

ABSTRACT

Title of Dissertation: Deception and earnings management: A textual analysis perspective

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The definition of earnings management contains two elements: a departure from normal business practices and the use of deception to mislead stakeholders. For thirty years, accounting literature has conducted earnings management research with a narrowed definition including only the departure from normal business practices, judgement or estimates. In this study, I define deceptive earnings management as the act of deceiving stakeholders about the underlying economic performance of a company using managerial judgment. I differentiate between traditional and deceptive earnings management by testing the association between chief executive officer (CEO) and chief financial officer (CFO) deception and earnings management measures.

I find that CEOs and CFOs prefer different forms of deceptive earnings management. In addition, I find evidence supporting the use of deceptive earnings management by firms which are outside of the meet-or-beat earnings threshold. I further find a negative relationship between deception and abnormal production costs, suggesting

deceptive executives have decreased production compared to non-deceptive executives. I find limited evidence associating the complexity of the annual report management discussion and analysis to the use of deception.

This study contributes to the accounting literature in several ways. First, I fill a gap as no other study has utilized textual analysis to operationalize managerial intent in relation to earnings management. Second, I differentiate between traditional and deceptive earnings management. This differentiation is important as the literature has utilized only the first part of the theoretical definition of earnings management, departure from normal business practices, for the past thirty years without testing for a deceptive managerial intent, the second part of the theoretical definition. Third, I investigate the relationship between CEOs and CFOs and their different preferences towards earnings management strategies. Finally, I find an association between executive deception and abnormally low production costs.

Deception and earnings management: A textual analysis perspective

by

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DECEPTION AND EARNINGS MANAGEMENT: A TEXTUAL ANALYSIS

PERSPECTIVE

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Dedication

In dedication to Kailey, my wonderful wife, whose love and support were paramount to my success. You have more than earned your P.H.T. “Push Husband Through.” To my sons, Gideon and Vincent, who joined us during this journey but whose belief in me makes me better every day, and to the rest of my family for their support.

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Chapter 1: Introduction

Earnings management has been a perpetual area of interest within the accounting literature for over two decades. Recently, literature has explored topics surrounding why and how firms engage in earnings management (Bonacchi, Cipollini, & Zarowin, 2018; Liu, Subramanyam, Zhang, & Shi, 2018; Scott Asay, 2018), the effect of earnings management (Bereskin, Hsu, & Rotenberg, 2018; Commerford, Hatfield, & Houston, 2018; Khurana, Pereira, & Zhang, 2018), and the relationship between auditors and earnings management (Choi, Choi, & Sohn, 2018; Commerford, Hermanson, Houston, & Peters, 2019). Healy and Wahlen (1999) define earnings management as: “managers use judgment in financial reporting to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes.” This definition is composed of two distinct parts; the first is the judgment in financial reporting and the second is the intent of the manager to mislead stakeholders. Since Healy (1985) over thirty years ago, literature has assumed that all earnings management is deceptive even though managerial intent and managerial judgement have not been linked together empirically. Using textual analysis of executive speech during annual conference calls, I test the assumption that all earnings management is intentionally deceptive.

I begin by defining two types of earning management. Traditional earnings management is when managerial judgment differs from what is considered a normal operating practice, judgement, or estimate. For example, if a firm adjusted accruals which had the effect of increasing revenues, but the managerial intent was unknown, the firm would be engaged in traditional earnings management. In practice, all earnings

management studies which do not measure or quantify managerial intent are traditional earnings management studies. I define deceptive earnings management as the act of deceiving stakeholders about the underlying economic performance of a company using managerial judgment¹. In practice, studies which identify an earnings management attempt and the managerial intent behind the attempt are deceptive earnings management studies. At the time of this study, I am unaware of any prior studies which have identified or measured deceptive earnings management.

Literature has spent much time developing ways to examine the use of traditional earnings management and define what is considered normal operating practice (Burgstahler & Dichev, 1997; Dechow, 1994; Dechow, Sloan, & Sweeney, 1995; Jones, 1991; Roychowdhury, 2006). Many of these methods were developed by examining specific circumstances where there is a clear and specific motive for earnings management, such as the convergence of firms at the meet-or-beat threshold (Burgstahler & Dichev, 1997; Roychowdhury, 2006) or import relief investigations (Jones, 1991). The current literature has taken these technique the act of deceiving stakeholders about the underlying economic performance of a company using managerial judgment s and moved away from the specific circumstances under which these techniques were developed and labeled all firms that depart from the academic definition of normal operations as engaging in earnings management (Becker, Defond, Jiambalvo, &

¹ Throughout the study I use the phrase “earnings management” to refer to the behavior in a general sense. “Traditional earnings management” is used to refer to studies and techniques that have no evidence of managerial intent. “Deceptive earnings management” is used when discussing firms that have used a traditional earnings management technique, and have a link to a deceitful managerial intent.

Subramanyam, 1998; Bonacchi et al., 2018; Cohen, Dey, & Lys, 2008; Gunny, 2010; Khurana et al., 2018; Liu et al., 2018).

These developments have moved forward without giving much consideration to the intent of the managers when engaging in earnings management. As Dechow and Skinner (2000) note, regardless of what definition of earnings management is used, intent is a key point. However, this key point has been difficult to operationalize for academic use until now.

Without measuring intent, it must be assumed that any deviation from normal business practice, judgement, or estimate, is misleading. Certain business decisions may be made by executives due to a change in the firm's environment that may not be reflected in the entire industry. For example, a key scientist may have died at the end of the year, so the research and development budget is left unspent or moved elsewhere until the scientist is replaced. This reduction in spending is a normal reduction in discretionary spending, although the firm may be identified as engaging in an abnormal reduction (using traditional models), relative to the rest of the industry. Without operationalizing and testing for intent, all one can know is that discretionary expenses were reduced, not whether deceptive earnings management took place. The operationalization of intent has many associated difficulties, but perhaps the biggest is the availability of data.

Within the accounting literature, there exist two major types of studies, quantitative and qualitative. The former generally utilizes financial statement data from a large sample size of firms over a period to draw conclusions about a firm's behavior and operations. Qualitative analysis, on the other hand, utilizes surveys and interviews to gather behavioral information from managers (or other stakeholders) to examine

motivations behind managerial actions. Often these surveys are completed anonymously. Essentially quantitative research sees the effect of managerial behavior, without knowing the cause (beyond theory), and qualitative literature can see the underlying motivations without knowing the effect (at an industry level).

Ball (2013) questions the view of accounting literature that earnings management is “rife” throughout the industry and points out the lack of action taken by researchers to bring the malfeasance to justice. Ball denies the assertion that researchers can identify earnings management better than those with greater access to insider information, such as auditors. However, the qualitative literature paints a much grayer picture where there are certain market incentives to meet certain benchmarks and where managers believe earnings management is ethical (Bruns & Merchant, 1990; Graham, Harvey, & Rajgopal, 2005).

The materiality of the degree of earnings management is questionable as auditors only recommend adjustments in one-third of detected earnings management attempts when the motivation is to meet analysts’ expectations (Nelson, Elliott, Tarpley, & Gibbins, 2002). It can be claimed that all earnings management attempts are material, especially when the motive is to meet market expectations, although this claim deals more on the ethics of accounting judgements, not the materiality of them (Dechow & Skinner, 2000). The standard audit does not consider the morality of accounting judgements. Instead, the audit considers whether the financial statements are prepared in accordance with the overriding accounting regulations and show a fair representation of the firm’s financial position.

Both the quantitative and qualitative literature have arrived at a crossroads where more cannot be determined until managerial intentions can be examined with quantitative data. In this paper, I begin to reconcile the views held by the quantitative and qualitative research. I question the long-held assumption that all earnings management is deceptive. To do so, I examine if all earnings management, as literature traditionally measures it, is deceptive by differentiating between traditional and deceptive earnings management.

The linguistic and psychological literature has been utilizing textual analysis to understand the underlying message within a document for several decades. Recently, textual analysis has been used in accounting research to understand the intent of managers and glean more information from financial disclosures (Li, 2008, 2010; Loughran & McDonald, 2011, 2016). I build upon this textual analysis foundation to reconcile the quantitative and qualitative literature.

I utilize textual analysis on the speech of the Chief Executive Officer (CEO) and the Chief Financial Officer (CFO) during earnings calls with the analysts. The earnings call typically takes place around the release of the annual report. At this point, the earnings management technique has already taken place, but it is one of the first times the manager reveals their intent to the stakeholders. Earnings calls are less formal than the annual report and due to the spontaneous question and answer period, there is a greater chance of reading between the lines to derive the underlying message.

For example, on May 2, 2018, during an earnings conference call, Tesla CEO Elon Musk called one of the analysts “boring” and said they were asking “bonehead questions.” These extempore comments were correlated with the Tesla stock pricing

falling nearly five percent (Melloy, 2018). Although most executives are not as blunt as Mr. Musk, there are still many instances where words can betray intentions.

I utilize a word list developed by Larcker and Zakolyukina (2012) drawn from linguistic, psychological, and deception detection literature. This list was developed to predict fraudulent and deceptive practices of firms. The deceptive word list was later operationalized by Hope and Wang (2018) to examine big bath accounting. I similarly operationalize the Larcker and Zakolyukina (2012) list to examine the underlying deception relating to earnings management to differentiate between traditional and deceptive earnings management. Firms engaged in traditional earnings management will not be associated with deceptive language, whereas firms engaged in deceptive earnings management will be associated with deceptive language.

Findings reveal that CEOs utilize real activities management (RAM, hereinafter) techniques whereas CFOs utilize discretionary accruals to accomplish their deceptive earnings management objectives. RAM can be expressed in three different ways: sales manipulation, over production, and reduction of discretionary expenses. Sales manipulation takes place when managers offer additional discounts to temporarily increase sales, and therefore increasing revenues. Over production can be used to increase earnings by spreading the fixed overhead costs over a greater number of units, therefore increasing the profit per unit sold². Reduction of discretionary expenses is when a manager reduces research and development, advertising, or maintenance expenses to increase earnings in the current year.

² It is assumed a manager only engages in over production if the subsequent inventory costs in the current period are lower than the resulting revenues.

I use the meet-or-beat earnings benchmark to differentiate between firms with (target firms) or without (non-target firms) a deceptive motive. Contrary to expectations, I find traditional earnings management in target firms, and deceptive earnings management primarily in non-target firms. This suggests that the current finds and theories surrounding earnings management in the literature may not correctly differentiate between firms that are or are not deceptive. In addition, I find a negative relationship between executive deception and abnormal production costs, suggesting that executives engage in deception as production in their firms decreases. I find limited evidence associating the complexity of the annual report management discussion and analysis to the use of deception.

Carlsson and Lamti (2015) have previously looked at tone and earnings management to determine whether an evaluation of a CEO's tone is complementary or substitutionary to utilizing accruals earnings management. Tone was defined as the positive or negative bias of the CEO's speech. I define tone as whether the executive is being deceptive in their word choice. The deception measurement does include positive and negative words, as with Carlsson and Lamti (2015), but it is far more encompassing, including anxiety measures, a reference to shareholder value, swear words, differentiates between extreme and "mundane" positive and negative words, etc. The deceptive word list was developed based on the psychosocial theory and validated in a separate study (Larcker & Zakolyukina, 2012).

Carlsson and Lamti (2015) essentially look for characteristics of firms engaging in earnings management and find that firms with a positive tone are more likely to be engaging in accruals earnings management. Carlsson and Lamti (2015) do not address

managerial intent, so it is considered a traditional earnings management study. The current study differentiates itself by not directly looking for a characteristic of firms engaging in earnings management, but rather testing the commonly held belief that all earnings management is engaged in with a deceptive managerial intent.

This study contributes to the literature in several ways. First, I fill a gap as no other study has utilized textual analysis to operationalize managerial intent. Second, I differentiate between traditional and deceptive earnings management. This differentiation is important as the literature has utilized the theoretical definition of earnings management for thirty years without operationalizing the intent aspect of the definitions. In addition, researchers will now be able to assess the validity of the traditional earnings management measures against the intent of managers. Third, I investigate the relationship between CEOs and CFOs and their different preferences towards earnings management strategies. Finally, I reveal evidence suggesting deceptive executives have lower levels of production than their non-deceptive counterparts.

The differentiation between deceptive and traditional earnings management can aid researchers in focusing earnings management literature to better understand the characteristics of firms that engage in deceptive earnings management. In addition, the differentiation can aid regulators in deciding how to address deceptive earnings management behavior and develop regulatory measures to constrain deceptive firms without inhibiting non-deceptive firms.

The organization of the paper is as follows. I analyze the background literature surrounding earnings management and textual analysis literature. Following the literary foundation I develop hypotheses. I then discuss the data and methodology and evaluate

the results. The final section discusses the conclusions, limitations, and directions for future research.

Chapter 2: Literature Review

2.1 Accruals Earnings Management

Schipper (1989) defines earnings management as “. . . a purposeful intervention in the external financial reporting process, with the intent of obtaining some private³ gain (as opposed, to say, merely facilitating the neutral operation of the process).” Healy and Wahlen (1999) similarly define earnings management as “managers use judgment in financial reporting to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes.” Although worded differently, these classic definitions of earnings management both include two conditions: managerial judgment and managerial intentions.

Traditional earnings management has been well-documented within literature with two major tools to manipulate earnings: accruals earnings management (Dechow, 1994; Dechow et al., 1995; Jones, 1991; S. Kothari, Leone, & Wasley, 2005) and real activities management (Roychowdhury, 2006). Accruals earnings management operates under the premise that accruals are discretionary, and managers use their discretion to meet certain earnings targets. Essentially, managers are manipulating accruals to deceive stakeholders.

Jones (1991) developed the foundation of the model used to identify traditional accruals earnings management by isolating the discretionary component of total accruals. The modified Jones model was developed by Dechow, Sloan, and Sweeny (1995) and incorporated the change of receivables into the model, as it is easier for managers to

³ Schipper (1989) utilizes the word “private” to indicate any party in the agency relationship, including but not limited to the firm itself. For example, a manager (with no stock options) engaging in earnings management to meet the analyst’s forecast to prevent a decline in stock value for the company would still be considered a “private gain.”

exercise judgment of credit, rather than cash, sales. Kothari, Leone, and Wasley (2005) refine the model by using the return on assets to match firms by performance for a potentially better estimate of discretionary accruals. These models, particularly the latter two, are most used when evaluating accruals earnings management behavior. What is lacking from all three of these models is an empirical test for managerial intent.

In the development of the modified Jones model there were two samples utilized: one was a sample with artificially introduced accruals manipulations, and another was a small sample of firms identified by the SEC for overstating revenues (Dechow et al., 1995). These samples were chosen and artificially manipulated (by design) to create unusual performance which had been documented in prior literature (DeAngelo, DeAngelo, & Skinner, 1994; Defond & Jiambalvo, 1994), and the researchers assumed managers would maliciously adjust accruals. In addition, the real-world sample identified by the SEC represents the extremes of accruals manipulation. These design choices create a perfect atmosphere to test the strength of detection for the quantitative models, yet the model is only as good as the assumptions. Implicit in the design choices was the idea that management was intentionally being deceptive in the accrual estimations.

These measures of accruals earnings management have been utilized in many studies to find the characteristics of firms that are identified in engaging in this type of accruals earnings management. Teoh, Welch, and Wong (1998) decompose the accruals earnings management even further and look only at current discretionary accruals and find firms with higher discretionary accruals have poorer financial performance in the years following an initial public offering (IPO). Teoh et al. (1998) motivate the study by

observing the large degree of information asymmetry between managers and potential investors at the time of the IPO, and assume that managers will engage in accruals manipulation to further capitalize on this information asymmetry.

Shivakumar (2000) takes an opposite stance of Teoh et al. (1998), and instead assumes that investors assume all firms will manipulate earnings upward and therefore automatically deflate the firms' earnings. Shivakumar (2000) uses a slightly different model and finds a weaker market reaction to earnings following an equity announcement providing evidence to support the hypothesis that investors expect exaggerated earnings. Teoh et al. (1998) and Shivakumar (2000) depart due to theoretical disputes about managerial intentions. Although both studies represent managers as ethically suspect, Teoh et al. (1998) assumes managers are opportunistic and deceitful, whereas Shivakumar (2000) assumes managers are non-opportunistic, and rationally believe that the investors expect firms to overvalue their earnings, therefore the manager does manipulate earnings, but is not doing it with a deceitful intent, as the market is already expecting and adjusting for deceit. In a subsequent study it was found that the extreme earnings manipulators were sued, and that the accrual manipulation was positively correlated with the settlement amounts (DuCharme, Malatesta, & Sefcik, 2004). At the extremes a deceitful intention is more likely (although it remains untested), yet the managerial intention for the firms that are not included in the extremes is up for debate.

Klein (2002) explores a link, assumed by regulators, between audit committee independence and earnings management. While no link is found between board independence and earnings management, there is a link found between the CEO sitting on the compensation committee and accruals earnings management. Klein (2002) offers two

explanations for the result. In one, a board that allows a CEO to sit on the compensation committee is friendlier to the CEO and granting extra compensation. In contrast, the CEO could be maximizing their compensation by manipulating accruals when given the opportunity to sit on the compensation committee. The choice between these two plausible theories boils down to managerial intent—though again, it remains untested.

Peasnell, Pope, and Young (2005) look at the relationship between board outsiders and accruals earnings management and find a negative relationship between the number of outsiders and income increasing accruals. This result is explained by theorizing more outsiders are more likely to prevent opportunistic, and implicitly deceitful, behavior by the CEO and provide better monitoring under agency theory. Likewise Xie, Davidson, and Dadalt (2003) find boards with more outsiders, greater financial sophistication, and a greater number of meetings are negatively associated with discretionary accruals. Klein (2002), Xie et al. (2003), and Peasnell, Pope, and Young (2005) all implicitly assume managers act with the intention to deceive, without providing any empirical support for those behavioral assertions.

Accruals earnings management and audit quality have also been extensively examined. It has been found that firms audited by non-Big Six auditors were associated with higher discretionary accruals and a greater variation in accruals, than their Big Six counterparts (Becker et al., 1998). Becker et al. (1998) generated the theoretical motivation by using agency theory and building upon prior research. Big Six auditors have a lower degree of litigation, and clients of Big Six audit firms are less likely to overstate earnings (by using accruals earnings management), therefore Big Six auditors are higher quality and are associated with less accruals earnings management. By using

accruals earnings management Becker et al. (1998) imply that higher quality auditors constrain managers due to the role auditors play as monitors in agency theory.

Krishnan (2003) also examines audit quality in relation to accruals earnings management and finds that a specialist auditor reduces the amount of discretionary accruals relative to firms that are audited by a non-specialist auditor. Similar to the reasoning presented in Becker et al. (1998), a specialist auditor provides more effective monitoring and curtails a the manager's earnings management behavior. Implicit in the theoretical underpinnings of both studies is the deceitful intent of managers who engage in earnings management. Becker et al (1998) and Krishnan (2003) motivate their studies by looking at the pressures on auditors, such as litigation risk and reputational concerns, as reasons why accruals earnings management behavior would be constrained, although without knowing the intent of the managers, it is not possible to know whether the result is due to a deceitful intention by managers or an overly conservative auditor.

In the underlying accruals earnings management models, and in three areas of application of those models (equity offerings, board composition, and audit quality), there have only been traditional earnings management studies. These studies address managerial intent from a theoretical perspective, not an empirical one. As explored frequently, the theoretical explanations of the results can conflict with one another due to a lack of understanding, or untested assumptions, about deceptive managerial intent. The current study begins to fill that gap by looking at the empirical relationship between managerial intent and the modified Jones model.

2.2 Real Activities Management

RAM is defined as “departures from normal operational practices, motivated by manager’s desire to mislead at least some stakeholders into believing certain financial reporting goals have been met in the normal course of operations” (Roychowdhury, 2006). RAM is a departure of normal business practices without notifying stakeholders of that departure. These departures from normal business practices are typically found in temporary increases in sales, over production, and reduction of discretionary expenses. Although deceit is mentioned in the RAM definition, it is not operationalized within the models documenting the departure from normal business practices, and therefore intentional managerial deception is assumed by all studies using this model.

The development of the RAM models came during the implementation of the Sarbanes Oxley Act (SOX) of 2002 (U.S. Congress, 2002). This was excellent timing, as SOX section 404 had caused a decrease in the use of accruals earnings management methods, due to the auditors’ heavier focus on managerial judgements (Cohen et al., 2008). Cohen et al. (2008) finds that firms grouped around the meet or beat earnings benchmark switched from using accruals based methods to RAM methods following the passage and implementation of SOX. Badertscher (2011) also finds that firms transition from accrual based methods to RAM earnings management methods when a firm remains overvalued. Zang (2012) provides evidence that accruals based earnings management and RAM are used as substitutes for one another based on the relative costs. Throughout the evidence presented in these studies, there is no empirical link to the underlying managerial intention in these managerial judgements. Essentially, these studies present evidence showing that a firm which has abnormal accruals relative to the industry may

also have abnormal operating decisions relative to the industry. The studies fail to empirically link how a manager's deceitful intentions drive that decision.

The engagement in RAM has been associated with many different characteristics within firms. For example, Gunny (2010) provides evidence suggesting a decrease in future firm performance after engagement in RAM. Literature has also documented a reduction in performance following the use of RAM around equity offerings (Cohen et al., 2008; Cohen & Zarowin, 2010; S. P. Kothari, Mizik, & Roychowdhury, 2016; Mizik & Jacobson, 2008). Kothari et al. (2016) particularly find younger, less experienced firms have the poorest financial performance after a reduction in discretionary expenses. Leggett, Parsons, and Reitenga (2016) find an association between RAM and a negative effect on the return on assets and cashflow from operations. Recently, evidence has been provided that consolidated firms use the subsidiaries to engage in big picture RAM, as many investors may ignore the subsidiaries financial statements reviewing only the consolidated statements (Bonacchi et al., 2018).

Jarvinen and Myllyma (2016) find that firms with material internal control weaknesses are more likely to engage in RAM, and have a greater degree of earnings management behavior, particularly in over production and discretionary expenses, in the year following the material weakness disclosure. Jarvinen and Myllyma (2016) suggest the increase in RAM is to soften the market reaction from the disclosure of the material weakness. Alternatively, the RAM may also be explained by the effect material internal control weaknesses have on operations (Feng, Li, McVay, & Ashbaugh-Skaife, 2015).

Kim and Park (2014) find that auditors are less likely to retain clients that engage in RAM to avoid the litigation risk associated with RAM practices. In a city level setting,

it has been found that engagement in RAM is associated with an increased auditor tenure, and with higher quality audits (Chi, Lisic, & Pevzner, 2011). After numerous interviews with auditors, RAM was found to threaten the comfort of the auditors due to management's focus on the short-term, opposed to the long-term, prospects of a company (Commerford, Hermanson, Houston, & Peters, 2016). The engagement in RAM gives the auditor a negative perception of management and may cause the auditor to make unnecessary audit adjustments due to the heightened scrutiny (Commerford et al., 2018, 2019).

RAM has been most used by firms recently due to the difficulty in differentiating between normal and abnormal business judgements. The literature relies on the Roychowdhury (2006) models to create these distinctions, yet these distinctions, born from solid accounting theory, were not tested alongside managerial intentions; they only examine traditional earnings management. Auditors have greater access to managers to guess at intentions, but they often find RAM difficult to detect, and base their assessment of what RAM is on their litigation business risk (Commerford et al., 2019; Kim & Park, 2014). Therefore, the need for a study such as this which examines the empirical relationship between a deceptive managerial intent and RAM apparent.

2.3 A Nuanced Crossroads

Although definitionally implied, accruals earnings management and RAM do not test for the intent of managers. Instead, the front-runners of these techniques focused on small subsets of populations where there was a large amount of theoretical evidence to suggest some form of earnings management behavior. Some of these areas include the convergence of firms around the meet-or-beat benchmark (Bartov & Cohen, 2008;

Burgstahler & Dichev, 1997). However, studies have strayed from these specific populations when studying traditional earnings management (Becker et al., 1998; Cohen et al., 2008; Gunny, 2005), drawing conclusions based on a possible erroneous assumption that all firms engaged in traditional earnings management are deceptive.

The study and identification of earnings management behavior is full of nuances and complexities, including but not limited to the difficulty of operationalizing intent (Dechow & Skinner, 2000; Schipper, 1989). Some studies go as far as to rank acceptable and unacceptable forms of earnings management techniques (Parfet, 2000). When literature ignores these complexities, it begins to appear that earnings management behavior is rife within the practice (Ball, 2013). Ball (2013) notes the lack of practical evidence supporting academia's claim, including the lack of prosecutions, and the lack of action by parties better incentivized to prevent these attempts, such as internal and external auditors, whistleblowers, short sellers, and boards. Many stakeholders would have to look the other way for the degree of earnings management suggested by the literature to be the reality.

Prior to the advent of textual analysis, which can transform qualitative data into a quantitative form, the qualitative literature was in a much better position to examine managerial intent, and therefore to evaluate the deceptive earnings management definition. The deception of stakeholders about the underlying economic performance of a company using managerial judgment has received limited attention in quantitative literature. While the intent is not directly measured, the motivations behind earnings management can be studied and qualitative methods, including textual analysis, are best equipped to do so.

Bruns and Merchant (1990) asked managers whether the executive believes the decision to engage in earnings management is ethical. Bruns and Merchant (1990) find that 57% of surveyed managers believe it is ethical to alter operating decisions to increase earnings and 79% believe it is ethical to make decisions to reduce earnings. Bruns and Merchant (1990) even conclude that managers may not realize that their behavior is immoral, which precludes a deceptive intent.

Nelson et al. (2002) took a different approach and surveyed current audit partners and managers to find their views on earnings management. They found in 28% of cases when earnings management is involved, and the incentive is to meet analysts' expectations, that auditors recommend adjustments. In addition, the auditors made more adjustments when the earnings management attempt was material. Every other incentive that affected the stock markets such as the stock price, new IPOs, and company sales were adjusted by auditors over 50% of the time. Auditors have a responsibility that earnings are reported fairly which means that when the auditors do not suggest adjustments in cases of earnings management, the auditors believe it is a fair economic representation of the firm. As Nelson et al (2002) found, auditors recommend adjustments less than a third of the time when the firm's objective is to meet analysts' expectations. Although Nelson et al. (2002) do not specify firm characteristics of adjustments specifically regarding meeting analysts' expectations, in general they find larger firms are adjusted less often.

Shifting focus to the behavioral studies, one study concluded that the ends justify the means and the motivation of the manager determines whether they will engage in earnings management (Johnson, Fleischman, Valentine, & Walker, 2012). Kaplan (2001)

finds that an individual's perspective in the reporting process largely determines the acceptability of a particular earnings management practice. Further, Kaplan (2001) concludes that societal agreement on the acceptability of earnings management practices may be impossible to achieve. The qualitative data paint a much more detailed narrative than the quantitative literature leads one to believe.

The survey literature acknowledges some traditional earnings management behavior, but it also notes several nuances. With all surveys, there are some drawbacks; the researchers are relying on the participants' belief of what earnings management is. In addition, managers may be reluctant to answer truthfully in case the anonymity of the survey is compromised. As Bruns and Merchant (1990) note, over half of the managers believe it is ethical to raise earnings. In addition, less than a third of auditors, who are responsible for assuring fair reporting, recommend adjustments when an earnings management goal is to meet forecasts (Graham & Harvey, 2001). In addition, the behavioral studies show a world in which motivation and perspective are key, but the agreement may not be.

The quantitative and qualitative literature end up at crossroads, where one side points to earnings management being pervasive and widespread, whereas the other side shows the nuanced effect motivation and perspective have on earnings management. To reconcile these two streams of research, there needs to be a study which can operationalize intent while fully evaluating the traditional earnings management models.

2.4 Textual Analysis and Deception

Textual analysis is a growing technique in accounting research that can close the gap in these narratives by reconciling the motivations of managers with the financial

variables. Li (2008) was one of the first studies to look at the characteristics, rather than the financial content, of disclosure on a large scale. Li (2008) examined the readability of the annual report and found that longer and harder to read annual reports tend to have less persistent positive earnings. This study provided evidence that managers may attempt to conceal information within the financial data as well as the written disclosures.

Lo, Ramos, and Rogo (2017) build upon Li (2008) and isolate their analysis to the MD&A section of the annual report. The executives are allowed more freedom to express their positions in the MD&A therefore providing a truer representation of their intentions. and focus only on the MD&A section of the annual report, as the managers must touch upon certain subjects, but also have more freedom on how to structure the explanations. Overall, Lo et al (2017) support the results of Li (2008) but also find that readability significantly decreases around the meet-or-beat earnings benchmark. This supports the idea that some managers attempt to obscure information and disclosures of their firm by making their annual reports overly complicated. Lo et al (2017) find a stronger result when they limit their analysis to firms that have engaged in accruals earnings management or real earnings management.

While readability measures such as the Gunning fog index⁴ (FOG index, hereinafter) or other measures give some insight into manager motivations, they are merely scratching the surface of the insights textual analysis can provide. Utilizing textual analysis, the underlying tone of the document can be analyzed. There are several different approaches to measure tone within a document, one of which is known as the bag-of-words approach.

⁴ FOG = 0.4*(words per sentence + percent of complex words) where complex words are 3 or more syllables

The bag-of-words approach essentially takes a list of words or phrases, without considering context, and counts how many times words from the targeted list appear in the document (Loughran & McDonald, 2016). A subset of the bag-of-words approach is tone dispersion. This technique attempts to take context into account by looking at the spread of target words throughout the narrative. There has been evidence provided that when the tone of the document is widely spread throughout the narrative, there is a stronger reaction from investors and analysts (Allee & Deangelis, 2015).

Utilizing word lists has had success in other fields, although financial texts provide an extra challenge to conventional word lists, since words take on different connotations within the field. It has been found that nearly three-quarters of words that are considered negative in a traditional context do not actually have a negative connotation in the financial context (Loughran & McDonald, 2011).

With this limitation in mind, Loughran and McDonald (2011) developed a word list specifically for use in financial contexts of 10-K annual reports. In this quest, the authors created five additional lists and found a relationship between market reaction and the frequency of certain words on their word count. Their article provides evidence of potentially two ideas: either that the tone of a report is a proxy for the actual financial data, or that investors can discern the tone and react accordingly.

Carlsson and Lamti (2015) utilize a modified version of the Loughran and McDonald (2011) word list to evaluate earnings management and tone. Evidence is provided that managers with a positive tone are more likely to engage in accruals earnings management (Carlsson & Lamti, 2015). Purda and Skillicorn (2015) take a different approach to the word lists and train a computer program to recognize words

indicative of fraud utilizing the Management Discussion and Analysis from the annual and interim 10-K and 10-Q reports and find that language can be an effective indicator of fraud.

Many textual analysis studies within the accounting literature have utilized the annual reports as a data source, but another source is the annual conference calls discussing the prior year performance and directions for the future once the annual report has been released. Larcker and Zakolyukina (2012) utilize the conference calls and further refine a word list for the accounting context and create a deception model to identify truthful and deceptive speech from the CEO and CFO. The word lists are based upon the linguistic, psychological, and deception detection literatures which have been able to differentiate between truthful and false narratives using the spoken or written word (Larcker & Zakolyukina, 2012). The authors use the assumption that the CEO and CFO know whether the financial statements are manipulated and that the manager's speech in spontaneous encounters, such as conference calls, betrays their underlying motives.

Larcker and Zakolyukina (2012) utilize four different prediction models to examine instances of possible deception and to identify which words, associated with deception in a general context, are used to deceive stakeholders in the financial context. Three prediction models are based on causes of restatements, and the fourth model is based upon formal SEC investigations which lead to an Accounting and Auditing Enforcement Release. The models are then used to predict accounting manipulations in out-of-sample tests. When tested against traditional financial models for manipulation

identification, all four word list models out-perform their financial counterparts (Larcker & Zakolyukina, 2012).

Hope and Wang (2018) utilize the Larcker and Zakolyukina (2012) deception index to look at the information asymmetry effects of deceptive CEOs following a big bath. The authors find that information asymmetry increases when the CEO is more deceptive. Their findings provide evidence that investors can discern whether a CEO is being truthful and react accordingly. Deceptive executives tend to use more general knowledge and have fewer references to shareholder value (Larcker & Zakolyukina, 2012). Larcker and Zakolyukina (2012) further find that the deceptive CEOs use extremely positive language, whereas deceptive CFOs use a greater number of negative emotive words.

With the recent introduction of textual analysis to the accounting literature, there has been little development beyond validating word lists for use in the financial context. I begin to fill this gap by utilizing a validated word list for detecting deception in the financial context, to empirically explore the relationship between quantitative measures and manager's deceptive intent.

Chapter 3: Hypothesis Development

Quantitative and qualitative methods have both been used to get an understanding of the way in which managers engage in earnings management behavior (Dechow et al., 1995; Graham & Harvey, 2001; Roychowdhury, 2006). These methods cannot tell the whole story on their own due to the difficulty of operationalizing intent.

Literature questions the implication that a large majority of firms are manipulating their financial statements (Ball, 2013). From a survey of auditors, it has been found that only a third of earnings management attempts are adjusted when the main motivation is to meet analysts' expectations (Nelson et al., 2002). As auditors must attest to the fair representation of the financial statements in a clean opinion, it may be the case that even though managers may have abnormal adjusted accruals, relative to the industry, using legal methods, the managers have not changed the representation nature of the financial position of their company and the intent was not deceptive. This situation would be identified by traditional earnings management models, yet the auditor's opinion suggest that the action is a normal judgement for the firm, and therefore not deceptive earnings management.

Both the Schipper (1989) and the Healy and Whalen (1999) theoretical earnings management definitions are composed of two parts: managerial judgement and managerial intent. The quantitative literature has focused on quantifying what normal managerial judgement is and classified all firms that fall outside of "normal" as engaging in deceptive earnings management, without linking the firms to a deceptive intent. The qualitative literature has focused on managerial intent, using experiments which set up situations that are outside of normal business practices, judgements, and estimates to

describe the intent. The qualitative surveys are the closest prior literature has been able to merge the study of managerial judgement and managerial intent in a real-world setting. However, surveys cannot match responses to real financial data in any large scale, which prevents any real evaluation of the current quantitative models.

Textual analysis research has shown success in providing insight into the motivations and tone of managers and has been used to indicate fraudulent activities (Carlsson & Lamti, 2015; Larcker & Zakolyukina, 2012; Loughran & McDonald, 2016; Purda & Skillicorn, 2015). I use textual analysis to merge the testing of managerial judgement and managerial intent in a widescale meaningful way. I use the traditional earnings management measurements to evaluate the adherence to normal business practices, judgements, and estimates and simultaneously use textual analysis to betray the executives underlying deceptive intentions. Through this analysis, I test whether the traditional earnings management measurements are capturing both parts of the theoretical definitions of earnings management.

To determine managerial intent, this study utilizes the transcripts from the end-of-the-year conference calls. Managers are less likely to guard their tone during earnings calls with analysts, as it is less formal than an SEC disclosure and the question-and-answer period provides an opportunity for impromptu responses (Larcker & Zakolyukina, 2012; Loughran & McDonald, 2016).

A timeline shown in figure 1 illustrates where a conference call falls during the year, in relation to the rest of the reporting period. The timeline is split into two halves: the reporting period and the audit period. During the reporting period, the manager

utilizes his or her judgment to run operations and make accounting decisions;
 engagement in traditional or deceptive earnings management is done during this period.

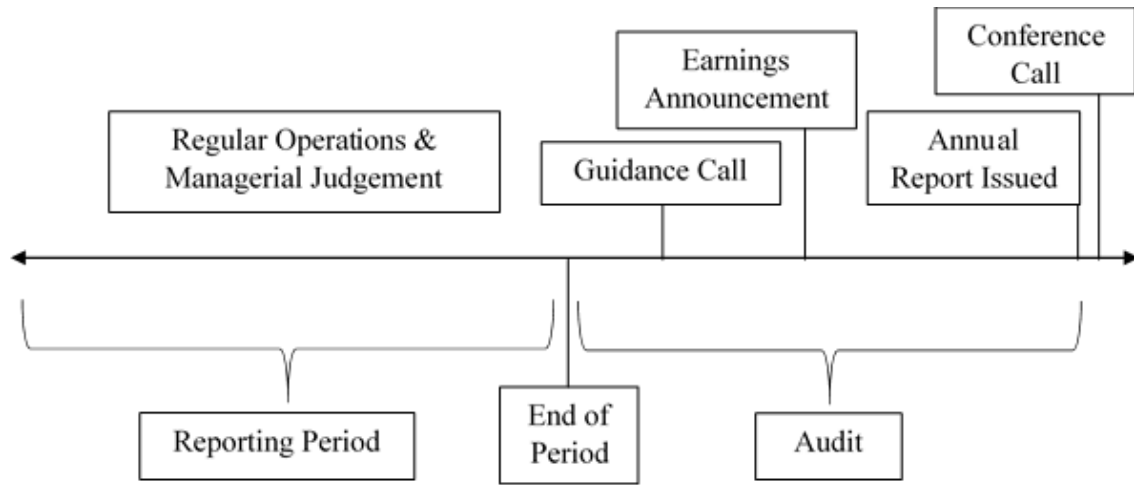


Figure 2: Reporting Period Timeline

During the audit period, the firm may or may not conduct a guidance call, which attempts to decrease the information asymmetry between the managers and the analysts, so expectations are closer to reality. The firm can then choose to release its earnings prior to the release of the audited annual report, or it can wait until the release of the annual report. During the audit period, the auditor can recommend adjustments to reduce or eliminate any accruals earnings management techniques attempted by management. If any RAM decisions had been made during the period, they cannot be adjusted by auditors as they are an operating decision, not a direct accounting manipulation.

The audited annual report is released after the completion of the audit and shortly thereafter, occasionally the same day, the conference call is conducted to discuss the performance of the company. The conference call is held after the release of the financial reports to allow the analysts to review the report and ask informed questions regarding the company's past performance. The timing is important as this is the first time management must publicly defend the operating decisions of the prior fiscal year, in a

less formal setting than the annual report. It is therefore expected that, given the less formal and impromptu nature of the conference call, the underlying intent of the managers will be revealed.

To differentiate between traditional and deceptive earnings management, the hypotheses first evaluates the entire sample population for the use of deception. The sample then narrows to look at the subset of firms that do and do not meet and beat earnings. I identify target firms as firms that meet-or-beat earnings as there is an unusual grouping of firms at this benchmark, there are many incentives to avoid reporting a loss, and traditional earnings management measures were developed around this benchmark (Burgstahler & Dichev, 1997; Roychowdhury, 2006). As prior studies have found links to traditional earnings management at this benchmark, I expect this benchmark to be the most likely area for firms to be engaged in deceptive earnings management and therefore have an association between deception and the earnings management measure. I expect that non-target firms will have no association between deception and the earnings management measure as I expect those firms to be identified as using earnings management techniques, but with no identifiable deceptive intent, therefore being engaged in traditional earnings management.

Hypotheses 1 and 2 examine the CEO's and CFO's speech during the conference call. In addition, a different group of firms is examined in each subset of the hypotheses. The first set of hypotheses examines accruals management, using the modified Jones approach (Dechow et al., 1995), as the measure of traditional earnings management. A positive association between discretionary accruals and CEO and CFO deception is hypothesized when looking at all firms because it is expected that the target firms will be

driving the result as they are predicted to be the only ones engaging in deceptive earnings management. A lack of association between deception and non-target firms' discretionary accruals will provide evidence of differentiation between deceptive and traditional earnings management.

The formal hypotheses follow.

Hypothesis 1a:

When examining all firms, there will be a positive association between CEO deception and discretionary accruals.

Hypothesis 1b:

When examining the target firms, there will be a positive association between CEO deception and discretionary accruals.

Hypothesis 1c:

When excluding target firms, there will be no association between CEO deception and discretionary accruals.

Hypothesis 2a:

When examining all firms, there will be a positive association between CFO deception and discretionary accruals.

Hypothesis 2b:

When examining the target firms, there will be a positive association between CFO deception and discretionary accruals.

Hypothesis 2c:

When excluding target firms, there will be no association between CFO deception and discretionary accruals.

The second set of hypotheses mirror the first two hypotheses, but this time they measure RAM. RAM will be measured following Roychowdhury (2006).

Hypothesis 3a:

When examining all firms, there will be a positive association between CEO deception and the use of real activities management.

Hypothesis 3b:

When examining target firms, there will be a positive association between CEO deception and the use of real activities management.

Hypothesis 3c:

When excluding target firms, there will be no association between CEO deception and the use of real activities management.

Hypothesis 4a:

When examining all firms, there will be a positive association between CFO deception and the use of real activities management.

Hypothesis 4b:

When examining target firms, there will be a positive association between CFO deception and the use of real activities management.

Hypothesis 4c:

When excluding target firms, there will be no association between CFO deception and the use of real activities management.

The final set of hypotheses examines the relationship between the deception occurring in the conference calls and the annual reports that are associated with earnings management. Li (2008) and Lo et al. (2017) studied the annual report readability and

find firms with a less-readable annual report are associated with lower earnings and with traditional earnings management techniques.

Lo et al. (2017) questions whether earnings management can be considered deceptive, and generally relies on common beliefs and ontological arguments that the truth is easier to tell and communicate than lies (Bloomfield, 2008; Hancock, Curry, Goorha, & Woodworth, 2007). Utilizing the Larcker and Zakolyukina (2012) deception index on annual reports may not be beneficial as many different individuals are involved in writing the annual report, and there are more SEC requirements regarding the contents of the management discussion and analysis (Larcker & Zakolyukina, 2012; Loughran & McDonald, 2016). In addition, several of the associated word categories in the index such as anxiety words and swear words would not appear in a formal document, negating the validity of the index. However, there is another source of potential deception, the annual earnings calls, which are held after the release of the annual report and discuss its contents.

Referencing Figure 1, the release of the annual report and the conference call happen relatively close together. Therefore, any deception presented in the annual report is also to be expected to be within the words of the annual conference call. The FOG index is based on a number scale: the lower the number, the simpler the text is to read. Therefore, a negative association is predicted between deception and the readability of the Management's Discussion and Analysis section.

Hypothesis 5a:

The use of deception by the CEO in the annual conference call will be negatively associated with the readability of the annual report management discussion and analysis section.

Hypothesis 5b:

The use of deception by the CFO in the annual conference call will be negatively associated with the readability of the annual report management discussion and analysis section.

Chapter 4: Data and Methodology

4.1 Model Development

I utilize the modified Jones model to estimate the discretionary accruals (Dechow et al., 1995; Jones, 1991). I follow prior research (Cohen et al., 2008) and estimate the model for each two-digit SIC industry as follows:

Model 1:

$$\frac{TA_{it}}{Assets_{i,t-1}} = \beta_1 \frac{1}{Assets_{i,t-1}} + \beta_2 \frac{\Delta Rev_{it}}{Assets_{i,t-1}} + \beta_3 \frac{PPE_{it}}{Assets_{i,t-1}} + \varepsilon_{it}$$

Where fiscal year is t and firm is i , TA is the total accruals defined by $IB_{it} - CASH_{it}$ where IB is the earnings before extraordinary items and discontinued operations and $CASH$ is the operating cash flows. $Assets$ are the total assets and ΔRev is change in revenue from the prior year. PPE^5 is the property, plant, and equipment.

The coefficients from the first model are then used to estimate the normal accruals (NA) for each sample firm:

Model 2:

$$NA_{it} = \hat{\beta}_1 \frac{1}{Assets_{i,t-1}} + \hat{\beta}_2 \frac{(\Delta REV_{it} - \Delta AR_{it})}{ASSETS_{i,t-1}} + \hat{\beta}_3 \frac{PPE_{it}}{Assets_{i,t-1}}$$

Where ΔAR is the change in accounts receivables from the prior year. The industry-specific regressions assume there are no discretionary revenue recognition choices.

Following the literature, the reported revenues are adjusted by accounts receivables to account for discretion surrounding credit sales. Discretionary accruals are calculated as:

⁵ Unless otherwise stated, all independent variables are measured at book value.

Model 3:

$$DA_{it} = \frac{TA_{it}}{Assets_{i,t-1}} - NA_{it}$$

I utilize the discretionary accruals in the following model to examine the association between deception and accruals.

Model 4:

$$DECP_t = \alpha_1 + \beta_1 DA_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 ASSETGROWTH_{it} + \beta_5 \ln ASSETS_{it} \\ + \beta_6 RESTATE_i + \beta_7 LOSS_{it} + \varepsilon_t$$

Where *DA* is the discretionary accruals as calculated in model 3. *LEV* is the total debt over *ASSETS* for year *t*; as a firm's leverage increases, there is an association with violating possible debt covenants (Press & Weintrop, 1990). The executives may try to present a more optimistic picture of the firm to prevent any negative changes or violating debt covenants. Therefore, I expect a positive relationship between *LEV* and *DECP*.

ROA is the Net Income (*NI*) divided by *ASSETS* for year *t*; *ROA* is utilized to control for the performance of the company (Zang, 2012). *ASSETGROWTH* is calculated by $(ASSETS_t - ASSETS_{t-1}) / (ASSETS_{t-1})$; this controls for the growth of the firm. *lnASSETS* is the natural log of *ASSETS* for period *t* and is a proxy for the size of the company (Klein, 2002). *RESTATE* is a dummy variable that is coded 1 if the earnings have been restated due to fraud and 0 otherwise. Larcker and Zakolyukina (2012) found the word associations by using restatements and AAERs. I control for restatements as an executive may be deceptive to conceal the restatements. *LOSS* is a dummy variable coded as 1 if the firm reported a loss for the period; executives may also be deceptive trying to conceal or understate the reasons for the loss in the earnings call (Klein, 2002; Lo et al., 2017).

Model 4 is used in the preliminary results and will be used to test the first two hypotheses; the following models will be used in the completion of the dissertation. The next set of models is concerned with testing hypotheses three and four. Model 5 follows Dechow et al. (1998) and Roychowdhury (2006) and expresses normal cash flows as a linear function of sales and the change of sales, by industry and year.

Model 5:

$$\frac{CASH_t}{ASSETS_{t-1}} = \alpha_0 + \alpha_1 \frac{1}{ASSETS_{t-1}} + \beta_1 \frac{SALES_t}{ASSETS_{t-1}} + \beta_2 \frac{\Delta SALES_t}{ASSETS_{t-1}} + \varepsilon_t$$

Where *CASH* is the cash flows from operations. *SALES* are the reported sales for period *t* and $\Delta SALES_t$ is the difference sale between the current period and the prior period. I estimate the normal cash flows by utilizing the coefficients from model 5. I subtract the normal cash flows from the actual cash flows to find the abnormal cash flows.

I estimate the normal cost of goods sold, COGS, following Dechow et al. (1998) and Roychowdhury (2006) as:

Model 6:

$$\frac{COGS_t}{ASSETS_{t-1}} = \alpha_0 + \alpha_1 \frac{1}{ASSETS_{t-1}} + \beta_1 \frac{SALES_t}{ASSETS_{t-1}} + \varepsilon_t$$

Following Dechow et al. (1998) and Roychowdhury (2006), I estimate the model for normal inventory growth as follows.

Model 7:

$$\frac{\Delta INV_t}{ASSETS_{t-1}} = \alpha_0 + \alpha_1 \frac{1}{ASSETS_{t-1}} + \beta_1 \frac{\Delta SALES_t}{ASSETS_{t-1}} + \beta_2 \frac{\Delta SALES_{t-1}}{ASSETS_{t-1}} + \varepsilon_t$$

Where ΔINV is the change in inventory in period *t*.

I use the definition of production costs, *PROD*, from Roychowdhury (2006) where $PROD = COGS_t + \Delta INV_t$. Using models 6 and 7 normal production costs are estimated as follows.

Model 8:

$$\frac{PROD_t}{ASSETS_{t-1}} = \alpha_0 + \alpha_1 \frac{1}{ASSETS_{t-1}} + \beta_1 \frac{SALES_t}{ASSETS_{t-1}} + \beta_2 \frac{\Delta SALES_t}{ASSETS_{t-1}} + \beta_3 \frac{\Delta SALES_{t-1}}{ASSETS_{t-1}} + \varepsilon_t$$

Roychowdhury (2006) differs from Dechow et al. (1998) and estimates discretionary expenses, *DISEXP*, utilizing lagged sales in lieu of current sales, to avoid the uncharacteristically low residuals created by the regression with current sales.

Model 9:

$$\frac{DISEXP_t}{ASSETS_{t-1}} = \alpha_0 + \alpha_1 \frac{1}{ASSETS_{t-1}} + \beta_1 \frac{SALES_{t-1}}{ASSETS_{t-1}} + \varepsilon_t$$

Having defined the RAM variables, I utilize them to test hypotheses 3 and 4 in the following model.

Model 10:

$$DECP_t = \alpha_1 + \beta_1 RAM_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 ASSETGROWTH_{it} + \beta_5 \ln ASSETS_{it} + \beta_6 RESTATE_i + \beta_7 LOSS_{it} + \varepsilon_t$$

Where *RAM* is defined as the individual measures, abnormal cash flows (*ABN_CFO*), abnormal production costs (*ABN_PROD*), and abnormal discretionary expenses (*ABN_DISEXP*). The control variables used are the same as those in Model 4 and found in prior RAM research, (Cohen & Zarowin, 2010; Gunny, 2005; Larcker & Zakolyukina, 2012).

When examining the use of annual reports for hypothesis 5, I use Python to parse out the management discussion and analysis (Item 7 of the 10-k) and to calculate the readability statistics. The annual reports are then combined with the necessary data from Compustat, CRSP and Audit Analytics. The following model adapted from Li (2008) and Lo et al. (2017) is utilized to test hypothesis 5.

Model 11:

$$FOG_{it} = \alpha_0 + \beta_1 DECP_{it} + \beta_2 \Delta EPS_{it} + \beta_3 MBE_{it} + \beta_4 EARNMANG_{it} + \beta_5 LOSS_{it} \\ + \beta_6 \log MVE_{it} + \beta_7 AGE_{it} + \beta_8 EARNVOL_{it} + \beta_9 RETVOL_{it-1}$$

Where the readability statistic $FOG=0.4(\text{words per sentence}-\text{number of complex words})$, with complex words defined as those with three or more syllables. The FOG index represents a grade level, so a score of 8 would mean that an individual would have to have an eighth-grade reading level to comprehend the material, scores beyond twelve indicate college and graduate level work. ΔEPS is defined as the change in the earnings per share from the prior year. MBE is a dummy variable as to whether a firm meets or beats the EPS from the prior year within \$0.03. If firms are within \$0.03 of the prior year's EPS then MBE is coded as 1, and 0 otherwise. $EARNMANG$ are the discretionary accruals and real activities management indicators developed earlier in the paper. These variables will be used in separate panels of the regression.

$\log MVE$ is the log of the market value of equity for the current period and is used to proxy for size. $EARNVol$ is the standard deviation of the operating earnings from the prior five years to control for the volatility of the business. Businesses with a more volatile environment may have more complicated reports (Li, 2008). $RETVOL$ is the

standard deviation of the firm-specific stock return volatility for the past 24 months, to control for volatility in operations.

4.2 Hypothesis 1-4 Data

I utilize Python to collect the earnings call transcripts from <http://seekingalpha.com/earnings/earnings-call-transcripts>. Seeking Alpha has been used as a source of earnings call transcripts by Allee and Deangelis (2015) and Hope and Wang (2018). The time period of the sample is 2010-2016. The sample starts in 2010, so as not to be influenced by the recession and subsequent recovery of 2008. In addition, SeekingAlpha.com started the transcript curating process in 2006, and in the years prior to 2010, the number of useable transcripts begins to dwindle.

The initial sample started with over 100,000 fourth-quarter earnings call transcripts. I combined the transcripts with Compustat and Audit Analytics. Consistent with current practice, I removed all firms in the financial and utility industries, and those firms without the necessary financial data available. As an additional requirement, all firms included needed a word count of 100 words or greater by the respective executive (Hope & Wang, 2018). I also removed any sample where the speech of the executive was parsed incorrectly. Each industry year was required to have at least eight observations by two-digit SIC code (Cohen et al., 2008). Due to the nature of the analysis, I had two samples: the CEO sample and the CFO sample. The final CEO sample was composed of 8,581 firm-year observations from 2,716 firms. The final CFO sample was composed of 8,442 firm-year observations from 2,732 firms. The industry composition of the sample can be seen in Table 1. No agriculture firms are present in the sample as they were removed due to the eight-firm per industry year requirement. A little

over half of the sample is composed of manufacturing firms and approximately 20% is made up of the service industry.

Table 1

Industry	CEO	CFO
Mining	602	538
Construction	109	121
Manufacturing	4633	4517
Transportation	531	547
Wholesale	337	323
Retail	563	577
Services	<u>1806</u>	<u>1819</u>
Total	8581	8442

This table presents the number of firms present in each industry for the CEO and CFO samples for hypothesis 1 - 4.

The conference call transcripts are composed of four different parts: the header, operator introduction, executive prepared remarks, and the question and answer period. The header contains the company name, ticker, the listing stock exchange, the quarter of the call, and the date. The header also contains a list of the call's participants including executives and analysts. The operator introduction states the company year, the quarter, and introduces the first speaker. The third portion of the transcript is the prepared statements from the CEO, CFO, and various other executives. The fourth portion of the transcript consists of analysts' questions and the executive answers. While the opening statements are generally scripted, Larcker and Zakolyukina (2012) find similar results when looking at the prepared remarks and the question and answer period, which is impromptu. In my analysis, I combine the prepared executive statements and the question and answer period.

I utilize Python to parse out the company name, ticker, quarter and fiscal year of the call, CEO and CFO names, and the names of the remaining executives and analysts. I then programmatically separate the CEO and the CFO speech into text files, one for the CEO and one for the CFO. Following Larcker and Zakolyukina (2012) and Hope and Wang (2018), I utilize the Linguistic Inquiry and Word Count (LIWC) psychosocial dictionary (Pennebaker, Boyd, Jordan, & Blackburn, 2015) for the textual analysis. The LIWC is a textual analysis software with a built-in dictionary. The built-in dictionary includes over 6,400 words, split into different categories, such as negative emotions, sadness, positive emotions, and hesitating phrases. The categories are based on linguistic and psychological literature.

The LIWC software utilizes the bag-of-words approach which essentially means that the context of the word does not matter, only the existence of the word. In addition to the internal dictionary, I added in a custom dictionary developed by Larcker and Zakolyukina (2012). In their analysis, Larcker and Zakolyukina (2012) start with a list of words possibly associated with deception from the psychological literature and use logit regression to look at the word frequencies against financial deception indicators, such as restatements and SEC Accounting and Auditing Enforcement Releases (AAER). They find that deceptive CEOs are positively associated with the use of extremely positive emotion words and references to general knowledge. CEO deception is negatively associated with anxiety words and shareholder value. Larcker and Zakolyukina (2012) further find that CFO deception is positively associated with word count, negations, extremely negative emotions and negatively associated with first-person pronouns and impersonal pronouns.

Similar to Hope and Wang (2018), I operationalize Larcker and Zakolyukina (2012) findings by creating a deception score. For each category of word, I find the median word use and then assign a value of 2 (1) to the firm for that category if the firm has a greater (below or equal) to median value. If the category is negatively associated with deception, then I assign a value of 1 (2) to the firm for that category if the firm has a greater (below or equal) to median value. I aggregate the score from all categories and standardize the results, creating a deception Z-score (DECP). The DECP variable is coded as CEO_DECP and CFO_DECP for the respective executive's speech sample. I also created an additional measure of DECP_X. This measure includes only the deceptive word categories for the respective executives. The reason for this is that there is no theoretical backing associating these categories with truthfulness, and there could be other explanations for the negative association found by Larcker and Zakolyukina (2012). A list of variables and their respective definitions can be found in Appendix B.

4.3 Descriptive Statistics

The descriptive statistics for both the CEO and CFO are in the Table 2. All continuous variables, other than word count, were winsorized at the 1 percent and 99 percent levels. The standardized deception score is noted along with the individual word categories that make up the score. The mean word use in each category reference to general knowledge (REFGK), extreme positive emotions (XPOSEMOT), anxiety (ANX), negations (NEGATE), swear words (SWEAR), extreme negative emotions (XNEGEMOT), first-person pronouns (I), impersonal pronouns (THEY), and shareholder value (SV) words are in line with prior research (Hope & Wang, 2018; Larcker & Zakolyukina, 2012). The words associated with each category are listed in Appendix A.

The mean word use of CEOs is approximately 800 words greater than that of the CFOs. This is generally because the CEO has a much larger purview than the CFO and may talk more about the overall direction of the company, in addition to the financial outcomes and goals of the firm, whereas the CFO typically discusses only the financial outcome and goals of a firm.

Table 2
Descriptive statistics for variables used to test hypotheses 1-4

Variable	CEO			CFO		
	Mean	Median	Std. Dev	Mean	Median	Std. Dev
DECP	0	-0.5261	1	0	-0.3305	1
DECP_X	0	0.0369	1	0	0.0552	1
WORDCOUNT	3489.46	3283	1881.64	2700.94	2438	1708.43
REFGK	0.0463	0.02	0.08795	0.0337	0	0.08556
XPOSEMOT	0.6748	0.63	0.33675			
ANX	0.0815	0.06	0.09599			
NEGATE				0.4541	0.4	0.30983
SWEAR				0.0045	0	0.06982
XNEGEMOT				0.1083	0.08	0.11646
I				0.9233	0.84	0.54302
THEY				0.2433	0.18	0.26279
SV	0.00879	0	0.0278	0.00566	0	0.01951
ROA	-0.0175	0.0371	0.24588	-0.0116	0.038	0.23531
LEV	0.5176	0.4982	0.2788	0.5188	0.5004	0.27694
LIABILITIES	3024.78	475.978	8231.57	3374.37	513.303	9155.88
ASSETGROWTH	0.1301	0.0439	0.70509	0.127	0.0445	0.69517
ASSETS	4977.04	885.7	13784.1	5559.59	962.642	15366.8
LNASSETS	6.8514	6.8983	1.96015	6.9399	6.9809	1.96177
SALES	4187.8	802.46	11145.9	4672.25	844.536	12443.7
RESTATE	0	0	0.069	0	0	0.07
LOSS	0.31	0	0.463	0.3	0	0.459
DISEXP	914.144	192.367	2673.4	1014.81	201.957	2959.38
DISSACC	-0.0446	-0.0399	0.1458	-0.045	-0.0392	0.14198
ABN_CFO	0	0.0047	0.13992	0	0.0037	0.13428
ABN_PROD	0	0.0056	0.17927	0	0.0047	0.17887
ABN_DISEXP	0	-0.0197	0.30502	0	-0.0191	0.29979

Note: Refer to Appendix B for variable definitions

There is a large standard deviation for the word count of both samples. This is similar to prior research. The mean return on assets (ROA) is -0.0175 and -0.0116 for the CEO and CFO samples respectively. In addition, in both samples, the firms have leverage of 0.5176 and 0.5188 for the CEO and CFO samples. This high leverage ratio could be a result of the large proportion of manufacturing firms within the sample.

The correlation tables for the CEO and CFO sample are listed in the Table 3 Panel A and Panel B respectively. CFO_DECP and CFO_DECP_X are correlated with most independent variables although the VIF in all cases is less than 10, and generally less than 2.

Table 3
Panel A

	CEO_DECP	CEO_DECP_x	DA	ABN_CFO	ABN_PROD	ABN_DISEXP	LEV	ROA	ASSET GROWTH	lnASSETS	RESTATE	LOSS
CEO_DECP	1	.818	-0.005	0	-.083	.081	0	.027	0.018	-0.007	-0.025	-.032
CEO_DECP_x		1	0.009	0.015	-.070	.046	0.009	.060	0.019	.082	-0.019	-.083
DA			1	-.053	.052	-.171	-.130	.372	-0.018	.054	0.003	-.230
ABN_CFO				1	-.241	-.470	-.137	.417	-.051	.114	0.001	-.297
ABN_PROD					1	-.545	.054	-.098	-.025	.049	.053	.050
ABN_DISEXP						1	0.014	-.242	.148	-.147	-.038	.198
LEV							1	-.195	-.033	.190	.022	.063
ROA								1	.059	.412	0.019	-.560
ASSETGROWTH									1	0.012	-0.003	-.026
lnASSETS										1	.034	-.407
RESTATE											1	-.036
LOSS												1

Table 3 (continued)

Panel B

	CFO_DECP	CFO_DECP_x	DA	ABN_CFO	ABN_PROD	ABN_DISEXP	LEV	ROA	ASSET GROWTH	lnASSETS	RESTATE	LOSS
CFO_DECP	1	.674	-0.005	.036	-0.008	-0.015	.048	.064	-0.009	.165	-0.006	-.065
CFO_DECP_x		1	-0.018	.053	-.021*	-.032	.075	.078	-0.022	.182	0.008	-.086
DA			1	-.069	.058	-.170	-.133	.373	-0.023	.052	0.003	-.228
ABN_CFO				1	-.255	-.438	-.139	.422	-.034	.114	-0.001	-.299
ABN_PROD					1	-.556	.060	-.102	-0.025	.047	.056	.054
ABN_DISEXP						1	0.002	-.232	.144	-.145	-.035	.190
LEV							1	-.194	-.029	.191	0.017	.070
ROA								1	.061	.397	0.018	-.555
ASSETGROWTH									1	0.014	-0.004	-.035
lnASSETS										1	.026	-.397
RESTATE											1	-.036
LOSS												1

Bolded coefficients are statistically significant at the 1% level.

4.5 Hypothesis 5 Data and Descriptive Statistics

To gather the data for the fifth hypothesis I used the 10-K annual reports from the McDonald software repository for accounting and finance (McDonald, 2019). This repository includes the 10-K and 10-Q reports taken directly from the SEC Edgar database. I utilized this data, as it has already been cleaned from the HTML, XBRL, and XML mark-up tags. In addition, given some of the nuances of mark-up cleaning, I thought it most pertinent to utilize the source files that have been used in prior research (Loughran & McDonald, 2011, 2016). Similar to the first four hypotheses, I utilized the 10-Ks from 2010-2016. I then used Python to programmatically parse out “Item 7”, the management discussion and analysis, using variations of the regular expression algorithms found in Hering (2017).

I limited the sample to include at least 125 words, due to limitations of the FOG index calculation program. In addition, any file which included fewer words was likely incorrectly parsed⁶. After this first restriction, the initial sample was 55,159. After matching to Compustat, CRSP, and audit analytics, and removing financial institutions and utilities the sample was 30,218. The sample was further reduced to 11,111 after removing firms without the requisite financial data. The sample was then matched to the conference call transcripts. The sample was reduced to include only industry years with at least eight observations. The CEO sample was composed of 4,276 firm-year observations with 1,465 individual firms. The CFO sample was composed of 4,177 firm-year observations and 1,455 individual firms.

⁶ Files which had under 125 words generally only included the title of the sections. The main cause of this was either the text was associated with a table, which was removed during the HTML markup removal process. The alternative was that the sections were mislabeled, or included typos in the section headers.

Table 4
Descriptive statistics for variables used to test hypothesis 5

Variable	CEO			CFO		
	Mean	Median	Std. Dev	Mean	Median	Std. Dev
DECP	0	-0.5433	1	0	-0.307	1
DECP_X	0	0.011	1	0	0.0725	1
WORDCOUNT	3490.5	3258	1851.61	2764.08	2525	1693.15
REFGK	0.0475	0.02	0.09036	0.0342	0	0.08424
XPOSEMOT	0.679	0.63	0.32192			
ANX	0.0812	0.06	0.09332			
NEGATE				0.4529	0.4	0.29971
SWEAR				0.0037	0	0.04109
XNEGEMOT				0.1105	0.09	0.11575
I				0.9385	0.85	0.55467
THEY				0.2537	0.19	0.25925
SV	0.00925	0	0.02681	0.00598	0	0.01988
CHANGEEPS	0.0186	0.06	2.23845	0.0157	0.06	2.24373
ROA	-0.0026	0.0391	0.19424	0.0008	0.0392	0.18172
LEV	0.47893	0.4802	0.21331	0.48158	0.48554	0.2138
LIABILITIES	2468.2	383.322	6174.71	2610.51	412.9	6453.16
ASSETGROWTH	0.1126	0.0485	0.44257	0.1107	0.0491	0.42933
ASSETS	4244.08	849.855	10157.9	5021.16	911.591	14823.8
LNASSETS	6.7345	6.7451	1.89602	6.8022	6.8152	1.88755
SALES	3448.78	731.663	8322.6	3677.08	772.142	8906.36
RESTATE	0.01	0	0.073	0.01	0	0.077
LOSS	0.3	0	0.458	0.29	0	0.456
MVE	5334.83	987.055	16230.5	5943.88	1018.93	19706.8
AGE	24.9298	19	15.7092	25.046	20	15.8096
EPS	1.1833	0.75	2.86766	1.1919	0.79	2.89694
RETVOL	0.11333	0.10068	0.05504	0.11227	0.09978	0.05398
EARNVOL	93.0493	22.1401	240.015	93.3435	23.5955	228.324
DISEXP	779.48	187.893	1984.54	822.336	196.381	2067.54
DISSACC	-0.0491	-0.0439	0.10205	-0.0487	-0.0423	0.09841
ABN_CFO	0	0.0021	0.11516	0	0.0012	0.10934
ABN_PROD	0.0156	0.0142	0.21257	0	0.0061	0.18017
ABN_DISEXP	0	-0.0241	0.26585	0	-0.0225	0.25968

Note: Refer to Appendix B for variable definitions

The conference call transcripts were collected and parsed identically to the description given above. The deception score was also calculated identically to above. All continuous variables, other than word count and the FOG index, were winsorized at the 1 percent and 99 percent extremes. The descriptive statistics can be seen in Table 4. The word count for the conference calls and likewise the standard deviation is very similar to the sample used in the first four hypotheses. In addition, the CFOs have a smaller mean word count than the CEOs.

The mean FOG index of the annual reports for the CEO sample was 19.55 and 19.54. This means that to fully comprehend the annual report an individual would need to be in 19th grade. In other words, an individual would need to have 7 years of college and graduate work after high school, to fully comprehend the management discussion and analysis of the annual report. The mean FOG index was slightly higher than the 18.02 reported by Lo et al. (2017). I utilize a more recent sample, and my sample is reduced by firms which have their conference calls transcribed by www.SeekingAlpha.com. This reduction is expected to produce a sample which favors larger firms, and this is confirmed by comparing the size of the firms in the sample, as proxied by the log of the market value of equity, Lo et al. (2017) reports a mean 5.76, whereas my CEO sample has a mean of 6.87 and the CFO sample has a mean of 6.92. In addition, the firms in my study tend to be more mature with an average age of approximately 25 years in both the CEO and CFO samples.

The correlations of the CEO and CFO samples can be seen in the Table 5 panels A and B respectively. The deception scores are correlated with most independent variables although the VIF in all cases is less than 10, and generally less than 2. The

correlations are consistent with prior research, there is a positive association between the size of a firm and the FOG index, which differs from prior research (Li, 2008; Lo et al., 2017), although that could be due to the larger firm size in the sample.

Table 5
Panel A

	CEO_	CEO_	CEO_	CEP_	CHANGE	MBE	DA	FO	ABN_C	ABN_P	ABN_	LOSS	logMVE	AGE	EARN
	DECP	DECP	DECP	EPS	EPS	DA	DA	FO	ROD	DISEXP	DISEXP	LOSS	logMVE	AGE	VOL
	FOG	DECP	x												RETVOL
FOG	1	.035	0.02	-0.01	0.01	-0.043	-0.082	-0.018	.078	.092	0.025	-0.121	-0.039	.043	
CEO_DECP	1	.815	.045	0	.056	0	0.014	-0.069	.080	-0.049	.066	0.02	0.011	-0.069	
CEO_DECP_x	1	.040	.040	0.003	.044	-0.045	0.036	-0.045	0.036	-0.110	.163	.071	.068	-0.120	
CHANGEEPS	1	0	0	.195	.045	-0.058	0.014	-0.199	.049	0.029	-0.056	0.01	0.018	.049	
MBE	1	-0.01	-0.004	-0.024	.041	0.029	-0.056	-0.048	-0.036	0.003	0.003	0.003	0.003	0.003	
DA	1	.077	-0.201	-0.311	.036	0.029	-0.056	-0.048	-0.036	0.003	0.003	0.003	0.003	0.003	
ABN_CFO	1	-0.269	-0.317	-0.299	.136	0.029	-0.056	-0.048	-0.036	0.003	0.003	0.003	0.003	0.003	
ABN_PROD	1	-0.574	-0.574	-0.574	.136	0.029	-0.056	-0.048	-0.036	0.003	0.003	0.003	0.003	0.003	
ABN_DISEXP	1	0.004	-0.084	0.004	-0.084	0.004	-0.084	0.004	-0.084	0.011	0.011	0.011	0.011	0.011	
LOSS	1	.192	.192	.192	.192	.192	.192	.192	.192	.192	.192	.192	.192	.192	
logMVE	1	.443	.443	.443	.443	.443	.443	.443	.443	.443	.443	.443	.443	.443	
AGE	1	.370	.370	.370	.370	.370	.370	.370	.370	.370	.370	.370	.370	.370	
EARNVOL	1	.346	.346	.346	.346	.346	.346	.346	.346	.346	.346	.346	.346	.346	
RETVOL	1	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	.150	

Table 5 (continued)

Panel B

	FOG	CFO_D ECP	CFO_D ECP_x	CHANGE	MBE	DA	FO	ABN_C ROD	ABN_P ROD	ABN_DISEXP	LOSS	logMVE	AGE	EARN VOL	RETVOL
FOG	1	0.009	-0.025	-0.008	0.01	-0.056	-0.071	-0.008	0.074	0.094	0.008	-0.133	-0.049	0.054	
CFO_DECP		1	.679	-0.011	0	0.005	0.023	-0.018	0.001	-0.047	.177	.112	.064	-0.090	
CFO_DECP_x			1	-0.039*	0.01	-0.01	.046	-0.032	-0.01	-0.064	.192	.128	.047	-0.130	
CHANGEEPS				1	0	.190	.046	-0.054	0.021	-0.204	.043	0.01	-0.007	.045	
MBE					1	-0.01	0.003	-0.031	.040	0.026	-0.052	-0.044	-0.038	0.005	
DA						1	-0.094	.070	-0.200	-0.324	.047	.109	0.027	-0.112	
ABN_CFO							1	-0.320	-0.274	-0.292	.132	.038	.032	-0.209	
ABN_PROD								1	-0.639	.052	-0.114	0.03	-0.034	.032	
ABN_DISEXP									1	.178	0.027	-0.137	-0.044	.141	
LOSS										1	-0.437	-0.217	-0.139	.417	
logMVE											1	.365	.506	-0.498	
AGE												1	.340	-0.302	
EARNVOL													1	-0.166	
RETVOL														1	

Bolded coefficients are statistically significant at the 1% level.

Chapter 5: Results

5.1 Hypothesis 1

Hypothesis 1 examines the relationship between CEO deception and discretionary accruals utilizing model 4. The results for hypothesis 1a, 1b, and 1c can be seen in table 6. The model includes both year and industry fixed effects. There was no association found between CEO_DECP and discretionary accruals. A negative association was found between CEO_DECP and fraudulent restatements, contrary to the predicted positive relationship. A positive relationship was expected as the deception index was developed using restatements as a deception proxy (Larcker & Zakolyukina, 2012), although the opposite relation may be caused because I used a less nuanced restatement measure than Larcker and Zakolyukina (2012). When the CEO deception measure is refined to include only words associated with deception (CEO_DECP_X), I find no association between deception and discretionary accruals.

Target firms are defined in two different ways. The first is if the earnings per share are within \$0.03 of the prior year. This measure was used in Lo, Ramos, and Rogo (2017), here forth referred to as the EPS measure. The second measure follows Roychowdhury's (2006) measure of suspect firms, where net income scaled by assets is greater than or equal to zero but less than 0.005, here on referred to as the suspect firm measure. In both these categories, there was no association found. Given the results, the null hypothesis cannot be rejected and hypothesis 1 is not supported.

The lack of support for a relationship between CEO deception and accruals earnings management suggests that the modified Jones model does not capture managerial intent in the full sample, or at the meet or beat earnings benchmark.

Table 6

This table depicts the results of hypothesis 1a, 1b, and 1c, which tests the relationship between CEO deception and Discretionary accruals management. The dependent variables used were the CEO deception measures, CEO_DECP and CEO_DECP_X. H1A tests the full sample population. H1B and C split the sample and respectively test the target and non-target firms. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

H1A - All Firms

	Pred.	CEO_DECP	CEO_ DECP_X
Constant		0.145** (2.047)	-0.153** (-2.174)
DA	+	-0.103 (-1.281)	-0.013 (-0.167)
LEV	+	-0.020 (-0.491)	-0.029 (-0.694)
ROA	?	0.60 (1.009)	-0.031 (-0.530)
ASSETGROWTH	?	0.022 (1.464)	0.023 (1.525)
lnASSETS	?	0.009 (1.316)	0.055*** (8.119)
RESTATE	+	-0.391** (-2.529)	-0.358** (-2.319)
LOSS	+	-0.043 (-1.500)	-0.103*** (-3.583)
n		8581	8581
R ²		0.028	0.036
Industry FE		Yes	Yes
Year FE		Yes	Yes

Table 6 (continued)

	Pred.	H1B - EPS \$0.03		H1C - EPS \$0.03	
		CEO_DECP	CEO_ DECP_X	CEO_DECP	CEO_ DECP_X
Constant		0.047 (0.126)	-0.231 (-0.612)	0.135* (1.862)	-0.161** (-2.23)
DA	+	-0.525 (-0.963)	-0.711 (-1.299)	-0.093 (-1.139)	0.004 (0.054)
LEV	+	-0.532** (-2.283)	-0.445 (-1.9)	-0.003 (-0.071)	-0.015 (-0.35)
ROA	?	0.398 (1.207)	0.23 (0.693)	0.055 (0.902)	-0.036 (-0.601)
ASSETGROWTH	?	0.035 (0.341)	0.018 (0.174)	0.02 (1.31)	0.021 (1.387)
lnASSETS	?	-0.008 (-0.246)	0.028 (0.807)	0.01 (1.49)	0.056 (8.106)
RESTATE	+	0.125 (0.251)	-0.183 (-0.366)	-0.442** (-2.71)	-0.367** (-2.258)
LOSS	+	0.404** (2.556)	0.213 (1.343)	-0.056* (-1.9)	-0.112 (-3.813)
n		305	305	8276	8276
R ²		0.088	0.083	0.029	0.037
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 6 (continued)

	Pred.	H1B - Suspect		H1C - Suspect	
		CEO_DECP	CEO_ DECP_X	CEO_DECP	CEO_ DECP_X
Constant		-0.052 (-0.097)	-0.16 (-0.287)	0.136* (1.906)	-0.166** (-2.324)
DA	+	-1.453 (-1.207)	-0.459 (-0.364)	-0.09 (-1.123)	-0.005 (-0.067)
LEV	+	0.578 (1.361)	0.555 (1.249)	-0.021 (-0.508)	-0.031 (-0.737)
ROA	?	2.634 (1.299)	1.644 (0.775)	0.047 (0.78)	-0.044 (-0.741)
ASSETGROWTH	?	-0.037 (-1.618)	-0.02 (-0.82)	0.062** (2.784)	0.059** (2.649)
lnASSETS	?	0.016 (0.272)	0.073 (1.225)	0.009 (1.289)	0.055 (8.051)
RESTATE	+	0.54 (0.525)	-0.53 (-0.493)	-0.417** (-2.663)	-0.365* (-2.342)
LOSS	+	0.165 (0.398)	0.034 (0.078)	-0.047 (-1.62)	-0.108 (-3.717)
n		151	151	8430	8430
R ²		0.114	0.122	0.03	0.037
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Accruals earnings management is not relied upon as much by managers in recent times (Cohen et al., 2008), so a sample which uses a different benchmark may still be able to find an empirical link between deception and the modified Jones model.

5.2 Hypothesis 2

Hypothesis 2 examines the relationship between CFO deception and discretionary accruals utilizing model 4. The results for hypothesis 2a, 2b, and 2c can be seen in Table 7. There is not a significant association between CFO_DECP and discretionary accruals. There is a significant positive association between CFO_DECP and lnAssets. When the deception index is modified to only include the deceptive categories of speech, a significant negative association ($p < .05$) is found between CFO_DECP_X and discretionary accruals. This supports hypothesis 2a. In addition, CFO_DECP_X is positively associated with leverage as predicted. There was also a positive association found with ROA, AssetGrowth, and lnAssets.

Examining hypotheses 2b and 2c yielded the following results. When target firms are defined using the EPS measure, there was a sample size of 292 target firms and 8150 non-target firms. There was no association found between CFO_DECP_X and discretionary accruals in the target firm sample, providing no support for hypothesis 2b. There was a negative association found between CFO_DECP_X and discretionary accruals when examining non-target firms. When using the suspect firm measure the sample size of the target firms was 146, and there were 8296 non-target firms. There were no significant associations found. This suggests that managers utilizing deceptive earnings management are not upwardly managing earnings, as thought in the development of the modified Jones model (Dechow et al., 1995). In addition, a lack of

association found in target firms may suggest that when managers engage in earnings management to meet or beat a benchmark, it is done for non-deceptive reasons as suggested by Shivakumar (2000). Yet the association between CFO deception and the downward managing of accruals in non-target firms suggests deceptive earnings management is more prevalent than expected.

Table 7

This table depicts the results of hypothesis 2a, 2b, and 2c, which tests the relationship between CFO deception and discretionary accruals management. The dependent variables used were the CFO deception measures, CFO_DECP and CFO_DECP_X. H2A tests the full sample population. H2B and C split the sample and respectively test the target and non-target firms. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

H2A - All Firms			
	Pred.	CFO_DECP	CFO_DECP_X
Constant		-0.674*** (-9.539)	-0.749*** (-10.780)
DA	+	-0.128 (-1.549)	-0.232** (-2.851)
LEV	+	0.041 (0.971)	0.117** (2.838)
ROA	?	0.045 (0.729)	0.101* (1.665)
ASSETGROWTH	?	-0.014 (-0.926)	-0.033** (-2.150)
lnASSETS	?	0.092*** (12.713)	0.104*** (15.640)
RESTATE	+	-0.173 (-1.137)	0.028 (0.184)
LOSS	+	0.020 (0.685)	-0.031 (-1.096)
n		8442	8442
R ²		0.041	0.073
Industry FE		Yes	Yes
Year FE		Yes	Yes

Table 7 (continued)

		H2B - EPS \$0.03		H2C - EPS \$0.032	
		CFO_ DECP	CFO_ DECP_X	CFO_ DECP	CFO_ DECP_X
Constant		-0.314 (-0.849)	-0.504 (-1.235)	-0.698*** (-9.651)	-0.773*** (-10.924)
DA	+	0.032 (0.052)	0.672 (1.024)	-0.135 (-1.618)	-0.260** (-3.176)
LEV	+	-0.042 (-0.170)	0.595** (2.157)	0.044 (1.035)	0.103** (2.476)
ROA	?	-0.151 (-0.421)	-0.215 (-0.555)	0.050 (0.794)	0.110* (1.796)
ASSETGROWTH	?	-0.076 (-0.715)	-0.132 (-1.149)	-0.013 (-0.805)	-0.029* (-1.885)
lnASSETS	?	0.071 (2.022)	0.065* (1.660)	0.094*** (13.676)	0.106*** (15.790)
RESTATE	+	0.231 (0.408)	-0.119 (-0.162)	-0.200 (-1.269)	0.032 (0.209)
LOSS	+	-0.074 (-0.468)	-0.257 (-1.471)	0.024 (0.826)	-0.023 (-0.784)
n		292	292	8150	8150
R ²		0.062	0.102	0.042	0.074
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 7 (continued)

		H2B - Suspect		H2C - Suspect	
		CFO_ DECP	CFO_ DECP_X	CFO_ DECP	CFO_ DECP_X
Constant		-0.629 (-1.133)	-0.859 (-1.452)	-0.662 (-9.245)	-0.727 (-10.345)
DA	+	-1.184 (-0.922)	-2.125 (-1.553)	-0.128 (-1.547)	-0.233 (-2.866)
LEV	+	-0.676 (-1.521)	-0.146 (-0.309)	0.046 (1.093)	0.117 (2.828)
ROA	?	-3.097 (-1.444)	-2.731 (-1.195)	0.063 (1.015)	0.117 (1.924)
ASSETGROWTH	?	0.015 (0.608)	-0.004 (-0.158)	-0.062** (-2.635)	-0.086 (-3.736)
lnASSETS	?	0.1 (1.588)	0.087 (1.297)	0.092 (13.5)	0.103 (15.395)
RESTATE	+	1.373 (1.266)	-0.035 (-0.030)	-0.205 (-1.337)	0.029 (0.192)
LOSS	+	-0.648 (-1.47)	-0.302 (-0.644)	0.025 (0.853)	-0.029 (-1.022)
n		146	146	8296	8296
R ²		0.166	0.15	0.042	0.074
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

5.3 Hypothesis 3

The third set of hypotheses examine CEO deception and the RAM measures. The results can be found in Table 8.1. There was no association found between CEO_DECP or CEO_DECP_X and ABN_CFO. As expected, there were also no associations when the sample population was split between the target and non-target populations. This suggests that the ABN_CFO by itself does not capture a misleading CEO intent, as defined by (Roychowdhury, 2006), and may only be a measure of traditional earnings management.

The results of the CEO deception measure and abn_PROD can be seen on Table 8.2. There is a significantly negative association between both CEO deception measures and abn_PROD ($P < 0.001$) when the full sample was examined. When limiting the sample to firms near the meet-or-beat benchmark, using either the EPS measure or the Roychowdhury's (2006), I find a significant negative association ($p < 0.05$) between CEO_DECP and abn_PROD and I find a significant negative association ($p < 0.1$) between CEO_DECP_X and abn_PROD. When examining the non-target firm sample, I find a significant negative association ($p < 0.000$) between both CEO deception measures and abn_PROD.

Looking at the final RAM measure, abn_DISEXP, the results are presented in Table 8.3. There is a significant positive association ($p < 0.000$) for both deception measures and abn_DISEXP. There is a significant positive association ($p < 0.000$) between CEO_DECP and abn_DISEXP when the sample is limited to the target firms, using the EPS definition, and a significant positive association ($p < 0.05$) between CEO_DECP and abn_DISEXP using the Roychowdhury's (2006) definition. Using the

narrowed measure CEO_DECP_X, I find no association between the measure and abn_DISEXP when limiting the sample to target firms.

Table 8.1

This table depicts the results of hypothesis 3a, 3b, and 3c, which tests the relationship between CEO deception and abnormal cashflows (ABN_CFO). The dependent variables used were the CEO deception measures, CEO_DECP and CEO_DECP_X. H3A tests the full sample population. H3B and C split the sample and respectively test the target and non-target firms. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

H3A - All Firms			
	Pred.	CEO_DECP	CEO_DECP_X
Constant		0.148** (2.092)	-0.15** (-2.125)
ABN_CFO	+	-0.103 (-1.207)	-0.072 (-0.854)
LEV	+	-0.021 (-0.507)	-0.03 (-0.723)
ROA	?	0.059 (0.986)	-0.019 (-0.312)
ASSETGROWTH	?	0.022 (1.414)	0.022 (1.456)
lnASSETS	?	0.009 (1.394)	0.055*** (8.119)
RESTATE	+	-0.392 (-2.534)	-0.359** (-2.325)
LOSS	+	-0.045 (-1.561)	-0.106*** (-3.653)
n		8581	8581
R ²		0.028	0.036
Industry FE		Yes	Yes
Year FE		Yes	Yes

Table 8.1 (continued)

	Pred.	H3B - EPS \$0.03		H3C - EPS \$0.03	
		CEO_ DECP	CEO_ DECP_X	CEO_ DECP	CEO_ DECP_X
Constant		0.084 (0.223)	-0.222 (-0.584)	0.137* (1.889)	-0.158** (-2.188)
ABN_CFO	+	-0.306 (-0.898)	-0.076 (-0.22)	-0.082 (-0.919)	-0.068 (-0.757)
LEV	+	-0.542**	-0.467**	-0.004	-0.016
ROA	?	(-2.329)	(-1.992)	(-0.084)	(-0.388)
ASSETGROWTH	?	0.426 (1.248)	0.147 (0.428)	0.05 (0.832)	-0.021 (-0.342)
lnASSETS	?	-0.003 (-0.027)	0.04 (0.323)	0.02 (1.298)	0.02 (1.339)
RESTATE	+	-0.01 (-0.297)	0.032 (0.932)	0.011 (1.578)	0.056*** (8.095)
LOSS	+	0.091 (0.183)	-0.214 (-0.428)	-0.442** (-2.71)	-0.367 (-2.263)
n		0.398** (2.514)	0.216 (1.353)	-0.057* (-1.934)	-0.115*** (-3.884)
		305	305	8276	8276
R ²		0.088	0.077	0.029	0.037
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 8.1 (continued)

	Pred.	H3B - Suspect		H3C - Suspect	
		CEO_ DECP	CEO_ DECP_X	CEO_ DECP	CEO_ DECP_X
Constant		0.033 (0.062)	-0.082 (-0.147)	0.14* (1.957)	-0.162** (-2.27)
ABN_CFO	+	2.262** (2.083)	1.632 (1.43)	-0.099 (-1.154)	-0.067 (-0.783)
LEV	+	0.569 (1.375)	0.591 (1.361)	-0.022 (-0.526)	-0.032 (-0.768)
ROA	?	2.305 (1.148)	1.444 (0.685)	0.048 (0.794)	-0.03 (-0.508)
ASSETGROWTH	?	-0.036 (-1.565)	-0.019 (-0.816)	0.061** (2.688)	0.057** (2.537)
lnASSETS	?	0.03 (0.557)	0.076 (1.332)	0.009 (1.345)	0.055*** (8.037)
RESTATE	+	0.488 (0.48)	-0.541 (-0.508)	-0.418 (-2.669)	-0.366** (-2.348)
LOSS	+	0.049 (0.121)	-0.015 (-0.034)	-0.049* (-1.685)	-0.111*** (-3.784)
n		151	151	8430	8430
R ²		0.133	0.134	0.03	0.037
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 8.2

This table depicts the results of hypothesis 3a, 3b, and 3c, which tests the relationship between CEO deception and abnormal production (ABN_PROD). The dependent variables used were the CEO deception measures, CEO_DECP and CEO_DECP_X. H3A tests the full sample population. H3B and C split the sample and respectively test the target and non-target firms. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

H3A - All Firms			
	Pred.	CEO_DECP	CEO_DECP_X
Constant		0.11 (1.564)	-0.183** -2.597
ABN_PROD	+	-0.455*** (-7.595)	-0.407*** -6.805
LEV	+	-0.019 (-0.447)	-0.028 -0.679
ROA	?	-0.008 (-0.15)	-0.074 -1.316
ASSETGROWTH	?	0.021 (1.388)	0.021 1.414
lnASSETS	?	0.015** (2.21)	0.059*** 8.837
RESTATE	+	-0.329** (-2.128)	-0.302* -1.961
LOSS	+	-0.037 (-1.283)	-0.099*** -3.449
n		8581	8581
R ²		0.035	0.041
Industry FE		Yes	Yes
Year FE		Yes	Yes

Table 8.2 (continued)

	Pred.	H3B - EPS \$0.03		H3C - EPS \$0.03	
		CEO_ DECP	CEO_ DECP_X	CEO_ DECP	CEO_ DECP_X
Constant		0.000 (-0.001)	-0.274 (-0.728)	0.101 (1.395)	-0.19** (-2.638)
ABN_PROD	+	-0.595** (-2.185)	-0.535* (-1.95)	-0.452*** (-7.352)	-0.406*** (-6.619)
LEV	+	-0.542** (-2.35)	-0.462** (-1.987)	-0.002 (-0.036)	-0.015 (-0.349)
ROA	?	0.314 (0.992)	0.117 (0.368)	-0.013 (-0.219)	-0.076 (-1.322)
ASSETGROWTH	?	0.06 (0.612)	0.053 (0.541)	0.019 (1.223)	0.019 (1.268)
lnASSETS	?	-0.003 (-0.079)	0.035 (1.036)	0.016** (2.356)	0.061*** (8.788)
RESTATE	+	0.141 (0.286)	-0.178 (-0.357)	-0.375** (-2.307)	-0.308* (-1.898)
LOSS	+	0.429** (2.728)	0.238 (1.498)	-0.05* (-1.704)	-0.108*** (-3.704)
n		305	305	8276	8276
R ²		0.1	0.089	0.035	0.042
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 8.2 (continued)

	Pred.	H3B - Suspect		H3C - Suspect	
		CEO_ DECP	CEO_ DECP_X	CEO_ DECP	CEO_ DECP_X
Constant		-0.242 (-0.461)	-0.286 (-0.519)	0.104 (1.455)	-0.194** (-2.718)
ABN_PROD	+	-1.006** (-2.527)	-0.773* (-1.844)	-0.438*** (-7.208)	-0.393*** (-6.501)
LEV	+	0.488 (1.197)	0.534 (1.243)	-0.02 (-0.473)	-0.03 (-0.731)
ROA	?	2.609 (1.311)	1.666 (0.795)	-0.017 (-0.291)	-0.083 (-1.465)
ASSETGROWTH	?	-0.036 (-1.616)	-0.02 (-0.849)	0.06** (2.666)	0.055** (2.484)
lnASSETS	?	0.058 (1.066)	0.097* (1.691)	0.014** (2.12)	0.059*** (8.722)
RESTATE	+	0.428 (0.424)	-0.587 (-0.553)	-0.356** (-2.273)	-0.31** (-1.992)
LOSS	+	0.091 (0.227)	0.016 (0.038)	-0.041 (-1.403)	-0.104*** (-3.58)
n		151	151	8430	8430
R ²		0.146	0.143	0.035	0.041
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 8.3

This table depicts the results of hypothesis 3a, 3b, and 3c, which tests the relationship between CEO deception and abnormal discretionary expenses (ABN_DISEXP). The dependent variables used were the CEO deception measures, CEO_DECP and CEO_DECP_X. H3A tests the full sample population. H3B and C split the sample and respectively test the target and non-target firms. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

H3A - All Firms			
	Pred.	CEO_DECP	CEO_DECP_X
Constant		0.129*	-0.164**
		(1.831)	(-2.338)
ABN_DISEXP	+	0.315***	0.239***
		(8.6)	(6.541)
LEV	+	-0.012	-0.024
		(-0.3)	(-0.568)
ROA	?	0.114**	0.025
		(2.002)	(0.435)
ASSETGROWTH	?	0.001	0.006
		(0.073)	(0.426)
lnASSETS	?	0.012*	0.057***
		(1.78)	(8.438)
RESTATE	+	-0.35**	-0.327**
		(-2.271)	(-2.122)
LOSS	+	-0.06**	-0.117***
		(-2.062)	(-4.054)
n		8581	8581
R ²		0.037	0.041
Industry FE		Yes	Yes
Year FE		Yes	Yes

Table 8.3 (continued)

	Pred.	H3B - EPS \$0.03		H3C - EPS \$0.03	
		CEO_ DECP	CEO_ DECP_X	CEO_ DECP	CEO_ DECP_X
Constant		0.07 (0.188)	-0.217 (-0.574)	0.115 (1.595)	-0.175** (-2.433)
ABN_DISEXP	+	0.268* (1.971)	0.168 (1.224)	0.326*** (8.395)	0.251*** (6.485)
LEV	+	-0.497** (-2.134)	-0.436* (-1.853)	0.002 (0.047)	-0.012 (-0.285)
ROA	?	0.475 (1.45)	0.219 (0.662)	0.108* (1.866)	0.023 (0.396)
ASSETGROWTH	?	-0.085 (-0.69)	-0.037 (-0.294)	0.002 (0.129)	0.007 (0.435)
lnASSETS	?	-0.014 (-0.4)	0.028 (0.812)	0.014** (2.031)	0.058*** (8.469)
RESTATE	+	0.122 (0.247)	-0.2 (-0.4)	-0.395** (-2.432)	-0.331** (-2.044)
LOSS	+	0.389** (2.471)	0.207 (1.299)	-0.072** (-2.46)	-0.126*** (-4.298)
n		305	305	8276	8276
R ²		0.098	0.082	0.037	0.042
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 8.3 (continued)

	Pred.	H3B - Suspect		H3C - Suspect	
		CEO_ DECP	CEO_ DECP_X	CEO_ DECP	CEO_ DECP_X
Constant		-0.244 (-0.459)	-0.264 (-0.474)	0.128* (1.792)	-0.171* (-2.407)
ABN_DISEXP	+	0.762** (2.051)	0.466 (1.19)	0.302*** (8.103)	0.228*** (6.14)
LEV	+	0.506 (1.23)	0.542 (1.253)	-0.015 (-0.369)	-0.027 (-0.653)
ROA	?	2.547 (1.27)	1.617 (0.766)	0.105* (1.827)	0.015 (0.257)
ASSETGROWTH	?	-0.043* (-1.864)	-0.024 (-0.986)	0.021 (0.921)	0.027 (1.175)
lnASSETS	?	0.051 (0.933)	0.089 (1.547)	0.011* (1.676)	0.056*** (8.312)
RESTATE	+	0.392 (0.386)	-0.601 (-0.562)	-0.377** (-2.412)	-0.335** (-2.152)
LOSS	+	0.15 (0.37)	0.05 (0.118)	-0.063** (-2.151)	-0.121*** (-4.163)
n		151	151	8430	8430
R ²		0.132	0.13	0.037	0.041
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

When examining the non-target firm sample, there is a significant positive association ($p < 0.000$) between CEO_DECP and abn_DISEXP using both measures of the target firms. In addition, I find a positive association ($p < 0.000$) between CEO_DECP_X and abn_DISEXP using both definitions of target firms.

The association between the deception measure and ABN_PROD and ABN_DISSEXP provides support for the Roychowdhury (2006) definition of RAM, by empirically linking deceptive managerial intent to abnormal operating decisions. This provides support that the production and discretionary expense measures are truly measuring deceptive earnings management, and not just traditional earnings management. The association between the deception measure and the use of RAM by non-target firms also provides validation to studies that use RAM outside of the meet or beat earnings threshold (Becker et al., 1998; Bonacchi et al., 2018; Cohen et al., 2008; Gunny, 2010; Khurana et al., 2018; Liu et al., 2018).

5.4 Hypothesis 4

Hypothesis 4a, 4b, and 4c all examined the relationship between CFO deception, the RAM measures, abnormal cash flows from operations, abnormal production costs and abnormal discretionary expenses. The results are presented in Table 9.1 (ABN_CFO), Table 9.2 (ABN_PROD), and Table 9.3 (ABN_DISEXP). There was no significant association found between CFO_DECP and the three respective RAM indicators. This may be the case as the measure includes both deceptive words and categories of non-deceptive words, in the financial context, which have not been externally validated (Larcker & Zakolyukina, 2012).

When using the narrowed measure of CFO_DECP X there was a significant positive association ($p < 0.05$) found between the deception measure and `abn_CFO`, and a significant negative association ($p < 0.05$) found between the deception measure `abn_Prod`. There was no association found between the deception measure and `abn_DISEXP`. For all three RAM indicators, CFO_DECP_X was significantly positively associated with LEV and `lnAssets`, and negatively associated with `AssetGrowth`.

Shifting attention to hypothesis 4b and 4c, as expected there were no associations between the deception measures and `Disexp`. For `abn_CFO`, Table 9.1, there was no association between either deception measure and `abn_CFO` when looking at the target firms using the EPS measure. When using the suspect firm measure, there was a positive association ($p < 0.1$) found between CFO_DECP_X and `abn_CFO`. When looking at the sample of non-target firms, there was a positive association found between CFO_DECP ($p < 0.1$) and `abn_CFO` and CFO_DECP_X ($p < 0.05$) and `abn_CFO`. Utilizing the suspect firm definition there was a positive association ($p < 0.05$) between CFO_DECP_X and `abn_CFO`. This provides empirical support to the full RAM definition (Roychowdhury, 2006) and the theoretical definitions (Healy & Wahlen, 1999; Schipper, 1989) providing evidence that RAM is carried out with a deceptive managerial intent. In addition, the associations found in the non-target firms demonstrates that RAM may be carried out with a deceptive intent when there is no clear incentive for managers to manage earnings.

Table 9.1

This table depicts the results of hypothesis 4a, 4b, and 4c, which tests the relationship between CFO deception and abnormal cashflows (ABN_CFO). The dependent variables used were the CFO deception measures, CFO_DECP and CFO_DECP_X. H4A tests the full sample population. H4B and C split the sample and respectively test the target and non-target firms. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

H4A - All Firms			
	Pred.	CFO_DECP	CFO_DECP_X
Constant		-0.683*** (-9.646)	-0.762*** (-10.941)
ABN_CFO	+	0.169 (1.900)	0.235** (2.691)
LEV	+	0.046 (1.094)	0.125** (3.031)
ROA	?	-0.023 (-0.372)	-0.006 (-1.825)
ASSETGROWTH	?	-0.011 (-0.720)	-0.028* (-1.825)
lnASSETS	?	0.094*** (14.095)	0.107*** (16.239)
RESTATE	+	-0.169 (-1.110)	0.034 (0.226)
LOSS	+	0.028 (0.972)	-0.019 (-0.645)
n		8442	8442
R ²		0.041	0.073
Industry FE		Yes	Yes
Year FE		Yes	Yes

Table 9.1 (continued)

	Pred.	H4B - EPS \$0.03		H4C - EPS \$0.03	
		CFO_ DECP	CFO_ DECP_X	CFO_ DECP	CFO_ DECP_X
Constant		-0.295 (-0.795)	-0.262 (-0.676)	-0.706*** (-9.751)	-0.792*** (-11.154)
ABN_CFO	+	-0.152 (-0.437)	-0.068 (-0.186)	0.181* (1.928)	0.223** (2.414)
LEV	+	-0.036 (-0.146)	0.267 (1.047)	0.051 (1.185)	0.123** (2.939)
ROA	?	-0.091 (-0.248)	-0.287 (-0.744)	-0.022 (-0.343)	0.003 (0.042)
ASSETGROWTH	?	-0.111 (-0.890)	-0.233* (-1.784)	-0.010 (-0.661)	-0.024 (-1.589)
lnASSETS	?	0.067* (1.928)	0.098** (2.684)	0.096*** (14.048)	0.109*** (16.208)
RESTATE	+	0.224 (0.396)	0.525 (0.889)	-0.196 (1.124)	-0.003 (-0.023)
LOSS	+	-0.080 (-0.502)	-0.211 (-1.271)	0.033 (-0.186)	-0.012 (-0.400)
n		292	292	8150	8150
R ²		0.063	0.130	0.042	0.073
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 9.1 (continued)

	Pred.	H4B - Suspect		H4C - Suspect	
		CFO_ DECP	CFO_ DECP_X	CFO_ DECP	CFO_ DECP_X
Constant		-0.556 (-1.004)	-0.790 (-1.335)	-0.670*** (-9.349)	-0.740*** (-10.509)
ABN_CFO	+	1.801 (1.595)	2.309* (1.915)	0.140 (1.563)	0.200** (2.274)
LEV	+	-0.669 (-1.533)	-0.179 (-0.384)	0.051 (1.209)	0.125** (3.014)
ROA	?	-3.331 (-1.561)	-3.043 (-1.336)	0.001 (0.010)	0.016 (0.264)
ASSETGROWTH	?	0.016 (0.662)	-0.001 (-0.057)	-0.055** (-2.351)	-0.076** (-3.279)
lnASSETS	?	0.110* (1.834)	0.109* (1.701)	0.094*** (13.865)	0.106*** (15.976)
RESTATE	+	1.343 (1.248)	-0.095 (-0.082)	-0.201 (-1.312)	0.035 (0.231)
LOSS	+	-0.773* (-1.795)	-0.502 (1.529)	0.033 (1.109)	-0.017 (-0.605)
n		146	146	8296	8296
R ²		0.177	0.158	0.042	0.074
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 9.2

This table depicts the results of hypothesis 4a, 4b, and 4c, which tests the relationship between CFO deception and abnormal production costs (ABN_PROD). The dependent variables used were the CFO deception measures, CFO_DECP and CFO_DECP_X. H4A tests the full sample population. H4B and C split the sample and respectively test the target and non-target firms. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

H4A - All Firms			
	Pred.	CFO_DECP	CFO_DECP_X
Constant		-0.683*** (-9.640)	-0.765*** (-10.988)
ABN_PROD	+	-0.096 (-1.584)	-0.183** (-3.084)
LEV	+	0.043 (1.029)	0.122** (2.947)
ROA	?	0.005 (0.085)	0.028 (0.478)
ASSETGROWTH	?	-0.014 (-0.878)	-0.031** (-2.065)
lnASSETS	?	0.095*** (14.088)	0.108*** (16.318)
RESTATE	+	-0.158 (-1.039)	0.055 (0.370)
LOSS	+	0.023 (0.799)	-0.025 (-0.884)
n		8442	8442
R ²		0.041	0.073
Industry FE		Yes	Yes
Year FE		Yes	Yes

Table 9.2 (continued)

	Pred.	H4B - EPS \$0.03		H4C - EPS \$0.03	
		CFO_ DECP	CFO_ DECP_X	CFO_ DECP	CFO_ DECP_X
Constant		-0.341 (-0.922)	-0.300 (-0.777)	-0.705*** (-9.735)	-0.796*** (-11.207)
ABN_PROD	+	-0.283 (-1.015)	-0.307 (-1.055)	-0.084 (-1.354)	-0.172 ** (-2.837)
LEV	+	-0.032 (-0.131)	0.275 (1.078)	0.047 (1.097)	0.119** (2.839)
ROA	?	-0.142 (-0.411)	-0.307 (-0.848)	0.009 (0.147)	0.033 (0.558)
ASSETGROWTH	?	-0.080 (-0.811)	-0.220** (-2.137)	-0.012 (-0.759)	-0.027* (-1.733)
lnASSETS	?	0.071** (2.075)	0.100** (2.799)	0.096*** (14.026)	0.110*** (16.295)
RESTATE	+	0.251 (0.445)	0.550 (0.933)	-0.187 (-1.180)	0.018 (0.119)
LOSS	+	-0.062 (-0.391)	-0.195 (-1.176)	0.028 (0.935)	-0.018 (-0.624)
n		292	292	8150	8150
R ²		0.066	0.134	0.042	0.074
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 9.2 (continued)

	Pred.	H4B - Suspect		H4C - Suspect	
		CFO_ DECP	CFO_ DECP_X	CFO_ DECP	CFO_ DECP_X
Constant		-0.800 (-1.444)	-1.117* (-1.892)	-0.669*** (-9.338)	-0.742*** (-10.540)
ABN_PROD	+	-0.679 (-1.594)	-0.948** (-2.091)	-0.085 (-1.396)	-0.167** (-2.775)
LEV	+	-0.730* (-1.685)	-0.254 (-0.550)	0.049 (1.152)	0.122** (2.938)
ROA	?	-3.085 (-1.449)	-2.724 (-1.201)	0.024 (0.403)	0.045 (0.774)
ASSETGROWTH	?	0.015 (0.643)	-0.002 (-0.087)	-0.060** (-2.568)	-0.083*** (-3.615)
lnASSETS	?	0.134** (2.217)	0.142** (2.201)	0.094*** (13.859)	0.107*** (16.046)
RESTATE	+	1.284 (1.193)	-0.176 (-0.153)	-0.192 (-1.246)	0.055 (0.366)
LOSS	+	-0.726* (-1.691)	-0.442 (-0.968)	0.028 (0.968)	-0.023 (-0.806)
n		146	146	8296	8296
R ²		0.177	0.163	0.042	.074
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 9.3

This table depicts the results of hypothesis 4a, 4b, and 4c, which tests the relationship between CFO deception and abnormal discretionary expenses (ABN_DISEXP). The dependent variables used were the CFO deception measures, CFO_DECP and CFO_DECP_X. H4A tests the full sample population. H4B and C split the sample and respectively test the target and non-target firms. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

H4A - All Firms			
	Pred.	CFO_DECP	CFO_DECP_X
Constant		-0.678*** (-9.591)	-0.753*** (-10.828)
ABN_DISEXP	+	0.043 (1.165)	0.024 (0.651)
LEV	+	0.044 (1.050)	0.121** (2.938)
ROA	?	0.025 (0.426)	0.052 (0.887)
ASSETGROWTH	?	-0.016 (-1.028)	-0.032** (-2.089)
lnASSETS	?	0.094*** (14.035)	0.106*** (16.108)
RESTATE	+	-0.167 (-1.097)	0.032 (0.215)
LOSS	+	0.020 (0.679)	-0.029 (-0.998)
n		8442	8442
R ²		0.041	0.072
Industry FE		Yes	Yes
Year FE		Yes	Yes

Table 9.3 (continued)

	Pre d.	H4B - EPS \$0.03		H4C - EPS \$0.03	
		CFO_DE CP	CFO_DECP _X	CFO_DE CP	CFO_DECP _X
Constant		-0.308 (-0.834)	-0.272 (-0.705)	-0.703*** (-9.707)	-0.787*** (-11.087)
ABN_DISEXP	+	0.098 (0.706)	-0.032 (-0.222)	0.046 (1.170)	0.046 (1.172)
LEV	+	-0.017 (-0.067)	0.257 (1.000)	0.048 (1.113)	0.119** (2.843)
ROA	?	-0.091 (-0.255)	-0.329 (-0.887)	0.028 (0.465)	0.061 (1.030)
ASSETGROW TH	?	-0.133 (-1.055)	-0.200 (-1.513)	-0.014 (-0.892)	-0.028* (-1.830)
lnASSETS	?	0.067* (1.947)	0.100** (2.776)	0.096*** (14.001)	0.108*** (16.132)
RESTATE	+	0.227 (0.401)	0.530 (0.898)	-0.193 (-1.223)	-0.001 (-0.009)
LOSS	+	-0.082 (-0.516)	-0.206 (-1.245)	0.024 (0.822)	-0.022 (-0.764)
n		292	292	8150	8150
R ²		0.064	0.130	0.042	0.073
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 9.3 (continued)

	Pre d.	H4B - Suspect		H4C - Suspect	
		CFO_DE CP	CFO_DECP _X	CFO_DE CP	CFO_DECP _X
Constant		-0.746 (-1.325)	-1.053* (-1.750)	-0.665*** (-9.298)	-0.732*** (-10.405)
ABN_DISEXP	+	0.272 (0.676)	0.432 (1.002)	0.058 (1.533)	0.037 (1.002)
LEV	+	-0.734* (-1.676)	-0.255 (-0.544)	0.050 (1.181)	0.122** (2.942)
ROA	?	-3.117 (-1.451)	-2.767 (-1.204)	0.047 (0.795)	0.071 (1.210)
ASSETGROW TH	?	0.014 (0.564)	-0.005 (-0.190)	-0.068** (-2.816)	-0.087*** (-3.674)
lnASSETS	?	0.124** (2.041)	0.128* (1.979)	0.093*** (13.833)	0.105*** (15.877)
RESTATE	+	1.293 (1.190)	-0.170 (-0.146)	-0.197 (-1.285)	0.035 (0.234)
LOSS	+	-0.700 (-1.611)	-0.402 (-0.864)	0.024 (0.820)	-0.027 (-0.946)
n		146	146	8296	8296
R ²		0.163	0.140	0.042	0.073
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

There was no association found for CFO_DECP and abn_PROD when examining target and non-target firm measures. There is a negative association between CFO_DECP_X and abn_PROD ($p < 0.05$) when looking at the target firms using the suspect firm measure. When evaluating the sample that excludes the target firms, there is a negative association between CFO_DECP_X and abn_Prod utilizing both the EPS measure and the suspect firm measure.

5.5 Hypothesis 1-4 Robustness Tests

There is a lapse of time between the manager's use of an earnings management technique and the fourth quarter earnings call. The delay raises the question of whether deception contributes to the use of earnings management or does the use of earnings management contribute to deception. By the theoretical and deceptive earnings management definitions, I expect the latter to be the case.

The Granger causality test allows us to test this relationship. While not proving causality, the Granger tests checks to see if the predictability of the autocorrelation of one variable is improved by adding in an additional variable. Essentially is there additional information in Y that can explain X. I test two null hypotheses in non-tabulated results; the first is that the deception measure (X) is influenced by itself and not by the earnings management measure (Y). The second is that the earnings management (X) measure is influenced by itself and not by the deception measure (Y). The test was run using five years of data (five lags) for both the deception measure and the earnings management measure.

There is no instance where the second null hypothesis, earnings management is influenced by itself and not the deception measure can be rejected. I found both CEO

deception measures granger cause `abn_PROD`, therefore rejecting the first null hypothesis. When evaluating the CFO deception measures, I found that `CFO_DECP` granger causes `DA`.

The results indicate that the earnings management measures provide additional information to the deception measure. This provides evidence supporting the idea that deception is influenced by earnings management behavior. Thus, earnings management behavior is engaged in with the intent to deceive.

5.6 Hypothesis 5

Hypothesis 5 examines the relationship between the FOG index of the annual report and the deception of the CEO or CFO during the annual conference call. When testing Hypothesis 5, I first used `DA` as the earnings management variable and separately tested `CEO_DECP` and `CEO_DECP_X`. The results can be found in table `HYP5CEO`. There is a significantly positive relationship ($p < 0.1$) between FOG and `CEO_DECP`, this is in support of hypothesis 5a. There was also a positive association ($p < 0.000$) found between FOG and `LOSS`, `logMVE`, and `AGE`, respectively as expected (Lo et al., 2017). When changing the MBE measure from the target firm definition (change of EPS of \$0.03 or less) and the suspect firm definition (Roychowdhury, 2006). There was virtually no change among the results. When using `CEO_DECP_X` as the deception measure there was no significant relationship between FOG and `CEO_DECP_X`.

Changing the earnings management measure to `ABN_CFO` yields the following results. No significance was found between FOG and either deception measure using either the target firms or suspect firm definition.

Table 10

These tables represent the results of hypothesis 5a which tests the relationship between the FOG index and CEO deception. FOG is calculated by $0.4 * (\text{words per sentence} + \text{percent of complex words})$ where complex words are defined as words that are three or more syllables. The CEO_DECP and CEO_DECP_X were used as the deception measures. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

	Pred	Modified Jones - Discretionary Accruals			
Constant		18.039*** (69.271)	18.036*** (69.264)	18.046*** (69.224)	18.043*** (69.227)
CEO_DECP	+	0.051* (1.657)	0.051* (1.669)		
CEO_DECP_X	+			0.022 (0.723)	0.023 (0.733)
ΔEPS	-	0.002 (0.137)	0.002 (0.141)	0.002 (0.173)	0.003 (0.178)
MBE - EPS	+	0.021 (0.118)		0.031 (0.18)	
MBE - Suspect	+		0.089 (0.355)		0.087 (0.344)
DA	+	0.266 (0.829)	0.268 (0.837)	0.26 (0.811)	0.262 (0.819)
LOSS	+	0.508*** (6.162)	0.511*** (6.172)	0.508*** (6.159)	0.511*** (6.169)
logMVE	-	0.194*** (8.664)	0.195*** (8.672)	0.194*** (8.631)	0.195*** (8.636)
AGE	?	-0.015*** (-6.544)	-0.015*** (-6.538)	-0.015*** (-6.555)	-0.015*** (-6.551)
EARNVOL	+	0.000** (-2.087)	0.000** (-2.086)	0.000** (-2.082)	0.000** (-2.081)
RETVOL	+	2.274** (3.222)	2.276** (3.225)	2.258** (3.199)	2.258** (3.2)
n		4274	4274	4274	4274
R ²		.048	.048	0.047	0.047
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 10 (continued)

	Pred	Abnormal Cash flows			
Constant		18.133*** (69.509)	18.132*** (69.498)	18.14*** (69.461)	18.141*** (69.461)
CEO_DECP	+	0.05 (1.617)	0.05 (1.628)		
CEO_DECP_X	+			0.023 (0.735)	0.023 (0.743)
ΔEPS	-	0.004 (0.269)	0.004 (0.272)	0.004 (0.302)	0.004 (0.306)
MBE - EPS	+	0.021 (0.122)		0.032 (0.182)	
MBE - Suspect	+		0.047 (0.186)		0.044 (0.175)
ABN_CFO	+	-1.059*** (-3.834)	-1.057*** (-3.824)	-1.064*** (-3.849)	-1.062*** (-3.839)
LOSS	+	0.416*** (5.113)	0.418*** (5.112)	0.417*** (5.113)	0.418*** (5.112)
logMVE	-	0.189*** (8.521)	0.189*** (8.521)	0.189*** (8.486)	0.189*** (8.483)
AGE	?	-0.015*** (-6.702)	-0.015*** (-6.699)	-0.015*** (-6.714)	-0.015*** (-6.713)
EARNVOL	+	0.000** (-2.03)	0.000** (-2.029)	0.000** (-2.026)	0.000** (-2.025)
RETVOL	+	1.91** (2.69)	1.91** (2.691)	1.893** (2.666)	1.892** (2.665)
n		4274	4274	4274	4274
R ²		0.051	0.051	0.05	0.05
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 10 (continued)

	Pred	Abnormal Production			
Constant		18.052*** (69.201)	18.049*** (69.199)	18.059*** (69.162)	18.057*** (69.172)
CEO_DECP	+	0.05 (0.106)	0.05 (1.628)		
CEO_DECP_X	+			0.022 (0.695)	0.022 (0.705)
ΔEPS	-	0.003 (0.234)	0.003 (0.239)	0.004 (0.264)	0.004 (0.269)
MBE - EPS	+	0.019 (0.112)		0.03 (0.171)	
MBE - Suspect	+		0.084 (0.332)		0.081 (0.321)
ABN_PROD	+	-0.054 (0.709)	-0.053 (-0.371)	-0.065 (-0.448)	-0.065 (-0.448)
LOSS	+	0.489*** (6.159)	0.491*** (6.167)	0.489*** (6.159)	0.491*** (6.167)
logMVE	-	0.191*** (8.554)	0.191*** (8.563)	0.191*** (8.517)	0.191*** (8.523)
AGE	?	-0.014*** (-6.476)	-0.014*** (-6.47)	-0.014*** (-6.482)	-0.014*** (-6.478)
EARNVOL	+	0.000** (0.039)	0.000** (-2.063)	0.000** (-2.058)	0.000** (-2.058)
RETVOL	+	2.253** (3.193)	2.254** (3.195)	2.236** (-2.058)	2.236** (3.17)
n		4274	4274	4274	4274
R ²		0.048	0.048	0.047	0.047
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 10 (continued)

	Pred	Abnormal Discretionary Expenses			
Constant		18.118*** (68.714)	18.115*** (68.719)	18.128*** (68.707)	18.126*** (68.725)
CEO_DECP	+	0.046 (1.483)	0.046 (1.491)		
CEO_DECP_X	+			0.019 (0.62)	0.019 (0.627)
ΔEPS	-	0.003 (0.189)	0.003 (0.194)	0.003 (0.217)	0.003 (0.221)
MBE - EPS	+	0.01 (0.056)		0.019 (0.109)	
MBE - Suspect	+		0.076 (0.3)		0.072 (0.288)
ABN_DISEXP	+	0.204* (1.713)	0.204* (1.71)	0.217* (1.82)	0.216* (1.819)
LOSS	+	0.464*** (5.742)	0.466*** (5.748)	0.462*** (5.724)	0.464*** (5.729)
logMVE	-	0.184*** (8.138)	0.185*** (8.148)	0.184*** (8.093)	0.184*** (8.101)
AGE	?	-0.014*** (-6.267)	-0.014*** (-6.261)	-0.014*** (-6.265)	-0.014*** (-6.26)
EARNVOL	+	0.000* (-1.963)	0.000* (-1.963)	0.000* (-1.953)	0.000* (-1.953)
RETVOL	+	2.099** (2.952)	2.102** (2.957)	2.076** (2.919)	2.077** (2.921)
n		4274	4274	4274	4274
R ²		0.048	0.043	0.048	0.048
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

There was a significant positive ($p < .001$) relationship found between FOG and ABN_CFO. When using ABN_PROD as the earnings management measure, there was no relationship found between FOG and the deception measures. Using the final RAM measure of ABN_DISEXP I find a significant positive association ($p < 0.1$) between FOG and ABN_DISEXP. I find no relationship between FOG and the deception measures.

Similar to the other models, LOSS, the logMVE, and AGE were all significant at the $p < 0.001$ level. All associations were predicted given the results of Lo et al. (2017). The lack of association between the deception measures and the FOG index suggests that Bloomfield's (2008) explanation was correct, that good performance is easier to explain than bad performance.

Shifting to examine the relationship between FOG and the deception of CFOs, I find the following results, present in Table HYP5CFO. Using DA as the earnings management measure, I find a significant positive relationship ($p < 0.1$) between FOG and CFO_DECPX. This relationship holds using either the EPS measure or suspect firm definition for MBE. This provides limited support for Hypothesis 5b and for Lo et al.'s (2017) theory that managers intentionally make financial reports harder to read. I also find a significant positive relationship ($p < 0.001$) between FOG and LOSS and logMVE, a significant negative relationship ($p < 0.001$) between FOG and AGE. The earnings volatility (EARNVOL) and returns volatility (RETVOL) have a significant positive relationship ($p < 0.05$) with FOG. The control variables retained their significance in all tested models, as expected (Li, 2008; Lo et al., 2017)

I find no further significance between FOG and the CFO deception measures when utilizing the other earnings management measures, such as ABN_CFO, ABN_PROD, and ABN_DIS_EXP. I do find a significant negative relationship between FOG and ABN_CFO using both deception measures, and both MBE benchmarks. This suggests that, as the complexity of the annual report MD&A increases, earnings management attempts of altering cash flows decreases.

Table 11

These tables represent the results of hypothesis 5b which tests the relationship between the FOG index and CFO deception. FOG is calculated by $0.4 \times (\text{words per sentence} + \text{percent of complex words})$ where complex words are defined as words that are three or more syllables. The CFO_DECP and CFO_DECP_X were used as the deception measures. Target firms were defined in two ways, the first was if a firm had earnings per share within \$0.03 of last year's earnings per share. The suspect measure followed Roychowdhury (2006) and target firms were defined as those firms where net income scaled by assets is greater than or equal to zero but less than 0.005. The coefficients are on the first line, and the t-statistics are in the parentheses *** p < 0.01, ** p < 0.05, * p < 0.1

	Pred	Modified Jones - Discretionary Accruals			
Constant		18.179*** (67.482)	18.182*** (67.51)	18.107*** (67.233)	18.111*** (67.267)
CFO_DECP	+	0.026 (0.815)	0.026 (0.816)		
CFO_DECP_X	+			-0.053* (-1.653)	-0.053* (-1.649)
ΔEPS	-	0.007 (0.472)	0.007 (0.473)	0.006 (0.39)	0.006 (0.392)
MBE - EPS	+	0.042 (0.24)		0.048 (0.272)	
MBE - Suspect	+		0.013 (0.053)		0.016 (0.064)
DA	+	-0.056 (-0.164)	-0.055 (-0.161)	-0.063 (-0.183)	-0.062 (-0.18)
LOSS	+	0.46*** (5.395)	0.46*** (5.381)	0.465*** (5.458)	0.465*** (5.446)
logMVE	-	0.173*** (7.398)	0.172*** (7.388)	0.182*** (7.767)	0.182*** (7.757)
AGE	?	-0.016*** (-6.887)	-0.016*** (-6.89)	-0.015*** (-6.764)	-0.015*** (-6.768)
EARNVOL	+	0** (-2.207)	0** (-2.207)	0** (-2.329)	0** (-2.329)
RETVOL	+	2.299** (3.133)	2.295** (3.129)	2.276** (3.103)	2.272** (3.098)
n		4177	4177	4177	4177
R ²		0.046	0.046	0.046	0.046
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 11 (continued)

	Pred	Abnormal Cash flows			
Constant		18.242*** (67.641)	18.247*** (67.666)	18.17*** (67.379)	18.176*** (67.41)
CFO_DECP	+	0.027 (0.845)	0.027 (0.848)		
CFO_DECP_X	+			-0.051 (-1.584)	-0.051 (-1.579)
ΔEPS	-	0.007 (0.464)	0.007 (0.464)	0.005 (0.382)	0.005 (0.382)
MBE - EPS	+	0.046 (0.259)		0.051 (0.291)	
MBE - Suspect	+		-0.019 (-0.076)		-0.016 (-0.062)
ABN_CFO	+	-0.925** (-3.1)	-0.926** (-3.099)	-0.912** (-3.056)	-0.912** (-3.055)
LOSS	+	0.403*** (4.808)	0.403*** (4.783)	0.41*** (4.887)	0.41*** (4.863)
logMVE	-	0.171*** (7.422)	0.171*** (7.406)	0.18*** (7.788)	0.18*** (7.772)
AGE	?	-0.016*** (-7.064)	-0.016*** (-7.07)	-0.016*** (-6.942)	-0.016*** (-6.948)
EARNVOL	+	0** (-2.206)	0** (-2.206)	0** (-2.326)	0** (-2.326)
RETVOL	+	2.046** (2.777)	2.042** (2.771)	2.029** (2.754)	2.024** (2.748)
n		4177	4177	4177	4177
R ²		0.048	0.048	0.049	0.049
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 11 (continued)

	Pred	Abnormal Production			
Constant		18.17*** (67.32)	18.173*** (67.363)	18.099*** (67.075)	18.102*** (67.125)
CFO_DECP	+	0.026 (0.814)	0.026 (0.816)		
CFO_DECP_X	+			-0.053 (-1.646)	-0.053 (-1.642)
ΔEPS	-	0.007 (0.473)	0.007 (0.474)	0.006 (0.387)	0.006 (0.389)
MBE - EPS	+	0.045 (0.253)		0.05 (0.284)	
MBE - Suspect	+		0.013 (0.053)		0.016 (0.065)
ABN_PROD	+	0.068 (0.392)	0.067 (0.383)	0.064 (0.37)	0.063 (0.36)
LOSS	+	0.463*** (5.668)	0.464*** (5.654)	0.469*** (5.74)	0.47*** (5.727)
logMVE	-	0.174*** (7.477)	0.174*** (7.468)	0.183*** (7.845)	0.183*** (7.836)
AGE	?	-0.016*** (-6.917)	-0.016*** (-6.919)	-0.015*** (-6.794)	-0.015*** (-6.797)
EARNVOL	+	0** (-2.217)	0** (-2.217)	0** (-2.339)	0** (-2.339)
RETVOL	+	2.308** (3.148)	2.304** (3.143)	2.287** (3.118)	2.282** (3.113)
n		4177	4177	4177	4177
R ²		0.046	0.046	0.046	0.046
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Table 11 (continued)

	Pred	Abnormal Discretionary Expenses			
Constant		18.25*** (66.927)	18.252*** (66.974)	18.177*** (66.667)	18.18*** (66.72)
CFO_DECP	+	0.026 (0.828)	0.026 (0.829)		
CFO_DECP_X	+			-0.053 (-1.629)	-0.052 (-1.626)
ΔEPS	-	0.005 (0.374)	0.005 (0.375)	0.004 (0.292)	0.004 (0.293)
MBE - EPS	+	0.03 (0.169)		0.036 (0.203)	
MBE - Suspect	+		0.007 (0.028)		0.01 (0.04)
ABN_DISEXP	+	0.205 (1.645)	0.206* (1.653)	0.202 (1.617)	0.203 (1.626)
LOSS	+	0.439*** (5.278)	0.439*** (5.261)	0.445*** (5.353)	0.445*** (5.337)
logMVE	-	0.165*** (7)	0.165*** (6.992)	0.174*** (7.369)	0.174*** (7.361)
AGE	?	-0.015*** (-6.679)	-0.015*** (-6.68)	-0.015*** (-6.562)	-0.015*** (-6.563)
EARNVOL	+	0** (-2.092)	0** (-2.091)	0** (-2.215)	0** (-2.214)
RETVOL	+	2.161** (2.929)	2.158** (2.925)	2.142** (2.903)	2.138** (2.899)
n		4177	4177	4177	4177
R ²		0.047	0.047	0.047	0.047
Industry FE		Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Yes	Yes

Chapter 6: Discussion of Results

The format of the results discussion is as follows: I first examine the results of hypotheses 1-4 concentrating on each earnings management technique for both the CEO and CFO's use of deception and discuss the potential causes and implications of the results. I then discuss the results of hypothesis 5.

There was no relationship found between CEO deception and discretionary accruals. A negative association was found between CFO_DECP_X and discretionary accruals. Demonstrating that as CFO deception increases, discretionary accruals decreases, suggesting that deceptive CFOs are managing earnings downwards by decreasing discretionary accruals. Digging further, we see that this result is surprisingly driven by non-target firms. This suggests that deceptive non-target firms may be intentionally managing earnings downwards.

When evaluating the real activities management techniques, I find that CEO deception was not significantly associated with abnormal cashflows when examining all firms. CFO deception was positively associated with abnormal cashflows when looking at all firms. When the firms were separated between target and non-target firms I find a positive association between CEO deception and the abnormal cash flows when utilizing the EPS measure. When studying CFO deception, I find a positive association between the restricted CFO deception measure (CFO_DECP_X) and abnormal cash flows. Interestingly, the results seem to be driven by both target and non-target firms.

When examining the results of CEO deception and abnormal production, I find a negative association across the board, regardless of the deception measure and the target firm measure. Using only the restricted CFO deception measure, I find a similar negative

association across the board. When abnormal production costs are used for earnings management, one expects costs to be abnormally high, to increase cost of goods sold, per unit, and therefore improve operating margins. However, I find abnormally low production costs numbers which suggest that executives may be deceitful to cover up poor fiscal performance or a poor future outlook.

When examining discretionary expenses, I find a positive association between both CEO deception measures and abnormal discretionary expenses when considering the total sample. There was significance found in both the target and non-target firm samples, although the result seems to be primarily driven by the non-target firms. There were no associations found when using CFO deception measures. These findings suggest that non-target firms do engage in earnings management and attempt to cover it up through deception.

It might be expected that the results of the CEO and CFO deception should mirror each other. The evidence supporting CFO deception and earnings management were primarily found when examining discretionary accruals, whereas the evidence supporting CEO deception and earnings management was primarily found when evaluating the RAM measures. The discrepancy may lie in the overall strategy and roles of each position. The CEO sets the strategy of the company and is the leader when it comes to operational decisions, which may be why the evidence associating deception and earnings management was found in the operational earnings management techniques. The CFO supports the CEO's vision but also has a greater impact over the accounting estimates and judgments utilized. Therefore, a greater association was found in the discretionary accruals measures, but not the RAM measures.

When reviewing the results of hypothesis 5, I find an association between CEO deception and the FOG index when utilizing the discretionary accruals. I find a similar association when using the narrowed CFO deception measure. The purpose of this hypothesis was to uncover a possible cause for the results found in Lo et al. (2017). I find limited evidence to support the idea that the complexity of the MD&A is due to deception. The sample in this study used larger firms than the Lo et al. (2017) study, and deception may be a larger contributing factor when smaller firms are examined.

Chapter 7: Conclusions and Limitations

This study bridges the gap between qualitative and quantitative earnings management literature. The quantitative literature suggests that earnings management is widespread where the qualitative literature is heavy with nuances about the use and purpose of earnings management. I used a deception index to measure whether executives were being deceptive in relation to their earnings management use during annual conference calls. I expected to find the use of deception in conference calls limited to target firms, defined as those around the meet-or-beat benchmark.

Throughout the study, I find an association between executive deception and the earnings management measures. I find that CEO deception is primarily associated with RAM measures, whereas CFO deception is primarily associated with the discretionary accruals measure. This is indicative of the different earnings management strategies executives use in relation to their role within an organization.

The purpose of this study was to differentiate between traditional and deceptive earnings management, with the prediction that deceptive earnings management would be largely found in firms that are at the meet-or-beat earnings benchmark. Contrary to expectations, the evidence towards deceptive earnings management was found primarily in the non-target firm samples. This suggests that deceptive earnings management is widespread, beyond firms that have a discernable external motive.

The negative relationship between deception and abnormal production costs is also an interesting finding, as it suggests that deception is related to less production by firms. The deception may be caused by executives who are trying to cover up less expected demand for their products or a winding down of certain aspects of their

businesses. The final task I set out to complete in this study was to provide evidence that ties deception to the increasing complexity in annual report MD&A, as documented in Lo et al. (2017). I was able to find minimal evidence linking executive deception to a greater degree of complexity in the MD&A.

One limitation of the study is the bag-of-words textual analysis approach, which does not account for context within the transcript or document. In addition, there may be other reasons the executives were deceitful, which the models do not fully account for. Future research can further examine the deception model as it relates to earnings management and may be able to better pinpoint the types of words executives use to be deceptive. Other textual analysis approaches, beyond the bag-of-words approach, can also be used to study managerial deception. The relationship between deception and abnormally low production costs can also be examined further.

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Appendix A. Deceptive Word Categories

Category	Abbreviation	Content
Reference to General Knowledge	REFGK	everybody knows, everybody long knows, everybody well knows, everybody would agree, everyone knows, everyone long knows, everyone well knows, everyone would agree, investors know, investors long know, investors well know, investors would agree, others know, others long know, others well know, others would agree, shareholders know, shareholders long know, shareholders well know, shareholders would agree, stockholders know, stockholders long know, stockholders well know, stockholders would agree , they know, they long know, they well know, they would agree, you folks know, you guys know, you know, you long know, you well know, you would agree
Extreme Positive Emotions	XPOSEMOT	amaz*, A-one, astonish*, awe-inspiring, awesome, awful, bang-up, best, bless*, brillian*, by all odds, careful*, challeng*, cherish*, confidence, confident, confidently, convinc*, crack, cracking, dandy, deadly, definite, definitely, delectabl*, delicious*, deligh*, deucedly, devilishly, dynam*, eager*, emphatically, enormous, excel*, excit*, exult, fab, fabulous*, fantastic*, first-rate, flawless*, genuinely, glori*, gorgeous*, grand, grande*, gratef*, great, groovy, hero*, huge, illustrious, immense, in spades, in truth, incredibl*, insanely, inviolable, keen*, luck, lucked, lucki*, lucks, lucky, luscious, madly, magnific*, marvellous, marvelous, neat*, nifty, outstanding, peachy, perfect*, phenomenal, potent, privileg*, rattling, redoubtable, rejoice, scrumptious*, secur*, sincer*, slap-up, smashing, solid, splend*, strong*, substantial, succeed*, success*, super, superb, superior*, suprem*, swell, terrific*, thankf*, tiptop, topnotch, treasur*, tremendous, triumph*, truly, truth*, unassailable, unbelievable, unquestionably, vast, very good , wonderf*, wondrous, wow*, yay, yays

Shareholder Value	SV	shareholder value, shareholder welfare, shareholder well-being, value for our shareholders, value for shareholders, stockholder value, stockholder welfare, stockholder well-being, value for our stockholders, value for stockholder, investor value, investor welfare, investor well-being, value for our investors, value for investors
Anxiety	ANX	LIWC category "anx": worried, fearful, nervous, etc.
Negations	NEGATE	LWIC category "Negate": ain't, can't, isn't, never, no, nowhere, neither, etc.
Swear words	SWEAR	LWIC category "Swear": English swear words and variations thereof
Extreme negative emotions	XNEGEMOT	abominable, abortive, absurd, advers*, ambitious, annihilating, annihilative, atrocious, awful, badly, baffling, barbarous, bias, breach, brokenhearted, brutal*, calamitous, careless*, catchy, challenging, cockeyed, coerce, crafty, craz*, cruel*, crushed, cunning, curious, danger*, daunting, daze*, defect*, degrad*, demanding, demeaning, depress*, derisory, despair*, desperat*, despicable, destroy*, devastat*, devil*, difficult*, dire, direful, disastrous, disgraceful, dodgy, dread*, exasperating, exorbitant, extortionate, fail*, farcical, farfetched, fatal*, fateful, fault*, fearful*, fearsome, fierce, finished, fright*, frustrat*, funny, grave*, griev*, guileful, hard, harebrained, harm, harmed, harmful*, harming, harms, heartbreak*, heartbroke*, heartless*, heartrending, heartsick, hideous, hopeless*, horr*, humbling, humiliat*, hurt*, idiot, idiotic, ignominious, ignor*, implausible, impossible, improbable, inauspicious, inconceivable, inferior*, infuriating, inglorious, insane, insecur*, intimidat*, jerk, jerked, jerks, kayoed, knavish, knocked out, knotty, KO'd out, KO'd out, laughable, life-threatening, luckless*, ludicrous*, maddening, madder, maddest, maniac*, menace, mess, messy, miser*, misfortunate, mortifying, muddle, nast*,

nonsensical, outrag*, overwhelm*, painf*,
 panic*, paranoi*, pathetic*, peculiar*, pessimis*,
 pickle, piti*, precarious, preconception,
 prejudic*, preposterous, pressur*, problem*,
 reek*, resent*, ridicul*, roughshod, ruin*,
 savage*, scandalous, scourge, serious, seriously,
 severe*, shake*, shaki*, shaky, shame*, shock*,
 silly, skeptic*, slimy, slippery, squeeze, steep,
 strange, stunned, stupefied, stupid*, suffer,
 suffered, sufferer*, suffering, suffers, sunk,
 terribl*, terrified, terrifies, terrify, terrifying,
 terror*, threat*, thwarting, ticked, tough*,
 tragic*, transgress, trauma*, tremendous, trick*,
 trigger-happy, ugl*, unbelievable,
 unconscionable, unconvincing, unimaginable,
 unimportant, unlucky, unmanageable,
 unspeakable, unsuccessful*, untoward, unworthy,
 usurious, vehement, vexing, vicious*, victim*,
 vile, violat*, violent*, vulnerab*, washed-up,
 wicked*, withering, wonky, worst, worthless*,
 wretched, very bad

First-person
 pronouns

I

LWIC category "I": I, I'd, mine, my, etc.

impersonal
 pronouns

THEY

LWIC category "They": Their*, them, they'd, etc.

Appendix B. Variable Definitions

Variables	Definition
DECP	Standardized score of the aggregate of deceptive word categories, the speaker is designated by CEO_DECP or CFO_DECP.
TA	Total accruals calculated by Earnings before extraordinary items and discontinued operations less cash flow from operations
IB	Earnings before extraordinary items and discontinued operations
CASH	Operating Cash flows
ASSETS	Total Assets
REV	Revenue
PPE	Property, plant, and equipment
NA	Estimated Normal accruals estimated using coefficients from Model 1
AR	Accounts receivable
DA	Discretionary accruals calculated by scaled total accruals less estimated normal accruals
LEV	Total debt scaled by assets
ROA	Return on assets is calculated by Net income divided by assets
ASSETGROWTH	Change in total assets from the prior to the current year
RESTATE	Dummy variable - 1 if the current year financial statement has been restated
LOSS	Dummy variable - 1 if the firm reported a loss for the period, 0 otherwise
NI	Net Income
SALES	Sales
COGS	Estimated normal cost of goods sold, estimates using the coefficients from model 6
INV	Estimated normal change in inventory estimated using model 7
PROD	Estimated normal production costs using the coefficients form model 8
DISEXP	Discretionary expenses calculated using model 9
ABN_CFO	Abnormal cash flows are calculated by subtracting the estimated cash flows from the actual cash flows
ABN_PROD	Abnormal production costs are calculated by subtracting the estimated production costs from the actual production costs
ABN_DISEXP	Abnormal discretionary expenses are calculated by subtracting the estimated discretionary expense form the actual discretionary expenses
RAM	Real Activities management variable, ABN_CFO, ABN_PROD, ABN_DISEXP, REM_INDEX
FOG	$0.4 * (\text{words per sentence} + \text{percent of complex words})$
EPS	Earnings per share, Earnings divided by the outstanding shares
MBE	Dummy variable - 1 if a firm increases the EPS by \$.03 or less, 0 otherwise

EARNMANG	Earnings management approach placeholder
logMVE	Market value of equity
AGE	Number of years reported on Compustat
EARNVOL	Standard deviation of the operating earnings for the prior five years
RETVOL	Standard deviation of the firm specific stock return volatility