THE IMPACT OF THREE BOARD CHARACTERISTICS, MODERATED BY CEO ATTRIBUTES, ON EARNINGS MANAGEMENT

By
David Alexander

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By

David Alexander

We hereby certify that this Dissertation submitted by David Alexander conforms to the acceptable standards, and as such is fully adequate in scope and quality. It is therefore approved as the fulfillment of the Dissertation requirements for the degree of Doctor of Business Administration.

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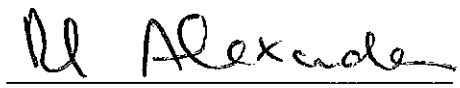
Signed 

David Alexander

ABSTRACT

THE IMPACT OF THREE BOARD CHARACTERISTICS, MODERATED BY CEO ATTRIBUTES, ON EARNINGS MANAGEMENT

by

David Alexander

Earnings management has had consequence in financial disasters, such as Enron, WorldCom and Nortel. More recently, it is alleged in the Lehman bankruptcy, which ushered in a global financial meltdown. Yet despite increased regulation and focus on governance and auditing, researchers find that earnings management remains a common practice.

Accounting academics have responded to the earnings management problem by conducting studies using secondary data for governance variables and financial models to measure earnings management indirectly. Meanwhile, governance variables measured with secondary data now show little variability because of improved best practice and regulation, and there is strong evidence that the agency causal model and the earnings management measures are seriously flawed. This study uses a mixed-mode research model based on agency and stewardship theory to explain earnings management, and uses a more direct measure of its occurrence, namely the level of board information asymmetries and board monitoring and control actions, as a proxy for earnings management. Primary data is used to provide direct measures of important governance variables, which produce mixed results relative to earnings management using secondary data.

In a survey of 245 Canadian public company directors, this study finds that an independent chair, less busy directors, and a smaller board does reduce earnings management, but that this impact is strongly moderated by the CEO's attributes. A CEO with stewardship attributes reduces earnings management, and a CEO with agency attributes increases earnings management. There also is evidence in the study that agency conflict variables improve governance outcomes, in this case, reducing the level of earnings management, and that board processes around monitoring and control actions could be a problem.

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Chapter I

Introduction

Background and Justification

The problem of earnings management has been studied extensively by accounting academics using numerous corporate governance variables and measuring the influence that these variables have on earnings management. Earnings management is measured by financial models testing accounting measures of possible earnings manipulation, such as abnormal accruals, discretionary expenditures, and accounting restatements. There have been no conclusive findings in this stream of research (Parker, 2007). To date, only Graham, Harvey, and Rajgopal (2005, 2006), have used primary survey data successfully; all others have used archival and secondary data with inconclusive results.

Notable in the archival studies on earnings management is the recent large sample (2,106 firms) research by Larcker, Richardson, and Tuna (2007). They examined the relationship between governance variables and various financial outcomes, including earnings management, using exploratory statistical techniques. The objective of their study was to develop more reliable and valid measures for the governance construct, because previous research had not produced a consistent set of results.

Larcker et al. (2007) found that of the 39 governance variables commonly used in accounting research, only five had statistical significance relating to financial performance, but these had only "a modest and mixed association with abnormal accruals and almost no association with accounting restatements" (p. 1004). Contrary to these findings, many other studies (Ebrahim, 2007; Farber, 2005; Klien, 2002; Niu, 2006; Peasnell, Pope, & Young, 2005) have supported a relationship between governance variables and earnings management measures. An agency causal model (Jensen & Meckling, 1976) would suggest that governance variables should reduce earnings management because of increased monitoring and control.

Graham et al. (2005) surveyed more than 400 CFOs to determine the factors that drive reported earnings. They found that managers "work to maintain predictability in earnings" and that "a surprising 78%" (p. 4) manipulate earnings to accomplish this. In a follow-up study involving in-depth interviews with CFOs, Graham et al. (2006) suggest that boards may not even be aware of this manipulation of earnings, and called for research to verify this. Alarmingly, the authors found that most earnings manipulations involve "real" earnings management, such as decreasing expenditures on critical items like R&D, and

postponing new projects--much more serious than simply manipulating accruals, which have no long-term impact on cash flow. Graham et al. (2006) estimate the value destruction from "real" earnings management to be $150 billion for the U.S. economy at any point in time--"the equivalent of two Enron's" (p. 38).

Jensen (2005) cites Graham et al. to express frustration that despite the consequence of earnings management in financial disasters, such as Enron, WorldCom, and Nortel, and the increased regulation and focus on governance and auditing (i.e., Public Company Accounting Oversight Board [PCAOB], 2004; Sarbanes-Oxley Act of 2002 [SOX], 2002), the manipulation of earnings still remains a common practice. Jensen calls for more research on the "design of governance systems, including an examination of the agency problems of information asymmetries between the board and management" (p. 15). He suggests that different causal models of governance behavior, beyond agency, need to be explored.

Jensen (2005) also argues that earnings management results in over-valued equity, and that this has normal course consequence beyond the "headline" financial disasters. He cites a study by Moeller, Schlingemann, and Stultz (2005), which considers the cost of overvalued

equity relative to acquisition activity, and finds this to be $240 billon over a recent 3-year period. Jensen lays the blame for over-valued equity on earnings management, which is the result of managers' "lying" (p. 8) and weak governance systems that fail to properly monitor and control such opportunistic and self-interested managers. Today's Wall Street corporate governance crisis, and specifically the Lehman disaster, which claims "undisclosed losses" in its bankruptcy filings (Godino, 2008), supports Jensen's claim and is evidence that earnings management in its most egregious form continues to be a very serious problem.

The calls from both Jensen (2005) and Graham et al. (2006) to examine board information asymmetries, and from Jensen, to explore causal models beyond agency, are timely and relevant to the study of earnings management. A more direct measure of earnings management, such as board information asymmetries and board actions that monitor and control earnings management, may resolve the issue that Larcker et al. (2007) identify in their findings (i.e., governance does matter in earnings management). A new explanatory model of the interactions between management and the board is needed for a broader, more informed dialogue on earnings management.

The purpose of this study is to extend the work of Graham et al. (2005, 2006) and Larcker et al. (2007) by examining the impact that the board characteristics identified in the Larcker et al. (2007) study have on earnings management, using board information asymmetries and actions as proxies for earnings management. To answer Jensen's (2005) call for better explanatory models, a mixed agency/stewardship model is used, where the CEOs' attributes moderate the impact that board characteristics have on earnings management. The research question is:

> "What is the impact of certain board characteristics, as moderated by the CEO's attributes, on earnings management?"

This study will contribute to the accounting and corporate governance literature in three ways. Firstly, it will confirm whether or not boards are taking actions to monitor and control earnings management, and consequently answer the question of the boards' awareness of the practice asked by Graham et al. (2005, 2006). Secondly, using a new causal model, it will give better insight into the reasons why board information asymmetries exist, by testing the important board characteristics identified by Larcker et al. (2007) against a measure of board information asymmetries, which together with board actions

is a proxy for measuring earnings management. Thirdly, it will be another step, using more direct measures, towards answering the question of whether or not corporate governance really matters in the problem of earnings management.

Definition of Key Terms

For this study, it is important to define and clarify two key terms, namely board information asymmetries and earnings management.

The term "information asymmetries" has been used in accounting and finance literature to describe a situation where one party holds more information than another, most often contrasting the information held by inside management versus the information held by outside investors in a capital markets context. Information is not necessarily purposefully withheld to the advantage of one party: Although this is considered a serious problem related to information asymmetries, it can simply be a consequence of the quality information from the sending party, that is, management, and/or the proactive information seeking by the receiving party, that is, investors.

Jensen (2005) is the first to introduce the concept and terminology of "board information asymmetries," where the definition remains the same, but the parties are the

board (non-executive directors) and management; that is, both are internal parties. The board has more direct interaction with management and is elected by the firm's shareholders to monitor and control management actions, which includes external information asymmetries.

Similar to the definition of information asymmetries, the accounting literature suggests a very broad range of consequence and motives in its definition of earnings management. This definition can range from the fraudulent manipulation of earnings, which has consequence in financial disasters such as Enron, to the "smoothing" of earnings, which Graham et al. (2005) find to be a common practice. For this study, the broad definition of earnings management is accepted, that is, any manipulation of earnings, regardless of motive or possible consequence, is earnings management.

The other variables used in the study, namely board characteristics and actions, are factual and do not require further clarification or definition.

Delimitations

The study surveys non-executive directors of public companies, and there are two unique delimitations related to this.

The first delimitation is the issue of confidentiality and legal liability for the responding directors, which may make the accuracy of responses problematic for an issue as topical and sensitive as earnings management. To minimize this problem, this study considers indirect measures, which are proxies of earnings management. The second delimitation relates to the first--this study is a more direct measure of earnings management than the secondary measures being used by other researchers, but remains restricted to an indirect measure because of the confidentiality and legal liability issue.

The remainder of this paper is organized as follows: Chapter II provides a relevant review of the accounting and management literature that leads to the development of the research model and hypotheses; Chapter III describes the research methodology; Chapter IV presents the results of the data analysis; and finally, Chapter V presents the summary, contributions, and limitations of the study, and provides recommendations for future research, policy-makers, and practitioners.

Chapter II

Review of Literature

Introduction

Earnings management, when firms manipulate their financial results, continues to be a serious problem both in terms of egregious manipulation with disastrous financial consequence, as with Enron and Lehman, and in terms of normal-course manipulation with consequence in value sacrifice (Graham et al., 2006) and over-valued equity (Jensen, 2005). Despite nearly four decades of research on earnings management, little progress has been made, and the latest large sample archival study (Larcker et al., 2007) continues to show a modest and mixed impact of agency governance variables on earnings management, as measured by secondary financial models with low statistical power (Beaver, 2002).

The seminal agency theorist, Michael Jensen (2005), hypothesizes that the high level of earnings management practiced (78% of CFOs, Graham et al., 2005) is a consequence of board information asymmetries caused by agency theory malfunction, underscoring the need to develop new models and measures in the study of earnings management. However, to date, no new models or measures have been tested.

The remainder of this chapter is organized as follows: The first section considers earnings management research for the past four decades as reviewed by four notable studies, including one review by the seminal author of archival empirical research in accounting, William Beaver (1968); the following two sections suggest a new model, new measures, and hypotheses for the study from the accounting and management literature; and the final section summarizes these findings.

Past Earnings Management Research

The impact of governance variables on earnings management has been studied extensively by accounting academics with mixed and often conflicting results. There are a number of excellent survey and review papers starting from the early 2000s that track the progress of this research stream and make suggestions for improvement--for example, Beaver (2002); Fields, Lys, and Vincent (2001); and more recently, Parker (2007); and Xu, Taylor, and Dugan (2007).

Beaver (2002), who pioneered archival, empirical research in accounting (Beaver, 1968), and has published a number of seminal papers, gives his perspectives on the contributions and issues in accounting research in the 1990s. He devotes a section of his paper to research on

discretionary accruals, and notes that although there appears to be widespread evidence of accrual manipulation in the literature, this research links the phenomena to numerous characteristics without any apparent motive or causal model. In addition, he observes that the measurement models used have low statistical explanatory power and unknown endogenous variables, leading him to conclude that "what looks like earnings management may not be" (Beaver, 2002, p. 468). Not specific to earnings management, per se, Beaver (2002) advocates the use of more innovative methodology in accounting research, such as his research was in the early 1970s.

Fields et al. (2001) organize their paper around accounting choice--including managers using accounting discretion "opportunistically" (p. 257) to manipulate earnings. This paper echoes Beaver's (2002) concerns about the financial models for measuring earnings management and the lack of theoretical modeling in this research stream. In terms of the measurement models, the authors quite rightly point out that if these models had any validity/credibility, then practitioners (i.e., analysts and investors) would be using them to identify earnings manipulations, which they are not. Fields et al. also criticize past research designs, stating that "the field

has become too conservative with too many researchers content to justify a methodology because others have used it. Greater efforts to employ new methodologies and more acceptances of such methodologies could advance the field" (p. 300). Based on their review of research in the 1990s, as well as prior survey studies (Holthausen & Leftwich, 1983; Watts & Zimmerman, 1990), Fields et al. conclude that accounting researchers made only modest progress in advancing knowledge on earnings management during the 1990s, 1980s, and 1970s.

Xu et al. (2007) focus their review on "real" earnings management, the manipulation of earnings beyond accruals, which are timing accelerations or deferrals with no impact on cash flow over time. Real earnings management involves manipulating various operating, investing, and financing activities, such as postponing R&D, advertising, and capital expenditures, or adding off-balance sheet leverage (an example is Enron), which has more serious consequence than simply accrual manipulation. Xu et al. reference papers (Cohen, Dey, & Lys, 2008; Ewert & Wagenhofer, 2005), which find that the level of accruals earnings management has declined after SOX (2002), whereas the level of real earnings management has increased significantly. The Graham et al. (2005) study is referenced by the authors because it

confirms that the majority of manipulation today is in the form of real earnings management, although Graham et al. (2005) suggest that accrual manipulation is likely under-reported in their survey of CFOs because of the post-SOX audit focus around accruals. Xu et al. note unanswered questions on the "factors that induce real earnings management and factors that mitigate real earnings management" (p. 222), because of a lack of causal models.

Parker (2007) provides a critical examination of contemporary financial reporting research from a corporate governance perspective. The study considers publishing patterns, published reviews of major areas, and interviews of active accounting researchers. Parker finds that because of the focus on quantitative modeling of secondary data in accounting journals, the governance area is left with "models of inputs and outputs, while remaining ignorant of the processes within the intervening black box" (p. 42). There is a predisposition of accounting researchers "to utilize familiar tools in search of short-term publishable projects, rather than prioritizing issues of major business, governance and public policy importance" (Parker, 2007, p. 42). In addition to this lack of theory and relevance to practitioners and policy-makers in financial reporting research, Parker criticizes the lack of bridging

theories to other disciplines, and notes that there has been a preference to adhere to one simple theoretical perspective in what is a much more complex world.

The findings of the foregoing survey and review papers on earnings management research have a commonality--problems with the measurement models, the need to use different research methodologies, and the lack of theoretical explanatory models. Graham et al. (2005) answer the call for a better measurement model and new methodology by using primary survey data to measure the existence of earnings management directly, going inside "the black box," as suggested by Parker (2007), however, their study does not develop or test a causal theoretical model. In the next section, a causal model is developed, drawing from other disciplines as suggested by Parker, specifically the management literature, to produce a mixed model of agency (economic) and stewardship (psychological and sociological) theories.

New Model Development

Agency theory (Jensen & Meckling, 1976) underlies most accounting research in earnings management, even though many papers are not explicit about this, which may give rise to the criticisms cited previously on a lack of theory. Agency theory explains the behavior of people in

organizations as acting in their own economic self-interest, if not monitored and controlled to minimize this behavior. Yet there are agency costs of monitoring and controlling to discourage management from benefitting at the expense of shareholders. Directors need to be elected by the shareholders to act as stewards of their interests. Such a causal model, used in the past, is depicted below:

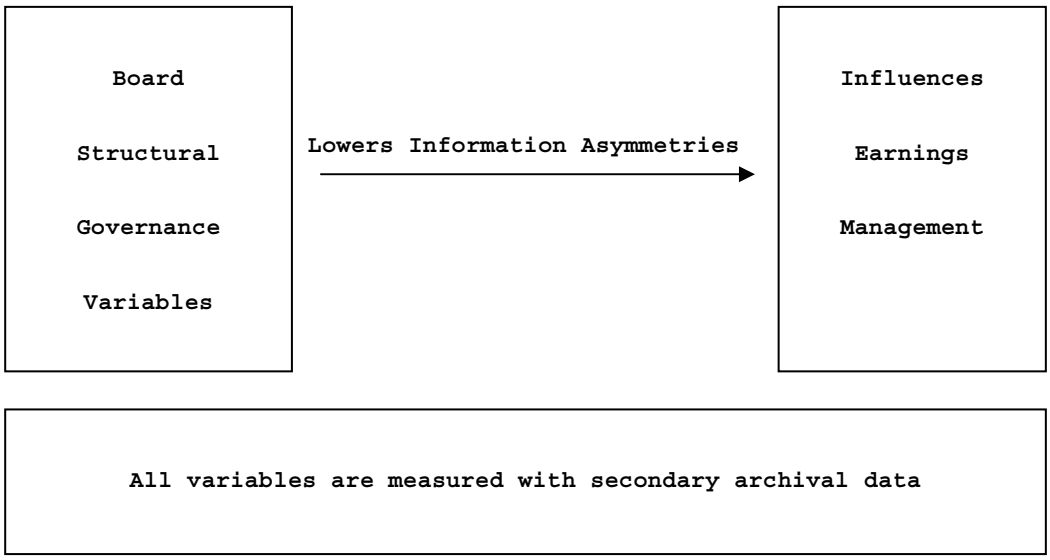

Figure 1. Existing Governance / Earnings Management Model.

As reported by Larcker et al. (2007), there have been 39 governance variables studied by accounting researchers--these variables have been exclusively structural, or ones that could be measured with archival, secondary data, such as board characteristics, stock ownership, capital

structure, compensation, and anti-takeover provisions. The dependent variable, earnings management, has been measured by inputting secondary financial output data into models that test for abnormal accruals and/or the manipulation of discretionary expenditures. Given the findings of Graham et al. (2005, 2006) that earnings management is so commonplace, one has to question the value of this measure, especially if one is to consider board information asymmetries as suggested by Graham et al. (2006) and Jensen (2005). With only five of the 39 governance variables studied by accounting researchers shown to have agency significance by Larcker et al. (2007), one also has to question the validity of archival measures for corporate governance. A better approach would be to look inside the "black box," specifically at the board characteristics identified by Larcker et al. (2007), for measures, as suggested by both Parker (2007) and Graham et al. (2006), and to look for causal explanations beyond agency, as suggested by Jensen (2005).

Some management researchers have looked inside the "black box" and examined board information asymmetries. Nowak and McCabe (2003), in a qualitative study interviewing independent public company directors, examined information asymmetries between the board and management

and found that it is dependent upon the characteristics of the CEO. If the CEO is not acting in a stewardship mode, there will be board information asymmetries. That is, the CEO acts as a moderating variable in the information exchange between management and the board. The CEO controls the information coming to the board, and if he or she wants to withhold or manipulate information, board information asymmetries can occur as a natural consequence. A qualitative study (Cohen, Krishnamoorthy, & Wright, 2002) in the accounting literature confirms this. Cohen et al., in semi-structured interviews with external auditors, found that management controls critical governance mechanisms, including the information going to the board.

Rutherford and Buchholtz (2007) used survey methodology to test the relationship between board characteristics and board information asymmetries, and found that, consistent with agency theory, an increase in the proportion of independent directors on the board reduced information asymmetries. However, over 75% of the respondents on this survey were dual Chair-CEOs, which the authors admit represents a moderating effect. In a later study, Rutherford, Buchholtz, and Brown, 2007 used the same survey instrument for measuring board information asymmetries to examine management monitoring and CEO

incentives. An interesting finding in this study is that as boards take actions to increase their information (reduce board information asymmetries, as measured by their survey), they increase their control over the CEO in the form of incentive alignment. This suggests that boards take actions on situational agency conflict, which is supported in recent accounting research. Dey (2008), in an archival study of corporate governance and agency conflicts, found that "the role of various governance mechanisms in a firm are a function of the level of agency conflicts" (p. 1143).

Stewardship theory, as noted by Nowak and McCabe (2003), explains management behavior as more intrinsic and collective in nature. Management tries to act more as a fiduciary on behalf of shareholders, and not in one's own economic self-interest, as per agency theory. Davis, Schoorman, and Donaldson (1997) found that a causal theory explanation on governance is mixed and dependent upon the CEO's psychological attributes and a company's situational construct, which would include agency conflicts (Dey, 2008; Rutherford & Buchholtz, 2007). These findings are presented in Figure 2.

SITUATIONAL CONSTRUCT	*Board Agent Behavior*	*Board Steward Behavior*
CEO Agent Behavior	CEO & Board Act Opportunistically	CEO Acts Opportunistically
CEO Steward Behavior	Board Acts Opportunistically	CEO & Board Maximize Performance

Figure 2. Davis et al. (1997) Typology.

Davis et al. (1997) presented this typology as one of choice, but acknowledged that this may not be a realistic assumption. They point out that directors are required to act as stewards or fiduciaries, both in law and in terms of agency behavior, which has been the primary theory driving policy and practice. So this is not a choice, per se--most boards would act as stewards. What is a choice is the CEO, who is hired or fired by the board, and who comes to the situation with certain intrinsic or extrinsic motivations. For this study of earnings management, it is assumed that most firms fall in either the Board-Steward/CEO-Agent or Board-Steward/CEO-Steward quadrant in Figure 2, because this researcher believes, as do the regulators, that most boards try to act as stewards. Collins (2001), in his popular work, *Good to Great*, examines firms with

exceptional performance. Collins's description of the CEOs leading excellent companies is attributed to stewardship behavior. Such companies would be in the Board-Steward/CEO-Steward quadrant, where Davis et al. found performance is maximized.

Notwithstanding the assumptions on the situational construct of boards being stewards, there are ownership situations (e.g., controlling shareholder) where boards/owners may act opportunistically despite the characteristics of the CEO. There are also situations where the board may act opportunistically together with the CEO. Therefore, the quadrants of Board-Agent/CEO-Agent and CEO-Steward are controlled for in this study.

To examine the problem of earnings management with the objective of meeting the call for better causal models, better measurements, and more relevance to practitioners and policy-makers, the following model is proposed:

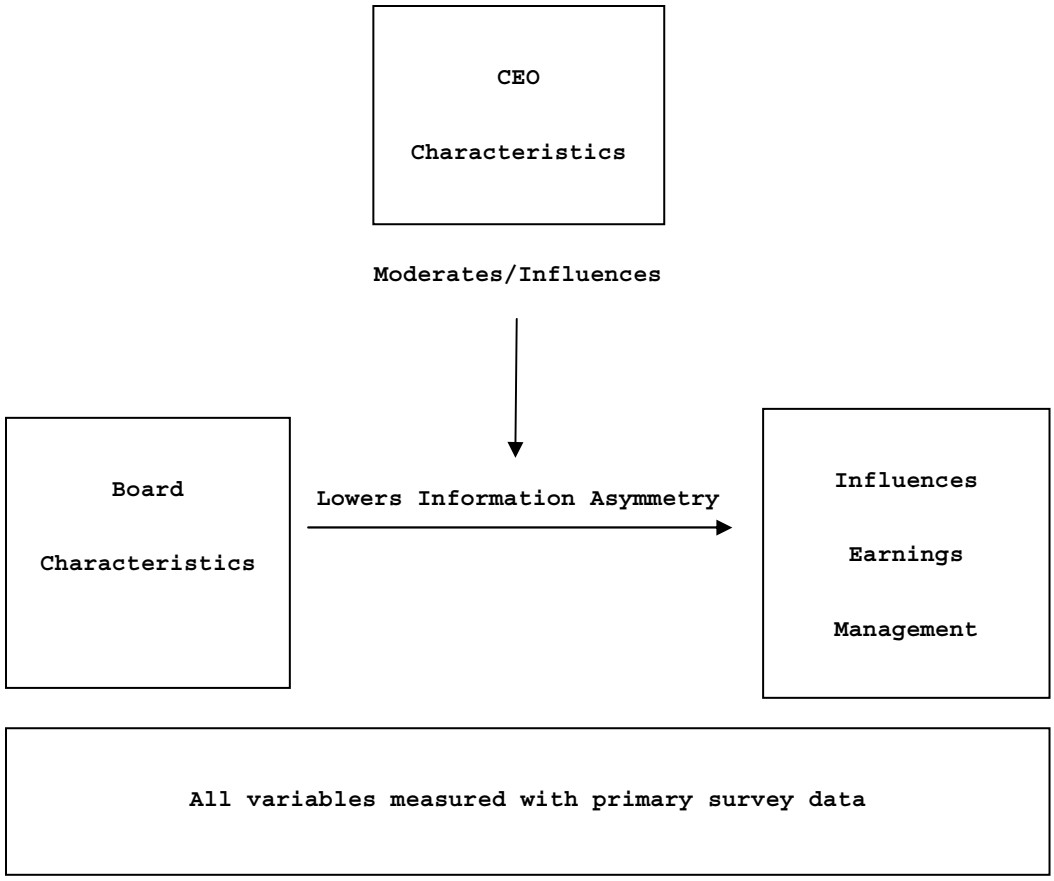

Figure 3. New Governance / Earnings Management Model.

Critical for testing this model are the recent findings of Frankforter, Davis, Vollrath, and Hill (2007), which confirm that board directors can accurately detect the level of CEO agency or stewardship behavior. Primary data is used to measure all the variables in this model.

New Measure Development

In the traditional model for earnings management, secondary archival data have been used for all the variables. The problems with the financial model being used to measure earnings management (the dependent variable) are well-documented by accounting academics. Graham et al. (2005, 2006) found that 78% of CFOs admit to earnings management. They suggest that this percentage could be larger because of reporting bias from a reluctance to admit accrual manipulation, which has been an area of audit focus, post-SOX. So why measure the existence of earnings management with financial models when Graham et al. (2005, 2006) provide evidence that there is little variation?

Hribar and Nichols (2007) also found that the financial models being used significantly understate the existence of earnings management. They suggest a new secondary data financial model to test earnings management, even when there is a lack of variability in earnings management in practice. It is more productive to extend Graham et al.'s (2005, 2006) line of research by measuring earnings management more directly. Such an approach would have more relevance to practitioners and policy-makers, but this can only be done by surveying directors, not with secondary data. To avoid any reporting bias, the survey

data needs to be validated by a measure of board information asymmetries (Rutherford & Buchholtz, 2007; Rutherford et al., 2007). Questions to directors need to ask about information quality and proactive exchange, and measure the actions that boards are taking to detect and avoid earnings management.

Ajinka, Bhojraj, and Sengupta (2005), in a study of governance and earnings forecasts, note that both best practice and listing rules require the review of disclosure policy and all earnings releases (p. 348) by the board. In terms of disclosure, it is noted that the U.S. Securities and Exchange Act Rule 12b-20 requires that

> in addition to the information expressly required to be included in a statement or report, there shall be added such further material information, if any, as may be necessary to make the required statements, in the light of circumstances under which they were made, not misleading. (Ajinka et al., 2005, p. 348)

Therefore, boards are required to go further than generally accepted accounting principles (GAAP) and release any contextual information required to insure that the basic financial information is not misleading.

Cohen, Gaynor, Krishnamoorthy, and Wright (2007), in a review of academic literature on the interaction of the

board and its auditors to help policy/rules development for the PCAOB (2004), note that auditors are required under PCAOB Standard No. 2 to assess the effectiveness of the audit committee for the board. Cohen et al. (2007) recommend a full discussion of earnings management at the board level, including areas that are susceptible, such as accruals, and factors that might motivate managers to manipulate earnings.

In summary, these studies, regulation, and best practice suggest the following actions boards should be taking to monitor and control earnings management:

1. Boards should review all corporate financial disclosures prior to release.
2. Boards should insure that any contextual information, which may be required to avoid misleading the public, is released concurrent with financial disclosures.
3. Boards should discuss earnings management with managers and its auditors.
4. Boards should discuss the effectiveness of its audit committee with its auditors.

In the proposed causal model, it is expected that a high level of information quality and proactive exchange, and related board actions, would be a proxy for a reduced

level of earnings management because of increased board monitoring and control.

Relevant board characteristics typically are measured with readily available secondary data. However, as Larcker et al. (2007) found, only three, namely a non-executive chair or lead director, smaller board size, and fewer busy directors, have impact on dependent variables of financial performance, and only a mixed/modest impact on earnings management measures. The mixed results on earnings management are expected to be a consequence of the moderating variable of CEO characteristics in the proposed model. Admittedly, it is difficult to measure these variables accurately with secondary data. The chair and CEO function may be separate, but does it mean the chair is truly independent? He or she may be de-facto controlled by an opportunistic, self-serving CEO, and/or may have the same self-serving agency attributes. Also, is there a magic number for the optimal size of the board, because archival studies (Dey, 2008; Larcker et al., 2007) show a mean, with a very small standard deviation (SD)?

Over one-half of the 22 governance variables measured in the Dey (2008) study had small SDs even in the pre-SOX/governance reform period that was being measured. Post-SOX, many structural governance variables that are easily

measured with secondary data, such as the number and non-affiliation of outside or "independent" directors, have become more commonplace because of regulation and best practice. Therefore, it may be better to look inside the "black box" to measure these variables directly, by asking directors their perceptions. Measuring these variables with primary survey data is consistent with the measurement of other variables in the model, and, as the Frankforter et al. (2007) study suggests, directors' perceptions seem to be quite accurate.

Frankforter et al. (2007) tested the agency theory aspects of the Davis et al. (1997) typology using a matched pair survey design, to confirm the ability of directors to assess their CEO as either extrinsically-oriented (agency) or intrinsically-oriented (stewardship). Both directors and CEOs completed the same 20-question survey that measured the CEO's high order or intrinsic needs (job satisfaction and challenge, loyalty, increasing company value, etc.), and extrinsic needs (amount of salary, job security, personal economic gain, etc), and then the responses were matched by company. The results of this study suggest that directors can accurately assess their CEOs characteristics as either being steward or agency. The research model hypothesizes that CEOs with more steward than agency

attributes will positively influence the impact that board characteristics have on earnings management. The board characteristics used in the model are those identified as important from recent accounting research (Larcker et al., 2007); namely, a non-executive chair or lead director, a smaller board, and fewer busy directors.

The research model is reproduced again in Figure 4 with the new measures and hypothesized directional influence.

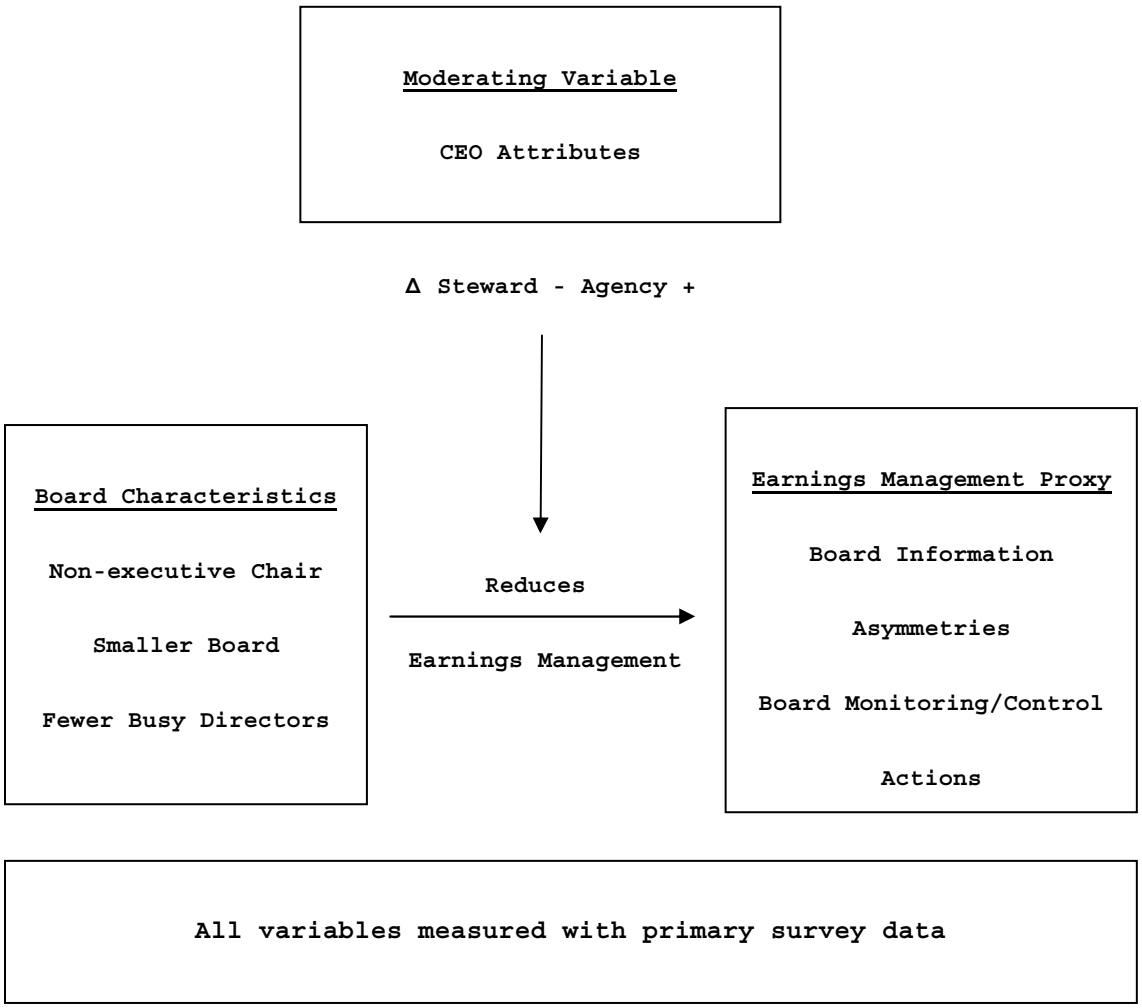

Figure 4. New Model with Measures.

Using this model and measures, this study tests the following hypothesis, stated in the alternative form:

H1: The impact that the board characteristics of a non-executive chair/lead director, fewer busy directors, and a smaller board have on earnings management is stronger when the CEO has more steward than agency attributes.

Chapter Summary

Earnings management is an accounting problem with serious consequence in both financial disasters, such as Enron, Nortel, WorldCom, and, more recently, the Wall Street fiascos, and in the normal course costs of value sacrifice and overvalued equity (Graham et al., 2005, 2006; Jensen, 2005, respectively). Despite long-standing academic calls for better causal models and measures of earnings management, accounting researchers have continued to use relatively simplistic models and weak measures, and, consequently, have produced few findings of relevance for practitioners and policy-makers. Graham et al. (2005, 2006) take a first step away from this research paradigm by looking directly at the problem with primary survey data. This provides a line of research for others to follow and, relative to this study, an opportunity to examine ways to extend Graham et al.'s (2005, 2006) work by looking inside the "black box" of governance and how it might influence earnings management.

This study uses not only a measure to answer the Graham et al. (2005, 2006) call for research on the board's role in earnings management, but also uses a mixed causal model to examine the problem of earnings management as Jensen (2005) calls for. It addresses long-standing

academic calls for new models, measures, and methods, and, most importantly, research that is relevant to practitioners and policy-makers in governance. This research provides a model and measures to extend the Graham et al. (2005, 2006) studies and to test the impact of the important board characteristics that Larcker et al. (2007) identified as having a positive influence on other governance outcomes, but not on earnings management.

Chapter III

Methodology

Introduction

The previous chapter describes a research model, measures, and the hypothesis for this study from extant literature. This chapter defines the measures and the survey instrument, and describes the research design and methodology to test this study's hypothesis. It is divided into the following sections: sample and data collection, variables and instrument, and data analysis methods.

Sample and Data Collection

The sample of 1,500-2,000 directors serving on Canadian public company boards (Toronto Stock Exchange [TSX]--about 3,000 listed companies) is taken from the membership of the Canadian Institute of Corporate Directors (ICD), which has about 3,700 members. About half of the ICD members have received very extensive training, testing, and certification in the form of the ICD.D designation (Institute of Corporate Directors [ICD], 2008), which, in addition to the ICD ethics code, suggests a good sample of concerned and capable directors. Many TSX companies are cross-listed on U.S. exchanges and therefore are subject to SOX (2002) and other U.S. exchange regulations. Canadian regulations and best practices try to mirror those in the

U.S., and the auditing of Canadian public companies is dominated by the major auditing firms, which are subject to PCAOB (2004) best practice regulation in the U.S.

The survey (see Appendix A) has the sponsorship and support of the ICD, and is web-based. There are two important sensitivities for surveying directors: one is time, the other is confidentiality. As Leblanc and Gilles (2003) find, "getting inside the boardroom" is the biggest challenge of governance research, especially with a topic as sensitive as earnings management. Therefore, the survey was designed to be completed in less than 15 minutes, with the individual website responses kept totally confidential. Data collection was outsourced to a professional web survey contractor. ICD does not keep demographics on its members, so it is not known what the membership split is between public, private, and non-profit organizations within the 3,700-member database, however it is estimated that public company directors total 1,500-2,000. All 3,700 members were sent e-mails and encouraged to respond if he or she was a public company director. Based on previous ICD sponsored surveys, a response rate of 20-25% was expected, and therefore responses from 300-500 TSX public company directors were expected to test the hypothesis.

Variables and Instrument

The independent, dependent, moderating, and control variables are defined below, and the complete survey instrument is presented in Appendix A. Comments on reliability and validity include the results of expert rater interviews.

Independent variables. As noted previously, in a large-sample (2,106 firms) empirical study, Larcker et al. (2007) found that of the 39 governance variables studied by accounting researchers as having influence on various governance/financial outcome measures, including earnings management, only three board characters have statistical significance, namely a non-executive or "independent" chair/lead director, fewer busy directors, and smaller boards. For a non-executive chair, there is a standard dichotomous measure of independence in the literature, namely that this person is "outside, non-executive and non-affiliated." This dichotomous measure of independence is not only familiar to director practitioners but also regulated by stock exchanges and/or considered best practice (Daily & Dalton, 1994; Lipman, 2007). However, this dichotomous measure is secondary in nature, and therefore does not measure real independence--for this, directors are asked if this individual "provides judgment

and leadership that is totally independent" from the CEO and/or any large or controlling shareholder(s), and measure this variable as a continuous one, using a Likert scale.

Larcker et al. (2007) found a mean of 6.89% of outside directors had four or more directorships--the standard deviation (SD) was 16.4%. Four directorships would be considered to be too busy to do a good job using current best practice guidelines (ICD, 2008), and, in fact, three public company directorships would equate to be a full-time job, time-wise. A precise percentage of busy directors and the exact number of other directorships that each of the other board directors holds would be difficult for a director to respond to in a survey and, again, secondary in nature. Therefore, directors were asked for their perception on this variable, that is, are there too many busy directors on their board, and this variable was measured as a continuous one with a Likert scale.

For size, Yermack (1996) and Bhagat and Black (1999) find the optimal board size for effective monitoring to be seven to nine. Larcker et al.'s (2007) sample data had a mean board size of 8.78 with a SD of 2.75. In the study, this variable is measured as a continuous one.

In summary, the survey questions to measure the independent variables of a non-executive chair/lead

director, fewer busy directors, and a smaller board are as follows:

1. Your board has an outside, non-executive, and non-affiliated chair/lead director who provides judgment and leadership that is totally independent from your CEO and/or any large or controlling shareholder(s).
2. Many of your board's directors have multiple directorships and are too busy to devote the proper time and attention to your board.
3. How many directors are on your board?

These questions are reproduced in the Appendix A survey instrument.

Dependent variable. In the research model, two variables are used as a proxy for the level of earnings management, namely board information asymmetries and board actions to monitor and control earnings management.

Rutherford et al. (2007) measure board information asymmetries using a survey instrument with the constructs of quality of information and proactive information seeking, asking the following questions to directors:

Information Quality

1. In general, the information available to the board is very reliable.

2. The available information is relevant to the board's needs.
3. The board receives information in a timely fashion.

Proactive Information Seeking

1. The board spends a great deal of time searching for information about issues facing the board.
2. Board members actively search for information in order to assess issues before the board.

Rutherford et al. (2007) adapted the quality of board information items from studies by Low and Mohr (2001) and O'Reilly (1982). Cronbach's alpha for this scale in the Rutherford et al. study was .726. The proactive information seeking items were adapted from a study by Boyton, Gales, and Blackburn (1993). Cronbach's alpha for this scale was .729 in the Rutherford et al. study.

According to director practitioners, time constraints and the manner of presentation are important constructs of information quality (ICD, 2008). Pennington and Tuttle (2007) find that "information overload" leads to poor decisions, and similarly, Chang, Yen, and Duh (2002) and Parker (2006) find the "framing" of information to be highly dysfunctional for decision making. Therefore, the quality constructs of information quantity and information

presentation are added to the Rutherford et al. (2007) survey instrument with following two questions:

1. The information for the board is well summarized for the board's needs.
2. Information for the board is presented in a balanced, unbiased manner.

A current best practice, which reduces board information asymmetries, is the use of "in-camera" meetings at the board. This is when directors meet without management present, and provides an opportunity for them to discuss sensitive information and issues (including the CEO) in private. Often, requests for further information and/or clarification from management or outside advisors will result from these meetings. Therefore, it fits within Rutherford et al.'s (2007) construct of proactive information seeking, and the following survey question is asked:

3. The board has regular "in-camera" meetings without management present.

These additional constructs are tested for validity and reliability in the expert rater interviews described below. Rutherford et al. (2007) use a Likert scale to measure the constructs of information quality and proactive information seeking, and average the individual measures to

produce an overall measure of board information asymmetries, the first measure of the study's proxy for the level of earnings management.

The second measure of the earnings management proxy comes from the studies of Ajinka et al. (2005) and Cohen et al. (2007), which identify four board actions to monitor and control earnings management that are either required by regulation or suggested best practice. Expressed as confirmatory survey questions, these actions are as follows:

Board Actions

1. The board reviews all corporate financial disclosures prior to release.
2. The board insures that any contextual information, which may be required to avoid misleading the public, is released concurrent with financial disclosures.
3. The board discusses earnings management with management and its auditors.
4. The board discusses the effectiveness of its audit committee with its auditors.

Similar to the measure of board information asymmetries, these board actions are measured on a Likert scale, and then averaged for an overall measure of board

actions, which is added to the score for board information asymmetries for the measure of the level of earnings management--the higher this total measure is on a continuous measurement scale, the less earnings management there would be.

In addition to these proxy measures of earnings management, the survey asks directors for their assessment of the boards' awareness of any earnings management on a Likert scale. This measure is used to test director awareness of earnings management per Graham et al.'s (2006) open empirical research question.

Moderating variable. The research model (see Figure 4) predicted that the impact of the independent variables measuring board characteristics on the dependent variable, the level of earnings management (board information asymmetries and actions), would be moderated by the CEO's steward (positive effect) or agency (negative effect) attributes. Frankforter, Davis, and Vollrath (2001) developed and validated a survey instrument to measure these attributes in a CEO, and in a later study (Frankforter et al., 2007) this instrument was found to accurately assess CEO characteristics when completed by board directors. Therefore, this validated survey

instrument was used in this study to measure the CEO's attributes.

The Frankforter et al. (2007) instrument has 20 questions measuring intrinsic (steward - 10) or extrinsic (agency - 10) attributes, with responses given on a Likert scale (see Question 11 in Appendix A). Discussions with Frankforter (personal communication, August 28, 2009) indicate that comparing the means of the intrinsic and extrinsic attributes as a measure of steward or agency characteristics measured dichotomously has correlation to other measures of steward/agency behavior in their study. However, because it is more logical that individuals would have both steward and agency attributes, the study measures the Δ between the steward--according to Frankforter (personal communication, April 30, 2010), the dominant measure--and agency attributes as a continuous variable, not a dichotomous one.

Control variables. The Davis et al. (1997) mixed stewardship-agency typology displayed in Figure 2 requires that a number of control variables be used. This is because, for this study of earnings management, it is assumed that most firms lie in the quadrants of Board-Steward/CEO-Agent or Board-Steward/CEO-Steward. This assumption is made because boards of directors are elected

by shareholders as stewards or fiduciaries, both in law and best practice, so the Board-Steward quadrants are assumed to be constant, with the variation being in the CEO attributes as explained by the research model. However, there are some firms in the other quadrants, and this needed to be controlled for in this study. For example in the quadrant Board-Agent/CEO-Agent, there could be a situation where the board and CEO are acting together opportunistically in their mutual self-interest. This would require outside directors, who are not really independent, but rather influenced by a CEO with agency attributes. To measure the real independence of the directors, the survey asks the following question:

> The majority of your directors provide judgment that is totally independent from your CEO and/or any large or controlling shareholder(s).

Responses to this question are a continuous measure on a Likert scale.

The Davis et al. (1997) quadrant of Board-Agent/CEO-Steward suggests a situation where a board overrides a steward CEO and acts opportunistically, possibly for a large (10% or greater voting rights) or controlling shareholder at the expense of other shareholders. The existence of a large or controlling shareholder(s) together

with outside directors who are not independent (as previously mentioned) is a control variable that could have negative influence on governance according to Davis et al. The existence of a large or controlling shareholder is measured dichotomously with the following question:

> Your company has a large (10% or greater voting rights) or controlling shareholder(s).

Dey (2008) found that firm size and leverage create agency conflict--the larger both are, the greater the agency conflict, and the stronger the governance variables are in these situational constructs. Firm size and leverage are control variables in many earnings management and corporate governance studies, and these demographics are measured in the survey instrument, using Dey's simple low/medium/high classification for leverage, and measuring market capitalization per the S&P/TSX indexes, as large-cap, mid-cap, small-cap, or TSX Venture (micro-cap).

Unfortunately, in Canada, securities legislation is provincial, and although there is some consistency, it is difficult to control for the board action constructs that are regulated/legislated in the U.S. per the studies cited, but may or may not be regulated by the various provincial jurisdictions governing the director/public company sample, despite these actions being best practice. Also in Canada,

there is not a body comparable to the PCAOB (2004)--public company auditors are largely self-regulated, which suggests weaker auditing standards. Fortunately these factors can be controlled for because many Canadian public companies are cross-listed on U.S. exchanges and therefore subject to the stricter U.S. regulatory and auditing regime. The survey asks if the director's company is cross-listed on a U.S. exchange, and this study uses this dichotomous measure to test as an agency conflict control variable.

In summary, the control variables measure the following:

1. Board-Agent/CEO-Agent situations, where the CEO has agency attributes, and the majority of directors are not acting independently--both conditions must be present for this dichotomous measure.
2. Board-Agent/CEO-Steward situations, where the CEO has steward attributes, there is a controlling shareholder(s), and the majority of directors are not acting independently--all three conditions must be present for this dichotomous measure.
3. Firm size--an ordinal measure with four categories.
4. Firm leverage--an ordinal measure with three categories.

5. Firms cross-listed on U.S. exchanges--a dichotomous measure.

Davis et al. (1997) suggest that control variables 1 and 2 will show an increased level of earnings management. Dey (2008) finds that control variables 3 and 4 (larger firm size and higher leverage) will strengthen governance variables and therefore reduce the level of earnings management. A generally stricter regulatory regime in the U.S. suggests that firms that are cross-listed on a U.S. exchange will have reduced earnings management because of agency conflict.

Reliability and validity. The core of the survey instrument consists of the Rutherford et al. (2007) instrument (measuring board information asymmetries) and the Frankforter et al. (2001, 2007) instrument (measuring CEO attributes)--the research from both instruments has been published in top tier journals, and both are considered valid and reliable instruments. However, other variable questions involve director perception, so the reliability and validity of these measures must be examined. To do this, as suggested by Rossiter (2002), experts provided by the ICD are interviewed--such a procedure is "based on content validity, established by

expert agreement after pre-interviews with target raters" (p. 305).

The expert panel provided by the ICD consisted of six ICD members, all holding the ICD.D certification, and all very experienced directors of public companies. There were three independent chair persons, all non-accountants; two independent directors who were Chartered Accountants (CAs--the Canadian CPA equivalent), chairing their audit committees; and one executive director, who was a CA and the CFO. Of these six experts, two served on large-cap company boards, two on mid-cap, one on a small-cap, and one on a TSX Venture board. The industry sectors of the firms were mining, retail, IT, financial, and transportation.

Telephone interviews were conducted with each expert. First, each question was reviewed for clarity and measurement, that is, was the question measuring what it was intended to measure. Then, feedback from the other experts was shared to arrive at a reiterative group consensus.

All experts agreed that direct questions on the level and nature of earnings management should not be asked. It was felt that confidentiality/liability issues would result in either non-response or a very inaccurate measure. It was suggested that a more appropriate question/measure would be

directors' awareness of this practice. Other, more minor suggestions are as follows:

1. Re-order the questions, putting board and CEO attributes first.
2. Measure leverage relative to industry peers.
3. In the measurement of board information asymmetries, ask more directly about the quantity of information, and ask if multiple views were presented to avoid the framing issue.
4. Too many his/her prefaces in CEO attributes question.

The survey instrument also was reviewed by senior staff of the Survey Research Centre at the University of Waterloo (SRC, 2010), which was contracted to administer the study's web-based survey. SRC staff reviewed the survey, and a number of improvements were recommended and adapted. It was decided to use a 10-point Likert scale to allow for more variability in the responses and to invite all ICD members to respond, incorporating the appropriate "skips" into the survey for non-relevant questions to these invitees. The final survey questionnaire, which also includes a number of questions for other studies, is attached in Appendix B together with its invitation letters--all of these documents, plus the research model,

data collection, analysis, and security/privacy processes were approved by the Office of Research Ethics at the University of Waterloo and the Institutional Review Board (IRB) at Nova Southeastern University prior to collecting the sample.

Data Analysis Methods

The methodological approach to data analysis in this study is similar to the technique used in most accounting research examining the impact of corporate governance on various dependent variables, namely to use multiple regression analysis. However, accounting research does not typically add a moderating variable (Parker, 2007); therefore, a multiple regression model of the following form was used:

$$Earnings\ Management_i = \alpha + Control\ Variables_i + CEO\ Attributes_i + Board\ Characteristics_i + CEO\ Attributes_i \times Board\ Characteristics_i + \varepsilon_i.$$

One important feature of this equation is that the board characteristics are assumed to have no impact on the control variables or vice versa (and thus no indirect impact on the dependent variable). If this is not a valid assumption, this equation model may result in conservative

estimates for the impact of governance on the dependent variable. Firm size and leverage have been shown to interact with governance variables; therefore, the assumption of this equation is not likely valid, and a two-stage regression analysis must be used to adjust the dependent variable for the effect of these control variables, which must also be converted from ordinal measures for the analysis.

Table 1 summarizes the variables used in this study, and provides the symbols for these variables and a cross-reference to the appropriate survey question.

Table 1

Variable Details

Variable	Type	Symbols	Question
Earnings Management Proxy = Board Information Asymmetries + Board Monitoring and Control Actions	Dependent	EMP = BIA + BA	Q10a-h (BIA) & Q11a-d (BA)
Independent Chair or Lead Director	Independent	INDC	Q7a
Board Size	Independent	BSZ	Q8
Busyness of Directors	Independent	BYD	Q7f
Δ CEO Steward and Agency Attributes	Moderating	SWD/AGT	Q9
Firm Size	Control	SIZE	Q2
Firm Leverage	Control	LEV	Q4
Cross-Listed	Control	CTL	Q5
Board is Agent and CEO is Agent	Control	BACA	Q7b & Q9
Board is Agent, CEO is Steward, and there is an Influential Shareholder	Control	BACSIS	Q7b, Q9 & Q3a

Using the variable symbols in Table 1, the multiple regression model is

$$EMP_i = \alpha + SIZE_i + LEV_i + CL_i + INDC_i + BYD_i + BSZ_i + \Delta SWD_i AGT_i + \Delta SWD_i AGT_i * INDC_i + \Delta SWD_i AGT_i * BYD_i + \Delta SWD_i AGT_i * BSZ_i + \varepsilon_i.$$

This study's research model predicts that the board characteristics of a non-executive chair, fewer busy directors, and a smaller board size (all continuous measures, with the independence of the chair and the busyness of directors based on directors' perceptions), will reduce earnings management (combined board information asymmetries and actions is a proxy and a continuous measure)--a low score is an increased level of earnings management, and a high score is a reduced level of earnings management. A CEO with more steward than agency attributes (continuous measure) will increase the impact these board characteristics have on earnings management.

Chapter Summary

This study extends the work of Graham et al. (2005, 2006) and Jensen (2005) by using a survey for public company directors to measure board information asymmetries and board actions to monitor and control earnings management, which in the research model, is the proxy for

the dependent variable, the level of earnings management. Important board characteristics identified by Larcker et al. (2007) are the governance variables having impact on this proxy for earnings management, and a measure of CEO steward and agency attributes (Frankforter et al., 2007) are expected to moderate the impact that these governance variables have on earnings management.

Chapter III has described the design and measurement of the variables, the sample selection and data collection procedure, and the statistical methodology that is used to test the research hypotheses. Chapter IV describes the findings of this research.

Chapter IV

Analysis and Presentation of Findings

Introduction

The focus of this chapter is to present the results and findings of the study outlined in Chapter III. The chapter begins with a discussion of the research model that is described in Chapter II, based on a review of the earnings management literature and the theories that might explain this governance problem. After setting this backdrop, the chapter goes on to discuss the sample and data collection, the factor analysis, the descriptive statistics, the regression results for the research model, and lastly, a summary of the findings.

Research Model

The research model presented in Figure 4 is based on a number of previous studies in earnings management/corporate governance. Recent empirical research finds three important board characteristics impacting governance outcomes, namely an independent chair, less busy directors, and fewer directors (Larcker et al., 2007), but has inconclusive findings on the impact of these variables on earnings management. Academic reviews suggest that these inconclusive findings on the governance outcome of earnings management are a consequence of severely flawed financial

models measuring earnings management with secondary data, and that alterative measures or proxies need to be explored (Beaver, 2002; Fields et al., 2001; Parker, 2007; Xu et al., 2007). Qualitative research (Cohen et al., 2002; Nowak & McCabe, 2003) that looks inside "the black box" of governance (Parker, 2007) and finds that the CEO moderates board information asymmetries and controls all governance mechanisms, including the board's actions that monitor and control earnings management, suggests there is a moderating variable present. Davis et al. (1997) in a seminal theory paper suggest that this moderating impact is explained by a CEO's stewardship or agency attributes. The hypothesis to test this research model, stated in its alternative form, is as follows:

> H1: The impact that the board characteristics of a non-executive chair/lead director, fewer busy directors, and a smaller board have on earnings management is stronger when the CEO has more steward than agency attributes.

The multiple regression equation presented in Chapter III to test this hypothesis is

$EMP_i = \alpha + SIZE_i + LEV_i + CL_i + INDC_i + BYD_i + BSZ_i + \Delta SWD_i AGT_i + \Delta SWD_i AGT_i * INDC_i + \Delta SWD_i AGT_i * BYD_i + \Delta SWD_i AGT_i * BSZ_i + \varepsilon_i$

where SIZE = firm size, LEV = firm leverage, and CL = cross-listed firms.

For these control variables, Dey (2008) suggests that larger firms, those with higher leverage, and Canadian firms that are cross-listed on U.S. exchanges (exchanges that have stricter regulatory and auditing environments) will have reduced earnings management because of agency conflict.

INDC + BYD + BSZ = the independent/predictor and focal variables of an independent chair, busyness of directors, and board size that Larcker et al. (2007) suggest may have a positive impact on earnings management (their research produced mixed results, which could be due to the moderating effect of the CEO, and the secondary data/flawed measures used).

ΔSWDAGT = SWD/AGT = the moderating variable in the model, which is the delta between the steward and agency attributes of the CEO. Davis et al. (1997) and Nowak &

McCabe (2003) suggest that a CEO with more steward than agency attributes will increase the impact that the focal variables have on earnings management.

EMP = earnings management proxy, which represents board information asymmetries (BIA) and board actions to monitor and control earnings management (BA). Rutherford and Buchholtz (2007), Ajinka et al. (2005), and Cohen et al. (2007) suggest that reduced board information asymmetries and increased board actions represent a good proxy for the level of earnings management.

Additional variables measured:
BACA = situations where both the board and CEO have dominant agency attributes, which Davis et al. (1997) suggest will increase earnings management.

BACSIS = situations where the board has dominant agency attributes, there is an influential shareholder and the CEO has dominant steward attributes, which Davis et al. (1997) suggest will also increase earnings management.

AEM = board awareness of earnings management, which is used to answer Graham et al.'s (2006) open research question on this variable.

To answer the call by Parker (2007) to get "inside the black box" for better measures, this study uses primary survey data to test the research model. Factor analysis is used to confirm the validity of the changes made to the Rutherford and Buchholtz (2007) survey instrument measuring board information asymmetries, to confirm the validity of both the Rutherford and Buchholtz and the Frankforter et al. (2001, 2007) survey measuring CEO attributes using a 10-point Likert scale, and to test the validity of the board action measures for the dependent variable.

Sample and Data Collection

The web survey and initial invitation was e-mailed to all ICD members in early April, 2010. There were three reminder invitations, which were sent only to non-respondents, and the site was closed in mid-May, 2010. There were 250 completed responses from public company directors. Five of these responses answered the firm size measure with the private company measure of size (see Appendix C, Selected Frequency Tables); therefore only 245 responses were used in the factor analysis and hypothesis testing. As noted in Chapter III, the ICD does not keep demographics on its members; therefore it is impossible to determine an exact response rate for public company directors. However, there were 3,690 ICD members e-mailed,

and 708 completed surveys were received for a total response rate of 19%, which includes private company and not-for-profit respondents (143 and 315, respectively). Based on the estimate of 1,500-2,000 ICD members who are directors of Canadian public companies (the study's population), the response rate for these members would be 13-17%, slightly lower than the total response rate, but considered an acceptable response rate given the sensitivity of the topic and the characteristics of the population.

The total population of companies listed on the Canadian stock exchanges (the Toronto Stock Exchange; the TSX; and the TSX Venture Exchange, the TSV) is 3,261, however 1,985 of these public companies, or 61% of this total, are on the junior exchange, the TSV, and these companies only amount to 4% of the total market capitalization of the combined Canadian stock exchanges (Toronto Stock Exchange, 2010). Canada has more mining and oil and gas companies on its exchanges than any other country in the world, and these companies represent 90% of the TSV in number. Many of these firms are pre-revenue and in the exploration stage of growth, where resource confirmations by independent third parties are more important than financial reports, or best practice

governance per se. Therefore, not many of these companies would be expected to have directors involved with the ICD, and the sample confirms this, with only 20 responses, or 8% of the total responses, from TSV directors (see Appendix C). Assuming the remaining 230 responses are from the population of 1,276 TSX companies, or 18% of this population, this represents a significant sample size.

There was a good cross-section of TSX company size in the sample with 22% large-cap, 38% mid-cap, and 32% small-cap companies. Cross-listed companies represent 24% of the sample, which is comparable to the population statistics (Toronto Stock Exchange, 2010), and 57% had large (10% voting) or controlling shareholders, which again is comparable to population statistics (Allaire, 2008). As expected, about half (46%) of the respondents held the ICD.D designation, and only a small component of the sample were situations where both the board and CEO had agency attributes (BACA = 17/7%), and where there was an influential shareholder, and the board had agency attributes but the CEO had dominant steward attributes (BACSIS = 14/6%). Given the level of the earnings management practiced (78% according to Graham et al., 2005, 2006), the predominance of CEO's with positive stewardship attributes (74.4%--see frequencies in Appendix C) was

surprising, and consequently this was discussed with the researchers who had developed and validated this measure (Frankforter et al., 2007). These researchers had similar frequencies in their results, and felt that the egregious failures in governance were more likely a consequence of the "outliers" that were evident in their data. As indicated in the frequency table and histogram for this measure presented in Appendix C, there are also outliers in this study's data.

Factor Analysis

The validated Rutherford and Buchholtz (2007) instrument to measure board information asymmetries contains two sub-measures, namely the quality of information that the board is getting and the pro-active information seeking that the board does. The Cronbach's alpha scores for these sub-measures in the Rutherford and Buchholtz studies were .772 and .729, respectively. Two new constructs for the quality of information measure, namely the quantity of information and the presentation of information, are suggested in Chapter III. Information "overload" and "framing" were found to be serious issues in the accounting and decision science literature. To the proactive information seeking measure, the best practice construct (ICD, 2008) of having "in-camera" board meetings

was added. Both the Rutherford and Buchholtz and Frankforter et al. (2001, 2007) instrument were expanded from a 5-point to a 10-point Likert scale, and four measures of board actions that monitor and control earnings management were added to the Rutherford and Buchholtz board information asymmetries measure for the dependent variable, EMP, a proxy for the level of earnings management.

The results of factor analysis on the revised instruments are presented in Appendix D. Using Q10a-h (board information asymmetries) and Q11a-d (board actions) a factor analysis was performed and indicated eigenvalues greater than one, but the scree plot suggested a three-factor solution is appropriate. There were loading problems with Q10h (in-camera meetings) and Q11c-d (auditor interaction), so the factor analysis was rerun excluding these variables. The three factors, namely information quality (F1–reliable, relevant, timely, concise, unbiased information), disclosures (F2-actions the board takes to ensure external disclosure of accurate and relevant information), and information search (F3–board proactive information seeking) had Cronbach's alphas of .930, .793, and .812, respectively. Accordingly, the dependent variable used in the regression model becomes the minus average of

these three standardized factor scores: EMP = -average (F1 + F2 + F3).

Factor analysis of the Frankforter et al. (2001, 2007) survey variables produced some interesting results. Using Q9a-t, factor analysis was run, which indicated eigenvalues greater than one, however the scree plot suggests that a three-factor solution, not the two-factor approach used by Frankforter et al. (2007), is appropriate. Q9a&d did not load well, so the factor analysis was rerun excluding these variables. The three factors, namely agency attributes (FF1–Q9b, c, f, g, l, m, n, o, s), commitment attributes (FF2-Q9j, k, q, r, t), and achievement attributes (FF3-Q9e,h,i,p) had Cronbach's alphas of .863, .833, and .831, respectively. Standardized factor scores for these moderating variables were used in the regression model to test the interaction with the independent variables, INDC, BSZ, and BYD. Interestingly, when the underlying questions are considered, the commitment questions are clearly steward attributes, that is, agreement with company values and board interests, being a team player, and loyalty, whereas the achievement questions, that is, challenge of the work, seeing results, solving problems, and increasing company value could be attributes of either a steward or an agency CEO. These results confirm the original

methodological decision to measure the moderation of CEO attributes on a continuous basis as the delta between stewardship and agency instead of the dichotomous measure used by Frankforter et al. (2007), and provides an even more robust measure to test the hypothesis, which now becomes three hypotheses:

H1: A CEO with agency attributes, a non-executive chair/lead director, fewer busy directors, and a smaller board increases earnings management.

H2: A CEO with commitment attributes, a non-executive chair/lead director, fewer busy directors, and a smaller board reduces earnings management.

H3: A CEO with achievement attributes, a non-executive chair/lead director, fewer busy directors, and a smaller board reduces earnings management.

Descriptive Statistics

Summary statistics of the variables used in the research model, including Pearson correlation matrices, are presented in Appendix E. The predictor variables of an independent chair and the busyness of directors (interpretation reversed) measured on a 10-point Likert scale have means of 7.71 and 8.32, and SDs of 3.113 and 1.874, respectively. Board size was measured numerically,

and the mean is 8.23 and SD is 2.671. The dependent and moderating variables are standardized.

The Pearson correlation matrices in Appendix E indicate that the highest correlation is between low and medium leverage at -.827. All other coefficients fall within an acceptable limit, which suggests that there are no multicollinearity problems in the model. A Pearson's correlation coefficient of +/- .25 and +/- .75 is considered to have a moderate degree of correlation (Norusis, 2004) and interprets appropriate significant correlations.

Regression Results

The highlights of the first stage stepwise regression of the interaction of the significant control variables with the dependent variable are presented in Table 2. The complete results of this analysis are presented in Appendix F.

Table 2

First Stage Regression Results for the Research Model

Dependent Variable = Earnings
Management Proxy = EMP

Control Variables

	Expected Direction	Standardized Coefficients	t-value	Significance
Constant		.210	3.691	.000
Firm Size = Mid-Cap	Reduce	-.154	-2.510	.013
Firm Leverage = Medium	Reduce	-.175	-2.827	.005
Cross-listed = Yes	Reduce	-.172	-2.776	.006
Adjusted R^2	.089			
F Change	7.822			
Significance	.000			

As indicated in Table 2, the significant control variables explain nearly 9% of the variance in the proxy for earnings management, and the F statistic is significant. The control variables that are significant are firms that are mid-cap, cross-listed, and have medium leverage. Such firms have reduced earnings management (negative direction in the model), which is evidence of Dey's (2008) agency conflict. Cross-listed firms are mostly large-cap ones, and there are a very small number (24/9.6%) of high leverage firms in the sample. The BACA and BACSIS control variables were not included in the analysis because of the changed measure of the moderating variable(s).

The dependent variable, EMP, was corrected for the control variables, and highlights of the stage 2 stepwise regression of the research model are presented in Table 3. The complete results of this analysis are presented in Appendix G.

Table 3

Second Stage Regression Results for the Research Model

Dependent Variable = Earnings
Management Proxy = EMP

Independent Variables	Expected Direction	Standardized Coefficients	t-value	Significance
Constant		-.313	-2.397	.017
Focal Variables:				
Independent Chair	Reduce	-.117	-2.235	.026
Larger Board Size	Increase	.160	3.159	.002
Busier Directors	Increase	.236	3.878	.000
Moderator Variables:				
CEO Commitment	Reduce	-.625	-5.419	.000
FF1xINDC	-Sign	-.238	-3.585	.000
FF2xINDC	+Sign	.240	2.290	.023
FF1xBYD	+Sign	.162	2.380	.018
FF3xBYD	-Sign	-.279	-5.456	.000
Adjusted R^2	.425			
F Change	23.422			
Significance	.000			

As indicated in Table 3, the significant variables of the research model explain 42.5% of the dependent variable, earnings management, and the F statistic is significant. All of the independent/focal variables are significant and reduce or increase the earnings management proxy as expected (Larcker et al., 2007). The residuals of the regression model were tested for normal distribution and the results are presented in Appendix H. As indicated, normality cannot be rejected.

The moderating variable of CEO commitment, the predominant steward attribute, has the strongest influence in the model and reduces earnings management. As indicated by the standardized coefficients, this influence is much stronger than the independent variables of an independent chair, smaller board, and the busyness of directors. In fact, the other significant interacting variables moderating these independent variables have as strong, or stronger, an influence in the regression model as the independent variables themselves. Further analysis of the interaction effect of these significant interacting moderating variables is presented in Appendix I, which displays the interaction terms graphically and provides the expected sign in the regression equation from these interaction variables. These directional signs are

presented in Table 3. The direction of all interactions is as expected, namely a CEO with agency attributes reduces the positive impact that an independent chair has on earnings management, and increases the negative impact that a busy board has on earnings management. A CEO with commitment (steward) attributes increases the positive impact that an independent chair has on earnings management, and a CEO with achievement attributes reduces the negative impact of a busy board on earnings management. These relationships are shown graphically in Appendix I.

H1 is largely supported--the regression results confirm that an independent chair, fewer busy directors, and a smaller board reduce earnings management, but that there is negative moderation of this impact by a CEO with agency attributes (i.e., increased earnings management), except in the case of board size, which would have a less logical interaction effect. Similarly, H2 is largely supported--a CEO with commitment attributes, which are the predominant stewardship ones, together with an independent chair, fewer busy directors, and a smaller board reduce earnings management. There is a positive interaction by such a CEO with an independent chair, but not with board size or the busyness of directors. H3 is somewhat supported--a CEO with achievement attributes does not

moderate the positive impact of an independent chair and smaller board size on earnings management, but such a CEO does reduce the negative impact of a busy board on earnings management.

Graham et al. (2006) find that 78% of public company CFOs practice earnings management, and question whether or not directors are aware of the level of earnings management in their firms. To test this research question, the survey asked directors to "indicate its board's awareness of any earnings management, using a scale from 1 to 10, where 1 is 'Extremely Low Awareness' and 10 is 'Extremely High Awareness.'" The mean score for the answer to this question from 250 public company directors was 7.1, the standard deviation was 3.083, and the frequencies for these scores are presented in Appendix C. If one considers 6 or less as low awareness, then over 30% of Canadian public company boards are in this category--if this is moved up to 7 or less, because monitoring and control of earnings management is such a critical and topical function of the board, then over 36% of Canadian boards fall into the "low awareness" category--a failing grade in this researcher's view, using both measures. Framed to answer the Graham et al. (2006) question, 64-70% of boards have "moderate to high awareness" of earnings management, which means that most

boards are aware of earnings management, and therefore may be complicit in its practice.

The mean for board information asymmetries (a board process measure) is at a similar level (7.21 mean score out of 10) to the mean for the board's awareness of earnings management. In fact, the means are not statistically different (see Appendix J for t-test). In contrast, the means of board information asymmetries and the actions which boards take to monitor and control earnings management (7.21 and 8.68, respectively) are statistically different (see Appendix J). This suggests that board processes are not as strong as board actions, which are regulated, and/or best practice but may not have the board processes required to make them effective. This is evidence of a structure versus process problem. Other academics (**Leblanc** & Gilles, 2003) have noted the structure versus process problem in qualitative governance studies--that is, the existence of an action does not mean an effective outcome, which is much more dependent on board processes, as well as motivations, group dynamics, leadership, and so forth. The poor results on board awareness of earnings management may be a consequence of weak board processes around board information asymmetries and actions specific to earnings management.

Summary of Findings

This study tested the research model developed in Chapter II, using the methodology presented in Chapter III. It attempted to answer the important research question developed in Chapter I, which is, "what is the impact of certain board characteristics, as moderated by the CEO's attributes, on earnings management?" Going beyond the specific research problem of earnings management in this study, at issue is the question, "does governance really matter", as time and time again there are examples, often egregious, that it does not. However, notwithstanding this broader question, this study has some conclusive findings about the three important board characteristics and earnings management.

This study confirms the findings of Larcker et al. (2007) that an independent chair, smaller board, and less busy directors have a positive impact on governance outcomes, which in this study is the level of earnings management or, more specifically, a proxy for this dependent variable, board information asymmetries, and board actions to monitor and control earnings management. There also is evidence of Dey's (2008) agency conflict impacting governance outcomes, with the control variables of firm size, leverage, and cross-listing, reducing

earnings management.

Important for governance research, this study confirms the findings of previous qualitative studies in management and accounting (Cohen et al., 2002; Nowak & McCabe, 2003) that a CEO with stewardship attributes has a significant positive impact on board information asymmetries, as explained by the Davis et al. (1997) mixed-mode model, which combines aspects of agency and stewardship theories on governance. In fact, the CEO's attributes have a stronger impact on earnings management than the board governance variables considered in the study.

The study's findings are contrary to Graham et al.'s (2006) suggestion that directors are not aware of the practice of earnings management, and finds that this could be a function of weak board processes versus the structured actions required by regulation and best practice. This empirical evidence supports earlier qualitative findings on board effectiveness by Leblanc and Gilles (2003).

H1 and H2 are largely supported--a CEO with agency attributes does moderate most of the board characteristics to increase earnings management, and a CEO with commitment or steward attributes has a significant impact, together with the board characteristics, in reducing earnings management. For H3, a CEO with achievement attributes

moderates the negative impact that busier directors have on earnings management.

Chapter V considers the findings in the context of the problem of earnings management and the broader research question, "does governance really matter?", and provides suggestions for future research, policy, and practice.

Chapter V

Summary and Conclusions

Introduction

This study tests a new research model for examining the serious and continuing problem of earnings management. It answers the academic call for better explanatory models (Jensen, 2005) and better measures (Beaver, 2002; Fields et al., 2001; Parker, 2007; Xu et al., 2007). Chapter V concludes this study by discussing the findings outlined in Chapter IV, namely that a steward CEO reduces earnings management and an agency CEO increases earnings management; that agency conflict variables, such as a stricter regulatory environment, may produce better governance outcomes; and that directors are aware of earnings management but may have weak board processes to monitor and control this problem. This chapter also discusses the limitations of these findings and makes suggestions for future research, policy, and practice.

Research Results and Limitations

The results of this study have significance for the earnings management and governance literatures. Evidence was found using primary survey data that certain board characteristics, namely an independent chair, less busy directors, and smaller boards, reduce earnings management.

Recent accounting research using secondary data (Larcker et al., 2007) for these governance variables had inconclusive findings. There also is evidence that agency conflict variables, which up until now have been untested beyond the original research by Dey (2008), have a positive impact on governance outcomes. Agency conflict as presented by Dey suggests that governance variables react positively to situational conflicts, such as firm size, leverage, and regulatory environment, increasing the influence that such variables have on governance outcomes.

A significant finding in this research is that a CEO with commitment attributes, which are the predominant stewardship ones, reduces earnings management. Previously this had been suggested by qualitative research in management and accounting studies (Cohen et al., 2002; Nowak & McCabe, 2003), but until this study had not been confirmed with empirical data. Similarly, the oft-quoted stewardship-agency explanatory model of governance suggested by Davis et al. (1997) has not received substantive empirical testing to confirm its seminal status in the literature. The research model uses the Davis et al. theory and confirms its validity empirically, by finding that an agency CEO increases earnings management and a steward CEO reduces earnings management. This represents a

significant contribution to the literature.

This study tests a new research model for examining the problem of earnings management, answering the academic call for better explanatory models (Jensen, 2005) and better measures (Beaver, 2002; Fields et al., 2001; Parker, 2007; Xu et al., 2007). The fact that a new research model, using a moderating variable and primary data measures, produced higher and more significant explanatory results than most secondary data regression models in accounting research is a contribution in itself, especially when many governance variables are becoming insignificant in secondary data studies because of low variation from improved regulation and best practice.

All of these contributions to the literature are positive and help further the study of earnings management and governance. What is discouraging in the findings relative to the broader research question of "does governance really matter" is that most boards (up to 70%) have a high awareness of the level of earnings management, which indicates that boards may be complicit in this practice. There also is evidence that board processes are weak around board information asymmetries and its monitoring and control duties. Granted, the definition of earnings management for this study as presented in Chapter

I is very broad and ranges from simple income smoothing to the more egregious examples of earnings management. However, as Jensen (2005) and Graham et al. (2005, 2006) point out, even simple and innocent practices in earnings management have huge agency costs because of overvalued equities and value destruction from "real" earnings management. Therefore, boards must work to stop this practice and not "turn a blind eye" to it, if this is the case.

Also discouraging for the question of "does governance really matter" is the relative level of significance of the CEO's steward or agency attributes, both in direct and interacting effects on the governance outcome variable in this study. Both have more influence on the governance outcome than the governance variables themselves, and the main interaction seems to be with the board chair. This finding suggests that the leadership of the chair and interaction between the chair and the CEO is much more important than the governance variables of board characteristics, which are more commonly studied in academe and are used extensively by practitioners and policy-makers for best practice/regulations.

There are certain limitations in the study. As noted in Chapter I, the measure of earnings management, because

of board confidentiality and liability issues, remains an indirect one of proxy rather than a direct measure. However, the level of earnings management awareness reported by directors in this study is close to the primary measure of earnings management reported by CFOs to Graham et al. (2005, 2006), that is, 70% versus 78%; therefore, the sample likely has no less earnings management than the Graham et al. (2005, 2006) sample. Also, the proxy remains a more primary measure of earnings management than the financial models measuring this variable with secondary data, which accounting academics have been criticizing for nearly four decades as severely flawed.

Implications for Future Research, Policy and Practice

There are a number of implications for future research in earnings management and governance coming from this study. Finding evidence of Dey's (2008) concept of agency conflict at work in primary data not only extends her findings, but also suggests that finding other conflict variables could be important to improving governance outcomes. The study of group and individual motivations at the board may be where such variables will be found. Another area for future research is to explore the weak processes around board information asymmetries and monitoring and control actions that were evident in the

findings. The leadership attributes of the board chair may be impacting these processes, and further research is required in this area. The interactions among the board, the chair, and the CEO need to be carefully examined to determine if board characteristics really matter in a significant way--part of this may be found in the individual and group motivations at the board, as suggested previously. The investigation of these areas will require accounting academics to use different research methodologies and to conduct more cross-discipline studies than the existing accounting research paradigm permits. As Parker (2007) suggests, this will be a challenge because most of the major journals are not receptive to changing this paradigm.

There is important and encouraging evidence in this study for policy-makers. The agency conflict variable of regulation seems to have a positive impact on governance outcomes. However, for Canadian policy-makers, this evidence should be a call to action, as regulatory weaknesses in the Canadian capital markets could result in more earnings management. In defense of the Canadian regulators, as noted in Chapter III, there are 10 different provincial securities jurisdictions, which is a regulatory weakness that Canada's federal government has recognized

and is moving towards centralizing as this paper is being written, albeit with substantial provincial resistance. There also could be a weakness in the oversight of audit firms, which are largely self-regulated in Canada. Such firms may be applying different standards of audit to firms that are not cross-listed on U.S. exchanges, and regulators should confirm that this is not the case.

For governance practitioners, there are some important findings in this study. Directors need to develop stronger processes around their monitoring and control actions, and to be aware that the CEO has a very significant moderation on these processes, depending on his or her attributes/motivations. Most definitely, boards should look for CEOs with stewardship attributes to help reduce earnings management/information asymmetries.

Directors who responded to the survey scored poorly on their awareness of the level of earnings management, and nearly half of these directors hold the ICD.D designation. Therefore, perhaps ICD should review its educational program with a view to placing more emphasis on the board's monitoring and control function, which is considered by shareholders and regulators to be the key duty of a board.

Summary

This chapter concludes the study of the impact of

three board characteristics, namely, an independent chair, busyness of directors, and board size, on earnings management, as moderated by the CEO's attributes. Using a new and innovative research model, this study makes significant contributions to the research on earnings management and governance. From this study's findings, there are suggestions for future research, policy, and practice that will extend the research on earnings management and governance, and that will help improve policy and practice to insure that "governance really does matter."

Appendix A

Survey Instrument

Public Company Director Survey

INTRODUCTION

Thank you for taking some of your valuable time to complete this survey, which has the support of the Institute of Corporate Directors ("ICD"). Your responses will help clarify the relationship between important board characteristics and earnings management, and will be aggregated with other survey responses and published in my doctoral dissertation, which will be available sometime in 2010. Please contact ICD if you would like a copy of this publication.

Your responses to this survey are completely anonymous and confidential – they will be aggregated only, and strictly controlled. As a fellow board director and ICD member, I understand how important this confidentiality is. I also understand the time pressures we are all under, so I have tested this survey with a number of our peers, and found that it takes a maximum of 15 minutes to complete.

Please be thoughtful and frank in your responses – many thanks for your help on this.

David Alexander ICD.D

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1. Your company's size: (Check One)

   - Large-Cap (S&P/TSX 60 Index)
   - Mid-Cap
   - Small-Cap (S&P/TSX Small-Cap Index)
   - TSX Venture Exchange

2. Your company has a controlling shareholder(s). (Yes/No)

3. Your company would be considered to have financial leverage that is: (Check One)

   - Low leverage
   - Medium leverage
   - High leverage

4. Your company is also listed on a US exchange. (Yes/No)

5. Your board has an outside, non-executive and non-affiliated chair or lead director. (Yes/No)

6. What percentage of your board directors, do you estimate have more than three other directorships? (Check One)

   - Less than 25%
   - More than 25%

7. Your board has: (Check One)
   - Twelve or less directors
   - More than twelve directors

8. The majority of your directors provide judgment that is totally independent from your CEO or any controlling shareholder(s). (Agree/Disagree)

9. Please provide your assessment of the following information processes at your board: (Agree/Disagree – 7 point scale)

   - In general, the information available to the board is very reliable
   - The available information is relevant to the board's needs
   - The board receives information in a timely fashion
   - The information for the board is well summarized for the board's needs
   - Information for the board is presented in a balanced, unbiased manner
   - The board spends a great deal of time searching for information about issues facing the board
   - Board members actively search for information in order to address issues before the board
   - The board has regular "in-camera" meetings without management present.

10. The board takes the following actions to monitor and control earnings management: (Agree/Disagree – 7 point scale)

    - The board reviews all corporate financial disclosures prior to their release
    - The board insures that any contextual information, which may be required to avoid misleading the public, is released concurrent with financial disclosures
    - The board discusses earnings management with management and its auditors
    - The board discusses the effectiveness of its audit committee with its auditors

11. Please estimate how important each item is to your CEO/President. (Not Very Important/Very Important – 7 point scale).

    - Exceeding board expectations
    - Recognition for his/her success
    - His/her status within the company
    - Possibility for his/her personal growth
    - The challenge of his/her work itself
    - His/her job security
    - Wages which compare favorably with others doing similar or same job
    - Seeing the results of his/her work
    - His/her finding a solution to a problem
    - His/her agreement with company values
    - His/her agreement with board interests
    - Respect and recognition from outside the company for his/her work
    - Amount of his/her salary
    - Opportunity for his/her advancement
    - Receiving praise from the board for a job well done
    - Increasing company value
    - His/her being a company team-player
    - Performance on par with managers in similar situations
    - His/her personal economic gain
    - His/her loyalty to the company

12. What is your assessment of the level of earnings management being practiced at your company? (Low/High – 7 point scale)

13. Are you available for a confidential follow-up interview? (Yes/No)

THANK YOU FOR YOUR RESPONSES

Appendix B

Revised Survey Instrument

Invitation

Ten Minute Director Survey

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Dear Board Director,

I am a Doctoral Candidate and fellow Board Director collecting data for my dissertation. This letter is an invitation for you to complete the Director Survey. The purpose of this survey is to obtain a statistical portrait of the relationship between important board and leadership characteristics, and information asymmetries, both internal and external. We understand how valuable your time is, so this survey was purposefully kept very short – it takes about 10 minutes to complete. The questions are divided into four sections:

1) Company Profile,
2) Board Profile,
3) Ratings of Leadership Motivations, and
4) Ratings of Information Processes.

The anticipated benefit for the Director Survey is to further our understanding of the dynamics of board information processes, and how we might improve our practices in this area. Filling in the survey gives you the opportunity to contribute to this pioneering research. We especially understand the confidentiality of your work, and any data pertaining to you as an individual participant will be kept confidential. You may exit the survey at any time. You may also choose to not answer questions that you prefer not to. All data are being collected by the Survey Research Centre at the University of Waterloo and will be de-identified before being provided to the principal investigator. This will ensure that information provided to the principal investigator is anonymous. Once data collection is complete, the Survey Research Centre will destroy any identifiable information linked to survey responses.

To fill in the survey, follow this link:
<link>
If the link is not clickable, please copy and paste the URL into any browser.

This study has been reviewed and received ethics clearance through the Nova Southeastern University Institutional Review Board, as well as the Office of Research Ethics at the University of Waterloo. Should you have any concerns resulting from your participation in this study, please contact:

1. Human Research Oversight Board (Institutional Review Board) of Nova Southeastern University at IRB@nsu.nova.edu or call 1-866-499-0790,
2. Susan Sykes at the University of Waterloo Office of Research Ethics at ssykes@uwaterloo.ca or call 519-888-4567 ext. 36005.

If you have any technical problems or wish to withdraw from the research, please contact the Survey Research Centre at uwsrc@uwaterloo.ca or call 1-866-303-2822.
For more information on the project, please contact David Alexander at davialex@nova.edu.

The researchers on this project are:

David Alexander, Doctoral Candidate, Nova Southeastern University

Dr. Rein Peterson, Professor Emeritus at York University

Sharon McConnell, Project Manager, Survey Research Centre, University of Waterloo

Thank you in advance for your co-operation in this research.

David Alexander MBA, CMA, ICD.D

Reminder Letter #1

Ten Minute Director Survey

Dear Board Director,

I am a Doctoral Candidate and fellow Board Director collecting data for my dissertation. This is a friendly reminder to try to set aside some time to complete the Director Survey. Your participation is important, as we try to represent a broad distribution of organizations.

To fill in the survey, follow this link:
<link>

The purpose of this survey is to obtain a statistical portrait of the relationship between important board and leadership characteristics, and information asymmetries, both internal and external. As a busy practitioner, we understand how valuable your time is, so this survey was purposefully kept very short – it takes about 10 minutes to complete.

The anticipated benefits for the Director Survey are to further our understanding of the dynamics of board information processes, and how we might improve our practices in this area. Filling in the survey gives you the opportunity to contribute to this pioneering research. We especially understand the confidentiality of your work, and any data pertaining to you as an individual participant will be kept confidential. You may exit the survey at any time. You may also choose to not answer questions that you prefer not to. All data are being collected by the Survey Research Centre at the University of Waterloo and will be de-identified before being provided to the principal investigator. This will ensure that information provided to the principal investigator is anonymous. Once data collection is complete, the Survey Research Centre will destroy any identifiable information linked to survey responses.

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If you have any technical problems or wish to withdraw from the research, please contact the Survey Research Centre at uwsrc@uwaterloo.ca or call 1-866-303-2822.
For more information on the project, please contact David Alexander at davialex@nova.edu.

The researchers on this project are:

David Alexander, Doctoral Candidate, Nova Southeastern University
Dr. Rein Peterson, Professor Emeritus at York University
Sharon McConnell, Project Manager, Survey Research Centre, University of Waterloo

Thank you in advance for your co-operation in this research.

David Alexander MBA, CMA, ICD.D

Reminder Letter #2

Ten Minute Director Survey

SRC surveyresearchcentre | University of Waterloo

Dear Board Director,

I am a Doctoral Candidate and fellow Board Director collecting data for my dissertation. I understand that you are busy; however, I strongly encourage you to fill in the Director Survey. The researchers want to ensure that the collected data is indeed representative of a broad distribution of organizations. Your participation would contribute to a more balanced perspective.

To fill in the survey, follow this link: <link>

The purpose of this survey is to obtain a statistical portrait of the relationship between important board and leadership characteristics, and information asymmetries, both internal and external. We understand how valuable your time is, so this survey was purposefully kept very short – it takes about 10 minutes to complete.

The anticipated benefits for the Director Survey are to further our understanding of the dynamics of board information processes, and how we might improve our practices in this area. Filling in the survey gives you the opportunity to contribute to this pioneering research. We understand the confidentiality of your work, and any data pertaining to you as an individual participant will be kept confidential. You may exit the survey at any time. You may also choose to not answer questions that you prefer not to. All data are being collected by the Survey Research Centre at the University of Waterloo and will be de-identified before being provided the principal investigator. This will ensure that information provided to the principal investigator is anonymous. Once data collection is complete, the Survey Research Centre will destroy any identifiable information linked to survey responses.

This study has been reviewed and received ethics clearance through the Nova Southeastern University Institutional Review Board, as well as the Office of Research Ethics at the University of Waterloo. Should you have any concerns resulting from your participation in this study, please contact:

1. Human Research Oversight Board (Institutional Review Board) of Nova Southeastern University at IRB@nsu.nova.edu or call 1-866-499-0790,
2. Susan Sykes at the University of Waterloo Office of Research Ethics at ssykes@uwaterloo.ca or call 519-888-4567 ext. 36005.

If you have any technical problems or wish to withdraw from the research, please contact the Survey Research Centre at uwsrc@uwaterloo.ca or call 1-866-303-2822.
For more information on the project, please contact David Alexander at davialex@nova.edu.

The researchers on this project are:

David Alexander, Doctoral Candidate, Nova Southeastern University
Dr. Rein Peterson, Professor Emeritus at York University
Sharon McConnell, Project Manager, Survey Research Centre, University of Waterloo

Thank you in advance for your co-operation in this research.

David Alexander MBA, CMA, ICD.D

Director Survey

Thank you for completing the Director survey. The purpose of this survey is to obtain a statistical portrait of the relationship between important board and leadership characteristics, and information asymmetries, both internal and external. This survey should take about 10 minutes to complete.

Any data pertaining to you as an individual participant will be kept confidential. You may exit the survey at any time. You may also choose to not answer questions. All data are being collected by the Survey Research Centre at the University of Waterloo and will be de-identified before being provided to the Principal Investigator. This will ensure that information provided to the principal investigator is anonymous.

This study has been reviewed and received ethics clearance through Nova Southeastern University Institutional Review Board, as well as Office of Research Ethics at the University of Waterloo. Should you have any comments or concerns resulting from your participation in this study, please contact:

1. Human Research Oversight Board (Institutional Review Board) of Nova Southeastern University at IRB@nsu.nova.edu or call 1-866-499-0790,
2. Susan Sykes at the University of Waterloo Office of Research Ethics at ssykes@uwaterloo.ca or call 519-888-4567 ext. 36005.

IF YOU HOLD MULTIPLE DIRECTORSHIPS FROM ANY OF THE FOLLOWING: NOT-FOR-PROFIT CORPORATIONS, CROWN CORPORATIONS, PRIVATELY OWNED COMPANIES, OR PUBLIC COMPANIES THEN please answer the survey in reference to the most recent ***Public Company*** Board meeting attended.

IF YOU DO NOT HOLD A PUBLIC COMPANY DIRECTORSHIP THEN please answer the survey in reference to the most recent Board meeting attended.

Section 1: Company Profile

1. Please indicate the category that best describes your company.
(Check one only)

- ○ Not-for-Profit or Crown Corporation → **SKIP TO Q.6**
- ○ Privately owned company
- ○ Public company

2. Please indicate your company's size.
(Check one only)

Public Company

- ○ Large-Cap
- ○ Mid-Cap
- ○ Small-Cap
- ○ Micro-Cap or Venture Exchange

Private Company

- ○ Large ($300 Million sales or more)
- ○ Small (Less than $300 Million sales)

3a) Does your company have a shareholder(s) with 10% or greater voting rights? **(Check one only)**

- ○ Yes
- ○ No → **SKIP TO Q.4**

3b) Does this/Do these shareholder(s) have effective voting control?
(Check one only)

- ○ Yes
- ○ No → **SKIP TO Q.4**

3c) Which category best describes this shareholder?
(Check one only)

- O Entrepreneur
- O Family
- O Individual investor
- O Institutional investor
- O Parent company
- O Private equity investor
- O Venture capitalist

3d) Which title best describes this shareholder?
(Check all that apply)

- O Board Directors only
- O Board Chair only
- O Board Chair and CEO
- O CEO and Board Directors
- O CEO, only
- O Other (Please specify) _____

4. Relative to industry peers, your company would be considered to have financial leverage that is:
(Check one only)

- O Low leverage
- O Medium leverage
- O High leverage

5. Is your company listed on a US exchange?
(Check one only)

- O Yes
- O No

Section 2: Board Profile

6. Does your board have an outside, non-executive chair or lead director?
(Check one only)

- O Yes
- O No → **GO TO Q.7 INTRODUCTION, THEN SKIP TO Q.7b)**

7. Please indicate your level of agreement with the following statements using a scale from 1 to 10, where 1 is 'Disagree Completely' and 10 is 'Agree Completely'.

For each statement, check the **one number** that best represents your level of agreement.

		1 Disagree Completely		10 Agree Completely	N/A
a)	Your chair or lead director provides judgment and leadership that is independent from your CEO	O		O	
b)	The majority of your directors provide judgment that is independent from your CEO	O		O	
The shareholder(s) with effective control …					
c)	considers the advice given by the board	O		O	
d)	promotes their point of view at board meetings.....	O		O	
e)	uses their authority to accomplish their goals.....	O		O	
f)	The majority of your board's directors devote sufficient time and attention to your board.....	O		O	

8. How many directors does your board have?

RECORD NUMBER: _____

Section 3: Ratings of Leadership Motivation

9. Please estimate how important each of the following items is to your company's CEO or President. Please use a scale from 1 to 10, where 1 is 'Not At All Important' and 10 is 'Very Important'.

For each item, check the **one number** that best represents the level of importance to your company's CEO or President.

		1 Not At All Important		10 Very Important
a)	Exceeding Board expectations.....	O		O
b)	Recognition for success.....	O		O
c)	Status within the company	O		O
d)	Possibility for personal growth.....	O		O
e)	The challenge of the work itself.....	O		O
f)	Job security	O		O
g)	Wages which compare favourably with others doing similar or the same job	O		O
h)	Seeing the results of his/her work.....	O		O
i)	Finding a solution to a problem.....	O		O
j)	Agreement with company values	O		O
k)	Agreement with board interests.....	O		O
l)	Respect and recognition from outside the company for his/her work.....	O		O
m)	Amount of salary.....	O		O
n)	Opportunity for advancement.....	O		O

o)	Receiving praise from the board for a job well done.....	O	O
p)	Increasing company value	O	O
q)	Being a company team-player	O	O
r)	Performance on par with managers in similar situations	O	O
s)	Personal economic gain.....	O	O
t)	Loyalty to the company.....	O	O

Section 4: Ratings of Information Processes

10. Please indicate your level of agreement with the following statements relative to your board, using a scale from 1 to 10, where 1 is 'Disagree Completely' and 10 is 'Agree Completely'.

For each process, check the **one number** that best represents your level of agreement.

		1 Disagree Completely	**10 Agree Completely**
a)	In general, the information available to the board is very reliable.....	O	O
b)	The available information is relevant to the board's needs	O	O
c)	The board receives information in a timely fashion.....		
d)	The information for the board is not excessive, and is well summarized for the board's needs	O	O
e)	Information for the board is presented in a balanced, unbiased manner with multiple viewpoints.....	O	O
f)	The board spends a great deal of time searching for information about issues facing the board.	O	O
g)	Board members actively search for information in order to address issues before the board	O	O
h)	The board has regular "in-camera" meetings without management present	O	O

IF 'Not-for-profit or Crown Corporation' CHECKED IN Q.1, SKIP TO Q.13

11. Please indicate your level of agreement with the following statements relative to your board, using a scale from 1 to 10, where 1 is 'Disagree Completely' and 10 is 'Agree Completely'.

For each process, check the **one number** that best represents your level of agreement with the actions the board takes.

		1 Disagree Completely	**10 Agree Completely**
a)	The board reviews all corporate financial disclosures prior to their release	O	O
b)	The board ensures that any contextual information, which may be required to avoid misleading the public, is released concurrent with financial disclosures.....	O	O
c)	The board discusses earnings management with management and its auditors	O	O
d)	The board discusses the effectiveness of its audit		

committee with its auditors ..... O O

12. Please indicate your board's awareness of any earnings management, using a scale from 1 to 10, where 1 is 'Extremely Low Awareness' and 10 is 'Extremely High Awareness'.
(Check one only)

1	**10**
Extremely Low <u>Awareness</u>	**Extremely High <u>Awareness</u>**
O	O

13. Do you currently hold an ICD.D designation?
(Check one only)

- O Yes
- O No

14. Are you available for a confidential follow-up interview? If you agree to a follow-up interview, your contact information will be kept separate from the answers you provided in this survey, ensuring that the answers to this survey are completely confidential.

- O Yes → **CLICK LINK BELOW TO SEND NOTIFICATION E-MAIL. PLEASE INCLUDE YOUR NAME AND CONTACT INFORMATION IN THE E-MAIL MESSAGE**

- O No → **THANK YOU FOR YOUR RESPONSES**

<Insert Notification E-mail Link> davialex@nova.edu

THANK YOU FOR YOUR RESPONSES

Appendix C

Selected Frequency Tables

SIZE					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Public company: Large-Cap	53	21.6	21.6	21.6
	2 - Public company: Mid-Cap	96	39.2	39.2	60.8
	3 - Public company: Small-Cap	76	31.0	31.0	91.8
	4 - Public company: TSV	20	8.2	8.2	100.0
	Total	245	100.0	100.0	

CL					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Yes	57	22.8	22.8	22.8
	2 - No	193	77.2	77.2	100.0
	Total	250	100.0	100.0	

ICD.D					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Yes	114	45.6	45.6	45.6
	2 - No	136	54.4	54.4	100.0
	Total	250	100.0	100.0	

BACA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	233	93.2	93.2	93.2
	1	17	6.8	6.8	100.0
	Total	250	100.0	100.0	

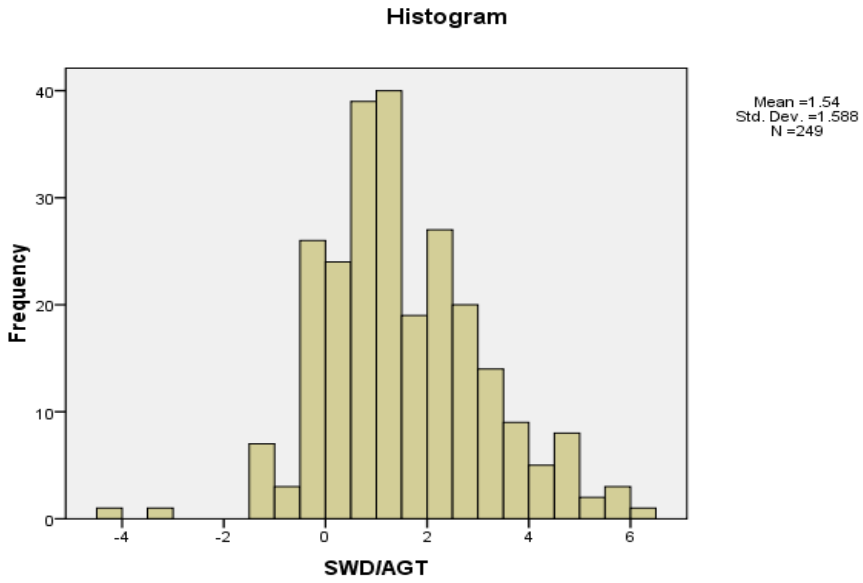
BACSIS

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	236	94.4	94.4	94.4
	1	14	5.6	5.6	100.0
	Total	250	100.0	100.0	

AEM

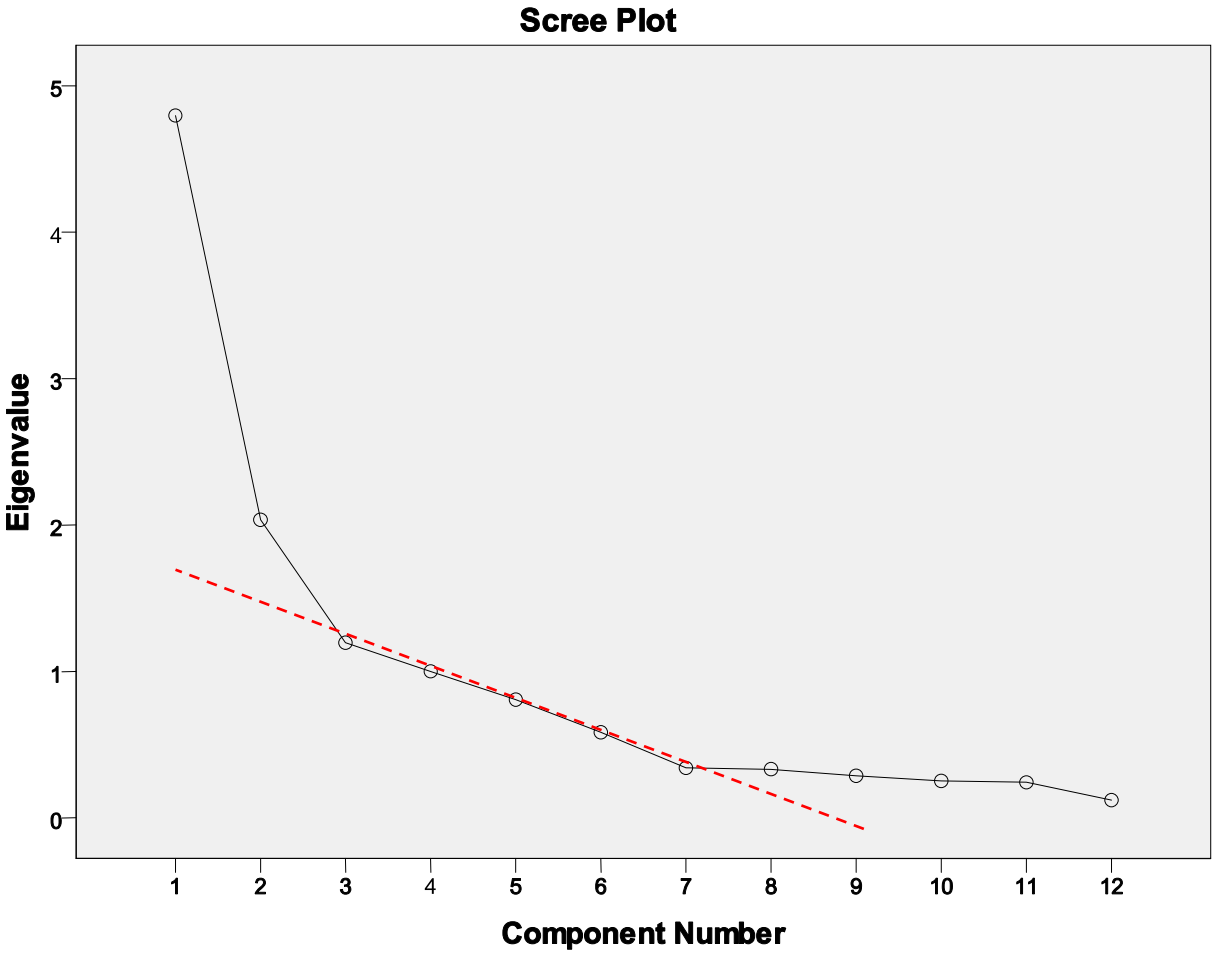
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 - Disagree completely	27	10.8	10.8	10.8
	2 -	15	6.0	6.0	16.8
	3 -	5	2.0	2.0	18.8
	4 -	5	2.0	2.0	20.8
	5 -	12	4.8	4.8	25.6
	6 -	12	4.8	4.8	30.4
	7 -	15	6.0	6.0	36.4
	8 -	42	16.8	16.8	53.2
	9 -	51	20.4	20.4	73.6
	10 - Agree completely	66	26.4	26.4	100.0
	Total	250	100.0	100.0	

SWD/AGT					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	-4	1	.4	.4	.4
	-3	1	.4	.4	.8
	-1	8	3.2	3.2	4.0
	0	54	21.6	21.6	25.6
	1	78	31.2	31.2	56.8
	2	46	18.4	18.4	75.2
	3	34	13.6	13.6	88.8
	4	14	5.6	5.6	94.4
	5	10	4.0	4.0	98.4
	6	4	1.6	1.6	100.0
	Total	250	100.0	100.0	



Appendix D

Factor Analysis



Rotated Component Matrix[a]

	Component		
	1	2	3
Q10A	.877	.217	-.012
Q10B	.904	.184	-.028
Q10C	.867	.183	-.027
Q10D	.866	.160	-.032
Q10E	.825	.224	.109
Q10F	-.110	.124	.893
Q10G	.070	.158	.882
Q10H	.240	.416	.178
Q11A	.120	.797	-.054
Q11B	.284	.780	-.051
Q11C	.064	.546	.237
Q11D	.170	.624	.194

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.395	48.835	48.835	4.395	48.835	48.835	3.951	43.900	43.900
2	1.790	19.886	68.722	1.790	19.886	68.722	1.704	18.930	62.830
3	1.166	12.952	81.673	1.166	12.952	81.673	1.696	18.843	81.673
4	.372	4.138	85.812						
5	.336	3.733	89.544						
6	.309	3.435	92.980						
7	.261	2.902	95.882						
8	.246	2.735	98.617						
9	.124	1.383	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component		
	1	2	3
Q10A	**.873**	.220	-.004
Q10B	**.899**	.202	-.020
Q10C	**.870**	.174	-.025
Q10D	**.881**	.092	-.043
Q10E	**.851**	.116	.100
Q10F	-.087	.039	**.918**
Q10G	.086	.101	**.910**
Q11A	.129	**.911**	.084
Q11B	.301	**.849**	.068

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Scale: Information Quality

Reliability Statistics

Cronbach's Alpha	N of Items
.930	5

Scale: Disclosures

Reliability Statistics

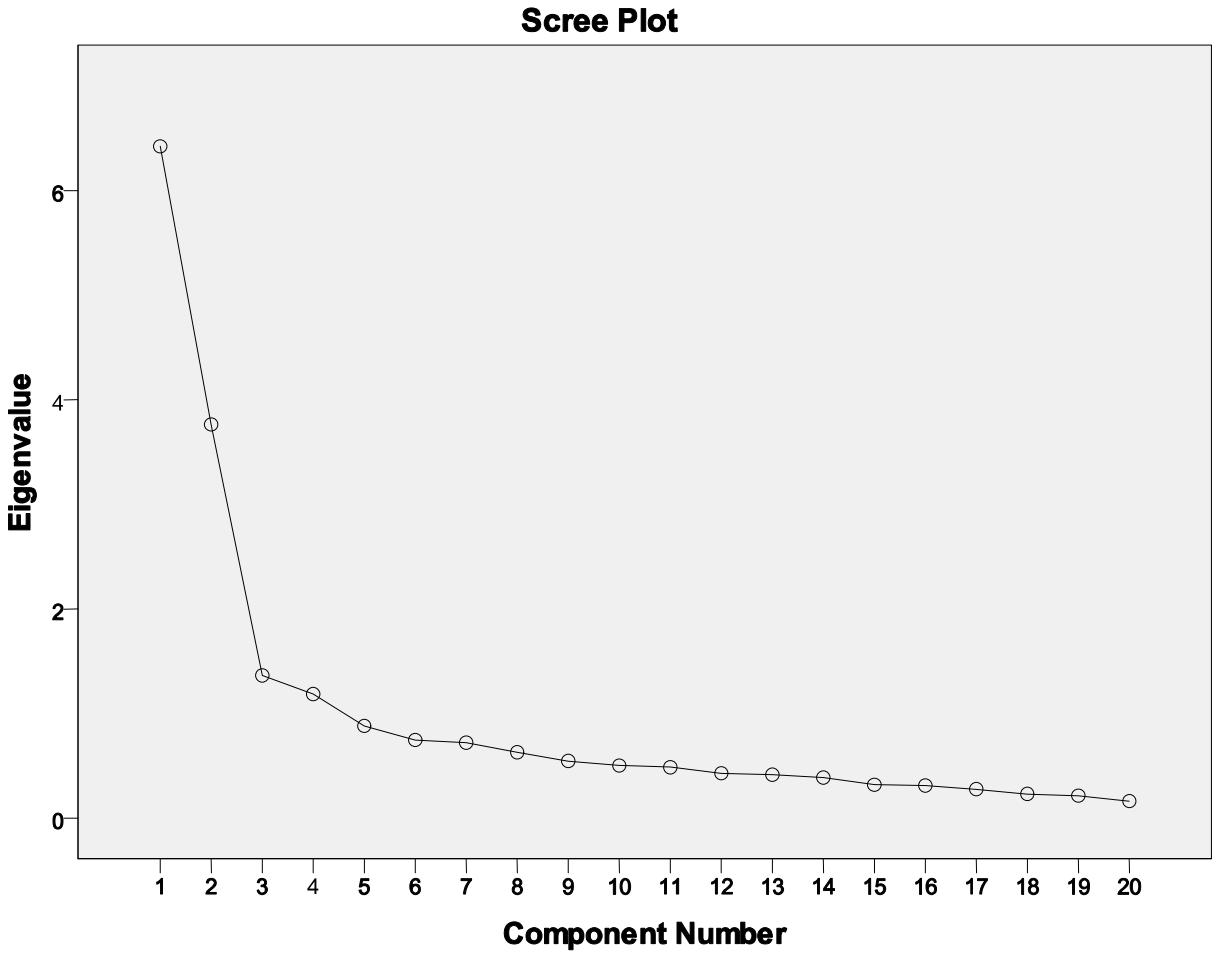
Cronbach's Alpha	N of Items
.793	2

Scale: Information Search

Reliability Statistics

Cronbach's Alpha	N of Items
.812	2

Factor Analysis of moderating variables:



Rotated Component Matrix[a]

	Component		
	1	2	3
Q9A	.167	.494	.505
Q9B	.699	.021	.293
Q9C	.680	.057	.064
Q9D	.512	.461	.169
Q9E	.037	.233	.773
Q9F	.714	.210	-.273
Q9G	.784	-.008	-.011
Q9H	.090	.238	.784
Q9I	.046	.238	.722
Q9J	-.006	.759	.387
Q9K	.158	.675	.297
Q9L	.532	.142	.345
Q9M	.768	-.008	-.090
Q9N	.663	.329	-.029
Q9O	.581	.333	.260
Q9P	-.060	.303	.738
Q9Q	.053	.827	.177
Q9R	.257	.620	.236
Q9S	.703	-.248	.035
Q9T	-.094	.692	.178

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.575	30.973	30.973	5.575	30.973	30.973	4.351	24.171	24.171
2	3.669	20.383	51.356	3.669	20.383	51.356	3.228	17.934	42.104
3	1.342	7.456	58.812	1.342	7.456	58.812	3.007	16.708	58.812
4	1.175	6.530	65.342						
5	.768	4.265	69.607						
6	.720	3.998	73.606						
7	.680	3.779	77.384						
8	.592	3.288	80.672						
9	.533	2.962	83.635						
10	.496	2.754	86.389						
11	.435	2.416	88.805						
12	.423	2.352	91.157						
13	.354	1.968	93.126						
14	.322	1.788	94.914						
15	.280	1.558	96.472						
16	.243	1.350	97.822						
17	.227	1.262	99.084						
18	.165	.916	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component		
	1	2	3
Q9B	.700	.003	.294
Q9C	.665	.036	.086
Q9E	.034	.226	.780
Q9F	.718	.200	-.268
Q9G	.791	.005	-.028
Q9H	.092	.246	.783
Q9I	.049	.248	.716
Q9J	-.009	.752	.393
Q9K	.166	.654	.285
Q9L	.535	.151	.362
Q9M	.775	.008	-.103
Q9N	.653	.308	-.019
Q9O	.583	.330	.261
Q9P	-.061	.311	.737
Q9Q	.063	.842	.170
Q9R	.264	.642	.241
Q9S	.708	-.230	.023
Q9T	-.080	.724	.178

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Scale: Agency

Reliability Statistics

Cronbach's Alpha	N of Items
.863	9

Scale: Commitment

Reliability Statistics

Cronbach's Alpha	N of Items
.833	5

Scale: Achievement

Reliability Statistics

Cronbach's Alpha	N of Items
.831	4

Appendix E

Descriptive Statistics

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
BSZ	244	18	3	21	8.23	2.671
EMP	245	3.27	-1.12	2.15	.0000	.57735
INDC	245	9	1	10	7.71	3.113
BYD	245	9.00	1.00	10.00	2.6531	1.85047
Agency	245	5.41298	-3.44353	1.96945	.0000000	1.00000000
Commitment	245	5.80197	-4.27961	1.52236	.0000000	1.00000000
Achievement	245	6.71084	-4.75724	1.95360	.0000000	1.00000000
Valid N (listwise)	244					

Note. EMP and the moderating variables have been standardized, and BYD has been directionally reversed for interpretation - Likert score mean for BYD is 8.32 with a SD of 1.874.

Correlations

		SIZEMID	SIZESMALL	SIZETSV	SIZELARGE	LEVMED	LEVHIGH	LEVLOW
SIZEMID	Pearson Correlation	1	-.538**	-.239**	-.422**	.001	.028	-.017
	Sig. (2-tailed)		.000	.000	.000	.993	.659	.790
	N	245	245	245	245	245	245	245
SIZESMALL	Pearson Correlation	-.538**	1	-.200**	-.352**	-.155*	-.095	.208**
	Sig. (2-tailed)	.000		.002	.000	.015	.139	.001
	N	245	245	245	245	245	245	245
SIZETSV	Pearson Correlation	-.239**	-.200**	1	-.157*	-.070	.057	.036
	Sig. (2-tailed)	.000	.002		.014	.273	.371	.576
	N	245	245	245	245	245	245	245
SIZELARGE	Pearson Correlation	-.422**	-.352**	-.157*	1	.220**	.035	-.237**
	Sig. (2-tailed)	.000	.000	.014		.001	.588	.000
	N	245	245	245	245	245	245	245
LEVMED	Pearson Correlation	.001	-.155*	-.070	.220**	1	-.272**	-.827**
	Sig. (2-tailed)	.993	.015	.273	.001		.000	.000
	N	245	245	245	245	245	245	245
LEVHIGH	Pearson Correlation	.028	-.095	.057	.035	-.272**	1	-.315**
	Sig. (2-tailed)	.659	.139	.371	.588	.000		.000
	N	245	245	245	245	245	245	245
LEVLOW	Pearson Correlation	-.017	.208**	.036	-.237**	-.827**	-.315**	1
	Sig. (2-tailed)	.790	.001	.576	.000	.000	.000	
	N	245	245	245	245	245	245	245
BRDSIZE	Pearson Correlation	.012	-.347**	-.244**	.541**	.136*	.134*	-.211**
	Sig. (2-tailed)	.846	.000	.000	.000	.034	.037	.001
	N	244	244	244	244	244	244	244
INDC	Pearson Correlation	.220**	-.079	-.179**	-.053	.057	-.065	-.019
	Sig. (2-tailed)	.001	.215	.005	.408	.370	.314	.767
	N	245	245	245	245	245	245	245

BRDBUSY	Pearson Correlation	-.103	.078	.274**	-.148*	-.169**	.167**	.069
	Sig. (2-tailed)	.109	.223	.000	.020	.008	.009	.281
	N	245	245	245	245	245	245	245
CLYES	Pearson Correlation	-.039	-.218**	-.162*	.399**	.112	.058	-.144*
	Sig. (2-tailed)	.547	.001	.011	.000	.080	.365	.024
	N	245	245	245	245	245	245	245
Agency	Pearson Correlation	-.021	-.043	.106	.003	.166**	-.037	-.142*
	Sig. (2-tailed)	.742	.505	.098	.965	.009	.569	.026
	N	245	245	245	245	245	245	245
Commitment	Pearson Correlation	.091	-.127*	-.136*	.125	.121	-.153*	-.030
	Sig. (2-tailed)	.154	.047	.034	.051	.058	.016	.638
	N	245	245	245	245	245	245	245
Achievement	Pearson Correlation	.064	-.088	-.157*	.128*	.079	-.039	-.055
	Sig. (2-tailed)	.321	.170	.014	.046	.217	.542	.390
	N	245	245	245	245	245	245	245
EMP	Pearson Correlation	-.148*	.156*	.144*	-.096	-.194**	.140*	.110
	Sig. (2-tailed)	.021	.014	.024	.134	.002	.028	.086
	N	245	245	245	245	245	245	245

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		BRDSIZE	INDC	BRDBUSY	CLYES	Agency	Commitment
SIZEMID	Pearson Correlation	.012	.220**	-.103	-.039	-.021	.091
	Sig. (2-tailed)	.846	.001	.109	.547	.742	.154
	N	244	245	245	245	245	245
SIZESMALL	Pearson Correlation	-.347**	-.079	.078	-.218**	-.043	-.127*
	Sig. (2-tailed)	.000	.215	.223	.001	.505	.047
	N	244	245	245	245	245	245
SIZETSV	Pearson Correlation	-.244**	-.179**	.274**	-.162*	.106	-.136*
	Sig. (2-tailed)	.000	.005	.000	.011	.098	.034
	N	244	245	245	245	245	245
SIZELARGE	Pearson Correlation	.541**	-.053	-.148*	.399**	.003	.125
	Sig. (2-tailed)	.000	.408	.020	.000	.965	.051
	N	244	245	245	245	245	245
LEVMED	Pearson Correlation	.136*	.057	-.169**	.112	.166**	.121
	Sig. (2-tailed)	.034	.370	.008	.080	.009	.058
	N	244	245	245	245	245	245
LEVHIGH	Pearson Correlation	.134*	-.065	.167**	.058	-.037	-.153*
	Sig. (2-tailed)	.037	.314	.009	.365	.569	.016
	N	244	245	245	245	245	245
LEVLOW	Pearson Correlation	-.211**	-.019	.069	-.144*	-.142*	-.030
	Sig. (2-tailed)	.001	.767	.281	.024	.026	.638
	N	244	245	245	245	245	245
BRDSIZE	Pearson Correlation	1	.101	-.177**	.403**	-.021	.206**
	Sig. (2-tailed)		.115	.006	.000	.742	.001
	N	244	244	244	244	244	244
INDC	Pearson Correlation	.101	1	-.333**	.160*	.109	.213**
	Sig. (2-tailed)	.115		.000	.012	.089	.001
	N	244	245	245	245	245	245
BRDBUSY	Pearson Correlation	-.177**	-.333**	1	-.192**	-.092	-.454**
	Sig. (2-tailed)	.006	.000		.002	.151	.000
	N	244	245	245	245	245	245
CLYES	Pearson Correlation	.403**	.160*	-.192**	1	-.023	.144*
	Sig. (2-tailed)	.000	.012	.002		.720	.024
	N	244	245	245	245	245	245
Agency	Pearson Correlation	-.021	.109	-.092	-.023	1	.000
	Sig. (2-tailed)	.742	.089	.151	.720		1.000

Commitment	Pearson Correlation	.206**	.213**	-.454**	.144*	.000	1
	Sig. (2-tailed)	.001	.001	.000	.024	1.000	
	N	244	245	245	245	245	245
Achievement	Pearson Correlation	.145*	.181**	-.199**	.127*	.000	.000
	Sig. (2-tailed)	.024	.005	.002	.047	1.000	1.000
	N	244	245	245	245	245	245
EMP	Pearson Correlation	-.105	-.373**	.539**	-.186**	-.159*	-.517**
	Sig. (2-tailed)	.103	.000	.000	.004	.013	.000
	N	244	245	245	245	245	245

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Correlations

		Achievement	EMP
SIZEMID	Pearson Correlation	.064	-.148*
	Sig. (2-tailed)	.321	.021
	N	245	245
SIZESMALL	Pearson Correlation	-.088	.156*
	Sig. (2-tailed)	.170	.014
	N	245	245
SIZETSV	Pearson Correlation	-.157*	.144*
	Sig. (2-tailed)	.014	.024
	N	245	245
SIZELARGE	Pearson Correlation	.128*	-.096
	Sig. (2-tailed)	.046	.134
	N	245	245
LEVMED	Pearson Correlation	.079	-.194**
	Sig. (2-tailed)	.217	.002
	N	245	245
LEVHIGH	Pearson Correlation	-.039	.140*
	Sig. (2-tailed)	.542	.028
	N	245	245
LEVLOW	Pearson Correlation	-.055	.110
	Sig. (2-tailed)	.390	.086
	N	245	245
BRDSIZE	Pearson Correlation	.145*	-.105
	Sig. (2-tailed)	.024	.103
	N	244	244
INDC	Pearson Correlation	.181**	-.373**
	Sig. (2-tailed)	.005	.000
	N	245	245
BRDBUSY	Pearson Correlation	-.199**	.539**
	Sig. (2-tailed)	.002	.000
	N	245	245
CLYES	Pearson Correlation	.127*	-.186**
	Sig. (2-tailed)	.047	.004
	N	245	245
Agency	Pearson Correlation	.000	-.159*
	Sig. (2-tailed)	1.000	.013

Commitment	Pearson Correlation	.000	-.517**
	Sig. (2-tailed)	1.000	.000
	N	245	245
Achievement	Pearson Correlation	1	-.323**
	Sig. (2-tailed)		.000
	N	245	245
EMP	Pearson Correlation	-.323**	1
	Sig. (2-tailed)	.000	
	N	245	245

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Appendix F

First Stage Stepwise Regression Test

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	LEVMED	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	CLYES	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	SIZEMID	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: EMP

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.194[a]	.038	.034	.56751
2	.255[b]	.065	.057	.56060
3	.298[c]	.089	.077	.55456

a. Predictors: (Constant), LEVMED

b. Predictors: (Constant), LEVMED, CLYES

c. Predictors: (Constant), LEVMED, CLYES, SIZEMID

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.071	1	3.071	9.537	.002[a]
	Residual	78.262	243	.322		
	Total	81.333	244			
2	Regression	5.280	2	2.640	8.400	.000[b]
	Residual	76.054	242	.314		
	Total	81.333	244			
3	Regression	7.217	3	2.406	7.822	.000[c]
	Residual	74.117	241	.308		
	Total	81.333	244			

a. Predictors: (Constant), LEVMED

b. Predictors: (Constant), LEVMED, CLYES

c. Predictors: (Constant), LEVMED, CLYES, SIZEMID

d. Dependent Variable: EMP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.095	.047		1.993	.047
	LEVMED	-.227	.074	-.194	-3.088	.002
2	(Constant)	.138	.050		2.773	.006
	LEVMED	-.205	.073	-.176	-2.809	.005
	CLYES	-.228	.086	-.166	-2.651	.009
3	(Constant)	.210	.057		3.691	.000
	LEVMED	-.205	.072	-.175	-2.827	.005
	CLYES	-.236	.085	-.172	-2.776	.006
	SIZEMID	-.182	.073	-.154	-2.510	.013

a. Dependent Variable: EMP

Excluded Variables[d]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics: Tolerance
1	SIZEMID	-.148[a]	-2.371	.019	-.151	1.000
	SIZESMALL	.129[a]	2.044	.042	.130	.976
	SIZETSV	.131[a]	2.087	.038	.133	.995
	SIZELARGE	-.056[a]	-.866	.388	-.056	.952
	LEVHIGH	.094[a]	1.448	.149	.093	.926
	LEVLOW	-.162[a]	-1.448	.149	-.093	.315
	CLYES	-.166[a]	-2.651	.009	-.168	.987
2	SIZEMID	-.154[b]	-2.510	.013	-.160	.998
	SIZESMALL	.099[b]	1.551	.122	.099	.935
	SIZETSV	.108[b]	1.713	.088	.110	.971
	SIZELARGE	.011[b]	.158	.875	.010	.810
	LEVHIGH	.111[b]	1.723	.086	.110	.918
	LEVLOW	-.191[b]	-1.723	.086	-.110	.313
3	SIZESMALL	.014[c]	.176	.860	.011	.637
	SIZETSV	.073[c]	1.136	.257	.073	.911
	SIZELARGE	-.084[c]	-1.095	.274	-.071	.644
	LEVHIGH	.117[c]	1.828	.069	.117	.917
	LEVLOW	-.200[c]	-1.828	.069	-.117	.312

a. Predictors in the Model: (Constant), LEVMED

b. Predictors in the Model: (Constant), LEVMED, CLYES

c. Predictors in the Model: (Constant), LEVMED, CLYES, SIZEMID

d. Dependent Variable: EMP

Appendix G

Second Stage Stepwise Regression Tests

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	BRDBUSY	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	Commitment	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
3	FF3XBRDBUSY	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
4	BRDSIZE	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
5	FF1XINDC	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
6	INDC	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
7	FF1XBRDBUSY	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
8	FF2XINDC	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: EMPRESCV

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.478[a]	.229	.225	.48332387
2	.560[b]	.314	.308	.45675363
3	.606[c]	.367	.359	.43954200
4	.625[d]	.391	.381	.43216500
5	.640[e]	.409	.397	.42659519
6	.649[f]	.421	.406	.42312466
7	.657[g]	.431	.414	.42026565
8	.666[h]	.444	.425	.41653721

a. Predictors: (Constant), BRDBUSY

b. Predictors: (Constant), BRDBUSY, Commitment

c. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY

d. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE

e. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC

f. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC, INDC

g. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC, INDC, FF1XBRDBUSY

h. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC, INDC, FF1XBRDBUSY, FF2XINDC

ANOVA[i]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16.752	1	16.752	71.710	.000[a]
	Residual	56.532	242	.234		
	Total	73.283	243			
2	Regression	23.005	2	11.502	55.135	.000[b]
	Residual	50.278	241	.209		
	Total	73.283	243			
3	Regression	26.916	3	8.972	46.439	.000[c]
	Residual	46.367	240	.193		
	Total	73.283	243			
4	Regression	28.646	4	7.162	38.345	.000[d]
	Residual	44.637	239	.187		
	Total	73.283	243			
5	Regression	29.971	5	5.994	32.938	.000[e]
	Residual	43.312	238	.182		
	Total	73.283	243			
6	Regression	30.852	6	5.142	28.721	.000[f]
	Residual	42.431	237	.179		
	Total	73.283	243			
7	Regression	31.600	7	4.514	25.559	.000[g]
	Residual	41.683	236	.177		
	Total	73.283	243			
8	Regression	32.510	8	4.064	23.422	.000[h]
	Residual	40.773	235	.174		
	Total	73.283	243			

a. Predictors: (Constant), BRDBUSY

b. Predictors: (Constant), BRDBUSY, Commitment

c. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY

d. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE

e. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC

f. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC, INDC

g. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC, INDC, FF1XBRDBUSY

h. Predictors: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC, INDC, FF1XBRDBUSY, FF2XINDC

i. Dependent Variable: EMPRESCV

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.379	.054		-7.014	.000
	BRDBUSY	.142	.017	.478	8.468	.000
2	(Constant)	-.263	.055		-4.742	.000
	BRDBUSY	.098	.018	.330	5.522	.000
	Commitment	-.180	.033	-.327	-5.475	.000
3	(Constant)	-.239	.054		-4.462	.000
	BRDBUSY	.085	.017	.287	4.927	.000
	Commitment	-.199	.032	-.363	-6.252	.000
	FF3XBRDBUSY	-.030	.007	-.235	-4.499	.000
4	(Constant)	-.520	.106		-4.893	.000
	BRDBUSY	.089	.017	.300	5.218	.000
	Commitment	-.215	.032	-.392	-6.769	.000
	FF3XBRDBUSY	-.033	.007	-.258	-4.968	.000
	BRDSIZE	.033	.011	.159	3.044	.003
5	(Constant)	-.497	.105		-4.730	.000
	BRDBUSY	.085	.017	.286	5.013	.000
	Commitment	-.219	.031	-.400	-6.988	.000
	FF3XBRDBUSY	-.035	.007	-.268	-5.229	.000
	BRDSIZE	.032	.011	.154	2.983	.003
	FF1XINDC	-.009	.003	-.135	-2.698	.007
6	(Constant)	-.316	.132		-2.385	.018
	BRDBUSY	.076	.017	.255	4.368	.000
	Commitment	-.213	.031	-.389	-6.823	.000
	FF3XBRDBUSY	-.033	.007	-.254	-4.958	.000
	BRDSIZE	.032	.011	.157	3.054	.003
	FF1XINDC	-.009	.003	-.129	-2.592	.010
	INDC	-.021	.009	-.118	-2.218	.027
7	(Constant)	-.321	.132		-2.440	.015
	BRDBUSY	.082	.017	.277	4.701	.000
	Commitment	-.216	.031	-.395	-6.962	.000
	FF3XBRDBUSY	-.035	.007	-.268	-5.216	.000
	BRDSIZE	.032	.010	.156	3.061	.002
	FF1XINDC	-.015	.005	-.221	-3.317	.001

	INDC	-.021	.009	-.121	-2.303	.022
	FF1XBRDBUSY	.024	.012	.140	2.058	.041
8	(Constant)	-.313	.130		-2.397	.017
	BRDBUSY	.070	.018	.236	3.878	.000
	Commitment	-.343	.063	-.625	-5.419	.000
	FF3XBRDBUSY	-.036	.007	-.279	-5.456	.000
	BRDSIZE	.033	.010	.160	3.159	.002
	FF1XINDC	-.016	.005	-.238	-3.585	.000
	INDC	-.021	.009	-.117	-2.235	.026
	FF1XBRDBUSY	.028	.012	.162	2.380	.018
	FF2XINDC	.018	.008	.240	2.290	.023

a. Dependent Variable: EMPRESCV

Excluded Variables[i]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics: Tolerance
1	BRDSIZE	.077[a]	1.339	.182	.086	.969
	Agency	-.107[a]	-1.889	.060	-.121	.990
	Commitment	-.327[a]	-5.475	.000	-.333	.796
	Achievement	-.198[a]	-3.519	.001	-.221	.963
	FF1XBRDSIZE	-.099[a]	-1.764	.079	-.113	.996
	FF2XBRDSIZE	-.298[a]	-5.037	.000	-.309	.825
	FF3XBRDSIZE	-.158[a]	-2.799	.006	-.177	.973
	FF1XINDC	-.106[a]	-1.890	.060	-.121	.996
	FF2XINDC	-.225[a]	-3.974	.000	-.248	.940
	FF3XINDC	-.098[a]	-1.725	.086	-.110	.971
	FF1XBRDBUSY	-.031[a]	-.525	.600	-.034	.943
	FF2XBRDBUSY	-.212[a]	-3.048	.003	-.193	.637
	FF3XBRDBUSY	-.190[a]	-3.418	.001	-.215	.987
	INDC	-.172[a]	-2.921	.004	-.185	.892
2	BRDSIZE	.122[b]	2.241	.026	.143	.949
	Agency	-.120[b]	-2.264	.024	-.145	.988
	Achievement	-.232[b]	-4.396	.000	-.273	.953
	FF1XBRDSIZE	-.115[b]	-2.155	.032	-.138	.993
	FF2XBRDSIZE	.000[b]	.001	.999	.000	.115
	FF3XBRDSIZE	-.195[b]	-3.673	.000	-.231	.960
	FF1XINDC	-.120[b]	-2.268	.024	-.145	.994
	FF2XINDC	.163[b]	1.444	.150	.093	.222
	FF3XINDC	-.142[b]	-2.626	.009	-.167	.953
	FF1XBRDBUSY	-.032[b]	-.582	.561	-.038	.943
	FF2XBRDBUSY	.135[b]	1.352	.178	.087	.285
	FF3XBRDBUSY	-.235[b]	-4.499	.000	-.279	.969
	INDC	-.150[b]	-2.688	.008	-.171	.887
3	BRDSIZE	.159[c]	3.044	.003	.193	.929
	Agency	-.121[c]	-2.371	.019	-.152	.988
	Achievement	-.117[c]	-1.339	.182	-.086	.342
	FF1XBRDSIZE	-.120[c]	-2.343	.020	-.150	.993
	FF2XBRDSIZE	-.016[c]	-.104	.917	-.007	.114
	FF3XBRDSIZE	-.058[c]	-.787	.432	-.051	.486

3	BRDSIZE	.159[c]	3.044	.003	.193	.929
	Agency	-.121[c]	-2.371	.019	-.152	.988
	Achievement	-.117[c]	-1.339	.182	-.086	.342
	FF1XBRDSIZE	-.120[c]	-2.343	.020	-.150	.993
	FF2XBRDSIZE	-.016[c]	-.104	.917	-.007	.114
	FF3XBRDSIZE	-.058[c]	-.787	.432	-.051	.486
	FF1XINDC	-.141[c]	-2.763	.006	-.176	.987
	FF2XINDC	.196[c]	1.805	.072	.116	.221
	FF3XINDC	.004[c]	.056	.956	.004	.600
	FF1XBRDBUSY	-.021[c]	-.397	.691	-.026	.941
	FF2XBRDBUSY	.032[c]	.318	.751	.021	.268
	INDC	-.122[c]	-2.240	.026	-.143	.873
4	Agency	-.116[d]	-2.310	.022	-.148	.987
	Achievement	-.125[d]	-1.446	.150	-.093	.341
	FF1XBRDSIZE	-.109[d]	-2.153	.032	-.138	.987
	FF2XBRDSIZE	-.083[d]	-.549	.583	-.036	.112
	FF3XBRDSIZE	-.074[d]	-1.013	.312	-.066	.484
	FF1XINDC	-.135[d]	-2.698	.007	-.172	.985
	FF2XINDC	.207[d]	1.943	.053	.125	.221
	FF3XINDC	-.009[d]	-.141	.888	-.009	.597
	FF1XBRDBUSY	-.018[d]	-.347	.729	-.022	.940
	FF2XBRDBUSY	.042[d]	.431	.667	.028	.268
	INDC	-.125[d]	-2.339	.020	-.150	.873
5	Agency	.040[e]	.328	.743	.021	.170
	Achievement	-.122[e]	-1.429	.154	-.092	.341
	FF1XBRDSIZE	.037[e]	.367	.714	.024	.241
	FF2XBRDSIZE	-.075[e]	-.504	.615	-.033	.112
	FF3XBRDSIZE	-.077[e]	-1.073	.284	-.070	.484
	FF2XINDC	.214[e]	2.031	.043	.131	.221
	FF3XINDC	-.020[e]	-.316	.752	-.021	.595
	FF1XBRDBUSY	.135[e]	1.962	.051	.126	.521
	FF2XBRDBUSY	.037[e]	.382	.703	.025	.267
	INDC	-.118[e]	-2.218	.027	-.143	.870
6	Agency	.068[f]	.561	.575	.036	.168
	Achievement	-.113[f]	-1.334	.183	-.087	.340
	FF1XBRDSIZE	.051[f]	.506	.613	.033	.240
	FF2XBRDSIZE	-.106[f]	-.715	.475	-.047	.111
	FF3XBRDSIZE	-.065[f]	-.914	.362	-.059	.481

	FF2XINDC	.204[f]	1.953	.052	.126	.221
	FF3XINDC	-.018[f]	-.279	.781	-.018	.594
	FF1XBRDBUSY	.140[f]	2.058	.041	.133	.520
	FF2XBRDBUSY	.069[f]	.711	.478	.046	.262
7	Agency	-.135[g]	-.889	.375	-.058	.104
	Achievement	-.087[g]	-1.025	.306	-.067	.332
	FF1XBRDSIZE	-.032[g]	-.297	.767	-.019	.205
	FF2XBRDSIZE	-.043[g]	-.287	.774	-.019	.106
	FF3XBRDSIZE	-.046[g]	-.638	.524	-.042	.472
	FF2XINDC	.240[g]	2.290	.023	.148	.216
	FF3XINDC	.015[g]	.231	.817	.015	.558
	FF2XBRDBUSY	.035[g]	.363	.717	.024	.254
8	Agency	-.155[h]	-1.028	.305	-.067	.104
	Achievement	-.064[h]	-.757	.450	-.049	.327
	FF1XBRDSIZE	-.065[h]	-.596	.552	-.039	.202
	FF2XBRDSIZE	-.080[h]	-.529	.597	-.035	.105
	FF3XBRDSIZE	-.034[h]	-.480	.631	-.031	.469
	FF3XINDC	.019[h]	.294	.769	.019	.558
	FF2XBRDBUSY	.209[h]	1.855	.065	.120	.184

a. Predictors in the Model: (Constant), BRDBUSY

b. Predictors in the Model: (Constant), BRDBUSY, Commitment

c. Predictors in the Model: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY

d. Predictors in the Model: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE

e. Predictors in the Model: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC

f. Predictors in the Model: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC, INDC

g. Predictors in the Model: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC, INDC, FF1XBRDBUSY

h. Predictors in the Model: (Constant), BRDBUSY, Commitment, FF3XBRDBUSY, BRDSIZE, FF1XINDC, INDC, FF1XBRDBUSY, FF2XINDC

i. Dependent Variable: EMPRESCV

Appendix H

Normality Tests

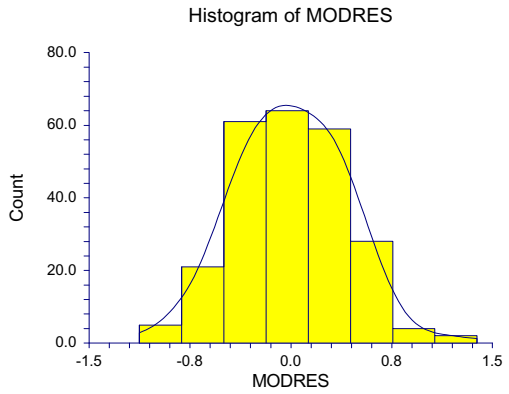
Summary Section of MODRES

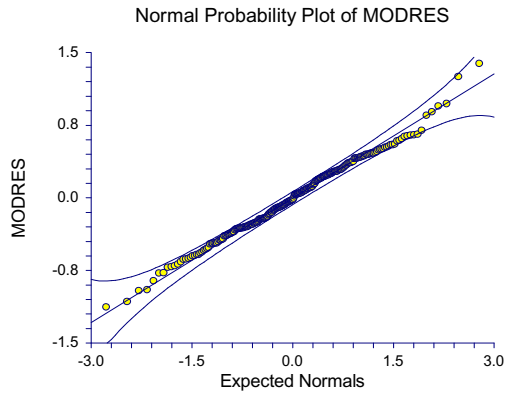
Count	Mean	Standard Deviation	Standard Error	Minimum	Maximum	Range
244	2.459016E-07	0.4096234	2.622345E-02	-1.12657	1.38732	2.51389

Normality Test Section of MODRES

Test Name	Test Value	Prob Level	10% Critical Value	5% Critical Value	Decision (5%)
Shapiro-Wilk W	0.9939488	0.4338858			Can't reject normality
Anderson-Darling	0.3739595	0.4166705			Can't reject normality
Martinez-Iglewicz	1.002136		1.022392	1.036236	Can't reject normality
Kolmogorov-Smirnov	3.592634E-02		0.052	0.057	Can't reject normality
D'Agostino Skewness	0.5889241	0.5559123	1.645	1.960	Can't reject normality
D'Agostino Kurtosis	0.8371	0.402541	1.645	1.960	Can't reject normality
D'Agostino Omnibus	1.0476	0.592279	4.605	5.991	Can't reject normality

Plots Section of MODRES

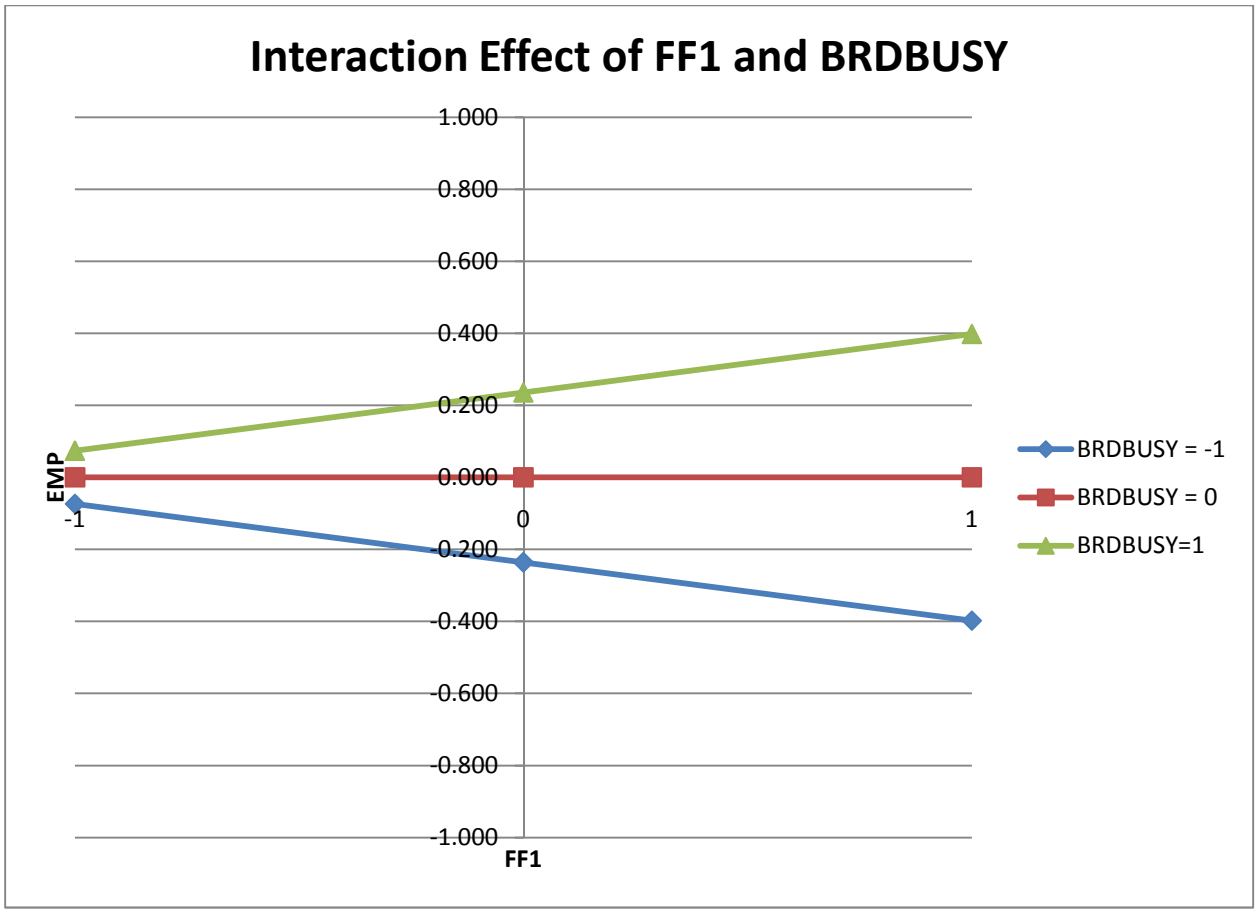


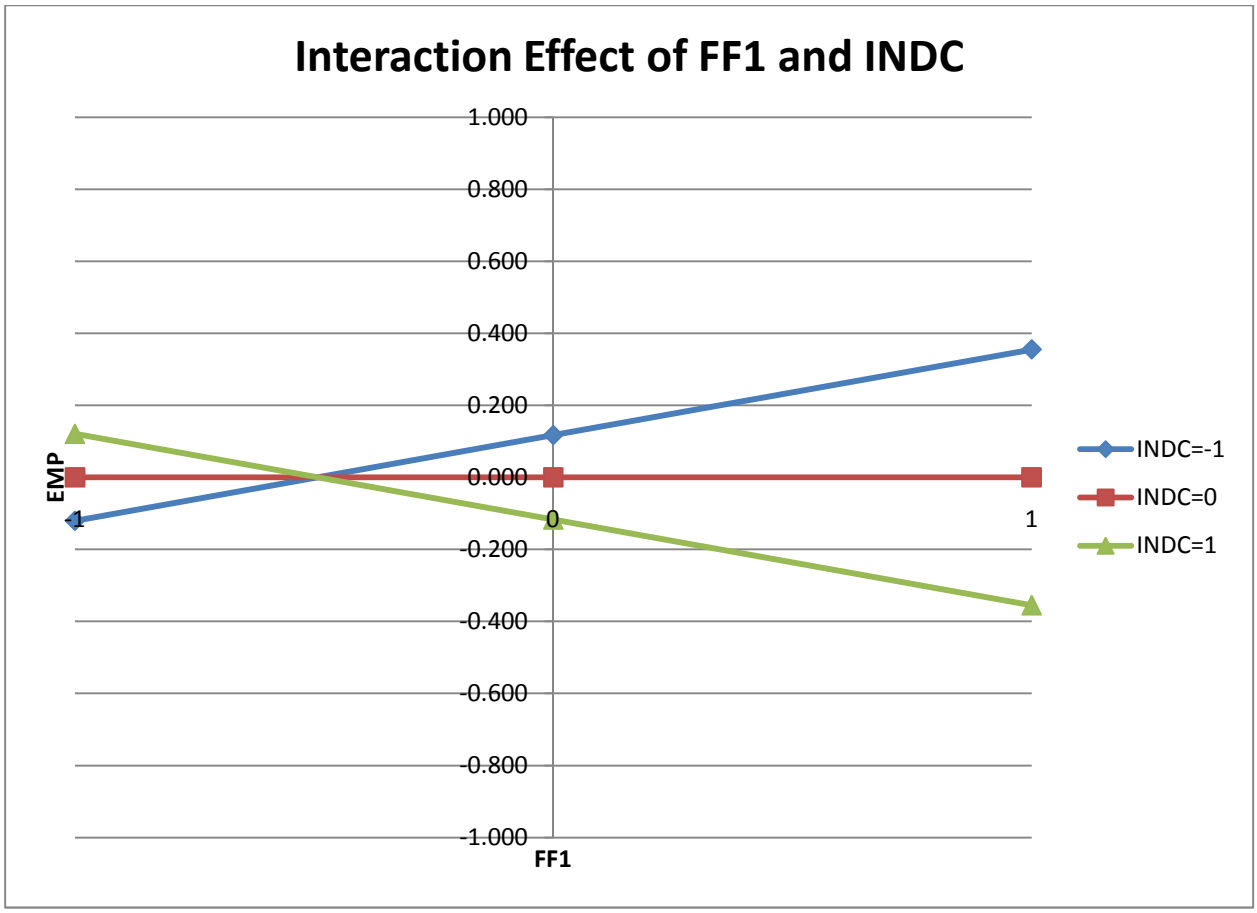


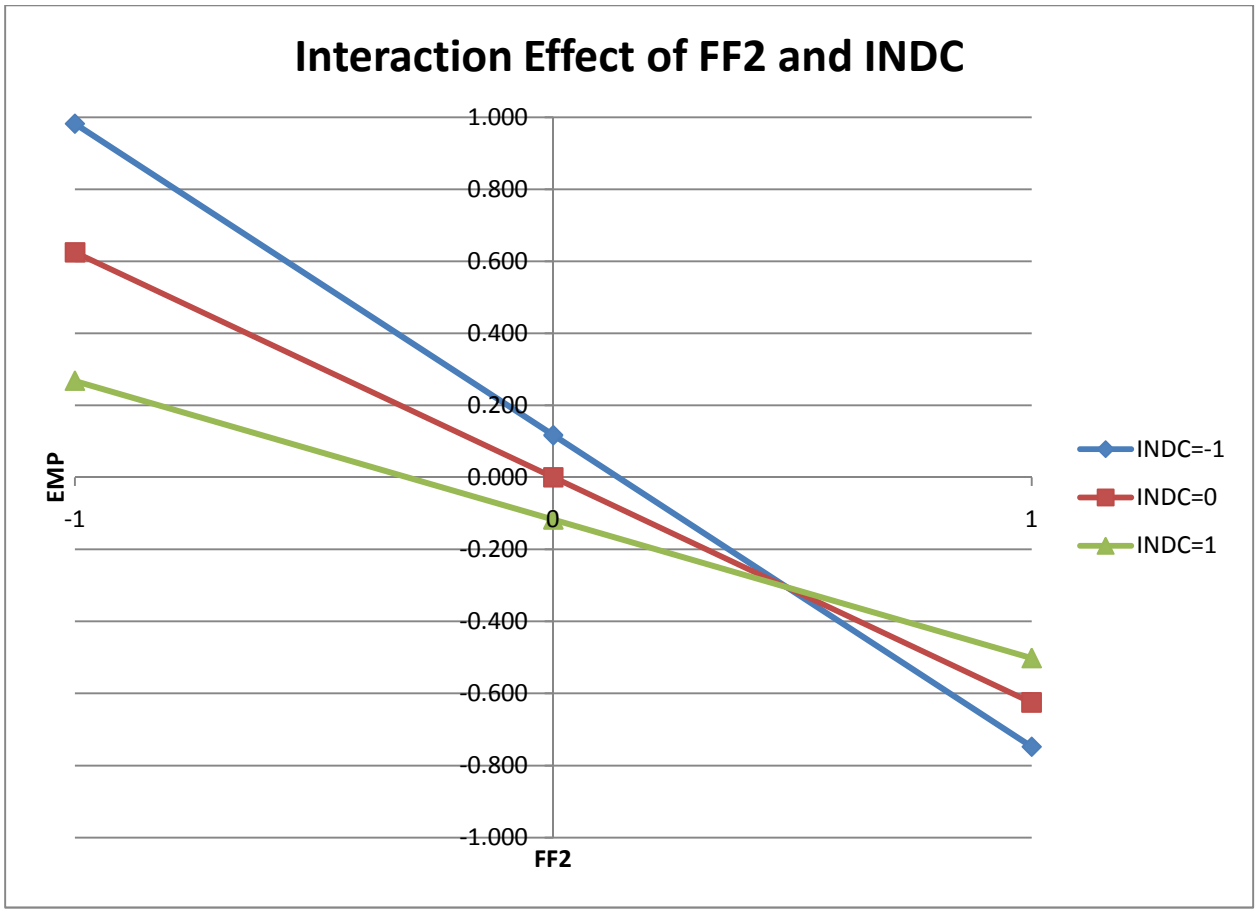
Appendix I

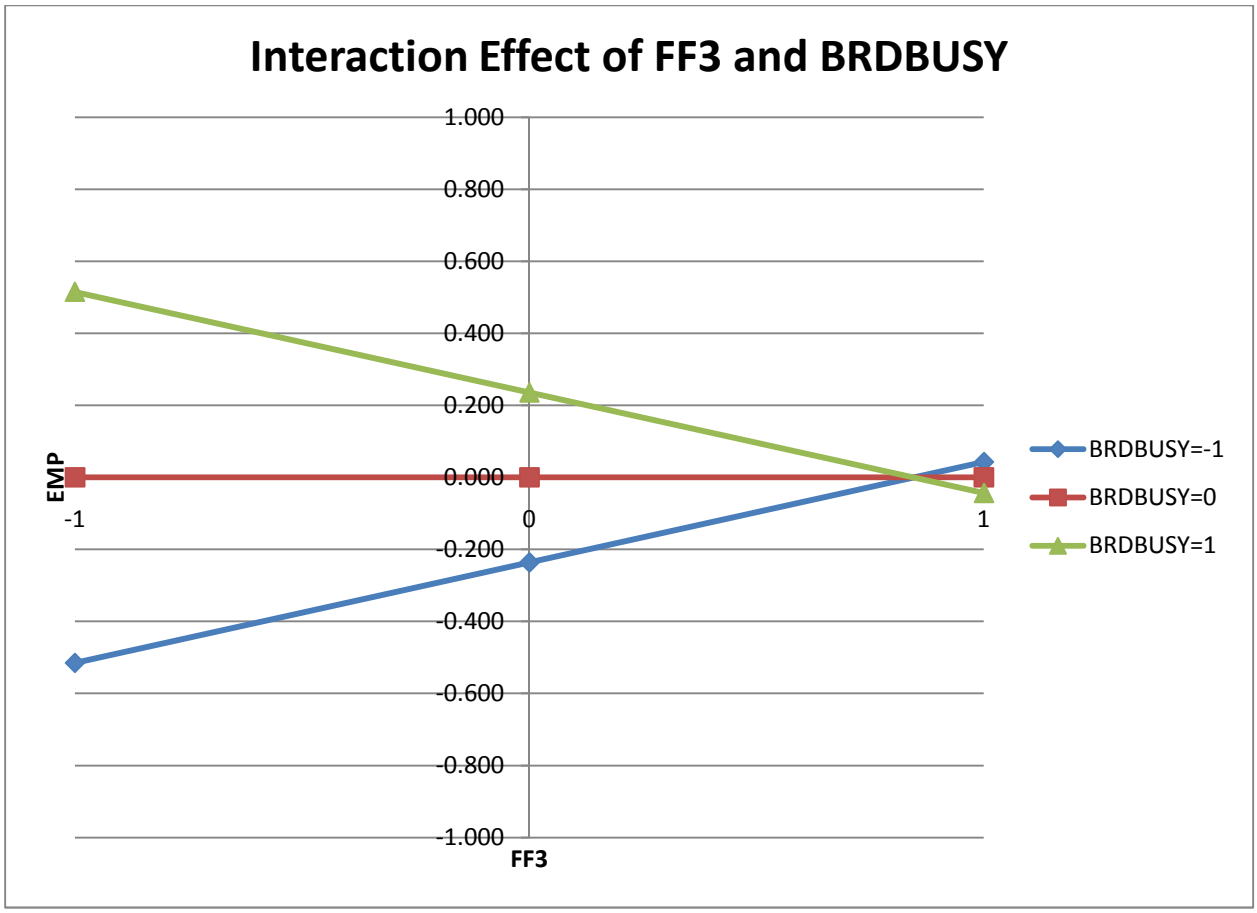
Interaction Effects of Moderating Variables

	Standardized Coefficients									
	BRDBUSY	INDC	FF2	FF1*INDC	FF1*BRDBUSY	FF2*INDC	FF3*BRDBUSY	BRDSIZE		
	0.236	-0.117	-0.625	-0.238	0.162	0.240	-0.279	0.160		
FF1 interaction: BRDSIZE=0, INDC=0, FF2=0, FF3=0										
	BRDBUSY	INDC	FF2	FF1*INDC	FF1*BRDBUSY	FF2*INDC	FF3*BRDBUSY	FF1	FF3	EMP
	-1	0	0	0	1	0	0	-1	0	-0.074
	-1	0	0	0	0	0	0	0	0	-0.236
	-1	0	0	0	-1	0	0	1	0	-0.398
	0	0	0	0	0	0	0	-1	0	0.000
	0	0	0	0	0	0	0	0	0	0.000
	0	0	0	0	0	0	0	1	0	0.000
	1	0	0	0	-1	0	0	-1	0	0.074
	1	0	0	0	0	0	0	0	0	0.236
	1	0	0	0	1	0	0	1	0	0.398
FF1 interaction: BRDSIZE=0, BRDBUSY=0, FF2=0, FF3=0										
	BRDBUSY	INDC	FF2	FF1*INDC	FF1*BRDBUSY	FF2*INDC	FF3*BRDBUSY	FF1	FF3	EMP
	0	-1	0	1	0	0	0	-1	0	-0.121
	0	-1	0	0	0	0	0	0	0	0.117
	0	-1	0	-1	0	0	0	1	0	0.355
	0	0	0	0	0	0	0	-1	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	1	0	0
	0	1	0	-1	0	0	0	-1	0	0.121
	0	1	0	0	0	0	0	0	0	-0.117
	0	1	0	1	0	0	0	1	0	-0.355
FF2 interaction: BRDSIZE=0, BRDBUSY=0, FF1=0, FF3=0										
	BRDBUSY	INDC	FF2	FF1*INDC	FF1*BRDBUSY	FF2*INDC	FF3*BRDBUSY	FF1	FF3	EMP
	0	-1	-1	0	0	1	0	0	0	0.982
	0	-1	0	0	0	0	0	0	0	0.117
	0	-1	1	0	0	-1	0	0	0	-0.748
	0	0	-1	0	0	0	0	0	0	0.625
	0	0	0	0	0	0	0	0	0	0.000
	0	0	1	0	0	0	0	0	0	-0.625
	0	1	-1	0	0	-1	0	0	0	0.268
	0	1	0	0	0	0	0	0	0	-0.117
	0	1	1	0	0	1	0	0	0	-0.502
FF3 interaction: BRDSIZE=0, BUSYBRD=0, FF1=0, FF2=0										
	BRDBUSY	INDC	FF2	FF1*INDC	FF1*BRDBUSY	FF2*INDC	FF3*BRDBUSY	FF1	FF3	EMP
	-1	0	0	0	0	0	1	0	-1	-0.515
	-1	0	0	0	0	0	0	0	0	-0.236
	-1	0	0	0	0	0	-1	0	1	0.043
	0	0	0	0	0	0	0	0	-1	0.000
	0	0	0	0	0	0	0	0	0	0.000
	0	0	0	0	0	0	0	0	1	0.000
	1	0	0	0	0	0	-1	0	-1	0.515
	1	0	0	0	0	0	0	0	0	0.236
	1	0	0	0	0	0	1	0	1	-0.043









Appendix J

T-Tests for Board Awareness of Earnings Management

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
AEM	250	7.14	3.083	.195
BIA2	250	7.21	1.329	.084

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
AEM	36.592	249	.000	7.136	6.75	7.52
BIA2	85.766	249	.000	7.210	7.04	7.38

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
BA	250	8.6830	1.49992	.09486
BIA2	250	7.21	1.329	.084

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
BA	91.532	249	.000	8.68300	8.50	8.87
BIA2	85.766	249	.000	7.210	7.04	7.38

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