) suggest that internal governance, exercised by subordinate managers, can mitigate agency problems and ensure that firms have substantial value even with little or no external governance by investors. They further suggest that internal governance can control CEO behavior even if shareholders are powerless and dispersed. Moreover, Landier, Sraer, Sauvagnat, and Thesmar (2012) document that monitoring by non-executive directors or monitoring by subordinates is to some extent substitute.

The strength of subordinate managers in monitoring the self-interested CEO comes from two sources, their incentive and power. First, subordinate managers have a desire to become the future CEO. Accordingly, their longer time horizon in the firm compared to the CEO direct their focus to the future of the firm instead of the short-term performance. This difference in appropriation horizons between the incumbent CEO and the subordinate managers is the fundamental source that driving internal governance. Second, if subordinate managers see that the CEO will leave nothing behind, they have power to withdraw their contributions to the firm (Acharya et al., 2011) or simply choose to be less enthusiastic in their work (Landier, Sraer, & Thesmar, 2009), which will negatively affect the generation of the current cash flows. Hence, the subordinate managers use their power to force the CEO to act in a more public-spirited and far-sighted way. As a result, incumbent CEO commits to preserve value for the future of his young employee in the firm.

Research Objectives and Questions

This study extend prior literature by providing an empirical evidence that active monitoring from the subordinate managers can help to prevent the managerial opportunistic behavior on the part of the CEO and mitigate the earnings management practices. Accordingly, the following research questions for this study are devised:

1) What is the relationship between CEO horizon and earnings management?
2) Does internal governance measured by the difference in horizons between the CEO and subordinate managers decrease earnings management?
3) What is the relationship between CEO's power and earnings management?
4) Does internal governance depend on the operating industry?

5) Does internal governance add value to the firm after controlling for other governance mechanisms?

Research Methodology

To answer the above questions, alternative measures of discretionary accruals as a proxy of earnings management are used. This study uses different versions of the Jones (1991) model, in which discretionary accruals is computed as the difference between total accruals and estimated nondiscretionary accruals. To proxy for the internal governance exercised by the subordinate managers, the researcher uses two distinct measures: 1) The mean relative age differences between the CEO and the top four subordinate managers to reflect the divergence in their horizons within the firm. 2) Following Bebchuk, Cremers, and Peyer (2011), the researcher uses the fraction of the aggregate compensation of the CEO relative to the total executives' compensation (CPS ratio) to capture the relative importance of the CEO as well as the extent to which the CEO is able to extract rents. The researcher tests the hypothesis using 14,123 firm-year observations from the S&P 1500 firms in the period 2000-2010. The researcher expects to find that a decrease in CEO horizon (increase in CEO's age) is associated with an increase in earnings management practices. In addition, firms with larger difference in horizon between the CEO and the subordinate managers and firms with less CEO dominance are expected to have more effective internal governance and are less likely to engage in earnings management practices.

Importance of the Study

The empirical results are consistent with the researcher's expectations. The findings conclude that there is a negative relationship between CEO horizon and earnings

management. In addition, the researcher finds that internal governance, measured by the difference in horizon between the CEO and subordinate managers, reduces the firm's tendency to manage its earnings and the larger this difference is, the more effective the internal governance. These results are confirmed using the Bebchuk et al. (2011) CEO pay slice to measure the CEO power and dominance. The researcher finds that as the CEO's power increases, the earnings management practices increase. These results hold after control other firm characteristics that might affect the extent of earnings management (e.g., age, size, growth opportunities, leverage revenue and firm's cash flow). Moreover, the results are robust after controlling for other governance mechanisms. Furthermore, the findings indicate that internal governance is more effective for the firm's where the value is more tied to firm-specific human capital. In this regard, the researcher uses Pantzalis and Park (2009) industrial rank of excess value of human capital to differentiate between human and non-human capital industries.

Organization of the Study

The remainder of this thesis is organized as follows: chapter 2 discusses the various definitions and the empirical models of earnings management. Chapter 3 discusses the definitions of corporate governance, investigates the impact of a firm's traditional corporate mechanisms on constraining earnings management, including audit committee and board of directors, and highlights the monitoring role of subordinate managers as an effective internal governance mechanism. Chapter 4 presents the hypotheses of the study. Chapter 5 describes the data and the measures of earnings management and internal governance. Chapter 6 outlines the main results. Chapter 7 concludes the study.

CHAPTER 2

EARNINGS MANAGEMENT: DEFINITIONS AND MEASURES

Introduction

In his speech entitled "The Numbers Game," Arthur Levitt initiated a new focus on deceptive accounting practices in response to the market's increasing focus on corporate earnings (Arthur Levitt, 1998). Corporate earnings are believed to be the most important item in the financial statements because earnings represents a summary of a firm's performance. Hence, earnings are supposed to convey valuable information to shareholders without requiring them to learn about the firm's operation in detail, a process that would be costly and cumbersome and might expose proprietary information to competitors (Ronen & Yaari, 2008). Therefore, earnings are used by wide range of users. For example, investors concentrate on this bottom line with a particular attention paid to earnings per share (EPS). In addition, most analysts use earnings to analyze a company's performance. The expected value of a company's share price is the present value of all of its future earnings; therefore, a company's value is closely related to the increase or decrease in the earnings.[1] Furthermore, the managers are compensated explicitly (salary, bonus, stock options, etc.) and implicitly (job security, reputation, etc.) on the firm's earnings.

Consequently, managers have strong incentives to adjust earnings numbers to the desired level, given that the flexibility of the current financial reporting system provides them with considerable ability and opportunity to manipulate earnings. In this regard, Xie et al. (2003) argue that the nature of accrual accounting gives managers considerable

[1] Francis, Schipper, and Vincent (2003) find that reported earnings numbers are more closely associated with prices than with cash flows, sales and other financial statements' data.

discretion in determining the earnings in any given period. Moreover, according to Teoh, Wong, and Rao (1998), within the boundary of GAAP, managers have several sources to manipulate earnings which, in turn, have the potential to undercut investor confidence in U.S. capital markets by destroying financial reporting transparency and reliability (Arthur Levitt, 1998). This chapter provides an overview of the earnings management's definitions and presents a review of the most popular models used in the literature to detect the presence of earnings management.

Definitions of Earnings Management

In both theory and practice, there is no widely accepted definition of earnings management; it is difficult to define and even more difficult to measure precisely. As a result, there is a growing debate among academics, regulators, and practitioners regarding the precise definition of earnings management. The Panel on Audit Effectiveness (2000) states that "[it] is not aware of a single accepted definition of the term earnings management" (p.77). However, a general understanding of earnings management involves a level of deception, usually done in order to influence some outcome. Scott (2003) states that earnings management is the choice made by a manager of accounting policies in order to achieve specific objectives. Similarly, Giroux (2004) defines earnings management as the planning and control of the accounting and reporting system to meet the personal objective of management.

Probably the most cited definition for earnings management is the one suggested by Healy and Wahlen (1999). They state that

> Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to

> influence contractual outcomes that depend on reported accounting numbers. (p.368)

Healy and Wahlen (1999) demonstrate that there are many ways that managers can exercise judgment in financial reporting. Among others, estimating numerous future economic events, choosing among acceptable accounting methods for reporting the same economic transactions, exercising judgment in working capital management, choosing to make or defer expenditures, and deciding how to structure corporate transactions are possible ways to use judgment in financial reporting. They conclude that the main objective of earnings management is to mislead stakeholders about the underlying economic performance of the firm. This can arise if managers believe that at least some stakeholders will not undo earnings management. In other words, if managers have access to information that is unavailable to outside stakeholders and such earnings management is unlikely to be clear to outsiders.

In their comprehensive review of the accounts manipulation literature, Stlowy and Breton (2004) use an all-inclusive term, "accounts manipulation," which they define as: "The use of management's discretion to make accounting choices or to design transactions so as to affect the possibilities of wealth transfer between the company and society (political costs), funds providers (cost of capital) or managers (compensation plans)" (p.6). In the first two cases, the firm benefits from the wealth transfer. However, in the third case, managers are acting against the firm. Their framework is based on the possibility of wealth transfer from one stakeholder to another that might impact information asymmetry between managers and the other categories of stakeholders. In their framework, they classify the types of accounts manipulation into earnings per share

and the debt/equity ratio. Earnings per share can be manipulated in two ways: first, by adding or removing certain revenues or expenses, and second, by presenting an item before or after the profit used to calculate the earnings per share. The debt/equity ratio can be modified by artificially inflating the profit or by hiding certain financing through off-balance sheet financing devices. Figure 1 presents Stlowy and Breton's framework for the different types of accounts manipulation: earnings management, income smoothing, big bath accounting, and creative accounting.

Stlowy and Breton (2004) argue that manipulation is not fraud. The activities covered by the terms "earnings management" or generally "creative accounting" normally remain within the law. However, they contend that compliance with standards is not an assurance that financial statements present the financial situation of the firm fairly because they don't fall into the "fair presentation" zone, as shown in Figure 2. In this regard, Shah (1996) proposes a new concept –creative compliance– to describe the capacity of creative accounting to remain within the limits of the law while bending its spirit, reinforcing the need for an auditor.

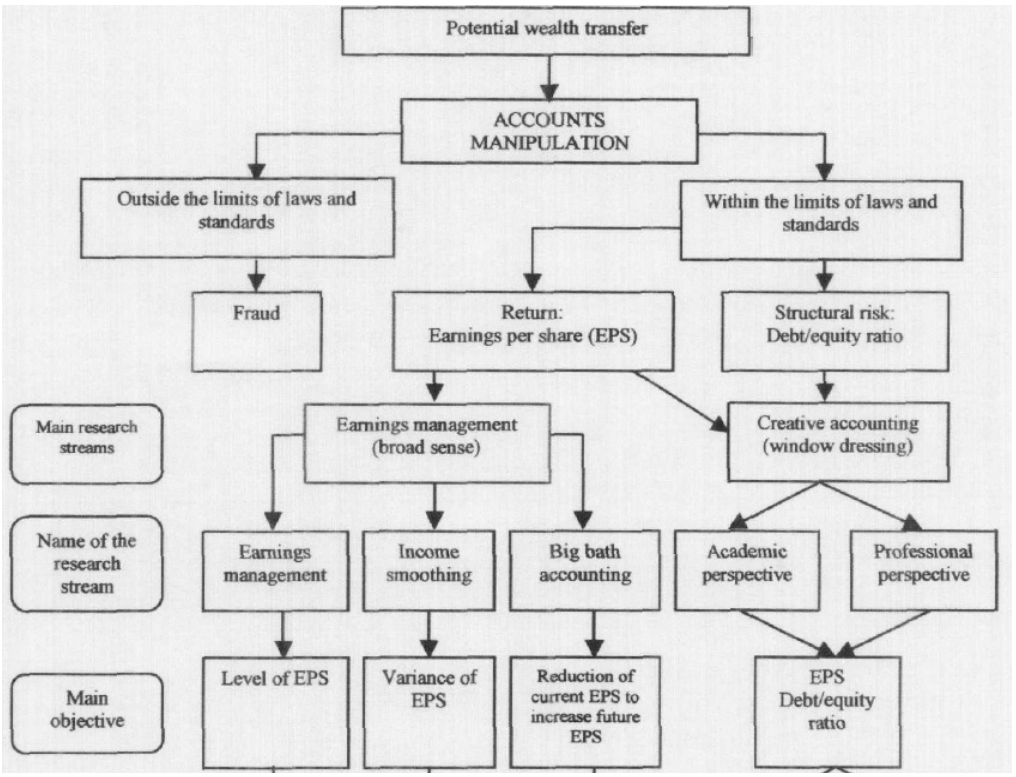

Figure 1. Stlowy and Breton's framework for the different types of accounts manipulation. *Source: Stlowy, H., and Breton, G. (2004, p. 8).*

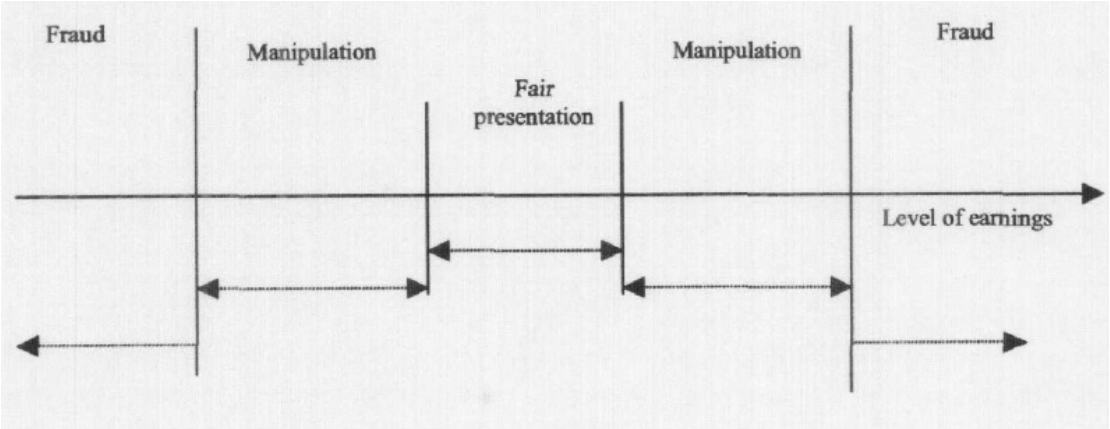

Figure 2. Accounts manipulation and fair presentation. *Source: Stlowy, H., and Breton, G. (2004, p. 11).*

Similarly, Schipper (1989) defines earnings management as: "A purposeful intervention in the external financial reporting process, with the intent of obtaining some

private gain. A minor extension of this definition would encompass ‘real’ earnings management, accomplished by timing investment or financing decisions to alter reported earnings or some subset of it" (p.92).

In addition, the definition of earnings management given by Davidson, Stickney, and Weil (1987), as cited in Schipper (1989), is "The process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings" (p.92).

Moreover, Fischer and Rosenzweig (1995) define earnings management as referring to the actions of a manager which serve to increase (decrease) the current reported earnings of the unit for which the manager is responsible without generating a corresponding increase (decrease) in the long-term economic profitability of the unit. Such actions can be classified into two types: 1) Actions involve changing accounting methods, for example, adjusting the amounts of reserves, thereby changing reported net income, and 2) Actions involve operating decisions like offering special terms to customers at year-end to advance sales from next year to this year. In this way, Fischer and Rosenzweig (1995) assure that earnings management is contrary to the "Standards of Ethical Conduct for Management Accountants."

Contrary to the above definitions, which imply that the main purpose of earnings management is to mislead users to achieve specific objectives, Dechow and Skinner (2000) criticize these definitions, as they are difficult to operationalize directly using attributes of reported accounting numbers since they center on managerial intent, which is unobservable. They differentiate between fraudulent accounting practices (that clearly demonstrate the intent to deceive) and those judgments and estimates that fall within

GAAP and which may comprise earnings management depending on managerial intent. They developed Figure 3, which identifies three types of accounting choices by management that would not violate GAAP – "conservative" accounting, "neutral" accounting, and "aggressive" accounting. Choices beyond "aggressive" accounting violate GAAP and become "fraudulent" accounting, which clearly demonstrates the intent to deceive. However, they indicate that even in the case of aggressive accounting choices, it is difficult to differentiate between abusive earnings management and the legitimate exercise of accounting discretion without identifying the managerial intent of manipulating earnings. The basic principle of Figure 3 is in line with Figure 2 in the sense that accounts manipulation remains within the limits of GAAP while fraud is outside of these limits.

Furthermore, Giroux (2004) argues that earnings management includes the whole spectrum, from conservative accounting through fraud, which is a huge range of accounting judgment, given the incentives of management. Consistent with this view, the Panel on Audit Effectiveness (2000) describes earnings management as “a continuum that ranges from complete legitimacy at one extreme to fraud at the other” (p.78).

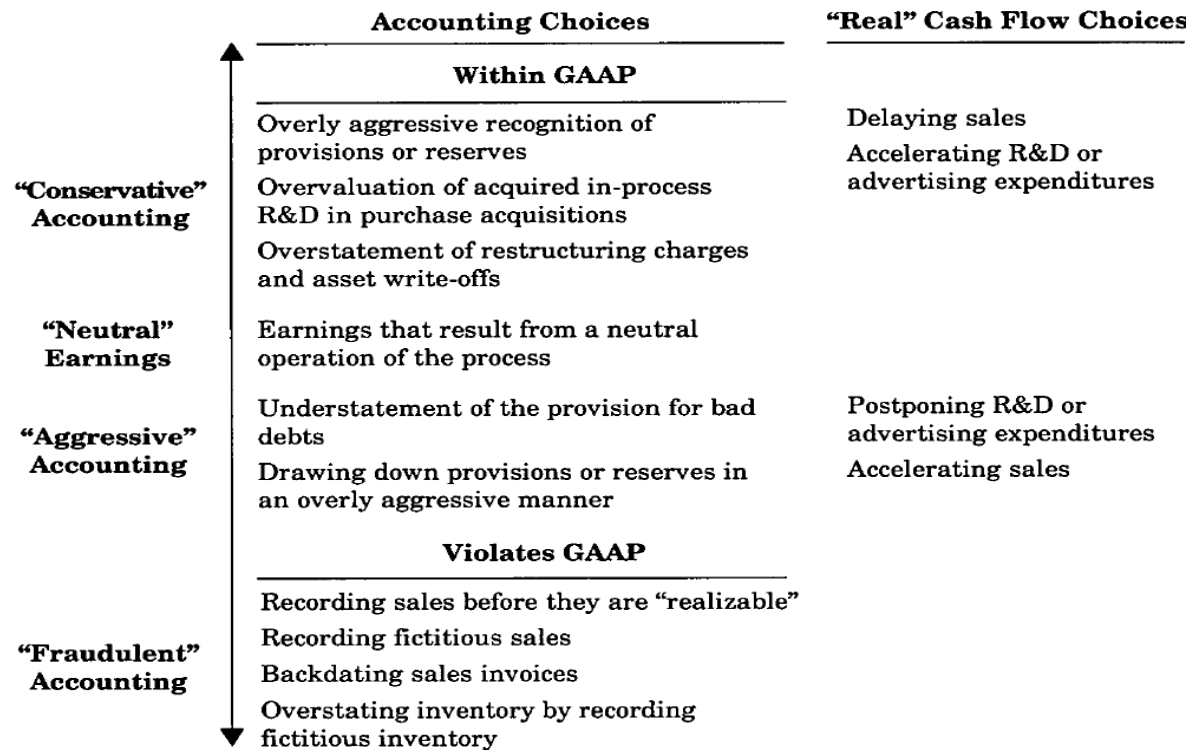

Figure 3. The distinction between fraud and earnings management. *Source: Dechow, P. M., & Skinner, D. J. (2000, p. 239).*

Moreover, Ronen and Yaari (2008) state that earnings management can be loosely defined as a strategy of generating accounting earnings, which, according to Phillips, Pincus, and Rego (2003), "is accomplished through managerial discretion over accounting choices and operating cash flows". Ronen and Yaari (2008) argue that

> Earnings management is an umbrella for acts that affect the reported accounting earnings or their interpretation, starting from production and investment decisions that partly determine the underlying economic earnings, going through the choice of accounting treatment and the size of accruals when preparing the periodic reports, and ending in actions that affect the interpretation of the reported earnings, such as presenting non-GAAP earnings (commonly known as pro forma earnings). (p.XIV)

They classify earnings management activities as white, gray or black in terms of their perceived transparency and intended purposes. Ronen and Yaari (2008) define beneficial (white) earnings management as "taking advantage of the flexibility in the

choice of accounting treatment to signal the manager's private information on future cash flows" (p.25), pernicious (black) earnings management as "the practice of using tricks to misrepresent or reduce transparency of the financial reports," and gray earnings management as "choosing an accounting treatment that is either opportunistic (maximizing the utility of management only) or economically efficient." As a result, earnings management can be beneficial when it signals long-term value, pernicious when it conceals short- or long-term value or neutral when it reveals the short-term truth.

Measures of Earnings Management

All publicly traded companies are required under GAAP to use accrual-basis accounting to keep track of business expenses and income.[2] This is so that they can comply with the revenue recognition and matching principles, which provides a more accurate picture of how a business is performing over the long-term than does the cash basis model. In this regard, Dechow and Skinner (2000) state that "accrual accounting tends to dampen the fluctuations in an entity's underlying cash flows to generate a number that is more useful to investors (for assessing economic performance and predicting future cash flows) than current-period operating cash flows" (p.238). However, this discretion can be used by management in two ways: they can use their discretion to signal their private information about firm performance or they can use it to opportunistically manipulate earnings.

Beginning with Healy (1985), studies have turned to accruals-based measures to estimate the degree of earnings management. An important advantage of the accrual

[2] According to the FASB, 1985, SFAC No. 6, para. 139, "Accrual accounting attempts to record the financial effects on an entity of transactions and other events and circumstances that have cash consequences for the entity in the periods in which those transactions, events, and circumstances occur rather than only in the periods in which cash is received or paid by the entity".

approach is that it may reveal subtle income-reducing techniques that managers have incentives to employ because such techniques are less subject to detection by outsiders. The accrual approach also captures the effect of accounting estimates, changes in those estimates, and changes in accounting methods (DeAngelo, 1986).

The research design of the accruals-based models is based on isolating the total accruals into discretionary accruals and nondiscretionary accruals.[3] Elgers, Pfeiffer, and Porter (2003) argue that "A fundamental issue in assessing earnings management is the unobservability of the managed and un-managed components of reported earnings" (p.406). Consistent with this view, the earnings management literature has followed several approaches, with varying characteristics, to estimate the discretionary part. In this respect, three research designs are commonly used in the literature: those based on aggregate accruals, those based on specific accruals, and those based on the distribution of earnings after management.

1) The Approach of Aggregate Accruals Models

This approach attempts to identify discretionary accruals based on the relation between total accruals and hypothesized explanatory factors. Models that follow this approach range from the simple, in which total accruals are used as a measure of discretionary accruals, to the relatively sophisticated (regression), which decompose accruals into discretionary and nondiscretionary components (Bartov, Gul, & Tsui, 2001).

[3] Nondiscretionary accruals are accruals that arise from transactions made in the current period that are normal for the firm given its performance level and business strategy, industry conventions, macro-economic events, and other economic factors. Discretionary accruals are accruals that arise from transactions made or accounting treatments chosen in order to manage earnings (Ronen & Yaari, 2008, p. 372).

The six most popular models are Healy (1985), DeAngelo (1986), Jones (1991), Modified Jones Model by Dechow, Sloan, and Sweeney (1995), Kang and Sivaramakrishnan (1995) Model, and the Industry Model by Dechow and Sloan (1991). Table 2.1 describes these aggregate accruals estimation approaches and indicates their proxies for earnings management.

Table 2.1
The Six Most Popular Aggregate Accruals Models and Their Proxies for Earnings Management

Authors	Discretionary accrual proxy
Healy (1985)	Total accruals
DeAngelo (1986)	Change in total accruals
Jones (1991)	Residual from regression of total accruals on change in sales and on property, plant and equipment
Modified Jones Model from Dechow et al. (1995)	Residual from regression of total accruals on change in sales and on property, plant and equipment, where revenue is adjusted for change in receivables in the event period
Kang and Sivaramakrishnan (1995)	Residual from a regression of noncash current assets less liabilities on lagged levels of these balances, adjusted for increases in revenues, expenses and plant and equipment
Dechow and Sloan (1991)	Residual from regression of total accruals on the median value of total accruals, scaled by lagged assets, for all firms in the same industry and year

Adapted from: McNichols (2000, p.317).

The Healy Model

Healy (1985) develops an empirical approach that estimates the extent of earnings manipulation as the total accruals in the period of interest. Even though Healy was aware

that total accruals aggregate discretionary and nondiscretionary accruals[4], he implicitly assumes that the expected total accruals would be zero in the absence of earnings manipulation. Using this assumption, he does not incorporate any determinants of nondiscretionary accruals and his model assumes that nondiscretionary accruals follow a mean reverting process; the sales generation process is mean reverting with zero growth. Hence, nondiscretionary accruals = zero and discretionary accruals = total accruals.

The Healy's model assumption that there are no nondiscretionary accruals during the estimation period has been criticized because nondiscretionary accruals are expected to change with firms' underlying business activities (Kaplan, 1985 and McNichols, 2000). Hence, nondiscretionary accruals are not expected to be zero in any given period. In addition, total accruals might be systematically negative for many companies, even in cases of absent systematic income manipulation. In this case, the empirical evidence that total accruals are less than zero could generate an erroneous inference that managers had deliberately understated earnings, when the correct explanation is that total accruals normally contain a (material) negative nondiscretionary component, depreciation expense (DeAngelo, 1986).

The DeAngelo Model

This model compares accruals in a test period with accruals in a benchmark period. The model attributes the deviations in accruals from the benchmark period to discretionary accruals with an assumption that the average change in nondiscretionary

[4] Healy (1985) states that "Total accruals include both discretionary and nondiscretionary components, and are estimated by the difference between reported accounting earnings and cash flows from operations" (p.94).

accruals is approximately zero. The assumption that nondiscretionary accruals are constant is known as the "random walk" assumption.

However, Friedlan (1994) assumes that the random walk assumption is not valid for growing firms because the growth would affect certain aspects of firms' operations including accruals. In this case, changes in total accruals that are considered discretionary may in fact be due to changes in nondiscretionary accruals caused by growth. This may lead to incorrect conclusion about the exercise of accounting discretion by preparers of financial statements. To control for the effect of growth on total accruals, Friedlan assumes a constant proportionality between total accruals and sales in successive periods. As a result, the amount of total accruals that is attributable to discretion is the difference between total accruals in the test period standardized by sales in the test period and total accruals in the benchmark period standardized by sales in the benchmark period. Formally,

$$Discretionary\ Accruals = \frac{Total\ accruals_{\ test\ period}}{Sales_{\ test\ period}} - \frac{Total\ accruals_{\ benchmark\ period}}{Sales_{\ benchmark\ period}}$$

Friedlan proposes an alternate model for estimating discretionary accruals, namely to standardize by change in sales rather than by the sales level. Friedlan argues that the change in sales is a more appropriate deflator because the change in accruals that is related to changes in current operating accounts is proportional to the change in sales, not to the sales level. Formally,

$$Discretionary\ accruals_{\ t} = \frac{Total\ accruals_{\ t}}{Sales_{\ t} - Sales_{\ t-1}} - \frac{Total\ accruals_{\ t-1}}{Sales_{\ t-1} - Sales_{\ t-2}}$$

The Jones Model

To partition total accruals into their managed (DA) and unmanaged (NDA) components, Jones (1991) implies an event study, assuming that firms do not manage earnings before the event (Import relief investigation in her case). Therefore, the time series of a firm's earnings can be decomposed in to two sub-periods, an estimation period in which discretionary accruals = zero and the event period. Therefore, Jones (1991) uses a two-stage approach. In the first stage, the estimation period, wherein the coefficients of the nondiscretionary accruals are determined, total accruals are regressed on two variables: 1) The change in sales (ΔREV) to control for the changes in nondiscretionary accruals caused by the changes in underlying economic activities, because revenues represent a reasonably objective measure of the firms' operations, and 2) The gross level of property, plant, and equipment (PPE) to control for nondiscretionary accruals associated with the depreciation expense. Therefore, nondiscretionary accruals is computed as indicated below to yield estimates of the coefficient $\hat{\alpha}_i$, $\hat{\beta}_{1i}$, $\hat{\beta}_{2i}$:

$$TA_{it}/A_{it-1} = \alpha_i[1/\ A_{it-1}] + \beta_{1i}\ [\Delta\ REV_{it}\ /\ A_{it-1}\ ] + \beta_{2i}[PPE_{it}\ /A_{it-1}\ ] +\ \varepsilon_{it}$$

Where

TA_{it}= Total accruals for firm i in year t[5]

A_{it-1} = Lagged assets of firm *i*

Δ REV = Change in revenues

PPE = Gross property, plant, and equipment

[5] The total accruals (TA) are computed from the balance sheet as follows: TA = (Δ Current Assets - Δ Cash) – (Δ Current Liabilities - Δ Current maturities of long-term debt - Δ Income taxes payable) - Depreciation and Amortization Expense, where all variables are deflated by the beginning of the year assets to overcome heteroskedasticity. This function is based on the understanding that working-capital accruals are related to changes in sales and depreciation is related to assets.

In the second stage, the event period, wherein the discretionary accruals are isolated in order to test for earnings management, the estimated parameters from the above regression, namely $\hat{\alpha}_i$, $\hat{\beta}_{1i}$, $\hat{\beta}_{2i}$, are combined with TA, ΔREV and PPE data from the event year to estimate the nondiscretionary accruals (NDA), and the residual accruals are the discretionary component (DA) of total accruals as follows:

$$NDA_{it} = \hat{\alpha}_i[1 / A_{it-1}] + \hat{\beta}_{1i}\,[(\Delta REV_{it})/A_{it-1}] + \hat{\beta}_{2i}\,[PPE_{it}/A_{it-1}]$$

$$DA_{it} = TA_{it} - NDA_{it}$$

Where

NDA_{it}= Nondiscretionary accruals of firm *i* in period t

DA_{it}= Discretionary accruals of firm *i* in period t

The Modified Jones Model

Dechow et al. (1995) propose a modified version of the standard Jones model, known as DSS. They argue that a weakness of the standard Jones model lies in its implicit assumption that changes in all revenues are nondiscretionary accruals. Therefore, DSS is identical to the standard Jones model, with the exception that the change in revenues is reduced by the change in receivables in the event period. This assumption stems from the fact that it is easier for managers to manage earnings by exercising discretion over the recognition of revenue on credit sales rather than over the recognition of revenue on cash sales.[6] Hence, the difference in the modified model lies in the second stage (the event period), where nondiscretionary accruals (NDA) are computed by

[6] As cited by Beneish (1998), "Beneish (1997) finds that cash sales are rarely manipulated. He reports that one firm out of 64 (1.6%) engages in circular transfers of money to create the impression of receivable collection. In contrast, 43 of 64 firms (67.2%) engage in manipulations affecting credit sales (e.g., fictitious invoices, front loading with a right of return, keeping books open past the end of the fiscal period, overstating the percentage of completion)" (p. 213).

multiplying the estimated coefficient of the change in sales (first stage) by the change in cash sales (the change in revenues minus the change in accounts receivable). The NDA of firm *i* in the event period (second stage) are computed as follows:

$$NDA_{it} = \hat{\alpha}_i[1 / A_{it-1}] + \hat{\beta}_{1i}\,[(\Delta REV_{it} - \Delta AR_{it})/A_{it-1}] + \hat{\beta}_{2i}\,[PPE_{it}/A_{it-1}]$$

Where

Δ AR = Change in accounts receivable

$\hat{\beta}_{1i}$ = The coefficient of total revenues in the estimation period. It is estimated from the regression of accruals on ΔREV_i and PPE_i .

To summarize, the original Jones model implicitly assumes that discretion is not exercised over revenue either in the estimation period or in the event period; whereas the modified version of the Jones model implicitly assumes that all changes in credit sales in the event period (the change in receivables) are the result of earnings management activities. However, Kothari (2001) argue that this approach would be misspecified for firms experiencing substantial growth and, accordingly, experiencing real increases in receivables that is not necessarily earnings management. Thus, these firms will likely underestimate nondiscretionary accruals and overestimate discretionary accruals.

Different Versions of Jones and Modified Jones Model

a) Cross-Sectional Version of Jones and Modified Jones Models

The Jones (1991) and Dechow et al. (1995) models were originally introduced as time series models. However, DeFond and Jiambalvo (1994) propose a cross-sectional Jones model rather than a time series model and many recent studies have used this cross sectional version of both models. In this regard, Peasnell et al. (2000a) remark that

> The original time series formulation of the standard Jones and modified Jones models has proven restrictive when implementing the procedures empirically

> because of the need for a sufficiently long time-series of data to allow for the effective estimation of the regression parameters. This requirement raises several concerns. First, issues of survivorship bias naturally arise. Secondly, the assumption that the coefficient estimates on ΔREV and PPE remain stationary over time may not be appropriate. Finally, the self-reversing property of accruals may introduce specification problems in the form of serially correlated residuals.[7] (p.315)

Both the cross-sectional Jones and modified Jones models are similar to their original models, except that the parameters of the models are estimated by using cross-sectional data rather than time-series data. Therefore, parameter estimates are industry and year-specific rather than firm specific. Under this approach, the first-stage regression is estimated separately for each industry-year combination, after which the resulting industry- and time-specific parameter estimates are combined with firm-specific data to generate estimated discretionary accruals.

However, because industry-level controls include the average level of discretion exercised by the industry, the benchmark for each firm's accruals is the behavior of the other firms in the sample and, in turn, the magnitude of nondiscretionary accruals may be overstated and the magnitude of discretionary accruals may be understated (McNichols, 2000). Moreover, Peasnell et al. (2000a) argue that cross sectional models are less likely to capture the effects of (a) mean reversion in accruals, (b) dynamic accrual management strategies, and (c) industry-wide earnings management.

[7] McNichols (2000) mentions that "most studies impose the requirement that sample firms have at least 10 years of data, which poses two problems: First, one must exclude firms that do not have a sufficient data series in COMPUSTAT or other data sources. This leads to potentially smaller samples, and their representativeness is an open question. Second, it is not clear that sample firms have no incentive to manage earnings in the estimation period or that data are stationary over such a long period" (p.324).

b) Current Version of Jones and Modified Jones Models

The existence of depreciation in Jones and Modified Jones models has been criticized by several studies. For example, Ronen and Yaari (2008) argue that the negative depreciation accruals dominate the sign of total accruals and, as cited in their book, Barth, Cram, and Nelson (2001) find that although accounts receivable and accounts payable are 1% of average assets (beginning assets plus ending assets divided by 2), depreciation amounts to five times that much. In addition, Young (1999) reports that Jones models based on a measure of total accruals (i.e., inclusive of the depreciation charge) induce substantial measurement error in the resulting estimate of managed accruals. Moreover, Beneish (1998) finds that

> Managing earnings via depreciation is either transparent or economically implausible. Transparent, because the effect of changes in useful lives or in the depreciation methods is a required disclosure. Implausible, if timing capital expenditures to make earnings management through depreciation less transparent, implies that managers forego profitable opportunities. (p.211)

Beneish (1998) adds "Given the availability of alternative ways to manage earnings, I am not sure whether the benefits of managing earnings through depreciation are sufficient to warrant deviations from rational investment behavior" (p.211). As a result, another version of the Jones and modified Jones models uses current accruals (CA) as a dependent variable and only the change in revenues as the explanatory variable, omitting the PP&E regressor as follows:

$$CA_{it}/A_{it-1} = \alpha_i[1/\ A_{it-1}] + \beta_{1i}\ [\Delta\ REV_{it}\ /\ A_{it-1}\ ] + \varepsilon_{it}$$

Where CA_{it}= Current accruals for firm i in year t, and is measured as the change in non-cash working capital, (Δ Current Assets - Δ Cash) – (Δ Current Liabilities - Δ Current maturities of long-term debt - Δ Income taxes payable).

In this regard, Sloan (1996) reports that most of the variation in total accruals is driven by current accruals. Furthermore, Jones (1999) finds that the current accruals measure provides a more accurate basis for estimating discretionary behavior than does the total accruals measure, because the estimated discretionary portion of noncurrent accruals is less likely to reflect year-specific discretion. Hence, in some cases, the empiricist chooses to restrict attention to short-term accruals and omits the long-run accrual of depreciation.

The Kang and Sivaramakrishnan Model

Kang and Sivaramakrishnan (1995) find that previous studies suffer from three main problems, any of which could lead to reduced statistical power and erroneous inferences regarding earnings management. First, the variables used to predict unmanaged accruals themselves may not be free of earnings management. Second, the simultaneity and errors-in-variables problems may affect the estimated coefficients and standard errors. Finally, there is an omitted variables problem, as these studies do not control for unmanaged accruals related to cost of goods sold and other expenses.

To overcome the above problems, Kang and Sivaramakrishnan (1995) propose an approach that improves their ability to infer the presence or absence of earnings management in context-specific cases. Their approach mitigates the simultaneity and errors-in-variable problems by employing both the standard instrumental variables (IV) method and Hansen's (1982) generalized method of moment (GMM) procedure, thereby mitigating the omitted variables problem and the related biases by using all major components of income as regressors, not only sales, but also cost of goods sold and other operating expenses. Therefore, their model differs from the previous models as follows:

1) It includes cost of goods sold as well as other expenses, 2) It uses account balances as opposed to changes in these balances[8], and 3) It does not require the regressors to be uncontaminated because they use an IV approach.

The Industry Model

The industry model is proposed by Dechow and Sloan (1991). They base their research design on the assumption that the variation in the determinants of nondiscretionary accruals is common across all firms in the same industry. This industry model for nondiscretionary accruals is as follows:

$$NDA_{it} = \gamma_1 + \gamma_2 \, median\,(TA_{it}/A_{it-1})$$

Where $median\,(TA_{it}/A_{it-1})$ is the median value of total accruals, scaled by lagged assets, for firms in the same industry and year.

One advantage of this approach is that the researcher does not have to formulate a model of how the normal item under investigation (R&D in their case) behaves. In this regard, they state that they have no explicit theory regarding the expected level of R&D expenditures in the absence of manipulation. Instead, this approach considers the difference in total accruals between a firm with incentives to manage earnings and its colleagues that lack these incentives.

However, Ronen and Yaari (2008) argue that there are two disadvantages associated with this approach:

> First, the model applies only to event studies in which not all firms experience the same event. Second, even if not all firms in the industry have the same incentives to manage earnings, if other firms in the industry also manage earnings in the same direction, the test biases against finding earnings management, and if other

[8] They use the account balance based approach because in the IV framework, instruments that are correlated with account balances are relatively easier to find than those correlated with the changes in these accounts.

> firms manage earnings in the opposite direction, the test might indicate non-existent earnings management. (p.403)

2) The Approach of Specific Accruals Models

A second approach in the literature is to model a specific accrual or a set of specific accruals that has been chosen because it is sizable, has a material impact on reported earnings, and can be manipulated legally within the boundaries of GAAP, since it requires substantial judgment. Beneish (2001) argues that "The difficulties faced by aggregate accrual models suggest that studies of specific accruals, perhaps even case studies, are needed" (p.12). In addition, standards setters are more likely to be interested in understanding which specific accruals are used for earnings management (Healy & Wahlen, 1999).

As with aggregate accruals studies, the research design task is to model the behavior of each specific accrual to identify its discretionary and nondiscretionary components. For example, McNichols and Wilson (1988) examine one accrual account, the provision for bad debts.[9] This focus restricts their sample to industries where such an expense is material. The sample includes 289 firm-years from the 1967–1985 period, from printing and publishing (SIC 27, 37 firms), non-durable wholesale goods (SIC 50, 51 firms) and business services (SIC 73, 29 firms). The mean ratio of receivables to total assets is 28.7% in the sample, as compared to 22.3% for the Compustat population as a whole. McNichols and Wilson (1988) explore the association between the abnormal expense and earnings (deflated by end-of-the-period assets to yield ROA), given the incentives of managers who receive earnings-based bonuses to manage earnings through

[9] Under the generally accepted accounting principles (GAAP), the provision for bad debts should ensure that net accounts receivable represents management's anticipation of future collections.

the bad-debt expense. They test whether firms smooth out earnings via this expense (the smoothing hypothesis) or whether, similar to the dynamics in Healy (1985), they take a bath when earnings are either extremely low or extremely high (the bonus hypothesis). Moreover, Teoh, Wong, and Rao (1998) examine depreciation estimates and bad debt provisions surrounding initial public offerings. They find that, relative to a matched sample of non-IPO firms, sample firms are more likely to have income-increasing depreciation policies and bad debt allowances in the IPO year and for several subsequent years.

In addition to these studies, several studies have focused on specific industries in which a single accrual is expected to be very material and requires substantial judgment. Specifically, studies of bank "loan loss provisions" in the banking industry include, for example, Beaver, Eger, Ryan, and Wolfson (1989), Moyer (1990), Scholes, Wilson, and Wolfson (1990), Wahlen (1994), Beatty, Chamberlain, and Magliolo (1995), Collins, Shackelford, and Wahlen (1995), Beaver and Engel (1996), Liu and Ryan (1995) and Liu, Ryan, and Wahlen (1997). Moreover, studies of property-casualty insurance claim loss reserves include, for example, Petroni (1992), Anthony and Petroni (1997), Beaver and McNichols (1998), Penalva (1998), and Petroni, Ryan, and Wahlen (2000). Other studies of earnings management use specific accruals have examined deferred tax valuation allowances, such as, Visvanathan (1998), Miller and Skinner (1998), and Ayers (1998). The results of these studies are mixed. There is some evidence that some firms use loan loss provisions and claim loss reserves to manage earnings, particularly to meet bank and insurance regulatory requirements, however, there is a little evidence that firms use deferred tax valuation allowances in order to manage earnings (Healy & Wahlen,

1999). A distinctive feature of each of the above studies is the use of GAAP to specify what the nondiscretionary component of an accrual should be and relate the difference to earnings management practices.

In contrast to the above studies, Beneish (1997) develops a model based on several specific accruals, such as receivables, inventory and accounts payable, focusing on firms from a number of industries. He uses a sample of firms identified by the SEC as GAAP violators to calibrate alternative measures of earnings management. Furthermore, Marquardt and Wiedman (2004) empirically examine the use of specific accrual accounts in managing earnings under three different earnings management contexts: equity offerings, management buyouts, and firms avoiding earnings decreases. They first document the presence of earnings management in each setting using a comprehensive measure for unexpected accruals based on the cross-sectional Jones 1991 model. Then, they develop performance-matched measures to capture the unexpected component of six of the most significant accruals: accounts receivable, inventory, accounts payable, accrued liabilities, depreciation expense, and special items. The discretionary component of each of these accruals is estimated to determine whether a particular accrual is being used to manage earnings. They find that firms that issue equity appear to prefer managing earnings upward by accelerating revenue recognition. Specifically, they find that accounts receivable for these firms are unexpectedly high. Conversely, for the management buyout context, they find unexpected accounts receivable to be negative. For firms trying to avoid reporting an earnings decrease, they find that special items are significantly more positive, as these firms are less concerned with earnings persistence

and therefore are more likely to use more transitory and less costly items to achieve their goal.

Regarding this approach' usefulness, McNichols (2000) provides an excellent discussion of the advantages and disadvantages of the specific accrual approach relative to the aggregate accruals approach. In terms of advantages, she states that

> The researcher can develop intuition for the key factors that influence the behavior of the accrual, exploiting his or her knowledge of generally accepted accounting principles. Second, a specific accrual approach can be applied in industries whose business practices cause the accrual in question to be a material and a likely object of judgment and discretion. A specific industry setting can also provide insight on variables to control to better identify the discretionary component of a given accrual. Third, one can estimate the relation between the single accrual and explanatory factors directly. If different components of aggregate accruals relate differently to change in sales, for example, aggregation can induce estimation error in parameter estimates. (p.333)

In contrast, she argues that there are three potential disadvantages to using a specific accruals approach. These include: (1) Reducing its power if it is not clear which accrual method management might use to manipulate earnings, (2) The requirement of more institutional knowledge and data, which raises the cost of applying such approaches, and (3) Imposing limits to the generalizability of the findings, since studies of specific accruals tend to be confined to smaller or sector-specific examples. Moreover, McNichols and Wilson (1988) argue that one disadvantage of this approach is that if the nondiscretionary component of a given single account is large relative to the discretionary component, the former might "drown" the latter, which yields a type II error.

3) The Distributional Approach

A third approach to detect earnings management is to examine the statistical properties of earnings to identify the behavior of earnings around a specified benchmark, such as zero or a prior quarter's earnings, to test whether the incidence of amounts above and below the benchmark are distributed smoothly, or reflect discontinuities due to the exercise of discretion.

Studies by Burgstahler and Dichev (1997) and Degeorge, Patel, and Zeckhauser (1999) contribute an innovative approach to testing for earnings management by focusing on the density of the distribution of earnings after management. Burgstahler and Dichev (1997) provide extensive systematic evidence about whether, how, and why firms avoid reporting earnings decreases and losses by employing the cross-sectional distribution approach. They find that the frequencies of small earnings decreases and small losses are abnormally low, while the frequencies of small earnings increases and small positive earnings are abnormally high, relative to adjacent regions of the distributions. They present two types of evidence to determine whether earnings management is used to avoid earnings decreases and losses. First, they present graphical evidence in the form of histograms of the pooled cross-sectional empirical distributions of scaled earnings changes and levels of earnings. Second, they construct a statistical test whose only assumption is that, under the null hypothesis of no earnings management, the cross-sectional distributions of earnings changes and earnings levels are relatively smooth. This test statistic is the ratio of the difference between the actual and the expected number of observations over the estimated standard deviation of the difference. Their test results yield a standardized difference for the interval immediately to the left (right) of zero of –

8.00 (5.88), where they employ intervals of widths of 0.0025 in their sample of 64,466 firm-year observations for the period 1977–1994.

Consistent with the above methodology, Degeorge et al. (1999) investigate the extent to which managers manipulate earnings in order to achieve specific levels of earnings. These levels are: 1) Reporting positive earnings, 2) Sustaining recent profit performance, and 3) Meeting analysts' expectations of earnings. Degeorge et al. (1999) find a strong evidence of earnings management driven by the three previous benchmarks.

Furthermore, Myers, Myers, and Skinner (2007) test whether the frequency of consecutive quarterly earnings increases is greater than what would be expected by chance, finding that it is. In addition, Beatty, Ke, and Petroni (1999) examine differences in the incentives of private and public banks to manage earnings around zero and find that, relative to public banks, private banks report: 1) More small losses and fewer small profits, 2) More small declines and fewer small increases in earnings, and 3) Shorter strings of consecutive earnings increases. These findings conclude that public banks have greater incentives than private banks to manage earnings. Moreover, by examining the relation between discretionary loss reserve accruals and the distribution of reported earnings for a sample of property-casualty insurers, Beaver, McNicholes, and Nelson (2003) find that the loss reserve accrual is managed over the entire distribution of reported earnings, rather than exclusively or primarily in the region around zero. In addition, by dividing the sample into public, private, and mutual firms, they document that there is evidence that the least profitable firms understate loss reserves relative to the most profitable firms. Finally, they investigate the relation between financial condition and earnings management over the entire earnings distribution by dividing the sample

into financially healthy and financially distressed insurers to find that loss reserve management to avoid losses is more pronounced in the sample of healthy insurers.

Moreover, Holland and Ramsay (2003) is the first study to apply the distribution of reported earnings approach to the detection of earnings management using Australian data. They find evidence of discontinuities in the distribution of reported earnings and changes in earnings that are consistent with the hypotheses that listed Australian companies manage earnings to ensure reporting of positive profits and to sustain the previous year's profit performance. However, they state that their results are not as strong as those reported in the US and relate this difference, in part, to the lower power of their tests due to the smaller sample size and to the importance of earnings thresholds for different firm sizes and/or differences in the distribution of reported earnings and earnings changes between large and small firms.

However, Durtschi and Easton (2005) provide evidence that the shapes (particularly around zero) of the frequency distributions of earnings metrics examined in the extant earnings management literature are affected by (1) Deflation (using, for example, price or market capitalization), (2) Sample selection criteria that lead to differential inclusion/exclusion of observations to the left of zero versus observations to the right of zero, (3) Differences between the characteristics of observations to the left of zero and observations to the right of zero (such as market pricing and analyst optimism/pessimism), or (4) A combination of these effects. Therefore, they conclude that these shapes cannot be used as ipso facto evidence of earnings management. In addition, the distribution approach doesn’t take into consideration the management's

incentives, i.e., the conditions under which managers are more likely to manage earnings. In this regard, McNichols (2000) remarks that

> The distribution approach is also silent on the incentives for management to achieve specific benchmarks. How these incentives vary across firms, and what targets might be appropriate in different contexts are important questions for future research. A better understanding of why managers manipulate earnings will allow researchers to assess the power of alternative earnings management tests, and ultimately strengthen our understanding of the implications of earnings management for investors and other contracting parties. (p.337)

On the other hand, McNichols (2000) argues that a prime advantage of the distribution approach is that it allows the researcher to make a strong prediction about the frequency of earnings realizations, which is unlikely to be due to the nondiscretionary component of earnings.

Summary

This chapter highlights many definitions of "Earnings Management" indicated in the accounting literature, which generally reveal that this term includes some level of deception, usually to influence some outcome. Next, it gives a critical overview of the characteristics associated with the most commonly applied designs in the earnings management literature. These research designs have followed several approaches with varying characteristics. They are classified under three broad approaches: the approach of aggregate accruals models, the approach of specific accruals models, and the distributional approach. The main advantage of reviewing such models is that it provides the researcher with a coherent and useful framework to measure the phenomenon of earnings management. It identifies that the research design employed by most of the earnings management literature relies primarily on accruals-based models to detect and measure such practices.

In this regard, several studies have evaluated the ability of the alternative aggregate accruals models to detect earnings management. For example, Dechow et al. (1995) evaluate the relative performance of five alternative models by comparing the specification and power generated by these models, finding that the modified Jones model is the most powerful test of earnings management.[10] In addition, Guay, Kothari, and Watts (1996) evaluate the same five discretionary accrual models documented in Dechow et al. (1995) and report that only the Jones and the modified Jones models appear to have the potential to provide reliable estimates of discretionary accruals. Moreover, Bartov et al. (2001) evaluate the ability of the cross-sectional Jones and modified Jones models vis-a-vis their time series counterparts and three other models used by prior studies (the Industry model, the DeAngelo Model, and the Healy Model) to detect earnings management. The results indicate that only the cross-sectional Jones and modified Jones models are consistently able to detect earnings management for a sample of firms receiving audit qualifications. They argue that using the cross-sectional model, rather than its time series counterpart, should result in a larger sample size that is less subject to a survivorship bias arising from requiring long time-series data. Additionally, unlike the time series model, the cross-sectional models don't preclude samples of firms with short histories. Similarly, Peasnell et al. (2000a) have examined the performance of three alternative cross-sectional models for estimating the discretionary accruals portion. These alternative models are the Jones (1991) model, the modified Jones model, and a new cross-sectional model developed by the authors themselves, called "the margin model". Following Dechow et al. (1995), the authors have evaluated the three models'

[10] The models are Healy (1985), DeAngelo (1986), Jones (1991), Modified Jones model proposed by Dechow et al. (1995), and the Industry model proposed by Dechow and Sloan (1991)

performance in terms of specification (i.e., the probability of a Type I error) and power (i.e., the probability of a Type II error). The findings indicate that the Jones and modified Jones models appear to be significantly more powerful at detecting revenue and bad debt manipulations, while the margin model is better at detecting non-bad debt expense manipulations. Furthermore, Subramanyam (1996) argues that the cross-sectional version of the Jones model outperforms its time-series for the following reasons: "First, the cross-sectional model generates a larger sample. Second, the number of observations per model is considerably higher for the cross-sectional model. This increases the precision of the estimates. Third, the time-series model is estimated over a period of up to ten years. Because of the lengthy time periods involved, it is possible for the model to be misspecified due to non- stationarity. Finally, use of the time-series model lowers the power of tests which examine time-series behavior in discretionary accruals, because of overlapping estimation and treatment periods" (p.254). Finally, of the 55 papers reviewed in the comprehensive study of McNichols (2000), 23 papers used an aggregate accruals approach based on the Jones model. The large number of studies that use this approach suggests that it is widely accepted as a proper proxy for earnings management. As a result, for the purpose of this particular study, the researcher uses different cross-sectional versions of the Jones (1991) model to test the study hypotheses.

CHAPTER 3

THE EFFECT OF INTERNAL CORPORATE GOVERNANCE ON CONSTRAINING EARNINGS MANAGEMENT

Introduction

"The governance of the corporation is now as important to the world economy as the government of countries".

James D. Wolfensohn
President, World Bank Group.

The separation of ownership and control in the modern corporate structure has increased the importance of corporate governance to protect the interests of firms' stakeholders including investors, creditors, employees, customers, and suppliers. Corporate governance intends to manage and minimize the potential conflicts of interests among corporate participants (Rezaee, 2007). The conflicts of interests are due to agency problem, where the managers or the agent may not act in the interests of the corporation's owners (Fama, 1980; Fama & Jensen, 1983; Jensen & Meckling, 1976). Recently, the corporate governance concept expanded to include not only the conflicts of interests between the managers and providers of finance but also to include the conflicts among managers and all firm's stakeholders (Goergen, 2012).

Corporate governance has significant implications for the financial stability and performance of companies and thereby the economic growth of a country (Rezaee, 2009). In this regard, International Finance Corporation (IFC) in 2014 states

> Good corporate governance helps companies operate more efficiently, improve access to capital, mitigate risk and safeguard against mismanagement. It makes companies more accountable and transparent to investors and gives them the tools to respond to stakeholder concerns. Corporate governance also contributes to development. Increased access to capital encourages new investments, boosts economic growth, and provides employment opportunities.

The previous explanation predicts a negative relationship between corporate governance and earnings management.[1] The remainder of this chapter is organized as follows. Section 2 presents a summary of the definitions of corporate governance. Section 3 reviews the theoretical background of the audit committee and its role in constraining the earnings management. Section 4 examines the importance of board composition on mitigating the earnings management. Section 5 highlights the monitoring role of subordinate managers. Finally, section 6 concludes the chapter.

Definitions of Corporate Governance

Corporate governance defined in different ways and from different perspectives. Berghe and De Ridder (1999) classify corporate governance definitions into three main perspectives. The first group defines corporate governance from governance policy and supervision perspective, the second group focuses on the perspective of the relationships among parties involved and how to balance their interests, and the third group focuses on the perspective of enterprise's mission and its outcomes.[2]

The most widely used definition of corporate governance is the one proposed by Cadbury Committee (1992). They define corporate governance as "The system by which companies are directed and controlled". Gillan and Starks, (1998) state that corporate governance can be simply defined as the system of laws, rules, and factors that control operations at a company. Shleifer and Vishny (1997) suggest that corporate governance entails an inherent link to the economic interests of the participants and define it as "the ways in which suppliers of finance to corporations assure themselves of getting a return

[1] Klein (2006) mentions that there is an implicit assertion by the SEC, the NYSE and the NASDAQ that earnings management and poor corporate governance mechanisms are positively related.

[2] Cited by Manawaduge (2012).

on their investment" (p.737). Further, Prowse (1998) argues that corporate governance is "the rules, standards and organizations in an economy that govern the behavior of corporate owners, directors and managers and define their duties and accountability to outside investors, i.e., shareholders and lenders" (p.2). In addition, Donaldson (1990) defines corporate governance as "the structure whereby managers at the organizational apex are controlled through the board of directors, its associated structures, executive incentive and other schemes of monitoring and bonding" (p.376). Armstrong, Guay, and Weber (2010) view corporate governance as the subset of a firm's contracts that help align the actions and choices of managers with the interests of shareholders. Corporate governance includes but not limited to the system of laws, regulations, institutions, markets, contracts, and corporate policies and procedures (such as the internal control system, policy manuals, and budgets) that direct and influence the actions of the top-level decision makers in the corporation (shareholders, boards, and executives) (Brickley & Zimmerman, 2010). More generally, Larcker, Richardson, and Tuna (2007) define it as "the set of mechanisms that influence the decisions made by managers when there is separation of ownership and control" (p.964).

Demb and Neubauer (1992) state that corporate governance is "the process by which corporations are made responsive to the rights and wishes of stakeholders" (p.187). Furthermore, Turnbull (1997) describes it as "the influences affecting the institutional processes, including those for appointing the controllers and/or regulators, involved in organizing the production and sale of goods and services". Similarly, Solomon (2007) define corporate governance as "the system of checks and balances, both internal and external to companies, which ensures that companies discharge their accountability to all

their stakeholders and act in a socially responsible way in all areas of their business activity" (p.14). Moreover, Monks and Minow (1995) view corporate governance as "the relationship among various participants in determining the direction and performance of corporations" (p.1). Also, John and Senbet (1998) propose that "corporate governance deals with mechanisms by which stakeholders of a corporation exercise control over corporate insiders and management such that their interests are protected" (p.372).

According to IFC in 2014 "Corporate governance is defined as the structures and processes by which companies are directed and controlled." With almost the same perspective in describing the corporate governance, the European Central Bank (2004) states that corporate governance is the "Procedures and processes according to which an organization is directed and controlled. The corporate governance structure specifies the distribution of rights and responsibilities among the different participants in the organization – such as the board, managers, shareholders and other stakeholders – and lays down the rules and procedures for decision-making". Furthermore, Cadbury (2000) states that "corporate governance is concerned with holding the balance between economic and social goals and between individual and communal goals. The governance framework is there to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The aim is to align as nearly as possible the interests of individuals, corporations and of society" (p.vi). Similarly, the Australian Stock Exchange (ASX) (2003) defines corporate governance as "the system by which companies are directed and managed. It influences how the objectives of the company are set and achieved, how risk is monitored and assessed, and how performance is optimized. Good corporate governance structures encourage companies to create value

(through entrepreneurism, innovation, development and exploration) and provide accountability and control systems commensurate with the risks involved". Finally, according to the OECD principles (2004), corporate governance is defined as “one key element in improving economic efficiency and growth as well as enhancing investor confidence. Corporate governance involves a set of relationships between a company’s management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined” (p.11).

Regardless of the used definition, researchers often view corporate governance mechanisms as falling into one of two groups: internal or external governance (Gillan, 2006). Gillan (2006) explains the sources of the two governance types by the balance sheet model of the firm as depicted in Figure 4. The left-hand side represents the internal governance including two sources. First, management that acts as shareholders’ agents, decides in which assets to invest and how to finance those investments. Second, board of directors that is in charge of advising and monitoring management and has the responsibility to hire, fire, and compensate senior management team (Jensen, 1993). The right-hand side displays the elements of external governance that arise because of firm’s need to raise capital either from shareholders or debt holders.

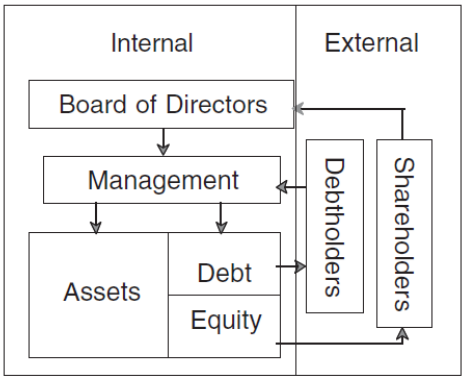

Figure 4. Corporate governance and the balance sheet model of the firm. *Source: Gillan, S. L. (2006, p. 382).*

Gillan (2006) proposes a more comprehensive perspective of corporate governance of the firm to include other participants such as employees, suppliers, and customers, as depicted in Figure 5.

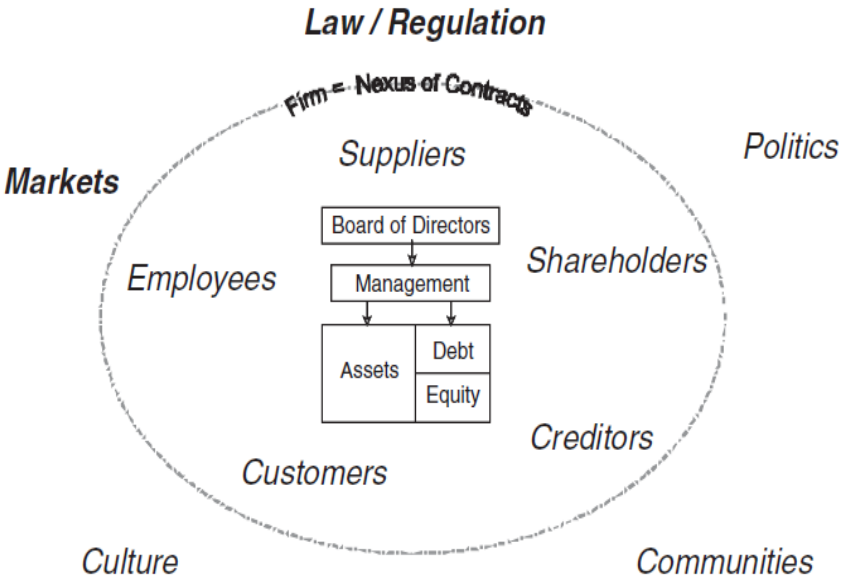

Figure 5. Corporate governance: beyond the balance sheet model. *Source: Gillan, S. L. (2006, p. 383).*

Further, Gillan (2006) expands the basic framework, as depicted in Figure 6, to examine a broader set of governance influences. Gillan (2006) divides the internal governance into 5 basic categories: 1) The Board of Directors (and their role, structure, and incentives), 2) Managerial Incentives, 3) Capital Structure, 4) Bylaw and Charter Provisions (or antitakeover measures), and 5) Internal Control Systems, and divides the external governance into 5 groups: 1) Law and Regulation, specifically federal law, self-regulatory organizations, and state law, 2) Markets 1 (including capital markets, the market for corporate control, labor markets, and product markets), 3) Markets 2, emphasizing providers of capital market information (such as that provided by credit, equity, and governance analysts), 4) Markets 3, focusing on accounting, financial and legal services from parties external to the firm (including auditing, directors' and officers' liability insurance, and investment banking advice), and 5) Private Sources of External Oversight, particularly the media and external lawsuits.

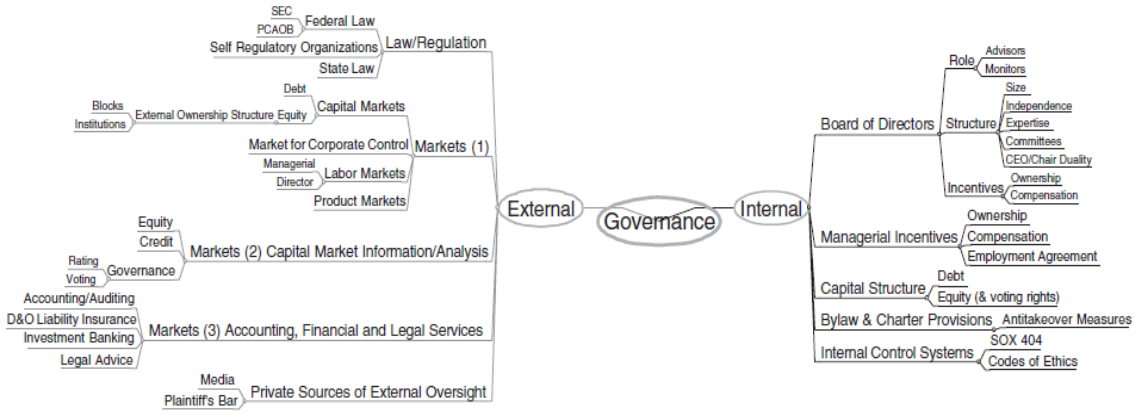

Figure 6. Corporate governance: a broad framework. *Source: Gillan, S. L. (2006, p. 384).*

Theoretical Background of Audit Committee

To overcome the agency problem, the boards have been given an oversight role that typically includes monitoring the CEO and other top executives, approving the company's strategy, and monitoring the control system. Boards of directors generally perform their oversight function through committees in order to make efficient use of time and to take advantage of the expertise of individual directors. These committees are a subset of the board, as such, they performs specific functions and make recommendations for final approval by the entire boards of directors that assist the board in discharging its advisory and oversight responsibilities.

National stock exchanges require that listed companies to form at least three board committees: audit, compensation, and nominating committees. Moreover, public companies often have governance committee and other committees to deal with issues that require specific expertise such as finance, IT, and disclosure. Concerning the three mandatory committees, Rezaee (2007) demonstrate their functions as follows: Compensation committee serves to design, review, and implement directors and executives' compensation plans, nominating committee monitors issues pertaining to the recommendations, nominations, and elections activities of directors, and audit committee to take the lead on oversight responsibilities in the areas of internal controls, financial reporting, audit activities and compliance with applicable laws and regulations.

Related to audit committee, it can play an important role in preventing and detecting fraudulent financial reporting (National Commission on Fraudulent Financial Reporting, 1987). It becomes a more common mechanism to ensure good corporate

governance in firms (Chen, Duh, & Shiue, 2008). Chambers (2005) states that audit committees have four main duties

> (1) After scrutiny, to advise the board on the reliability of financial and perhaps other information to be published in the name of the board. (2) After investigation, to advise the board on the effectiveness of risk management and internal control throughout the business. (3) To oversee the arrangements for the independent audit of the financial statements of the company. (4) To assess the adequacy and effectiveness of internal audit provision, and that of other review services (such as the compliance, quality assurance and risk management functions. (p.96)

Moreover, Mohiuddin and Karbhari (2010) state that

> While the primary responsibilities of the audit committee are to assist the board with its duties in overseeing the corporation's reporting and audit requirements (Chen et al., 2008), it also (1) monitors the integrity of the company's financial statements and reporting system, (2) ensures that the company complies with legal and regulatory requirements, (3) monitors independent auditors' qualifications and independence, (4) monitors the performance of the company's internal and external auditors, and (5) monitors compliance with corporate legality and ethical standards, including the maintenance of preventive fraud controls (Marsh and Powell (1989) and Baruch(1980)). (p.105)

Over the years, various initiatives to strengthen and increase the responsibilities of audit committees to protect investors have been made. In the investigation of McKesson & Robbins, Inc. fraud in the 1930s, the Securities and Exchange Commission (SEC) endorsed the concept of the audit committee and recommended in 1940 that publicly held companies create audit committees to improve the integrity of corporate financial information. However, it was not until the late 1960s and 1970s that audit committee oversight in the United States received widespread attention (DeZoort, 1997). Since that time, audit committees characteristics of their membership, their responsibilities, and their effectiveness are of great interest to the accounting community, both academic researchers and practitioners. In 1967, the American Institute of Certified Public Accountants issued a policy statement encouraging public companies to create audit

committees composed entirely of outside directors. In 1972, the SEC encouraged the establishment of audit committees composed of independent directors, and by 1974; the SEC began to require public disclosure of whether audit committee members were, in fact, independent. The stock exchanges quickly followed by either requiring or recommending that companies establish audit committees. In 1976, Congress debated a law that would have required public companies to form audit committees composed of independent directors. Despite failing to pass this bill, Congress encouraged the voluntary formation of these committees by enacting the Foreign Corrupt Practices Act (FCPA). In 1978, the New York Stock Exchange (NYSE) required all listed firms to have an audit committee. In 1987, the National Commission on Fraudulent Financial Reporting (Treadway Commission) highlights important aspects of the audit committee's oversight function and offers six specific audit committee recommendations aimed at deterring fraudulent financial reporting. In 1989, the National Association of Securities Dealers (NASD) began requiring all companies listed on NASDAQ to establish an audit committee.

In September 1998, the former chairman of the SEC, Arthur Levitt, with his speech "The Numbers Game", called for audit committees to do a better job of protecting the integrity of financial reporting and the interests of shareholders. Levitt described an ideal audit committee as one "that meets twelve times a year before each board meeting, where every member has a financial background, where there are no personal ties to the chairman or the company, where they have their own advisors, where they ask tough questions of management and outside auditors and where, ultimately, the investor interest is being served". In 1999, the Blue Ribbon Committee on Improving the Effectiveness of

Corporate Audit Committees (BRC) made 10 recommendations for improving audit committees' effectiveness.[3] BRC also provided five guiding principles for audit committee best practices to serve as building for devising company-specific processes and practices. The BRC recommendations resulted in changes by NASDAQ, NYSE, AMEX, and the SEC. The SEC approved NYSE and NASDAQ rules regarding audit committees in December 1999. Under these rules, listed companies were required to disclose whether their board had adopted a written audit committee charter and whether the committee members were "independent" as defined in the applicable listing standards. As of January 30, 2000, the SEC began requiring public companies to file audit committee reports.

In 2000, the National Association of Corporate Directors (NACD) formed a Blue Ribbon Commission on Audit Committees to develop guidance on best practices for audit committees. The NACD commission report pointed out that the oversight role of an audit committee is broadening in a way that covers three distinct areas: financial reporting, audit functions, and risk management and control. To fulfill this expanding role, the report recommended that all audit committees should be able to rely on its members' financial and business expertise, independence, and diligence. In addition, audit committees should be given sufficient resources, including the availability of a full scope internal audit department, to provide the information needed to perform their governance mandate. Moreover, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) conducted a study of selected US public company financial frauds,

[3] The first two recommendations are aimed at strengthening the independence of the audit committee, the second set of recommendations (from 3-5) is aimed at making the audit committee more effective, and the final group of recommendations (from 6-10) addresses mechanisms for accountability among the audit committee, the outside auditors, and management.

with a special attention to the board of directors and audit committee practices in companies where fraud had occurred. The COSO fraud study analyzed 200 financial fraud cases identified in the SEC filings throughout the period 1987-1997. The key findings of this study indicated that individuals serving on audit committees of these fraud companies typically lacked financial expertise and were not supported by an internal audit function. The study also found that many of these audit committees met only once each year. In many ways, these committees were set up to fail, and the COSO study called for much greater focus on audit committee expertise and diligence. In 2002, the Sarbanes-Oxley Act increased audit committees' responsibilities and authority, and raised membership requirements and committee composition to include more independent directors. In response, the SEC and the stock exchanges proposed new regulations and rules to strengthen audit committees.

In Canada, the Ontario Business Corporation Act (1979) mandates that a corporation is legally required to submit its financial statements to its audit committee before such statements are submitted to the board of directors. Similarly, the Committee on the Financial Aspects of Corporate Governance (Cadbury Committee) in the United Kingdom (1992) has issued a report that includes a Code of Best Practice. The Committee recommended that the boards of all listed companies registered in the United Kingdom establish and maintain audit committees.

To conclude, the interest in the quality of audit committees attempting to improve its effectiveness in performing its oversight operations has increased dramatically in recent years. Many studies include the effect of different attributes of audit committee on mitigating the practices of earnings management, detecting fraud, and improving the

quality of the financial reporting. These attributes include independence, competency, and activity.

Audit Committee Independence

Section 30 of SOX requires that all listed company audit committee members be independent which mean they could not be affiliated with the company or any subsidiaries and did not directly or indirectly receive any consulting, advisory, or other compensatory fee from the company other than in their capacity as members of the board. The new SOX audit committee independence rules became effective at companies' first annual shareholders meetings after January 15, 2004.

As noted in Figure 7, SOX enhanced independence requirements to impose for the first time that all listed company audit committee members be independent, compared to the attempts of the SEC and U.S stock exchanges beginning in the late 1990s. For example, in 1998, only about half of all public companies had fully independent audit committees.

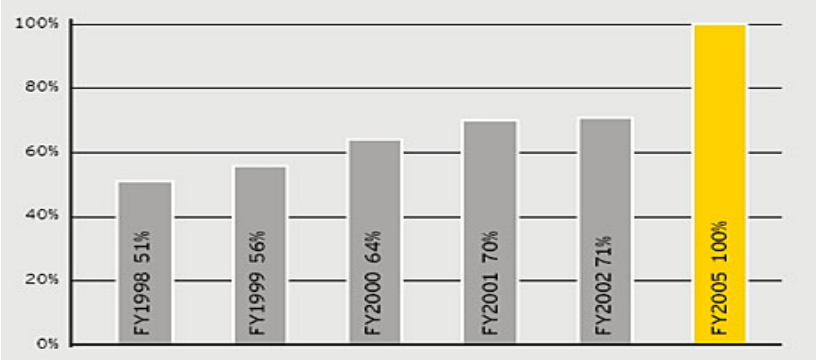

Figure 7. Evolving audit committee independence – S&P 1500 companies. *Source: Ernst & Young (2012, p. 4).*

Prior to December 1999, the NYSE required each firm to have an audit committee comprised solely of independent directors and free from any relationship that would

interfere the exercise of independent judgment as a committee member. While the NASDAQ required only independent directors comprise a majority of a firm's audit committee. Their definition of an independent director was a "person other than an officer or employee of the company or its subsidiaries or any other individual having a relationship which, in the opinion of the board of directors, would interfere with the exercise of independent judgment in carrying out the responsibilities of a director". AMEX strongly recommended but did not require firms to have independent audit committees. In December 1999, the NYSE and NASDAQ modified their requirements by mandating that all large listed U.S. companies should maintain audit committees with at least three directors, "all of whom have no relationship to the company that may interfere with the exercise of their independence from management and the company". These new requirements are in response to the SEC's call for improving the effectiveness of corporate audit committees in overseeing the financial reporting process. By December 2003, all stock markets started requiring each listed firm to have an audit committee with all independent directors.

Prior accounting research has examined the relationship between audit committee independence and different financial reporting issues including financial reporting misstatements, fraud, and earnings management. For example, McMullen and Raghunandan (1996) find that financial reporting problems are less likely when audit committees consist solely of outsiders who are not employees of the company.[4] In addition, Abbott et al. (2000) document that companies with audit committees composed

[4] Their survey (was done of 51 companies with financial reporting problems and 77 companies with no such problems) showed that just 67% of the audit committees of problem companies had only outside directors compared to 86% of companies without financial reporting problems.

of independent directors were less likely to be sanctioned by the SEC for fraudulent or misleading financial reporting. Similarly, Beasley, Carcello, Hermanson, and Lapides (2000) provide evidence that companies found to be fraudulent in their presentation of financial information in three industries (technology, health care, and financial services) had less independent audit committees than a control sample of companies that were not found to be fraudulent. Furthermore, Uzun, Szewczyk, and Varma (2004) find that the number of independent directors on board and its audit committee is negatively related to corporate fraud using 133 matched pairs of companies.

Regarding the earnings management practices, Xie et al. (2003), using a small sample of 282 firm-year observations, report that earnings management is significantly negatively related to the percentage of outside directors on board and audit committee. In addition, Ebrahim (2007) finds that earnings management is negatively related to audit committee independence using a sample of manufacturing firms in the years 1999 and 2000. Furthermore, Choi, Jeon, and Park (2004) used 116 observations obtained from the Korean Stock Exchange during the period 2000-2001 and find a positive relationship between the ownership of shares by audit committee members, used as a measure of the independence of an audit committee, and the degree of earnings management. Moreover, Bedard et al. (2004) use a sample of companies with extreme measures of earnings management and find significant negative relation between measures of earnings management and the all-independent audit committees. In addition, Klein (2002) used a sample of 692 large publicly traded S&P 500 companies and finds that firms with boards and/or audit committees composed of less than a majority of independent directors are more likely to have larger earnings management, measured by the absolute value of

adjusted discretionary accruals. However, Klein (2002) did not find an evidence of a systematic relation between an all-independent audit committee and discretionary accruals. Consistent with the results of Klein (2002), Davidson et al. (2005), using a broad cross-sectional sample of 434 listed Australian companies for the year 2000, find a negative association between the discretionary accruals and audit committees comprising of a majority of non-executive directors. However, no association has been found between the discretionary accruals and committees comprised solely of non-executives. Finally, using Malaysian data, Abdul Rahman and Ali (2006) find an insignificant relationship between the audit committee independence and earnings management.

Audit Committee Competency

Section 401 of SOX requires the audit committee to include at least one member who is considered a financial expert. However, the other members of the audit committee should be financially literate. Such 'literacy' signifies the ability to read and understand fundamental financial statements, including a company's balance sheet, income statement, and cash flow statement (BRC, 1999, p.26). The BRC (1999) define financial expertise as "past employment experience in finance or accounting, requisite professional certification in accounting, or any other comparable experience or background which results in the individual's financial sophistication, including being or having been a CEO or other senior officer with financial oversight responsibilities" (p.25).

The final SEC rules (2003) define an "audit committee financial expert" as a person who has the following attributes: (1) An understanding of generally accepted accounting principles and financial statements, (2) The ability to assess the general application of such principles in connection with the accounting for estimates, accruals

and reserves, (3) Experience preparing, auditing, analyzing or evaluating financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues that can reasonably be expected to be raised by the registrant's financial statements, or experience actively supervising one or more persons engaged in such activities, (4) An understanding of internal controls and procedures for financial reporting and (5) An understanding of audit committee functions.

In addition, section 407 of SOX requires each company to disclose whether or not, and if not, the reasons therefor, the audit committee of that issuer is comprised of at least 1 member who is a financial expert, as such term is defined by the Commission. According to Ernst and Young (2012), almost one-half of all audit committee members meet the definition of a financial expert.

Several studies highlight the importance of audit committee member expertise as a necessary attribute for improving the oversight role of the audit committee. McMullen and Raghunandan (1996), for example, find that companies subject to SEC enforcement actions or restating their quarterly reports were less likely to have CPAs on their audit committee.[5] Similarly, Xie et al. (2003) find that the proportion of audit committee members with corporate or investment banking backgrounds is negatively associated with the level of earnings management as they are expected to have the experience and training to understand earnings management. In addition, Bedard et al. (2004) provide evidence that the financial sophistication of the board and the audit committee is an important factor in constraining the propensity of managers to engage in earnings

[5] Their survey showed that problems companies were much less likely to have CPAs on the committees (6%) compared with problem-free companies (25%).

management. Furthermore, Choi et al. (2004) measure the competency of an audit committee by the expertise of its committee members, specifically classified under five categories: accounting-related, finance-related, professors, other firm-related expertise, and law-related expertise, using Korean companies, and find the presence of professors or members of financial institutions on the committee is negatively related to earnings management. Moreover, Agrawal and Chadha (2005) find that the probability of restating financial statements is significantly lower when the audit committee has an independent financial expert. In addition, Zhang, Zhou, and Zhou (2007) provide evidence that firms are more likely to be identified with an internal control weakness under SOX if their audit committees have less accounting financial expertise.

With respect to the financial expertise requirement on audit committee behavior, DeZoort (1998) examines whether experience affects audit committee members' oversight judgments. A sample of 87 audit committee members completed an internal control oversight task and their judgments were compared to those of a criterion group of external auditors. The findings, in general, indicate that audit committee members with experience made internal control judgments more like auditors than did members without experience. The findings also indicate that experienced audit committee members made more consistent judgments, had higher consensus and higher technical content levels for additional items offered than did the members without experience. Also, DeZoort and Salterio (2001) find that audit committee members with corporate governance experience and financial reporting and auditing knowledge are more likely to understand auditor judgments and to support the auditor in auditor-management disputes, and more likely to address and detect material misstatements.

In order to investigate the extent to which financial experts differ from financial literates in making judgments about financial reporting quality, McDaniel, Martin, and Maines (2002) conduct an experimental study using 2 groups: financial experts (audit managers) and financial literates (recent Executive M.B.A. graduates) by examining the relations between assessments of overall reporting quality and assessments of three quality characteristics (relevance, reliability, and comparability) taken from the qualitative characteristics of accounting information (SFAC No.2). Their results indicate that experts' individual assessments of the relevance and comparability characteristics of quality better aggregate to their overall assessments of reporting quality, while literates' evaluations of overall reporting quality do not reflect these characteristics consistently. Neither group's overall reporting-quality assessments reflected the reliability assessment. In addition, the results indicate that literates were more likely than experts to focus on reporting treatments that have received prominent coverage in the business press and are nonrecurring/ distinctive in nature or have less important implications for reporting quality. In contrast, experts were more likely than literates to identify reporting concerns related to recurring business activities, i.e., activities which their experiences would suggest are associated with quality concerns.

Audit Committee Activity

There are various functions that should be performed by an effective audit committee. SOX (2002) has specifically identified certain audit committee functions which include reviewing financial statements and related disclosures, discussing various financial reporting items with management and the external auditor, reviewing reports of internal and external auditors regarding internal control issues, overseeing the scope of

internal and external audit activities, and meeting privately with the internal and external auditors. Menon and Williams (1994) argue that, for the audit committee to be effective, it is not enough to be independent but it must also be active and vigilant.

The BRC (1999) recommends that audit committees should meet at least four times annually, or more frequently as circumstances dictate to discuss financial reporting quality with the external auditor and to provide up-to-date charters detailing committee responsibilities. Likewise, the NACD (2000) suggests that audit committees should hold four half-day meetings each year.

Consistent with BRC (1999) and NACD (2000), several studies have used the number of meetings as a proxy to investigate whether there is any association between the activity of an audit committee and the likelihood of fraudulent financial reporting. The results, in general, indicate that greater meeting frequency is likely to be associated with fewer incidences of financial reporting problems. For example, Menon and Williams (1994) find that those audit committees that do not meet or meet less frequently are less likely to perform their monitoring function properly. In addition, McMullen and Raghunandan (1996) show that the audit committees of companies subject to SEC enforcement actions or restating their quarterly reports were less likely to have frequent meetings than those companies without such reporting problems.[6] Likewise, Abbott et al. (2000) suggest that companies with audit committees that met at least twice per year were less likely to be sanctioned by the SEC for fraudulent financial reporting. Similarly, Beasley et al. (2000) find evidence that fraud companies in the technology and health-

[6] Their survey showed that only 23% of audit committees of problem companies had regularly scheduled meetings three or more times a year, but 40% of audit committees of companies without financial reporting problems met at least three times annually.

care industries had fewer audit committee meetings (generally one time per year) than did no-fraud industry benchmarks (generally two or three time per year, which is still below the best practices suggested by BRC, 1999 and NACD, 2000). Furthermore, Xie et al. (2003) find that the number of audit committee meetings is negatively associated with discretionary current accruals, suggesting that a more active audit committee that meets more often should be in a better position to monitor issues such as earnings management.

Moreover, using a sample of 108 non-financial Spanish companies that traded on the Madrid Stock Exchange between 2003 and 2006 (432 observations), Garcia, Barbadillo, and Pere (2012) find that the size and number of meetings of the audit committee had a significant negative association with earnings manipulations. However, Uzun et al. (2004) did not find any significant relation between financial reporting fraud and the meeting frequency of board and audit committee. Also, Bedard et al. (2004) find that there is no relationship between the number of audit committee meetings and the level of earnings management. Similarly, Lin, Li, and Yang (2006) suggest no significant impact of the frequency of audit committees meetings on the earnings management. Furthermore, for a sample of Australian listed companies, Baxter and Cotter (2009) results indicate that a greater number of audit committee meetings do not seem to reduce either earnings management or to enhance earnings quality measures. Finally, based on 116 observations obtained from the Korean stock exchange during the period 2000-2001, Choi et al. (2004) find that the number of meetings per fiscal year is not significantly related to earnings management in Korea.

In a comprehensive study, Chtourou, Bedard, and Courteau (2001) examine the relationship between some audit committee characteristics and the extent of earnings

managements measured by the magnitude of positive and negative discretionary accruals. Using two groups of 300 U.S companies, one with relatively high and one with relatively low levels of discretionary accruals in the year of 1996, they find that earnings management is negatively associated with the following audit committee characteristics: the percentage of independent non-executive directors who are not managers in other firms, the presence of at least one member with financial expertise, the presence of a clear mandate for the oversight and monitoring of both financial statements and external audit, and the presence of a completely independent audit committee that holds more than two meetings in the year.

The Role of the Board of Directors

The board of directors is the most important control mechanism available in the corporate governance because it forms the apex of a firm's internal governance structure (Fama & Jensen, 1983). Rezaee (2007) states that the primary responsibilities of the boards of directors are to: 1) Hire a competent and ethical CEO, 2) Ensure other top executives are being hired, and 3) Monitor management's sustainable strategic, financial and operational goals in achieving long-term shareholder value. In 2004, NACD report summaries 11 roles of boards as follows: 1) Approving the company's philosophy, vision and mission, 2) Appointing, monitoring, evaluating, compensating, and, when warranted, replacing the company's CEO and other senior executives, and ensuring the management succession, 3) Reviewing and approving management's strategic plans, decisions and actions, 4) Reviewing and approving the company's financial objectives, plans, decisions and actions, including significant capital allocations and expenditures, 5) Reviewing and approving material nonrecurring, extraordinary business transactions (e.g., mergers and

acquisitions, special purpose entities), 6) Monitoring corporate sustainable and enduring performance, 7) Ensuring the company's compliance with all applicable laws, regulations, rules and standards, including ethical auditing and accounting standards, 8) Evaluating the board's oversight effectiveness, the performance of each of the board committees, and individual directors, 9) Forming board committees (e.g., audit, compensation, governance, nominating) to promote effective accountability for each committee and its members, 10) Communicating with shareholders by attending the annual meetings and responding to shareholders' questions and concerns, and 11) Performing such other functions as required by law or assigned to the board in the company's governance documents.

Consequently, the board of directors is considered the most essential component of corporate governance in providing advisory and oversight functions. It plays a key role in the overall overseeing of the company and the monitoring of top management in particular (Jensen & Mekling, 1976). Thus, the quality of these functions is a very important determinant of corporate governance effectiveness. In an attempt to improve the board's effectiveness, a number of recent empirical studies of corporate governance suggest that some attributes of the board of directors should be achieved and these attributes are expected to have an influence on the quality of financial reporting. These board attributes include board independence and other board related characteristics.

Board Independence

Several definitions of independent board of directors are provided in the literature and by authoritative sources. The most comprehensive definition has been adapted by the Council of Institutional Investors (CII): An independent director is someone whose only

nontrivial professional, financial, or non-financial connection to the corporation, its chairman, CEO, or any other executive is his or her directorship.

Fama (1980) argues that the inclusion of outside directors as professional referees improves the likelihood the board will achieve its control function and lowers the probability of top management colluding with other board members against the shareholders' interests. The Committee for Economic Development (CED) in 2006 states "We acknowledge at the outset that no laws or policies will ever be sufficient to end all corporate misbehavior. We are confident that truly independent and inquisitive boards of directors will provide the best safeguard against corporate wrongdoing". In this regard, Rezaee (2007) states that the independence of the company's board of directors is a critical aspect of corporate governance and has a significant impact on the board's effectiveness. To interpret the effective monitoring role of the independent directors, Fama and Jensen (1983) posit that the superior monitoring ability of non-executives can be attributed to the incentive to maintain their reputations in the external labor market. Moreover, Ebrahim (2007) documents that the value of the board of directors' human capital as outside directors may diminish if they do not adequately monitor managers. Therefore, outside directors are widely believed to protect the interests of shareholders more effectively.

A growing number of recent empirical studies have examined the association of board independence with fraud and earnings management. Regarding the fraudulent financial reporting, Dechow et al. (1996) argue that firms with a large percentage of non-executive directors are less likely to be subject to SEC enforcement actions for violating US GAAP. In addition, Beasley (1996) finds a negative relationship between the

percentage of non-executive members on the board of directors and the likelihood of financial statement fraud.

Concerning the earnings management practices, the results of these studies are inconclusive. Peasnell et al. (2000b) examine the impact of the Cadbury Committee report (1992) on the association between earnings management and board composition using a sample of UK firms. They find no evidence of an association between the degree of earnings management and the board composition during the pre-Cadbury period but they document a significant negative relationship between income-increasing accruals and the proportion of non-executive directors in the post-Cadbury period. These results comply with Cadbury Committee report, which focused attention on the contribution that independent directors can make to the board's monitoring duties. Furthermore, Klein (2002) and Xie et al. (2003) find empirical evidence of the negative relation between the earnings management and the percent of outside directors on the board. In Australia, Davidson et al. (2005) find a significant negative relationship between earnings management and the presence of a board comprised of a majority of non-executive directors using a sample of 434 listed Australian firms for the financial year ending in 2000. Similarly, Ebrahim, (2007) finds a negative relation between earnings management and both board and audit committee independence to be mediated by their activity using a sample of manufacturing firms in the years 1999 and 2000. Moreover, Peasnell, Pope, and Young (2005), using a sample of UK firms, find that firms with a higher proportion of outside directors on the board are associated with less income-increasing earnings management when pre-managed earnings fall below either zero or last year's reported earnings. In contrast, they find little evidence that outside directors are associated with

income decreasing earnings management when pre-managed earnings are very high. Generally, Niu (2006) demonstrates that overall governance quality (including board composition, management shareholding, shareholders' rights and the extent of disclosure of governance practices) is negatively related to the level of abnormal accruals.

In contrast, in Canada, Park and Shin (2004) find that the impact of outside directors and directors from financial institutions on the earnings management is not significantly different between periods before and after the issuance of the Toronto Stock Exchange's Corporate Governance Guidelines of 1994. Therefore, there is no evidence that outside directors and directors from financial institutions will become more effective in constraining income-increasing accrual manipulation. In addition, Chtourou et al. (2001) consider three characteristics of board independence: the inclusion of independent directors on the board, the separation of the roles of chair and Chief Executive Officer, and the presence of an independent nomination committee and find no association between a higher percentage of non-executives independent directors on the board, the combination of the roles of chair and CEO, and a majority of non- executives directors on the nominating committee and on the other hand the level of earnings management. Using Malaysian data, Abdul Rahman and Ali (2006) find an insignificant relationship between board independence and earnings management. In this regard, Johari, Saleh, Jaffar, and Hassan (2008) indicate that the minimum composition of one-third independent director, as suggested by the Code of Corporate Governance in Malaysia, is not adequate to monitor the management and prevent the earnings management practices.

Other Board Attributes

The corporate governance literature shows different characteristics that may influence the effectiveness with which the boards monitor the performance of managers in firms. According to the recommendations of the Cadbury Committee (1992) and the BRC (1999), it is expected that the competence of non-executive board members is of special importance for the monitoring effectiveness of the board of directors. In this regard, Xie et al. (2003) find that the board-monitoring role may improve when board members are financially sophisticated (e.g., experienced in other corporations or in investment banking). Xie et al. (2003) state

> A director with a corporate or financial background may be more familiar with the ways that earnings can be managed and may better understand the implications of earnings manipulation. In contrast, a director with no corporate or financial background may be a well-intentioned monitor but may not have the training or financial sophistication to fully understand earnings management. (p.298)

Moreover, Chtourou et al. (2001) find that board competency, measured by the average non-executive directors' tenure and the average number of directorships a board member holds, is negatively associated with the level of earnings management. Furthermore, Park and Shin (2004) find evidence that the presence of officers of financial intermediaries, who are likely to have a greater ability to detect earnings management, on the board reduces earnings management. In addition, they find evidence that the presence of representatives from large pension funds on the board further reduce the practice of earnings management, since this practice may negatively affect the long-run performance of pension funds.

Beside competency, a number of empirical studies have examined the effect of board size and number of board meetings on the financial statement reliability. However,

the results of these studies provide no consensus about the direction of this relation. Beasley (1996) finds a positive relationship between board size and the likelihood of financial statement fraud. Similarly, Abdul Rahman and Ali (2006) argue that earnings management is positively related to the size of the board of directors. In contrast, Chtourou et al. (2001) document that board size is negatively associated with earnings management. Furthermore, Ching, Firth, and Rui (2006) find a negative relation between board size and earnings management using a sample of 313 firms from Hong Kong. In this regard, Xie et al. (2003) argue that "In the case of earnings management, a larger board may be more likely to have independent directors with corporate or financial experience. If so, a larger board might be better at preventing earnings management" (p.300). However, Abbott et al. (2000) fail to find any association between the board size and the level of earnings management.

Regarding the board meetings frequency, the results are not equally consistent. For example, Lipton and Lorsch (1992) argue that boards that meet frequently are more likely to perform their duties diligently. Xie et al. (2003) show that more active boards are associated with a lower level of earnings management. Xie et al. (2003) argue that "A board that meets more often should be able to devote more time to issues such as earnings management. A board that seldom meets may not focus on these issues and may perhaps only rubber-stamp management plans" (p.300). However, Jensen (1993) pointed out that board meetings are not necessary useful because, given their limited time, they cannot be used for meaningful exchange of ideas among directors or with managers.[7] In addition,

[7] Cited by Ebrahim (2007, p. 43)

Uzun et al. (2004) did not find any significant relation between financial reporting fraud and the meeting frequency of the board.

Internal Monitoring By Subordinate Managers

Attempts have been made overtime to improve the oversight role by setting up good governance structures. Prior accounting research pays considerable attention to studying the board of directors and the audit committee. For instance, the Public Oversight Board (POB) (1993) limits the corporate governance definition as follows "those oversight activities undertaken by the board of directors and audit committee to ensure the integrity of the financial reporting process". However, previous literature on corporate governance suggests that traditional governance mechanisms have limited impact on reducing the agency cost. For example, current discussion of corporate governance ignores important players in the corporate governance arena who play a key role in fraud detection (Dyck, Morse, & Zingales, 2010).[8] Moreover, Peasnell et al. (2005), using UK data, find no evidence that the presence of an audit committee has any impact on the extent of income-increasing manipulations to meet or exceed two earnings benchmarks: avoiding reporting a loss and sustaining recent profit performance. Similarly, they find an insignificant relationship between corporate governance mechanisms (including independence of board and audit committee) and earnings management, explaining that the board of directors is seen as ineffective in discharging their monitoring duties due to management dominance over board matters and the board

[8] Dyck, Morse, and Zingales (2010) study all reported fraud cases between 1996 and 2004 in large U.S. companies and find that fraud detection does not rely on standard corporate governance actors, since the SEC accounts for only 7% of the cases, auditors for 10 %, private litigation lawyers for 3%, debt holders are absent, equity holders for 3%, and equity holders' agents (auditors and analysts) collectively account for 24% of the cases.

of directors' relative lack of knowledge in company's affairs. In addition, Burns et al. (2010) argue that institutional investors with short investment horizons have little incentive to engage in costly monitoring of firm activities. Furthermore, Monks (2008) argue that shareholders have little control over boards and that many boards treat CEOs generously, which reflects a relationship that differs substantially from what is assumed to exist in the arm's length model (Bebchuk & Fried, 2004). Moreover, Acharya et al. (2011) suggest that the market for corporate control can provide some discipline but it is hard to see it as effective in controlling operational decisions.

Regarding the board of directors' role, Mace (1971) conclude that "directors serve as a source of advice and counsel, serve as some sort of discipline, and act in crisis situations"(p.178).[9] Similarly, Aggarwal et al. (2013) argue that strong or independent boards could be valuable in times of crises, but are too far away from day-to-day operations to add much value to a firm. In this regard, seventy-five percent of respondents to Demb and Neubauer's questionnaires (1992) report that the board "set strategy, corporate policies, overall direction, mission, vision" (p.44).[10] According to the *McKinsey Quarterly* survey (2011) on governance, directors report that their boards have not increased the time spent on company strategy since the previous survey, conducted in February 2008—seven months before the collapse of Lehman Brothers. Moreover, 44 percent of respondents say their boards simply review and approve management's proposed strategies and only 21 percent of directors surveyed claim a complete

[9] Cited by Adams, Benjamin, and Michael (2010, p. 64)

[10] Cited by Adams et al. (2010, p. 64)

understanding of their companies' current strategy (McKinsey Global Survey results, 2011).[11]

In addition, there is an increasing tendency for U.S firms to adopt CEO duality structure[12], which, in turn, is viewed by many as a reduction in the board's ability to fulfill its governance function. In this regard, Goyal and Park (2002) find that the probability of CEO turnover is likely to be less sensitive to performance in a firm with a combined CEO/chairman position, consistent with the notion that this combination of titles is associated with increased power over the board.[13]

Concerning the board members, in general, they have fulltime jobs, such as CEOs, attorneys, or bankers. If not, a number of them serve on many boards, sometimes as many as ten simultaneously, resulted in an inability to devote sufficient effort to any one board (Adams et al., 2010). Given that they are busy with other activities, they are more reliant on management for information (Abdul Rahman & Ali, 2006). Also, Fich and Shivdasani (2006) suggest having busy directors is associated with weak corporate governance. Moreover, Shivdasani and Yermack (1999) document that busy directors are more likely to be appointed to the board when the CEO has more influence over the director-nominating process. Thus, the presence of many busy directors could indicate a

[11]The online survey was in the field from April 5 to April 15, 2011, and received responses from 1,597 corporate directors, 31 percent of them chairs. They asked respondents to focus on the single board with which they are most familiar. Respondents represent 545 family-owned businesses, 334 firms owned by private equity firms, and 330 publicly owned companies; the remainder work at other privately owned or government owned firms. They represent the full range of regions, industries, and company sizes.

[12] Using a sample of 141 companies over a 6-year time period 1978-1983, Rechner and Dalton (1991) find this duality structure holds in 78.7% of U.S firms and only 21.3% represent independent structures.

[13] Albrecht, Albrecht, and Albrecht (2004) mention that it is interesting that of ten prominent companies that had recent significant scandals (WorldCom, Enron, Texaco, Financial Corp of America, Global Crossing, Adelphia, United Airlines, PG&E, MCorp., Kmart) , eight of them had board chairs who were also the CEOs.

situation in which the CEO has too much power. According to *McKinsey Quarterly* survey (2011), some directors say that inadequate expertise about the business and insufficient time boards spent on their board duties, which they say is less than ideal for them to cover all board-related topics in proper depth, are probably two important reasons why just 26 percent of respondents characterize their boards' overall performance as excellent or very good.[14] These results indicate a need to reduce the reliance on the board as the most effective governance mechanism and looking for other supporting tools to strengthen the corporate governance's monitoring role.

To conclude, it is clear that the term "internal governance" has been used traditionally to describe different governance mechanisms such as board independence, audit committee independence, shareholders' activism and institutional holding, while, mostly ignores the role of stakeholders inside the firm as a governance mechanism. In this regard, Acharya et al. (2011) argue that there are important stakeholders in the firm, particularly subordinate managers, who care about its future. Their model considers a partnership run by an old CEO who is about to retire and a young manager working under him who will be the future CEO. In such a structure, the CEO has a shorter horizon than his subordinates and he could simply decide to take all of the cash flow, investing nothing for the future. However, his subordinate managers have power to withdraw their contributions to the firm. As a result, the CEO is obligated to keep his subordinates motivated by investing part of the current cash flow and try to keep the company healthy

[14] In this survey, directors were asked how much time their boards spend on different activities, how well they understand the issues their companies face, and what factors they think would be most effective in improving board performance. Interestingly, in this year's survey, directors say their boards are now spending roughly the same amount of time on strategy (23 % of board time, versus 24 % in 2008) and talent (10 %, versus 11 %) that they were three years ago.

to create a future for his subordinate. Subsequently, CEO is compelled to act in a more public-spirited and far-sighted way, even if the CEO acts in his own short-term self-interest and shareholders are dispersed and powerless. Acharya et al. (2011) call this process "internal governance".

In support to the above theory, Aggarwal et al. (2013) argue that the CEO is not the single productive figure in the company and a firm's young managers are critically important to a firm's day-to-day operations. As a result, the CEO needs the participation of his subordinates for current production by keeping them motivated, although the self-interested incumbent CEO may want to extract all benefits at the expense of the other stakeholders. Furthermore, subordinates aspiring to be a future CEO may have different horizons relative to the preservation of firm value than does the incumbent CEO. As a result, the CEO obligates currently to invest to preserve value for the future. Aggarwal et al. (2013) call this bottom-up incentive scheme to induce effort from subordinates the "internal governance." They empirically examine the effect of internal governance on the firm investment and performance and document that the internal governance works best when the relative contributions of CEOs and managers to output are balanced. To do so, they use the ratio of the CEO's predicted compensation to the sum of the CEO's predicted compensation and the maximum predicted compensation of non-CEO executives to proxy for the strength of the relative importance of the CEO's contribution compared to the manager's in generating cash flow. Consistent with Acharya et al. (2011), they find that there is a hump-shaped relation between their measure of this relative contribution and corporate investment and between relative contribution and firm performance.[15] To

[15]Acharya et al. (2011) show that internal governance is most effective when both the CEO and the manager contribute to the firm's cash flows, neither CEO's nor manager's contributions dominate.

demonstrate, when the CEO is dominant in value creation, the CEO has little incentive to invest for the long run since the CEO only captures value today. On the other hand, the executives have little incentive to learn or exert effort because they do not capture the value they create today and the CEO has little incentive to invest for the long run. However, with intermediate levels of relative contribution, the long-term investment incentives are maximized.

Furthermore, Landier et al. (2009) argue that independent executives may act as a bottom-up governance mechanism because the independently minded executives always impose more constraints on the CEO than executives who owe him their jobs. They develop a model in which subordinate executives (implementers) can enhance CEO (decision maker) to use more of the objective information in his decision process and to take less account of his own preferences, which raises the organization's profitability. They consider an organization consisting of two employees with different functions: a decision maker who selects a project and an implementer who execute it. Both of them have intrinsic and possibly differing preferences over projects but share an interest in the project's success. According to the shareholders, lack of congruence between internal stakeholders may impose an efficient implementation constraint that disciplines the decision-making process.

Following Landier et al. (2009) theory, Landier et al. (2012) empirically measure the internal governance based on the degree of independence of the CEO's subordinates. They do this by computing the fraction of executives hired after the CEO took office (non-independent executives), and find that internal governance is said to be poor when this fraction is high. They find a positive relationship between the independence of the

CEO's subordinates and the level of profitability and shareholder returns following large acquisitions.

Moreover, Jain, Jiang, and Mekhaimer (2013) test Acharya et al. (2011) theory to find that internal governance, exercised by subordinate managers, result in effective monitoring of a self-interested CEO through their contribution to improve a firm's financial and operational efficiency and thereby improving stock market liquidity. They use a measure of internal governance based on the mean relative age difference between the top subordinate managers' and the CEO as a proxy of the divergence in their horizons within the firm.

Summary

This chapter introduces an overview of corporate governance definitions. It describes the traditional corporate governance mechanisms including audit committee and board of directors with a brief literature review of the impact of these mechanisms on the earnings management practices. The review identifies that prior accounting research and the accounting profession has focused primarily on the board of directors and the audit committee mechanisms. However, previous literature on corporate governance suggests that traditional governance mechanisms' impact on such practices is contradictory and have limited influence on reducing the agency cost. These governance mechanisms could be valuable in times of crises, but are too far away from day-to-day operations. In addition, this review reveals an ignorance of the monitoring role of stakeholders inside the firm as an effective governance mechanism. Accordingly, the last section of the chapter highlight the effective role of subordinate managers to control and monitor the myopic behavior of the CEO. It concludes that the strength of subordinate

managers to monitor the self-interested CEO comes from two sources, their incentive and power. First, the subordinate managers' incentive to become the future CEO makes them more care about its future. Second, subordinate managers can negatively affect the generation of the cash flows in the current period by withdrawing their contributions to the firm (Acharya et al., 2011) or simply choosing to be less enthusiastic in their work instead of formally disobey or enter in open conflict with their boss (Landier et al., 2009) to control the myopic behavior of the CEO. In summary, subordinate managers can force the CEO to act in a more public-spirited and far-sighted way. As a result, this chapter contributes to the literature by emphasizing the non-CEO executives' role as it is critically important in closely monitoring CEOs on a daily basis, which is impossible to be fulfilled by the board, who meet a few times in a year, or any other traditional governance mechanism.

CHAPTER 4

HYPOTHESIS DEVELOPMENT

The wave of accounting scandals that occurred recently in the international financial community raised many criticisms about the integrity of the financial reporting process and increased the need to strengthen the control of managers by setting up good governance structures. Accordingly, the link between corporate governance characteristics on one side and financial reporting quality and earnings management practices on the other side has been strongly discussed with an emphasis on specific governance mechanisms such as board of directors[1] and audit committee, ignoring the oversight role of stakeholders inside the firm. However, a wide range of corporate governance studies argues that these traditional governance mechanisms have never been shown to be effective in reducing the agency cost (e.g., Acharya et al., 2011; Aggarwal et al., 2013; Burns et al. 2010; Hambrick & Fukutomi, 1991; Hill & Phan, 1991; Monks, 2008). As a result, many studies shed light on another governance mechanism; the subordinate managers' monitoring role because of the possibility to monitor CEOs closely on a daily basis, which can't be achieved through any other governance mechanism (e.g., Acharya et al., 2011; Aggarwal et al., 2013; Cheng et al., 2012; Landier et al., 2012). In this study, the researcher investigates the internal monitoring role by subordinate managers, proxied by the difference in horizon between subordinate managers and the incumbent CEO and also the aggregate compensation of the CEO

[1] Combs, Ketchen, Perryman, and Donahue (2007) state that "the bulk of theoretical and empirical advances focus on the role of the board because of its legal duty to oversee management (Johnson et al., 1996)" (p.5).

relative to other executives, to control the CEO behavior in mitigating the earnings management practices.

CEO Horizon and Earnings Management

CEOs that are near retirement may have a different agenda than those still building and maintaining a career. Davidson, Xie, Xu, and Ning (2007) remark

> In the early years of executives' working lives, these career concerns within their companies and in the external job market may motivate managers to serve shareholder interests. However, as executives approach retirement, these career concerns may be irrelevant or at least play a smaller role in guiding executive incentives on pre-turnover earnings management behavior and ''incentives provided by current compensation become stronger'' (p.487, Gibbons and Murphy 1992). (p. 47)

Prior literature proposes that when CEOs approach retirement, they may lack incentives to act in the best interest of their firms and they may not be too concerned with the long-run performance of their organizations (Antia, Pantzalis, & Park, 2010). Instead, they may be more concerned with the short-term performance and, in turn, the potential for agency problems increases. According to Smith and Watts (1982), the manager with a short horizon prefers projects with lower net present values but higher current accounting earnings to projects with higher net present values but lower current earnings. Similarly, Antia et al. (2010) argue that a CEO with a decidedly short-term focus could boost short-term profits by cutting costs, which is not a sustainable source of profit growth, rather than adding value by investing in positive NPV projects that do not generate immediate rewards. This phenomenon is commonly referred to as the horizon problem. The horizon problem, in turn, can affect the firm in numerous ways including, but not limited to, earnings management, suboptimal investments, and accounting fraud and other consequences that are detrimental to various firm stakeholders (Kalyta, 2009).

Concerning the earnings management practices, it is argued that CEOs have incentives to manage earnings upwards in their final years whether to increase the probability of being hired as directors after retirement in their former company or as an outside director in other company boards (Brickley, Linck, & Coles, 1999), to slow down the leak of unfavorable information in the case of poor performance that ends with forced departure (Murphy & Zimmerman, 1993), or to influence their final year pay[2] (Ali & Zhang, 2013). In this regard, Murphy and Zimmerman (1993) state that outgoing CEOs approaching a known retirement or departure date make accounting or investment decisions to increase earnings (and earnings-based compensation) in their final years, at the expense of future earnings (the "horizon problem") and outgoing CEOs in poorly performing firms threatened by termination make accounting or investment decisions in an attempt to cover up the firm's deteriorating economic health (the "cover-up"). In addition, Dechow and Sloan (1991) and Barker and Mueller (2002) find R&D spending reductions for firms with older CEOs, which would boost profitability in the CEOs' final years, but would more than likely reduce profits in the years subsequent to the CEOs' departures. Furthermore, Conyon and Florou (2004) find that firms cut back on capital expenditures as CEOs become older. As a result, shorter CEO decision horizon suffers from substantially higher agency costs than those with longer CEO decision horizon (Antia et al., 2010). Hence, the first hypothesis is proposed as follows:

H1: There is a negative relationship between the CEO horizon and the earnings management practices.

[2]Shen (2003), Bloom and Milkovich (1998), and Gibbons and Murphy (1992) all find that CEOs nearing retirement receive, on average, a greater proportion of their pay in a form that relates pay to performance. This pay structure in the CEO's final years could increase the incentive to manage earnings upwards.

Age Difference and Earnings Management

The subordinate managers' strength in monitoring the self-interested CEO comes from their incentive in the firm. Subordinate managers' incentive is fueled by their desire to become the future CEO because much of the employee motivation comes from the prospect of a long-term career in the firm, including promotion. As indicated in the study of Agrawal, Knoeberd, and Tsoulouhas (2006), the incoming CEO, in most cases, is an insider. They report that over 80% (848 out of 1035) of all CEO successions in the period 1974–1995 involved the promotion of an insider to the CEO position. Moreover, Cremers and Grinstein (2013) document that, over the years 1993 and 1996, 63% of the new CEOs were insiders, 31% were outsiders, and 7% were interim CEOs, compared with 60%, 32%, and 9%, respectively, in the years 2003–2005. Accordingly, subordinate managers' longer time horizon in the firm makes them care more about its future than the CEO, who gives no weight to the future welfare of the firm or its employees (Acharya et al., 2011). Hence, subordinate managers are serving as challengers and form a coalition opposed to the CEO when performance deteriorates (Ocasio, 1994). Generally, subordinate managers will be less likely to support earnings management practices since positive earnings management is reversed in future years[3], and they will not want to mortgage the company's future since they will still be in office (Davidson et al., 2007). This difference in appropriation horizons between the incumbent CEO and the subordinate managers is the fundamental source driving the internal governance. In this regard, Acharya et al. (2011) view the firm as a composition of diverse agents with different horizons, interests, and opportunities for misappropriation and growth.

[3] Any higher than normal accruals in one period must be offset by lower than normal accruals in another period.

Acharya et al. (2011) argue that the internal governance is more effective for the firms with CEOs close to retirement. Moreover, Aggarwal et al. (2013) confirm that the greater divergence in career horizons (larger age differences between the CEO and subordinate managers) is accompanied with more effective internal governance. The reason behind this argument is that the older the CEO than the remaining managers on average, the shorter the CEO's horizon, and thus increase the probability for the subordinates of being the next CEO. Conversely, if the CEO is younger than the other managers or similar in age, then internal governance should be completely ineffective. In this case, the CEO will already have a long horizon (or similar horizon) while the other managers will have little hope of becoming the next CEO and so be unwilling to exert effort. To conclude, the larger the age difference between the CEO and the subordinate managers, the more effective the internal governance, and the less likely the company will engage in earnings management practices to meet short-term earnings targets at the expense of the long-term profitability.[4] To capture the effectiveness of the internal governance comes from executives' incentive to become the future CEO, the next hypothesis is as follows:

H2: Internal governance is more effective in mitigating earnings management with larger age difference between the CEO and the subordinate managers.

[4] Fischer and Rosenzweig (1995) define earnings management as referring to the actions of a manager which serve to increase (decrease) current reported earnings of the unit for which the manager is responsible without generating a corresponding increase (decrease) in the long-term economic profitability of the unit.

CEO Power and Earnings Management

Subordinate managers have the power to force the CEO to act in a more public-spirited and far-sighted way even if the CEO acts in his own short-term self-interest. Their power represented by choosing to be less enthusiastic in their work instead of formally disobey or enter in open conflict with their boss (Landier et al., 2009). In addition, they have the ability to withdraw their contributions to the firm. In this regard, Acharya et al. (2011) remark

> The mechanism through which they have an impact in our model is not through coordinated action or through appeal to a board of directors, but rather through their propensity to get demotivated. This is neither exit nor voice, in the felicitous terminology of Hirschman (1970), nor active whistle blowing as in Dyck, Morse, and Zingales (2010); but, instead, is an uncoordinated and even implicit strike. (p.717)

Accordingly, to consider the interest of subordinate managers in order to generate cash flows in the current period, the CEO has to use more of the objective information in his decision process and to take less account of his own preferences, which raises the organization's profitability (Landier et al., 2009).

In this regard, the managerial power approach predicts a correlation between power[5] and rents.[6] The greater the CEO's power, the larger his or her rents will tend to be (Bebchuk & Fried, 2004). Consistent with this view, Aggarwal et al. (2013) point out that if the CEO is very powerful, he does not need his subordinates' cooperation and internal governance will not constrain the CEO's extraction of rents. Similarly, Haleblian and Finkelstein (1993) state that dominant CEOs may nullify the contribution of members

[5] Adams, Almeida, and Ferreira (2005) define powerful CEOs as those who can consistently influence key decisions in their firms, in spite of potential opposition from other executives.

[6] Economists use the term "rents" to refer to excess returns that firms or individuals obtain due to their positional advantages.

with less power. Furthermore, Galema, Lensink, and Mersland (2009) argue that powerful CEOs tend to take all the major decisions, while less powerful CEOs take decisions in consensus with the other board members. In addition, Eisenhardt and Bourgeois (1988) argue that the less dominant the CEO is, the greater the share of information and the more the consensus in decision making. As power circulation theory asserts, with low power CEOs, other executives provide sufficient and effective monitoring to constrain and counterbalance the potential self-serving actions of CEOs and to protect shareholders, therefore, there is no need for an additional, and potentially counterproductive, layer of control in the form of an outside director dominated board (Combs et al., 2007).

From another perspective, Larcker and Tayan (2012) find that companies with powerful CEOs are less likely to have formal succession plans, and powerful CEOs are more likely to influence the outcome of a succession when it takes place. In this regard, Zajac and Westphal (1996) argue that powerful CEOs play an integral role in the selection of their successor, and that they are more likely to drive the choice of a successor toward one with the similar characteristics to themselves. These findings indicate that with more powerful CEO, subordinates managers' monitoring role diminishes, either for their inability to impose their opinions or for losing their incentive and hope to take the CEO's place. Based on the previous discussion, the more powerful the CEO is, the less effective the subordinate managers' monitoring of the CEO which provides us with the following hypothesis:

H3: Internal governance is more effective in mitigating earnings management with less powerful CEO.

Human Capital Industries and Earnings Management

It is assumed that internal governance is more effective when the firm's value is more tied to firm-specific human capital, particularly in industries that typically emphasize internal promotions and long-term employment (Acharya et al., 2011). In such firms, subordinate mangers have unique skills. Given the need of the incumbent CEO to his subordinates' efforts to generate the cash flaws in the current period[7], the subordinate managers have more importance and power on the CEO's actions in such industries, where it is difficult to replace an executive with another. Unlike capital-intensive industry, insiders in human intensive industry are less comparable to outsiders because of their proprietary knowledge, which is believed to provide their firms a competitive advantage in the marketplace.

From other point of view, Agrawal et al. (2006) find that the choice of an insider as CEO is more likely in firms-specific human capital. Furthermore, Parrino (1997) shows that the frequency of outside succession varies considerably across industries and decreases with firm specific human capital, where CEOs are more costly to replace and are harder to identify. Given that the effectiveness of subordinate managers' monitoring depends on the probability of being hired as the incoming CEO, the subordinate managers in human capital intensive industries exert internal governance on the incumbent CEO in order to protect their future in the firm. The reason of this argument is

[7] CIMA, 2007 attribute the generation of cash flows to three main categories of intellectual capital as follows: human capital 54%, organizational capital 8%, and relational capital 38%, defining each of them as follows: "Human capital refers to the activities that create knowledge based upon experience that ultimately contributes value to the firm. Organizational capital includes databases, technology, control systems, and other processes and procedures that assist the company in storing or utilizing the knowledge created by its employees. Finally, relationship capital consists of the associations with customers, suppliers and other stakeholders essential to the firm's economic sustainability". Also, Acharya et al., 2011 argue that there are three ingredients to produce the firm's cash flow: the firm's capital stock, the CEO's ability to manage the firm, and the young manager's effort.

that the likelihood of inside succession in these industries is high. Based on the previous discussion, the forth hypothesis is formed as follows:

H4: Internal governance is effective in mitigating earnings management only in firm specific human capital industries.

CHAPTER 5

SAMPLE COLLECTION AND RESEAECH METHODOLOGY

Sample Selection and Data Sources

In this section, the researcher explains the data collection procedures as well as the data sources. The researcher uses Standard & Poor's ExecuComp database to collect annual data for the top executives in S&P 1500 firms. The database includes data on CEO and subordinate managers' ages, appointment dates, dates for leaving the executives' compensation data, and other attributes. Following Acharya et al. (2011) and Bebchuk et al. (2011), the researcher limits the sample to include only the top 4 subordinate managers, in addition to the CEO.[1]

The sample includes 10 years of data for S&P 1500 firms for the period from 2000 to 2010. Company ID, fiscal year, total assets, total current assets, cash holdings, current liabilities, property, plant and equipment, account receivables, cash flow from operations, net income and market value are derived from Compustat database. Data on institutional holdings is collected from the 13F fillings summarized in the CDA/Spectrum database. Gompers, Ishii, and Metrick (2003) Governance index, GIM, is collected from the investor responsibility research center. Firm age is calculated based on the Compustat data.

The sample comprises all Compustat firms in the 1999–2010 period (1999's data is used to calculate the change in variables regressor in year 2000, and so forth). The researcher employs the following filters: exclude financial institutions and utility firms

[1] Acharya et al. (2011) shows in Table II, that nearly 80% of new CEOs are appointed from the top four executives in the firm in the previous year (top four because one of the top five is typically the CEO). Some firms in the sample have less than four subordinate managers.

because their accounting is different from the rest of the companies. In addition, the researcher excludes firms with missing accruals and firms whose current accruals exceed lagged assets. Moreover, to estimate the coefficients in the first stage of Jones (1991) different models, the researcher run one regression for every year for any industry that contained at least 30 firms.

Variables Measurements

1) Measures of Internal Governance

This study uses two different proxies for internal governance. First, the researcher uses the age difference between the CEO and his subordinates to measure the difference in appropriation horizon. Second, the researcher employs Bebchuk et al. (2011) CEO pay slice (CPS) to measure the CEO's dominance relative to other executives in the firm.

Difference in Horizon (Age Difference)

Acharya et al. (2011) argue that the difference in horizon between the CEO and the subordinate managers represent the fundamental source to exert pressure and monitor the CEO. The CEO has a short horizon; therefore, he could simply decide to take all of the cash flow, investing nothing for the future. However, he needs the young manager's effort in order to generate the cash flow. In the same time, subordinate manager's horizon is extended beyond the CEO horizon. If subordinate managers see that the CEO will leave nothing behind, they will be less motivated to exert effort, and cash flow will fall significantly. Within this managerial structure, firm control need not be exerted just top-down, or from outside; it can also be asserted bottom-up.

Acharya et al. (2011) suggest that internal governance may not be effective when the CEO has long-term interest in the firm. Many previous studies have used CEO tenure;

the number of years the CEO has been in office, to proxy for career horizon. However, as indicated by Jain et al. (2013), tenure has three major problems as follows: "First, it reflects only the past horizon and may not infer anything about the executives' expected future horizon. Second, it ignores any executive experience outside the current firm. Third, it ignores the cumulative learning and experience of executive beyond their executive position" (p.14). They argue that age can avoid these problems. Following Jain et al. (2013), the researcher uses the mean relative age differences between the CEO and the top four subordinate managers as a proxy of the divergence in their horizons within the firm. The main idea behind the effectiveness of subordinates managers' monitoring is the conflict of interests between the myopic CEO, with short-term horizon, and subordinates managers, with long-term interest in the firm. Hence, the larger the age difference, the stronger the subordinate managers' desire to monitor the CEO and the more effective the internal governance. This measure is calculated as follows:

$$Internal\ Governance = CEO's\ Age_{i.t} - Subordinate\ Managers'\ Age_{i,t}$$

Where $CEOAge_{i.t}$ is the age of CEO and $SubordinateManagers'Age_{i,t}$ is the mean age of the top four subordinate managers for firm *i* at year *t*.

CEO Pay Slice

To capture the ability of subordinate managers to monitor the CEO, the researcher adopts Bebchuk et al. (2011) CEO pay slice. The CEO pay slice measures CEO dominance relative to the other executives. This measure reflects the relative importance of the CEO as well as the extent to which the CEO is able to extract rents. CEO pay slice is an inverse measure to the internal governance. The CEO pay slice is computed as the fraction of the aggregate compensation that is captured by the CEO out of the top five

executives team. Acharya et al. (2011) suggest that if the CEO dominates the contribution, he has no desire to limit his rent extraction in order to provide incentives for the subordinates. The CEO dominance, represented by high CPS ratio, entails that subordinate managers are powerless and their ability to monitor the CEO is weak and internal governance would be less effective. Bebchuk et al. (2011) CEO Pay Slice ratio is defined as follows:

$$CEO\ PAY\ SLICE_{i,t} = \frac{CEO\ PAY_{i,t}}{TOP\ 5\ TOTAL\ PAY_{i,t}}$$

Where $CEO\ PAY_{i,t}$ is the CEO's total compensation, including salary, bonus, other annual pay, the total value of restricted stock granted that year, the Black and Scholes value of stock options granted that year, long- term incentive payouts, and all other total compensation. $TOP\ 5\ TOTAL\ PAY_{i,t}$ is the total compensation of the top 5 executives including the CEO.

CPS as a proxy for CEO dominance or centrality has a powerful explanatory variable, captures many observable and unobservable dimensions of the CEO's role in the top team, capture factors beyond the ones captured by other studies such as whether the CEO also chairs the board, and directly reflects internal agency/governance problems (Bebchuk et al., 2011).

2) Measures of Earnings Management

Most empirical earnings management studies have relied primarily on accruals-based measures to estimate the degree of manipulation. Accruals management approach captures the effect of accounting estimates, changes in those estimates, and changes in accounting methods (DeAngelo, 1986). The research design of the accruals-based models is based on isolating the total accruals into discretionary accruals and nondiscretionary

accruals. Discretionary accruals, in turn, are used as a proxy for earnings management. The researcher calculates the discretionary accruals by employing 3 steps as follows: Step 1: Measure total accruals using the balance-sheet approach in which total accruals are the change in non-cash current assets less the change in current liabilities, excluding the current portion of long-term debt, less depreciation, deflating all variables by the beginning of the year assets to overcome heteroskedasticity. Step 2: Estimate the nondiscretionary accruals by applying both Jones and modified Jones models in their cross sectional versions, where the parameters of the models are estimated by using cross-sectional data rather than time-series data. Therefore, parameter estimates are industry and year specific rather than firm specific. In addition, the researcher uses the current version of both models. Step 3: Calculate the discretional accruals which are the difference between the actual accruals (step 1) and the expected accruals (step 2).

Jones Model

The nondiscretionary accruals (step 2) are estimated after controlling for changes in a firm's economic conditions using a two-stage approach. In the first stage, the coefficients of the nondiscretionary accruals are determined by regressing the total accruals on the change in sales (ΔREV) to control for the changes in working-capital accruals caused by the changes in underlying economic activities before managerial manipulation, such as accounts receivable, inventory, and accounts payable. In addition, the gross level of property, plant, and equipment (PPE) to control for nondiscretionary accruals associated with the depreciation expense. Therefore, NDA is computed as indicated below to yield estimates of the coefficient $\hat{\alpha}_i$, $\hat{\beta}_{1i}$, $\hat{\beta}_{2i}$:

$$TA_{it}/A_{it-1} = \alpha_i[1/\ A_{it-1}] + \beta_{1i}\ [\Delta\ REV_{it}\ /\ A_{it-1}\ ] + \beta_{2i}[PPE_{it}\ /A_{it-1}\ ] +\ \varepsilon_{it}$$

Where

TA_{it}= Total accruals for firm i in year t

A = Assets

Δ REV = Change in revenues

PPE = Gross property, plant, and equipment

ε_{it}= Error term for firm i in year t

In the second stage, the estimated parameters from the above regression, namely $\hat{\alpha}_i, \widehat{\beta}_{1i}, \hat{\beta}_{2i}$, are combined with TA, ΔREV and PPE data from each firm as follows:

$$NDA_{it} = \hat{\alpha}_i[1 / A_{it-1}] + \hat{\beta}_{1i}[(\Delta REV_{it})/A_{it-1}] + \hat{\beta}_{2i}[PPE_{it}/A_{it-1}]$$

And the residual accruals (DA) are the discretionary component of total accruals computed as follows: $DA_{it} = TA_{it}$ - NDA_{it}

Modified Jones Model

Over the years, modified Jones model was considered the most widely used model in detecting earnings management. The modified Jones model replaces the changes in revenues with the changes in cash revenues (the change in revenues minus the change in the accounts receivable). This modification stems from the fact that it is easier for managers to manage earnings by exercising discretion over the recognition of revenue on credit sales rather than over the recognition of revenue on cash sales. Unlike the time series analysis[2], in cross-sectional analysis, the cash revenue is used for the estimation of the parameters of nondiscretionary accruals (the first stage of step 2) (e.g., DeFond &

[2] The time-series modified Jones model follows the first stage of the Jones model, however, in the second stage, it estimates the nondiscretionary accruals by multiplying the estimated coefficient of the change in total revenues by the change in cash revenues.

Park, 1997; Dechow, Richardson, & Tuna, 2003; Kothari, Leone, & Wasley, 2005; Subramanyam, 1996). Therefore, this difference affects both stages of the earnings management detection procedure: estimation of nondiscretionary accruals coefficients (first stage) and identification of the discretionary accruals (second stage). Hence, in the first stage, to estimate the coefficients of the nondiscretionary accruals, total accruals are regressed on the change in cash sales (ΔREV- Δ AR), and the gross level of property, plant, and equipment (PPE) as indicated below:

$$TA_{it}/A_{it-1} = \alpha_i[1/A_{it-1}] + \beta_{1i}[(\Delta REV_{it} - \Delta AR_{it})/A_{it-1}] + \beta_{2i}[PPE_{it}/A_{it-1}] + \varepsilon_{it}$$

Where

TA_{it}= Total accruals for firm i in year t

A = Assets

Δ REV = Change in revenues

AR = Accounts receivable

PPE = Gross property, plant, and equipment

ε_{it}= Error term for firm i in year t

In the second stage, the estimated parameters from the above regression, namely $\hat{\alpha}_i$, $\hat{\beta}_{1i}$, $\hat{\beta}_{2i}$, are combined with TA, (ΔREV-ΔAR), and PPE data from each firm as follows:

$$NDA_{it} = \hat{\alpha}_i[1/A_{it-1}] + \hat{\beta}_{1i}[(\Delta REV_{it} - \Delta AR_{it})/A_{it-1}] + \hat{\beta}_{2i}[PPE_{it}/A_{it-1}]$$

And the residual accruals (DA) are the discretionary component of total accruals computed as follows: $DA_{it} = TA_{it} - NDA_{it}$

Current Version of Jones and Modified Jones Models

The researcher employs the current accruals version of both the Jones and modified Jones model in which current accruals are used as a dependent variable and only the change in revenues (or cash revenues in case of the modified Jones model) as the explanatory variable (omits the PP&E regressor) as indicated in Table 5.1.

Table 5.1
Steps of Discretionary Accruals Using the Current Version of Jones and Modified Jones Models

	Current version of Jones model	Current version of Modified Jones model
Step 1: Measure the current accruals (CA)	The change in non-cash working capital, (Δ Current Assets - Δ Cash) – (Δ Current Liabilities - Δ Current maturities of long-term debt - Δ Income taxes payable), deflating all variables by the beginning of the year assets to overcome heteroskedasticity.	The same
Step 2: Estimate the nondiscretionary accruals. **Stage 1:** To estimate the coefficient, namely $\hat{\alpha}_i$, $\hat{\beta}_{1i}$, $\hat{\beta}_{2i}$, of the nondiscretionary accruals using cross sectional data **Stage 2:** To use the coefficient from the previous regression with each firm	$CA_{it}/A_{it-1} = \alpha_i[1/A_{it-1}] + \beta_{1i}[\Delta REV_{it} / A_{it-1}] + \varepsilon_{it}$ Where CA_{it}= Current accruals for firm i in year t. $NDA_{it} = \hat{\alpha}_i[1/A_{it-1}] + \hat{\beta}_{1i}[(\Delta REV_{it})/A_{it-1}]$	$CA_{it}/A_{it-1} = \alpha_i[1/A_{it-1}] + \beta_{1i}[(\Delta REV_{it} - \Delta AR_{it})/A_{it-1}] + \varepsilon_{it}$ Where CA_{it}= Current accruals for firm i in year t. $NDA_{it} = \hat{\alpha}_i[1/A_{it-1}] + \hat{\beta}_{1i}[(\Delta REV_{it} - \Delta AR_{it})/A_{it-1}]$
Step 3: Compute the discretionary component of the current accruals as the residual accruals (DA)	$DA_{it} = CA_{it}$ - NDA_{it}	The same

Control Variables

Previous studies suggest that firms' characteristics might impact the earnings management of the firm. To rule out the possibility that the results are driven by other factors than the internal governance, the researcher controls for a set of control variables. Following Cheng and Warfield (2005), Jiang, Petroni, and Wang, (2010), and Bergstresser and Philippon (2006), the researcher controls for firm size (Size), growth opportunity using market-to- book ratio (MTB), lagged leverage (Leverage), and Sales Growth. The researcher also controls for the standard deviation of cash flows from operations (StdCashFlow) and the standard deviation of revenues (StdRev) to account for firm-specific volatility (Hribar & Nichols, 2007). In addition, the model includes a set of dummy variables to proxy corporate governance features following Gompers et al. (2003), firm age (Old firm), SIC industry indicators, and exchanges indicators.

Empirical Model

In this section, the researcher presents the empirical model to investigate the impact of internal governance on earnings management. The researcher uses the following regression model to test the hypotheses:

$$\text{Discretionary accruals}_{i,t} = \alpha + \beta_1\, CEO's\ Age_{i,t} + \beta_2\, Internal\ governance_{i,t}(Age\ difference) + \beta_3\, Size_{i,t} + \beta_4\, MTB_{i,t} + \beta_5\, Sales\ growth_{i,t} + \beta_6\, Std\ Rev_{i,t} + \beta_7\, Std\ CFO_{i.t} + \beta_8\, Leverage + \beta_9\, Old\ firms_{\ i} + \beta_{10}\, Loss_t + SIC_i + EXCH_i + \varepsilon_{i,t} \quad (1)$$

Where $\text{Discretionary accruals}_{i,t}$ is calculated using different earnings management models as discussed in section 5.2.2, $CEO's\ Age_{i,t}$ is the CEO's age for firm *i* year *t.* Internal governance is the variable of interest and is calculated as explained in section 5.2.1., $Size_{i,t}$ is the natural logarithm of the lagged total assets, $MTB_{i,t}$ is the market to book ratio of firm *i* in year, Sales growth is the standard deviation of sales

growth over the current and previous four years, Std Rev is the standard deviation of sales, Std CFO is the standard deviation of cash flows from operations, Leverage is the total liabilities deflated by total assets of the firm, Old firm is a dummy variable that equals one if a firm is listed on Compustat for more than 20 years and zero otherwise, Loss is a dummy variable that is equal one if the firm encounter a negative net income in the year *t.* The model also controls for industry and exchange variations by including indicator dummies for each industry and exchange.

CHAPTER 6

EMPIRICAL RESULTS

In this chapter, the researcher presents the empirical results of the relationship between internal governance and earnings management. Theses results are based on S&P 1500 U.S firms and covers the period from 2000 to 2010.

Descriptive Statistics

In this section, the researcher presents the descriptive statistics for the key variables. Table 1 presents the descriptive statistics for earnings management measures, internal governance measures as well as other control variables. Absolute discretionary accruals of Jones (1991) model have a mean of 0.555 and a median of 0.095. These statistics are very close to the one reported for the Modified Jones (1991) model, where the reported mean equal to 0.556 and the median equal to 0.094. On the other hand, the current accruals using Jones (1991) model is equal to 0.153 compared to 0.142 for the current version of modified Jones (1991) model.

For internal governance, there are two main measures as discussed in chapter 5. As indicate in Table 1, the researcher uses the difference in horizons between the CEO and his subordinates as the primary measure of internal governance. The researcher employs the difference in age between the CEO and the other top subordinate managers in the firm as a proxy for the difference in horizon. Following Bebchuk et al. (2011), the researcher limits the sample to include only top five executives in the firm. The statistics shows that for the S&P 1500 firms, the CEO age ranges from 31 years old to 90 years old. The CEO mean and Median age is 54 years old. These statistics are very close to what is reported by Acharya et al. (2011). They reported the CEO age of 55.6 for their

sample that covers the period from 1992 to 2008. On the other hand, the subordinate managers' age ranges from 29 years old to 81 years old. The mean and median of subordinate managers' age is 50 years old. It is worth mentioning that both the CEO age and subordinate managers age have similar mean and median, which suggest that the age distribution of both ages is normal. The difference in age between the CEO and his subordinate managers is 3.90, which is very comparable to the difference reported by other studies such as Acharya et al. (2011) and Jain et al. (2013). The other measure of internal governance is the CEO pay slice. The researcher finds that CEO pay slice ranges from 0.180 to 0.590, which means that the CEO fraction of total compensation ranges from almost 20 to 60%. The CEO pay slice has a mean of 0.385 and a median of 0.386. These results also confirm a normal distribution for the CEO pay slice. In addition, Table 1 includes statistics for other control variables.

Regression Results

Difference in Horizon, CEO Age, and Earnings Management

Table 2 reports the main regression results for this study. Using equation (1), the researcher tests the impact of internal governance on earnings management after controlling for other variables that might impact the level of discretionary accruals as discussed in chapter 5. The table reports the results for four different measures of earnings management, Jones (1991) model in the first column, the current version of Jones (1991) model in the second column, the Modified Jones model in the third column and the current version of the Modified Jones model in the last column. In this table, the main variable of interest is the internal governance measured by the age difference between the CEO and his subordinate managers. In the four different discretionary

accruals specification, the researcher finds the coefficient of internal governance to be negative and statistically significant. These results suggest that internal governance, exercised by subordinate managers, can reduce the earnings management of the firm. The results show that monitoring by subordinate managers with longer horizon than the CEO is actually effective in reducing earnings management practices and switch the firm focus to long-term perspective. In addition, the researcher controls for the CEO age to make sure that the results are not capturing other CEO characteristics. The researcher finds that there is a positive (negative) and significant relationship between the CEO age (CEO horizon) and earnings management. These results suggest that as the CEO age (CEO horizon) increase (decrease), it is more likely that the CEO will engage in earnings management to boost the current earnings. The control variables are also consistent with the previous literature. For example, the researcher finds a positive relationship between volatility of cash flow from operations, sales growth, and volatility of sales revenue and earnings management. These results are consistent with Jiang, Petroni, and Wang (2010).

CEO Power and Earnings Management

In Table 3, the researcher investigates another dimension of internal governance. The researcher uses the CEO pay slice as a proxy of the ability of subordinate managers to monitor the CEO and as an alternative measure of internal governance. Table 3 reports the regression results for the following equation:

$$\begin{aligned}\text{Discretionary accruals}_{\,i,t} = \\ \alpha + \beta_1\, CEO's\ Age_{i,t} + \beta_2\, Internal\ governance_{i,t}(Age\ difference) + \\ \beta_3\, Internal\ governance_{i,t}(CEO\ Pay\ Slice) + \beta_4\, Size_{i,t} + \beta_5\, MTB_{i,t} + \\ \beta_6\, Sales\ growth_{i,t} + \beta_7\, Std\ Rev_{i,t} + \beta_8\, Std\ CFO_{i.t} + \beta_9\, Leverage + \\ \beta_{10}\, Old\ firms_{\,i} + \beta_{11} Loss_t + SIC_i + EXCH_i + \varepsilon_{i,t}\end{aligned} \quad (2)$$

The researcher finds that CEO pay slice coefficients are positive and statistically significant for the Jones (1991) model and Modified Jones model. However, the current version of the Jones and Modified Jones model are insignificant. Generally, the results suggest that as the CEO power (subordinate managers' power) increases (decreases) the firm tends to have more earnings management. These results show that the powerful CEO is inclined to manage earnings. These findings are consistent with the theory of Acharya et al. (2011). They suggest that if the CEO has more power over the top team, he will be unconcerned to motivate his subordinate managers by investing for their future.

Interestingly, the researcher still finds a negative and significant relationship between age difference and earnings management after adding the CEO pay slice to the model. The magnitude of the coefficients is very comparable to the one reported in Table 2. The results suggest that the internal governance is multi-dimensional concept, in which both dimensions of internal governance are significant in the regression specification. As reported in Table 3, the CEO age is still positive and significant. Overall, these results suggest that internal governance is effective in mitigating the myopic CEO behavior of managing earnings.

Human Capital Industries and Earnings Management

Acharya et al. (2011) suggest that subordinate managers can be an effective part of internal governance only if they have an interest in the future of the firm. Such interest comes from greater independence from CEO, due to the firm or the industry specific knowledge. In such cases, non-CEO executives are able to exert more influence on the CEO to alleviate firm's earnings management.

In human capital-intensive industries, managers are required to engage in the industry and the firm-specific learning efforts prior to their appointment for an executive position, which increases their importance, power, and influence on the CEO. In this study, the researcher conducts a test to examine the impact of industry specific learning on the effectiveness of internal governance. Pantzalis and Park (2009) provide a rank of Fama and French 48 industries based on excess value of human capital.[1] The researcher follows Pantzalis and Park (2009) to divide the sample into top 12 human capital industries and bottom 12 human capital industries.

Table 4 Panel A reports the results for the top 12 human capital industries, while panel B reports the results for the bottom 12 human capital industries. The results suggest that internal governance is only effective in reducing the earnings management practices for human intensive capital industries. The researcher finds internal governance measured by the age difference between CEO and his subordinate managers to be negative and significant only for top 12 human capital industries presented in panel A. However, for bottom 12 human capital industries subsample, the findings indicate that age difference is insignificant for different measures of earnings management. These results are in line with Acharya et al. (2011) in which internal governance is only effective when subordinate managers are important and have the power to influence the CEO decisions. On the other hand, the researcher finds mixed results for the second measure of internal governance, the CEO pay slice. In Table 4 panel A, top 12 human capital industries, the CEO pay slice is positive and significant for both Jones and modified Jones models.

[1] Pantzalis and Park (2009) measure excess value of human capital as follows: first, they compute the industry-median value for the ratio of market value of common equity to total number of employees (EV). Then, they multiply the industry median EV by the firm's number of employees to obtain an imputed market value of human capital.

These results are similar to the one reported in the first model specification. While the primary measure of internal governance, age difference, is not significant for the bottom 12 human capital industries, the researcher finds CEO pay slice to be negative and significant for the current version of Jones and modified Jones models. For both subsamples, the researcher finds that the coefficients of CEO age to be positive and significant for different earnings management measures. The results confirm the positive relationship between CEO age and earnings management. Overall, the results suggest that internal governance is effective in reducing earnings management only for firms that provide a greater independence from CEO, due to the required industry specific knowledge.

Internal Governance, Conventional Governance, and Earnings Management

Previous literature suggests that other governance mechanisms also might affect the earnings management practices of the firm. To exclude this possibility, the researcher follows Bergstresser and Philippon (2006) and control for institutional ownership and Gompers et al., (2003) governance index. Table 5 panel A reports the regression results for the following regression:

$$\text{Discretionary accruals}_{i,t} = \alpha + \beta_1\, CEO's\ Age_{i,t} + \beta_2\, Internal\ governance_{i,t}(Age\ difference) + \beta_3\, Internal\ governance_{i,t}(CEO\ Pay\ Slice) + \beta_4 Institutional\ Ownership_{i,t} + \beta_5\, Democracy + \beta_6\, Dictatorship + \beta_7\, Size_{i,t} + \beta_8\, MTB_{i,t} + \beta_9\, Sales\ growth_{i,t} + \beta_{10}\, Std\ Rev_{i,t} + \beta_{11}\, Std\ CFO_{i.t} + \beta_{12}\, Leverage + \beta_{13}\, Old\ firms_{\ i} + \beta_{14} Loss_t + SIC_i + EXCH_i + \varepsilon_{i,t} \quad (3)$$

The researcher measures the institutional ownership as the percentage of shares owned by intuitional investors. The researcher also includes a dummy variable for democratic firm and sets Democracy variable to 1 if the firm scored 6 or below in

Gompers et al. (2003) governance index and 0 otherwise. Further, the researcher includes a dummy variable for dictatorship firms. Following Gompers et al. (2003) and Bergstresser and Philippon (2006), the researcher defines dictatorship firm if it score 13 or more in GIM governance index, otherwise dictatorship is equal to zero. The regression results in Table 5 panel A shows that even after controlling for other governance mechanism, the researcher still finds a negative and significant relationship between internal governance and earnings management. The results are robust to the inclusion of conventional governance measures. In Table 5 panel B, following Bergstresser and Philippon (2006), the researcher includes the other GIM governance categories in the regression model as follows:

$$\begin{aligned}&\text{Discretionary accruals }_{i,t} = \\ &\alpha + \beta_1\, CEO's\, Age_{i,t} + \beta_2\, Internal\ governance_{i,t}(Age\ difference) + \\ &\beta_3\, Internal\ governance_{i,t}(CEO\ Pay\ Slice) + \beta_4 Institutional\ Ownership_{i,t} + \\ &\beta_5\, Democracy + \beta_6\, 7 \le G \le 9 + \beta_7\, 10 \le G \le 12 + \beta_8\, Dictatorship + \beta_9\, Size_{i,t} + \\ &\beta_{10}\, MTB_{i,t} + \beta_{11}\, Sales\ growth_{i,t} + \beta_{12}\, Std\ Rev_{i,t} + \beta_{13}\, Std\ CFO_{i.t} + \\ &\beta_{14}\, Leverage + \beta_{15}\, Old\ firms_{\ i} + \beta_{16} Loss_t + SIC_i + EXCH_i + \varepsilon_{i,t}\end{aligned} \quad (4)$$

These regression results suggest that the relationship between internal governance and earnings management is still robust after controlling other governance mechanisms. The researcher shows that internal governance measured by the age difference between CEO and his subordinates is negative and significant for different model specifications and after controlling for conventional governance measures.

CHAPTER 7

CONCLUSION

The researcher investigates whether the subordinate managers have the incentive and power to monitor the self-interested behavior of the CEO. This investigation sheds light on how the constraints of the subordinate managers over the myopic CEO actions can mitigate the earnings management practices. Subordinate managers have longer horizon in the firm compared to the CEO and, accordingly, care more about its future. Moreover, they have the power to withdraw their contributions to the firm, which will negatively affect the generation of cash flow in the current period. The researcher uses the mean age difference between the top four subordinate managers and the CEO to proxy for their difference in appropriation horizon and to capture the inspiring subordinate managers' incentive to be the incoming CEO. In addition, following Bebchuk et al. (2011), the researcher uses the CEO compensation relative to subordinate managers' compensation, CEO Pay Slice ratio, to capture the influence of subordinate managers in the firm as well as the extent to which the CEO is able to extract rents. On the other hand, following most empirical earnings management studies which have relied primarily on accruals-based measures, the researcher employs different versions of Jones (1991) model to estimate the degree of manipulation.

The findings suggest that internal governance, exercised by subordinate managers, can reduce the earnings management of the firm. The results show that the larger the age differences between the CEO and the subordinate managers, the more effective the internal governance, and the less likely the company will engage in earnings management practices to meet the short-term earnings targets at the expense of the long-

term profitability. The reason behind this argument is that the greater divergence in career horizons increases the probability for the subordinates of being the next CEO. In addition, the researcher controls for the CEO age to make sure that the results are not capturing any other CEO characteristics, and finds that there is a positive (negative) relationship between the CEO age (CEO horizon) and earnings management. The results suggest that as the CEO age (CEO horizon) increase (decrease), it is more likely that the CEO will manage earnings. This indicates that when CEOs approach retirement, they may lack incentives to act in the best interest of their firms and they may not be too concerned with the long-run performance of their organizations. Instead, they may have a different agenda than those still building and maintaining a career. Thus, they may be more concerned with the short-term performance.

Furthermore, the results show a negative relationship between subordinate managers' power and earnings management. These results suggest that the powerful subordinate managers can provide effective monitoring to constrain and counterbalance the potential self-serving actions of the CEOs, otherwise, their ability to monitor the CEO is weak and internal governance would be less effective. These findings are consistent with Acharya et al. (2011) theory, in which they suggest that if the CEOs dominate the contribution, they have no desire to limit their rent extraction in order to provide incentives for the subordinates.

Further, the researcher shows that internal monitoring is more effective in firms that require a higher degree of firm specific knowledge and skills. The researcher follows Pantzalis and Park (2009) to divide the sample into top 12 human capital industries and bottom 12 human capital industries. The results suggest that internal governance is only

effective in reducing the earnings management practices for human intensive capital industries. In such industries, the subordinate managers have more importance for the production process and are less comparable to outsiders because of their proprietary knowledge. Therefore, it is difficult to replace an executive with another, leading to more power imposed on the myopic CEO.

To conclude, internal governance is negatively related to earnings management. The findings are robust after controlling for other governance mechanisms and across different earnings management models and internal governance measures. This study contributes to the literature by examining how internal governance, exercised by subordinate managers, diminishes the extent of earnings management practices. This governance mechanism has been neglected in the corporate governance literature. Therefore, the attention needs to be turned to this important and effective monitoring role.

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Appendix

Table 1
Summary Statistics

Table 1 presents descriptive statistics for S&P 1500 sample firms for the period from 2000 to 2010. Panel A reports the top management characteristics and internal governance measures. *CEO Age* is the CEO's age measured in years, *Subordinate Manager Age* is the mean age of the top 4 subordinate managers (non-CEO executives) in years, *Internal Governance (age difference)* is the difference between *CEO Age* and *Subordinate Manager Age*, *CEO pay slice* is the ratio of CEO pay to the total pay of top 5 managers and is an inverse measure of internal governance. Panel B reports the discretionary accruals measures discussed in section 5.2.2. Panel C reports the summary statistics for the control variables. *A total asset* is log of total assets. *Std Cash Flow from Operations* is the standard deviation operations cash flow. *Sales growth* is the standard deviation of Sales growth over the current and previous four years. *Std Revenue* is the standard deviation of sales revenues. *Old firm* is a dummy variable that equals one if the firm is listed in Compustat for more than 20 years and zero otherwise. *Loss* is a dummy variable that is equal one if the firm encounters a negative net income on the year *t*. Leverage is the total liabilities deflated by total assets of the firm. Market-to-book is the ratio of market value of the firm to its book value.

Variable	Minimum	Mean	Median	Maximum	Std Dev
Panel A: Top Management Characteristics					
CEO's Age	31.000	54.108	54.000	90.000	6.599
Internal Governance (Age difference)	-29.000	3.914	3.500	36.000	6.907
Subordinate Managers' Age	29.000	50.194	50.250	81.000	4.913
CEO Pay Slice	0.180	0.385	0.386	0.592	0.108
Panel B: Discretionary Accruals (Earnings Management Measures)					
|DA Jones 1991|	0.000	0.555	0.095	108.857	2.975
Current |DAJones 1991|	0.000	0.153	0.038	46.595	0.902
|DA Modified Jones|	0.000	0.556	0.094	109.617	3.020
Current |DA Modified Jones|	0.000	0.142	0.037	56.382	0.864
Panel C: Control Variables					
Total Assets	-1.911	7.128	6.990	13.590	1.649
Std Cash Flow from Operations	0.000	0.052	0.037	2.833	0.075
Sales growth	0.000	0.345	0.129	824.044	7.160
Std Revenue	0.000	0.154	0.108	7.099	0.208
Old firms	0.000	0.395	0.000	1.000	0.489
Loss	0.000	0.225	0.000	1.000	0.418
Leverage	0.000	0.224	0.191	74.764	0.668
Market-to-book	-996.927	3.289	2.209	5603.070	51.311

Table 2
Internal Governance and Earnings Management

This table reports the regression analysis of internal governance on earnings management using the following regression model:

Discretionary Accrual $_{i,t}$ = β0 + β1 CEO Age $_{i,t}$ + β2 Internal Governance (Age Difference) $_{i,t}$ + β3 Total Assets $_{i,t}$ + β4 Cash Flow from Operations $_{i,t}$ +β5 Sales Growth $_{i,t}$ + β6 Revenue $_{i,t}$ + β7 Old firms $_{i,t}$ + β8 Loss $_{i,t}$ + β9 Leverage $_{i,t}$+ β10 Market to Book $_{i,t}$+ ε $_{i,t}$

Discretionary Accrual is the absolute discretionary accruals of Jones, and modified Jones models both in the raw and current versions. *CEO Age* is the CEO's age measured in years; *Internal Governance (age difference)* is the difference between CEO Age and Subordinate Manager Age. *A total asset* is logarithm of lagged total assets of firm *i* at year *t*. *Std Cash Flow from Operations* is the standard deviation operations cash flow. *Sales growth* is the standard deviation of Sales growth over the current and previous four years. *Std Revenue* is the standard deviation of sales revenues. *Old firm* is a dummy variable that equals one if the firm is listed in Compustat for more than 20 years and zero otherwise. *Loss* is a dummy variable that is equal one if the firm encounters a negative net income on the year *t*. *Leverage* is the lagged total liabilities deflated by total assets of the firm. *Market-to-book* is the ratio of market value of the firm to its book value. The model also control for industry and exchange variations by including indicator dummies for each industry and exchange. T-statistics calculated using White's corrected standard errors are reported in parentheses. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

	Jones (1991)	Current Jones (1991)	Modified Jones	Current Modified Jones
CEO Age	0.2501**	0.4002***	0.2573**	0.4028***
	(2.15)	(3.42)	(2.2)	(3.42)
Internal Governance (Age Difference)	-0.0350**	-0.0492***	-0.0348**	-0.0483***
	(-2.24)	(-3.13)	(-2.22)	(-3.06)
Log Lagged Total Assets	-0.0851*	-0.2406***	-0.0808	-0.2314***
	(-1.68)	(-4.71)	(-1.59)	(-4.5)
Std. Cash Flow from Operations	0.0179	0.0596***	0.0188	0.0652***
	(1.46)	(4.83)	(1.53)	(5.26)
Std. Sales Growth	0.0018	0.0012	0.0019	0.0007
	(0.22)	(0.14)	(0.23)	(0.09)
Std. Dev. Revenue	0.0304***	0.0680***	0.0311***	0.0724***
	(2.66)	(5.92)	(2.71)	(6.26)
Old firms	0.0244*	-0.0028	0.0245*	0.0014
	(1.86)	(-0.21)	(1.86)	(0.1)
Loss	-0.0199**	-0.0120	-0.0205**	-0.0050
	(-1.99)	(-1.19)	(-2.04)	(-0.49)
Lagged Leverage	-0.0016	-0.0154	-0.0014	-0.0128
	(-0.18)	(-1.64)	(-0.15)	(-1.36)
Market to Book	0.0012	0.0000	0.0012	-0.0008
	(0.15)	(0)	(0.14)	(-0.09)
SIC	Yes	Yes	Yes	Yes
Exchange	Yes	Yes	Yes	Yes
R-square	0.0855	0.0716	0.0838	0.0663
No. Obs.	14123	14145	14071	14093

Table 3
Internal Governance, CEO pay slice and Earnings Management

This table reports the regression analysis of internal governance on earnings management using the following regression model:

Discretionary Accrual $_{i,t} = \beta 0 + \beta 1$ CEO Age $_{i,t} + \beta 2$ Internal Governance (Age Difference) $_{i,t} + \beta 3$ CEO Pay Slice $_{i,t} + \beta 4$ Total Assets $_{i,t} + \beta 5$ Cash Flow from Operations $_{i,t} + \beta 6$ Sales Growth $_{i,t} + \beta 7$ Revenue $_{i,t} + \beta 8$ Old firms $_{i,t} + \beta 9$ Loss $_{i,t} + \beta 10$ Leverage $_{i,t} + \beta 11$ Market to Book $_{i,t} + \varepsilon_{i,t}$

Discretionary Accrual is the absolute discretionary accruals of Jones, and modified Jones models both in the raw and current versions. *CEO Age* is the CEO's age measured in years; *Internal Governance (age difference)* is the difference between CEO Age and Subordinate Manager Age. *CEO pay slice* is the ratio of CEO pay to the total pay of top 5 managers and is an inverse measure of internal governance. *A total asset* is logarithm of lagged total assets of firm *i* at year *t*. *Std Cash Flow from Operations* is the standard deviation operations cash flow. *Sales growth* is the standard deviation of Sales growth over the current and previous four years. *Std Revenue* is the standard deviation of sales revenues. *Old firm* is a dummy variable that equals one if the firm is listed in Compustat for more than 20 years and zero otherwise. *Loss* is a dummy variable that is equal one if the firm encounters a negative net income on the year *t*. *Leverage* is the lagged total liabilities deflated by total assets of the firm. *Market-to-book* is the ratio of market value of the firm to its book value. The model also control for industry and exchange variations by including indicator dummies for each industry and exchange. T-statistics calculated using White's corrected standard errors are reported in parentheses. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

	Jones (1991)	Current Jones (1991)	Modified Jones	Current Modified Jones
CEO Age	0.2587**	0.4203***	0.2661**	0.4200***
	(2.15)	(3.47)	(2.20)	(3.45)
Internal Governance (Age Difference)	-0.0369**	-0.0517***	-0.0369**	-0.0508***
	(-2.30)	(-3.20)	(-2.29)	(-3.12)
CEO Pay Slice	0.0559*	0.0151	0.0537*	0.0022
	(1.73)	(0.47)	(1.66)	(0.07)
Log Lagged Total Assets	-0.0968*	-0.2329***	-0.0919*	-0.2210***
	(-1.81)	(-4.33)	(-1.71)	(-4.08)
St. Dev. Cash Flow from Operations	0.0158	0.0604***	0.0168	0.0665***
	(1.24)	(4.72)	(1.32)	(5.18)
St. Dev. Sales Growth	-0.0006	0.0008	-0.0004	0.0005
	(-0.07)	(0.1)	(-0.05)	(0.06)
St. Dev. Revenue	0.0314***	0.0715***	0.0322***	0.0762***
	(2.66)	(6)	(2.71)	(6.35)
Old firms	0.0255*	-0.0016	0.0256*	0.0028
	(1.87)	(-0.12)	(1.88)	(0.2)
Loss	-0.0192*	-0.0127	-0.0198*	-0.0058
	(-1.87)	(-1.22)	(-1.93)	(-0.56)
Lagged Leverage	-0.0019	-0.0165*	-0.0017	-0.0139
	(-0.2)	(-1.71)	(-0.18)	(-1.44)
Market to Book	0.0024	-0.0003	0.0023	-0.0011
	(0.29)	(-0.04)	(0.28)	(-0.13)
SIC	Yes	Yes	Yes	Yes
Exchange	Yes	Yes	Yes	Yes
R-square	0.0863	0.0716	0.0845	0.0661
No. Obs.	13455	13476	13407	13428

Table 4
Human Capital Industries: Internal Governance and Earnings Management

This table reports the regression analysis of the impact of firm specific learning (human capital) on the effectiveness of Internal Governance. To explore this relation, the resercher uses Pantzalis and Park (2009) rank of the excess value of human capital for each industry to divide our sample firms into top 12 human capital industries and the bottom 12 human capital industries. Panel A shows the regressions results for Top 12 Human Capital Industries, while Panel B shows the results for the bottom 12 industries. We estimate the following regression model for each group:

Discretionary Accrual $_{i,t}$ = β0 + β1 CEO Age $_{i,t}$ + β2 Internal Governance (Age Difference) $_{i,t}$ + β3 CEO Pay Slice $_{i,t}$ + β4 Total Assets $_{i,t}$ + β5 Cash Flow from Operations $_{i,t}$ +β6 Sales Growth $_{i,t}$ + β7 Revenue $_{i,t}$ + β8 Old firms $_{i,t}$ + β9 Loss $_{i,t}$ + β10 Leverage $_{i,t}$+ β11 Market to Book $_{i,t}$+ ε $_{i,t}$

Discretionary Accrual is the absolute discretionary accruals of Jones, and modified Jones models both in the raw and current versions. *CEO Age* is the CEO's age measured in years; *Internal Governance (age difference)* is the difference between CEO Age and Subordinate Manager Age. *CEO pay slice* is the ratio of CEO pay to the total pay of top 5 managers and is an inverse measure of internal governance. *A total asset* is logarithm of lagged total assets of firm *i* at year *t*. *Std Cash Flow from Operations* is the standard deviation operations cash flow. *Sales growth* is the standard deviation of Sales growth over the current and previous four years. *Std Revenue* is the standard deviation of sales revenues. *Old firm* is a dummy variable that equals one if the firm is listed in Compustat for more than 20 years and zero otherwise. *Loss* is a dummy variable that is equal one if the firm encounters a negative net income on the year *t*. *Leverage* is the lagged total liabilities deflated by total assets of the firm. *Market-to-book* is the ratio of market value of the firm to its book value. The model also control for industry and exchange variations by including indicator dummies for each industry and exchange. T-statistics calculated using White's corrected standard errors are reported in parentheses. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Table 4
Panel A: Top 12 Human Capital Industries

	Jones (1991)	Current Jones (1991)	Modified Jones	Current Modified Jones
CEO Age	0.8586***	1.3569***	0.8830***	1.3839***
	(2.83)	(4.5)	(2.91)	(4.58)
Internal Governance (Age Difference)	-0.1051***	-0.1571***	-0.1071***	-0.1596***
	(-2.66)	(-4.00)	(-2.7)	(-4.06)
CEO Pay Slice	0.1565*	0.0600	0.1474*	0.0150
	(1.90)	(0.73)	(1.79)	(0.18)
Log Lagged Total Assets	-0.1130	-0.2831**	-0.1015	-0.2555**
	(-0.97)	(-2.45)	(-0.87)	(-2.21)
St. Dev. Cash Flow from Operations	0.0027	0.0474	0.0029	0.0488
	(0.09)	(1.52)	(0.09)	(1.56)
St. Dev. Sales Growth	0.0014	0.0100	0.0023	0.0070
	(0.07)	(0.5)	(0.12)	(0.36)
St. Dev. Revenue	0.0961***	0.2002***	0.1061***	0.2295***
	(3.36)	(7.04)	(3.6)	(7.83)
Old firms	0.0252	-0.0268	0.0240	-0.0208
	(0.8)	(-0.86)	(0.76)	(-0.67)
Loss	-0.0510**	-0.0259	-0.0512**	-0.0101
	(-2.12)	(-1.09)	(-2.13)	(-0.42)
Lagged Leverage	-0.0041	-0.0362	-0.0039	-0.0340
	(-0.17)	(-1.52)	(-0.16)	(-1.43)
Market to Book	-0.0087	-0.0131	-0.0094	-0.0159
	(-0.45)	(-0.68)	(-0.48)	(-0.82)
SIC	Yes	Yes	Yes	Yes
Exchange	Yes	Yes	Yes	Yes
R-square	0.0829	0.0915	0.0820	0.0894
No. Obs.	2496	2508	2492	2504

Table 4
Panel B: Bottom 12 Human Capital Industries

	Jones (1991)	Current Jones (1991)	Modified Jones	Current Modified Jones
CEO Age	-0.4369*	0.1570	-0.4651*	0.0839
	(-1.71)	(0.65)	(-1.81)	(0.35)
Internal Governance (Age Difference)	0.0453	-0.0168	0.0470	-0.0103
	(1.34)	(-0.52)	(1.37)	(-0.32)
CEO Pay Slice	-0.0629	-0.1471**	-0.0569	-0.1378**
	(-0.93)	(-2.28)	(-0.83)	(-2.14)
Log Lagged Total Assets	-0.3396**	-0.5238***	-0.3382**	-0.5364***
	(-2.57)	(-4.16)	(-2.54)	(-4.27)
St. Dev. Cash Flow from Operations	0.0410	0.1861***	0.0398	0.1954***
	(1.26)	(6)	(1.21)	(6.33)
St. Dev. Sales Growth	0.0151	0.0743***	0.0174	0.0883***
	(0.64)	(3.32)	(0.74)	(3.96)
St. Dev. Revenue	0.0101	0.0873***	0.0081	0.0862***
	(0.34)	(3.09)	(0.27)	(3.07)
Old firms	-0.0255	0.0394	-0.0260	0.0368
	(-0.89)	(1.45)	(-0.9)	(1.36)
Loss	-0.0099	0.0019	-0.0114	0.0027
	(-0.46)	(0.09)	(-0.52)	(0.13)
Lagged Leverage	0.0182	-0.0921***	0.0245	-0.0801**
	(0.56)	(-2.96)	(0.74)	(-2.57)
Market to Book	0.0379**	0.0462***	0.0367**	0.0426**
	(2.12)	(2.71)	(2.04)	(2.51)
SIC	Yes	Yes	Yes	Yes
Exchange	Yes	Yes	Yes	Yes
R-square	0.2112	0.2857	0.2110	0.2995
No. Obs.	2558	2560	2531	2533

Table 5
Internal Governance, Conventional Governance and Earnings Management

This table reports the regression analysis between the internal governance and earning management after controlling for conventional governance matrices. To explore this relation, estimate the following regression model for each group:

$$\begin{aligned}\text{Discretionary accruals}_{\,i,t} &= \beta_0 + \beta_1\, CEO's\ Age_{i,t} + \beta_2\, Internal\ governance_{i,t}(Age\ difference) \\ &+ \beta_3\ \text{CEO Pay Slice}_{i,t} + \beta_4 Institutional\ Ownership_{i,t} + \beta_5\, Democracy \\ &+ \beta_6\, Dictatorship + \beta_7\, Size_{i,t} + \beta_8\, MTB_{i,t} + \beta_9\, Sales\ growth_{i,t} \\ &+ \beta_{10}\, Std\ Rev_{i,t} + \beta_{11}\, Std\ CFO_{i.t} + \beta_{12}\, Leverage + \beta_{13}\, Old\ firms_{\,i} \\ &+ \beta_{14} Loss_t + SIC_i + EXCH_i + \varepsilon_{i,t}\end{aligned}$$

Discretionary Accrual is the absolute discretionary accruals of Jones, and modified Jones models both in the raw and current versions. *CEO Age* is the CEO's age measured in years; *Internal Governance (age difference)* is the difference between CEO Age and Subordinate Manager Age. *CEO pay slice* is the ratio of CEO pay to the total pay of top 5 managers and is an inverse measure of internal governance. *Institutional ownership* as the percentage of shares owned by intuitional investors. *Democracy* variable to 1 if the firm scored 6 or below in Gompers et al., (2003) governance index and 0 otherwise. *Dictatorship* is a dummy variable equal to one if it score 13 or more in GIM governance index, otherwise dictatorship is equal to zero. *A total asset* is logarithm of lagged total assets of firm *i* at year *t*. *Std Cash Flow from Operations* is the standard deviation operations cash flow. *Sales growth* is the standard deviation of Sales growth over the current and previous four years. *Std Revenue* is the standard deviation of sales revenues. *Old firm* is a dummy variable that equals one if the firm is listed in Compustat for more than 20 years and zero otherwise. *Loss* is a dummy variable that is equal one if the firm encounters a negative net income on the year *t*. *Leverage* is the lagged total liabilities deflated by total assets of the firm. *Market-to-book* is the ratio of market value of the firm to its book value. The model also control for industry and exchange variations by including indicator dummies for each industry and exchange. In Panel B, following Bergstresser and Philippon (2006), we include another two other GIM governance categories in the regression model. T-statistics calculated using White's corrected standard errors are reported in parentheses. Levels of significance are indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Table 5
Panel A

	Jones (1991)	Current Jones (1991)	Modified Jones	Current Modified Jones
CEO Age	0.2647**	0.4310***	0.2732**	0.4331***
	(2.18)	(3.51)	(2.24)	(3.52)
Internal Governance (Age Difference)	-0.0368**	-0.0532***	-0.0369**	-0.0526***
	(-2.26)	(-3.25)	(-2.26)	(-3.2)
CEO Pay Slice	0.0579*	0.0117	0.0556*	-0.0022
	(1.76)	(0.35)	(1.69)	(-0.07)
Institutional Ownership	-0.0359	0.0104	-0.0329	0.0123
	(-0.97)	(0.28)	(-0.89)	(0.33)
G<=6 (Democracy)	0.0146	0.0324**	0.0152	0.0324**
	(0.99)	(2.17)	(1.02)	(2.15)
13<= G (dictatorship)	0.0028	-0.0025	0.0031	-0.0044
	(0.27)	(-0.24)	(0.3)	(-0.42)
Log Lagged Total Assets	-0.0692	-0.1959***	-0.0660	-0.1910***
	(-1.23)	(-3.45)	(-1.17)	(-3.35)
St. Dev. Cash Flow from Operations	0.0178	0.0613***	0.0189	0.0677***
	(1.34)	(4.58)	(1.42)	(5.04)
St. Dev. Sales Growth	-0.0005	0.0011	-0.0004	0.0004
	(-0.06)	(0.13)	(-0.04)	(0.05)
St. Dev. Revenue	0.0321***	0.0723***	0.0328***	0.0763***
	(2.67)	(5.97)	(2.71)	(6.26)
Old firms	0.0255*	0.0059	0.0257*	0.0113
	(1.81)	(0.42)	(1.82)	(0.79)
Loss	-0.0179*	-0.0075	-0.0186*	-0.0021
	(-1.73)	(-0.71)	(-1.79)	(-0.2)
Lagged Leverage	-0.0233	-0.0461***	-0.0205	-0.0251*
	(-1.59)	(-3.12)	(-1.4)	(-1.69)
Market to Book	0.0025	-0.0002	0.0024	-0.0013
	(0.3)	(-0.03)	(0.29)	(-0.15)
SIC	Yes	Yes	Yes	Yes
Exchange	Yes	Yes	Yes	Yes
R-square	0.0866	0.0716	0.0848	0.0656
No. Obs.	13229	13247	13185	13203

Table 5
Panel B

	Jones (1991)	Current Jones (1991)	Modified Jones	Current Modified Jones
CEO Age	0.2648**	0.4320***	0.2733**	0.4345***
	(2.17)	(3.52)	(2.24)	(3.52)
Internal Governance (Age Difference)	-0.0368**	-0.0533***	-0.0369**	-0.0527***
	(-2.26)	(-3.26)	(-2.26)	(-3.2)
CEO Pay Slice	0.0579*	0.0115	0.0556*	-0.0025
	(1.76)	(0.35)	(1.69)	(-0.07)
Institutional Ownership	-0.0359	0.0103	-0.0329	0.0122
	(-0.97)	(0.28)	(-0.89)	(0.33)
G<=6 (Democracy)	0.0533	-0.0916	0.0389	-0.1112
	(0.22)	(-0.38)	(0.16)	(-0.46)
7<=G<=9	0.0233	-0.0766	0.0142	-0.0890
	(0.16)	(-0.52)	(0.1)	(-0.6)
10<=G<=12	0.0217	-0.0672	0.0133	-0.0775
	(0.16)	(-0.5)	(0.1)	(-0.57)
13<= G (dictatorship)	0.0155	-0.0432	0.0109	-0.0515
	(0.2)	(-0.55)	(0.14)	(-0.65)
Log Lagged Total Assets	-0.0692	-0.1960***	-0.0660	-0.1911***
	(-1.23)	(-3.46)	(-1.17)	(-3.35)
St. Dev. Cash Flow from Operations	0.0178	0.0613***	0.0189	0.0677***
	(1.34)	(4.58)	(1.42)	(5.04)
St. Dev. Sales Growth	-0.0005	0.0011	-0.0004	0.0004
	(-0.06)	(0.13)	(-0.04)	(0.05)
St. Dev. Revenue	0.0321***	0.0723***	0.0328***	0.0763***
	(2.67)	(5.97)	(2.71)	(6.26)
Old firms	0.0254*	0.0057	0.0257*	0.0109
	(1.8)	(0.4)	(1.82)	(0.76)
Loss	-0.0179*	-0.0075	-0.0186*	-0.0021
	(-1.73)	(-0.71)	(-1.79)	(-0.2)
Lagged Leverage	-0.0233	-0.0460***	-0.0205	-0.0250*
	(-1.59)	(-3.12)	(-1.39)	(-1.68)
Market to Book	0.0025	-0.0003	0.0024	-0.0014
	(0.3)	(-0.03)	(0.29)	(-0.16)
R-square	0.0865	0.0715	0.0848	0.0656
No. Obs.	13229	13247	13185	13203