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## CEO, CFO, and Audit Partner Gender, and Accounting Conservatism

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# CEO, CFO, and Audit Partner Gender, and Accounting Conservatism

## Abstract

I examine the association between CEO, CFO, and audit partner gender and accounting conservatism using a unique sample that encompasses hand-collected data. While accounting conservatism reflects less risky accounting choices, risk aversion theory indicates that females are more risk averse than males. I apply risk aversion theory to accounting conservatism and investigate two research questions: (i) Does the CEO or CFO and audit partner gender influence accounting conservatism? (ii) Does a female audit partner influence the relationship between a male CEO or CFO and accounting conservatism? Using skewness as a proxy of accounting conservatism, I test three hypotheses. The results support my hypotheses and show: (i) the presence of a male CEO or CFO is associated with lower accounting conservatism, (ii) accounting conservatism is higher among firms with a female audit partner, and (iii) the presence of a female audit partner on the engagement increases the level of accounting conservatism with the presence of male CFO. The results of this study inform regulators, audit firms, researchers, governance boards, and shareholders on how females in the role of CEO, CFO, and audit partner influence accounting conservatism.

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In Partial Fulfillment

of the Requirements for the Degree

Doctor of Philosophy

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by

Ceara Hintz

June 2023

Advisor: Dr. Adam Greiner

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## ABSTRACT

I examine the association between CEO, CFO, and audit partner gender and accounting conservatism using a unique sample that encompasses hand-collected data. While accounting conservatism reflects less risky accounting choices, risk aversion theory indicates that females are more risk averse than males. I apply risk aversion theory to accounting conservatism and investigate two research questions: (i) Does the CEO or CFO and audit partner gender influence accounting conservatism? (ii) Does a female audit partner influence the relationship between a male CEO or CFO and accounting conservatism? Using skewness as a proxy of accounting conservatism, I test three hypotheses. The results support my hypotheses and show: (i) the presence of a male CEO or CFO is associated with lower accounting conservatism, (ii) accounting conservatism is higher among firms with a female audit partner, and (iii) the presence of a female audit partner on the engagement increases the level of accounting conservatism with the presence of male CFO. The results of this study inform regulators, audit firms, researchers, governance boards, and shareholders on how females in the role of CEO, CFO, and audit partner influence accounting conservatism.

**Keywords:** Accounting conservatism, CEO gender, CFO gender, and audit engagement partner gender

**JEL Classification:** M41, M42, and J16

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This dissertation is dedicated to my husband, Ethan, who has consistently supported my decade-long educational journey. The endless support and belief in my abilities mean more than I often acknowledge. Ethan's willingness to step up and take on all responsibilities for our family was essential to my success. This dissertation is also dedicated to my kids, Aspen and Ezra, who only know a mom who balances multiple jobs and a Ph.D. program. Aspen and Ezra have provided unconditional love, even when I couldn't always be present over the years. Lastly, my parents (Joseph and Angela), sister (Koren), brother (Joseph Jr.), in-laws (Paul and Rachel), and friends were critical in helping practically and providing emotional support.

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## **CHAPTER 1: INTRODUCTION**

I examine the association between CEO, CFO, and audit partner gender and accounting conservatism. Empirical evidence shows that accounting conservatism improves accounting quality (Kim, Lopatta, and Canitz, 2018). Extant research investigates other factors to determine whether managerial characteristics influence accounting conservatism. Along with the CEO and CFO, the lead audit engagement partner is critical to ensuring the completeness and accuracy of a company's financial statements. I examine the impact of gender among these roles because there are behavioral differences between females and males in risk tolerance and overconfidence (Ittonen and Peni, 2012).

Concerns about financial reporting quality have driven researchers to examine managerial characteristics and their effects on accounting conservatism (Khlif and Achek, 2017). Risk aversion, which varies by gender, influences accounting conservatism. The more risk-averse a CEO, CFO, and audit partner behave, the less likely they would overstate assets, resulting in lower performance outcomes. I use risk aversion theory to investigate two main questions: (i) Does the CEO or CFO and audit partner gender influence accounting conservatism? (ii) Does a female audit partner influence the relationship between a male CEO or CFO and accounting conservatism?

In 2002, the United States passed the Sarbanes-Oxley Act (SOX), requiring that the CEO and CFO of publicly traded companies certify the appropriateness of their company's financial statements filed with the SEC. Although the CEO and CFO have always been required to apply asymmetrical verification requirements for gains and losses according to Generally Accepted Accounting Principles (GAAP), the implementation of SOX has enhanced oversight over financial reporting because the CEO and CFO are responsible for attesting to the internal controls, which enhance the application of GAAP (Wagner and Dittmar, 2006). The CEO and CFO choose the extent of conservative accounting within the organization: the more accounting conservative a company is, the lower the risk of overstating net assets. While executive rank within the organization influences reporting outcomes, literature also supports gender matters relative to the executive's ranking for three reasons (Hardies, Lennox, and Li, 2016). First, females are more risk averse than males (Powell and Ansic, 1997). Second, females are more conservative and less overconfident than males (Bonner, 2008; Jianakoplos and Bernasek, 1998). Third, females are more cautious than males in the recognition and measurement of income and assets and require higher verification of gains than losses (Francis, Hasan, Park, and Wu, 2015; Ho, Li, Tam, and Zhang, 2015; Srinidhi, Gul, and Tsui, 2011; Thiruvadi and Huang, 2011). These three reasons provide support that females and males have behavioral differences within their leadership roles.

The presence of a female audit partner on the engagement may also increase the level of accounting conservatism in the presence of male CEO and CFO. Prior research

shows that female audit partners will require higher audit assurance to preserve their reputation and are risk averse, directly influencing the auditor's assessment of financial reporting quality (Huang and Kisgen, 2014).

To arrive at my findings, I employ the measure of skewness of earnings consistent with prior research to estimate accounting conservatism (Givoly and Hayn, 2000). Audit partner gender has not previously been explored in the literature, as the PCAOB recently disclosed the audit partner's name making this research timely. Although the audit partner name is disclosed on the PCAOB website, gender is not easily assessable. I hand-collect data on audit partner gender for a sample 4,997 firm-year observations of U.S.-based public companies from 2016-2021. The main methods of analysis consist of OLS regressions and control variables associated with accounting conservatism identified in prior research.

The results of my study are consistent with my predictions: (i) the presence of a male CEO or CFO is associated with lower accounting conservatism, (ii) accounting conservatism is higher among firms with a female audit partner, and (iii) the presence of a female audit partner on the engagement will increase the level of accounting conservatism with the presence of male CFO. I conduct robustness tests to address the influence on outliers, winsorization, multicollinearity, ROA, LOSS, and individual gender variables on my results as well as cross-sectional regressions based on company size, auditor (i.e. BIG4 and non-BIG4) and leverage to better understand the source of my main inferences. My findings remain unchanged in these robustness and sensitivity analyses.

The findings of my study encompass three contributions. First, to my knowledge, this study is the first to test CEO and CFO gender composition and accounting

conservatism. Due to the financial statement responsibilities of the CEO and CFO, it is important to understand how the CEO and CFO gender composition influences conservative accounting due to differences in risk tolerance and overconfidence. In addition, my study addresses a call for research from Khlif and Achek (2017) to investigate the interaction between management-auditor and gender in shaping accounting conservatism. In doing so, I examine the prediction of higher accounting conservatism among firms with a female audit partner; this examination creates a second contribution by including how the role of the audit partner gender directly influences accounting conservatism. I include the lead audit partner in my study due to the assurance the audit partner provides over the financial statements. Third, this study tests whether the presence of a female audit partner in the engagement will positively impact the relationship between a male CEO or CFO and accounting conservatism. My third examination contributes to the literature by showing that the gender of the audit partner impacts conservative accounting over male CFO's, suggesting that gender differences manifest through individuals in oversight positions with responsibility for accounting quality.

In sum, my study shows that the CEO, CFO, and audit partner gender impacts conservative accounting. It is important for financial statement users to know what characteristics within these identified leaders drive conservative accounting. The increase in conservative accounting deters the overstatement of net assets and results in more transparent financial statements (Watts, 2003). This research should motivate other researchers to explore the influence of other top management characteristics.

Upper echelon theory states that organizational outcomes are partially predicted by managerial background such as: experiences, education, tenure, age, and functional track (Hambrick and Mason, 1984).

Examining CEO, CFO, and audit partner gender and accounting conservatism is useful for regulators, governance boards, and audit firms as it is their responsibility to uphold financial reporting quality and support the financial market with useful accounting information. Regulators can identify a predictable source of accounting conservatism based on the gender of the CEO, CFO, and audit partner. Governance boards and audit firms will be informed of the role of gender composition among a company's executives and the engagement audit partner in accounting conservatism.

My study helps fill a gap within three recent papers: First, Ho, Li, Tam, and Zhang, (2015) find that companies with female CEOs report more conservative earnings but do not consider the role of the CFO and audit partner. Second, Francis et al. (2015) finds that following the hiring of a female CFO there is a significant increase in the degree of accounting conservatism as compared to the degree of their male predecessor. Still, they do not include the influence the CEO or audit partner gender plays. Lastly, Hrazdil, Simunic, Spector, and Suwanyangyuan (2022) find that firms led by gender-diverse dyads report higher earnings quality compared to firms led by either all-male or all-female CEO or CFO pairs. Although gender-diverse dyads are examined, the role of the audit partner and the influence on accounting conservatism are excluded.

The remainder of my proposal is organized as follows. Section 2 provides a review of related literature and develops my hypotheses. Following is my methods

segment in section 3. Section 4 presents my results. Section 5 offers concluding remarks and recommendations from the paper.

## **CHAPTER 2: LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

My study connects several research streams. First, I discuss accounting conservatism, its definition, and why it is influential. I then review the literature relevant to gender and financial reporting. Next, I review audit engagement partner gender, and finally discuss prior research on CEO, CFO, and audit partner group dynamic.

### **2.1 Accounting Conservatism**

Accounting conservatism is an influential guiding principle of the accounting practice. (Sterling, 1970). It can be defined as "anticipate no profits but anticipate all losses" (Bliss, 1924). For instance, predicting profits is characterized as identifying profits prior to a legal claim to the revenues generating them and that the revenues are verifiable. For example, companies anticipating winning litigation are required to adhere to all criteria of revenue recognition prior to it reporting gains. Conversely, companies are obligated to record any losses if it anticipates losing a lawsuit. By requiring more verification criteria for gains recognition, accounting conservatism decreases managers' ability and incentives to suppress information on expected losses (Ahmed and Duellman, 2013; Holthausen and Watts, 2001; Watts, 2003; Watts and Zimmerman, 1986). Conservatism principles are with accounting standards, for example, lower of cost or

market accounting for inventory and impairment accounting for tangible and intangible assets (Ball and Shivakumar, 2006; Kabir and Laswad, 2014).

Prior research suggests conservatism is an accounting principle that affects what investors see within financial statements (Sokol-Hessner and Rutledge, 2019). Prospect theory helps understand how investors make decisions and how they will react to gains and losses (Sokol-Hessner and Rutledge, 2019). Prospect theory rationalizes when individuals make choices, they magnify losses relative to equally sized gains, referred to as loss aversion. Conservatism can affect investors decision, for instance, when characteristics drive conservative accounting investors are able to predict if assets are overstated. For this reason, conservative accounting is less risky for a company because when a company is conservative in its accounting, it is less likely to overstate assets, which eventually results in lower earnings.

Corporate governance has an impact in the implementation of accounting conservatism (LaFond and Roychowdhury, 2008). Corporate governance provisions emerge because of the agency conflict between investors and firm management. Agency theory models these relationships as being full of conflicting interests (Jensen and Meckling, 1976), which results in the escalation to contracts between the parties to align their interests. However, agency costs still exist. First, the contracts cannot be complete and thus allocate remaining control rights to managers who might misappropriate shareholders by entrenching themselves (Shleifer and Vishny, 1997). Second, accounting numbers create contracts, which creates motivations to progress the recognition of gains and select aggressive accounting methods (Watts and Zimmerman, 1986). The difference in incentives and interests of shareholders and managers results in corporate governance.



Processes are implemented to reduce issues with agency and result in efficient monitoring of management and contracts. Due to the output's outcomes of accounting conservatism, stakeholders such as investors encourage conservative accounting.

With strong corporate governance, conservatism provides procedures for investigations for the presence of negative net present value (NPV) projects and requires recording losses if they emerge. By recognizing expected losses sooner, conservatism aids in recognizing negative NPV projects, and therefore improves investment effectiveness and deters management from making poor investments (Bushman, Piotroski, and Smith, 2011). The contracting influences arguments for conservative accounting also apply to other uses of accounting within the firm, including measures of managerial performance such as profits. From a corporate governance perspective, accounting conservatism lessens the information asymmetry between informed and uninformed investors and helps monitor managers' behavior (LaFond and Watts, 2008). For instance, conservative accounting may reduce the likelihood of achieving favorable performance measures that result in bonuses or stock awards. By requiring greater verification standards for the recognition of gains, accounting conservatism lessens managers' capability and motivations to suppress information on expected losses or overstate net assets (Ahmed et al., 2002; Holthausen and Watts, 2001; Watts, 2003; Watts and Zimmerman, 1986).

Drawing on insights from previous literature there are further outcomes to accounting conservatism. The initial consequence of conservatism's asymmetric gains and losses is the underestimation of net asset values (Ahmed et al., 2002; Holthausen and Watts, 2001; Watts, 2003), which informs debt holders of possibly negative scenarios,

enabling them to make better choices regarding liquidation (Li, 2013). This is because a firm with conservative accounting creates better transparency resulting in accounting statements that are more reliable and trusted. For example, Francis and Martin (2010) find a positive association between accounting conservatism and the profitability of acquisition investments, suggesting pressure from early recognition of losses that conservative accounting practices dictate pressure executives to make better investment choices; poor investment choices will hinder performance thus a manager's wealth earlier than good choices will appear as gains. Furthermore, Hsu, Novoselov, and Wang (2017) find that accounting conservatism makes managers more attentive and act timelier to problems in the interim stages of investment projects. Additional research continued where Zeng, Li, and Tang (2020) show accounting conservatism of the acquiring firm are positively associated with the likelihood of fulfillment of the aspiring performance commitments.

Ahmed, Chen, Dullman, and Sun (2023) examine the effects of firms' accounting conservatism in a merger and acquisition transaction and find that firms with greater accounting conservatism are more likely to receive a bid. They also find that conservatism increases the deal premium, and the returns of both the targets and the acquirers. Overall, these results indicate that conservatism provides benefits to both sellers and buyers of equity in an acquisition transaction (Ahmed, Chen, Dullman, and Sun, 2023).

Due to the potential consequences, accounting conservatism influence can stem from litigation (Watts, 2003; Ruch and Taylor, 2015). If a firm overstates assets, litigation is more likely (Watts, 2003). Beaver (1993) and Watts (1993) explain that litigation under

the Securities Acts motivates conservatism making poor investments (Bushman, Piotroski, and Smith, 2011). The contracting influence because litigation is much more likely when earnings and net assets are overstated. In anticipation of litigation costs common to overstating values, management and auditors have incentives to report conservative values. If litigation were to occur, stakeholders, such as investors and regulators, would criticize firms if the firm overstates net assets compared to understating net assets due to the lack of transparent financial statements (Watts, 2003). The lack of transparency in financial statements can position investors to an inefficient investment decision.

Jhalil, Ozkanc, and Yildiz (2020), find that foreign corporate investors seek accounting conservatism in financial reporting within investee firms. Foreign investors seek more conservatism as conservative accounting deters the overstatement of assets, resulting in more transparent financial statements. Transparent financial statements help foreign investors make more informed financial choices when they rely on financial statements for investment decision-making. The research findings conclude foreign investors face disadvantages such as obtaining accurate data due to their geographic proximity as well as the ability to interpret the financial statements to their fullest extent (Jhalil et al., 2020). Hence, accounting conservatism is positively influential toward companies seeking growth opportunities from foreign investors (Jhalil et al., 2020).

An additional outcome of conservative accounting is its mitigating effects on bankruptcy risk by improving cash management and reducing the overstatement of a financial position (Biddle, Ma, and Song, 2022; Zhong and Lu, 2017). A firm might assume that lowering income and accelerating loss recognitions would result in a higher

probability of bankruptcy risk, but conversely, bankruptcy is a condition of cash versus profit insufficiency (Biddle et al., 2022). Accounting conservatism helps highlight the presence of negative NPV projects and requires recording losses as they emerge. By recognizing expected losses sooner relative to gains, conservatism is more timely in recognizing negative NPV projects, and therefore improves investment effectiveness and deters management from overinvestment. Accounting conservative will mitigate negative outcomes such as lack of cash and overstatement of a company's financial position, lessening the risk of bankruptcy.

Previous literature raises attention to innovation and accounting conservatism as they seem to be opposites: Innovation involves risk, while conservatism stems from risk aversion. Laux and Ray (2020) find conservative accounting increases firm innovation due to the role of incentive contracting. Corporate leaders design compensation packages to align management decision with investors' interests and tie management compensation of performance outcomes. An increase in accounting conservatism reduces the managers incentive to overinvest in an innovation because losses would need to be recognized immediately. An increase in conservative accounting reduces the risk of an overstatement, resulting in an increase in firm outcomes through more efficient investments in innovation.

In sum, improving financial reporting includes recognizing the role of accounting conservatism in managers' and investors' decisions. Accounting conservatism decreases adverse effects in incentive contracting and firm performance. In addition, accounting conservatism provides benefits in managers' investment choices, mergers and acquisitions, and innovation.

## 2.2 Gender in Financial Reporting

Gender theory shows that females have had a significant role in economic success (Waring, 1988). Firms seek to enhance financial reporting quality through gender diversity (Dobija, Hryckiewicz, Zaman, and Puławska, 2022). Evidence that females are more risk-averse, more conservative, and more cautious than males in recognizing income and assets stems from theory in psychology, financial, and accounting literature.

Gender role socialization theory comes from psychology literature, which suggests that based on gender people develop emotions and behaviors due to the surrounding environment (Hardies, 2016). Applying this theory, studies show that males are more goal-oriented while females prefer to be more democratic and communicative. The theory further suggests that females are more ethical than male (Hardies, 2016). Research indicates that females are less concerned with the profit side of auditing and are more focused on audit quality (Hardies, 2016). The organizational theory helps explain the behavior of individuals and groups interacting with each other while striving to reach a common goal. This theory suggests that females are better able to facilitate challenging decision-making scenarios and improve organizational outcomes compared to their male counterparts. Organizational theory is connected to leadership due to the social activity within the role of financial decision-making.

The CEO, CFO, and audit partner strive for high-quality financial reports. However, the approach by gender can look different. For example, Powell and Ansic (1997) examine these environments by documenting that males are less risk-averse and cautious than females regardless of prices or experience. Powell and Ansic (1997) find

that males choose more risky alternatives. In this experimental study, Byrnes, Miller, and Schafer (1999) find lower risk preferences among females compared to their male counterparts.

In the finance literature, Sunden and Surette (1998) study gender differences within contribution plan assets. The authors report that females are less likely to hold onto investments, compared to their male counterparts. Additional studies find that female allocate their investments more conservatively than males, meaning they take a less risky approach when planning for retirement (Bernasek and Shwiff, 2001). Olsen and Cox (2001) study financial analysts and certified financial planners and find that female professional investors are more apprehensive with negative risk than their male counterparts. In the organizational setting, Niessen and Ruenzi (2007) examine behaviors of differences in gender and compare the investment behavior; the authors find that female fund managers are more risk averse than their male counterparts in their investment decisions.

Previous studies have shown, males are less conservative and more overconfident than females and ask questions females do not ask (Bonner, 2008; Jianakoplos and Bernasek, 1998; Konrad, Kramer, and Erkut, 2008). Additional research has shown the present of female leaders impacts the performance of the firm, corporate governance, and the quality of earnings from a gender variety perspective. Research shows how stock prices of gender-diverse boards could enhance the transparency of disclosures (Gul, Srinidhi, and Ng, 2011). Krishnan and Parsons (2008) and Labelle, Gargouri, and Francoeur (2010) find that the gender make-up in leadership is positively related to

earnings quality. Literature also shows companies have higher quality of earnings with a female director (Srinidhi et al., 2011).

Huang and Kisgen (2013) further investigate how gender differences among CFOs affect corporate financial decisions. They find that female CFOs make fewer acquisitions, suggesting females are more cautious with growth and risk-taking behaviors. Although, during an acquisition, male CFOs earn lower announcement returns compared to their female counterparts. The findings imply that male CFOs are less risk averse than female CFOs. Levi, Li, and Zhang (2008) study whether the gender of CEOs or company directors influence in the pricing and returns of acquiring a company. They find that bidders with male CEOs pay much higher premiums than bidders with female CEOs. In addition, study corporate tax decisions and gender and the finding result in male CFOs being more aggressive than female CFO (Francis, Hasan, Wu, and Yan, 2014). In summary, these findings reveal females are more conservative and risk averse than male counterparts.

Using gender theory, prior research in accounting literature shows that females are more cautious than males in the recognition and measurement of income and assets and require higher verification standards for gains than for losses (Francis et al., 2015; Ho et al., 2015; Srinidhi et al., 2011; Thiruvadi and Huang, 2011). Evidence has shown that following the hiring of a female CFO there is a substantial increase in accounting conservatism compared to their male counterpart (Francis et al., 2015). Francis et al. (2015) shows that female CFOs are more apprehensive to litigation compared to their male counterparts when making financial accounting choices. Francis et al. (2015) results

show a moderating effect of risk on the association between CFO gender and conservatism and provide an association between risk aversion of female CFOs and accounting conservatism.

Ho, et al. (2015) demonstrate that companies with female CEOs report more conservative profits. In addition, companies with litigation risk who have a female CEO report earnings more conservatively as they are more sensitive to risk. An analysis of the effects of CEO gender on accounting conservatism indicates that the effects of gender are more distinct in smaller firms.

Recent research examines the relationship between CEO and CFO gender and the firm's earnings quality (Hrazdil, Simunic, Spector, Suwanyangyan, 2022). Firms led by gender-diverse dyads report higher earnings quality, compared to firms led by either all-male or all-female CEO or CFO pairs. Hrazdil et al., (2022) show how gender composition impacts decision making and how male and female characteristics complement each other; for example, prior studies suggest that females are more risk averse and more conservative. On the other hand, males exhibit a greater task orientation and a higher ambition to achieve performance outcomes (Statham, 1987; Burke and Collins, 2001). Such differences can significantly affect various behaviors and financial decision outcomes. In my study, this evidence informs how a female/male CEO or CFO would increase conservatism compared to an all-male-dominated team.

To summarize, across literature streams, evidence in the literature indicates gender differences in risk attitudes, with females considered more risk averse than males. In addition, females are more conservative when making decisions. Because CEOs and



CFOs are responsible for verifying the completeness and accuracy of the financial statements, I extend this research stream and explore how gender in CEO or CFO and audit engagement partner roles can impact financial reporting quality.

### **2.3 Audit Engagement Partner Gender**

As of January 2017, the disclosure of the engagement partner name is required making data on audit engagement partners accessible (Tysiac, 2017). Auditing studies have begun to enhance our understanding of how audit partners' demographic attributes, including gender, affect financial reporting quality. Audit partners oversee all client engagement aspects; this includes implementing an audit strategy, conveying with the clients over financial misstatement matters, and execute the audit report (Ittonen and Peni, 2012). The role of an audit partner includes meeting with potential clients and convincing them to buy services, negotiate with current clients, and lead audit teams in executing audits (Lennox and Wu, 2018). Audit partners play a crucial role in the end-to-end financial reporting process.

An audit engagement is an activity through which audit partners provide leadership and, therefore, as actors in the audit decision-making process (Humphrey and Moizer, 1990; Cameran, Campa, and Francis, 2018; Menezes Montenegro and Bras, 2015). The audit outcome is negotiated, and the consensus is formed (Humphrey and Moizer, 1990). A leader manages a team, and the efficiency of the audit partner's leadership style is important for inspiring and helping audit team to improve their

obligation to raise any audit issues (Nelson, Proell, and Randel, 2016). This leadership is essential from a top-down approach to manage a team willing to bring forth audit issues.

Empirical studies suggest that gender could impact auditing practices through its effect on audit quality (Hardies et al., 2015; Ittonen and Peni, 2012). Due to behavioral distinctions between genders in overconfidence and risk tolerance, this results in more uncertainty when performing audits (Ittonen and Peni, 2012). The difference in risk preferences and aversion between gender could affect management behavior.

The assurance an audit partner brings to the financial statements is critical to the quality of financial reporting. Research applies across leadership roles. For example, females in leadership positions require more audit assurance to withhold their reputation, this directly impacts the auditor's valuation of financial reporting quality (Huang et al., 2014). A female auditor requiring higher assurance leaves less risk in protentional errors that could affect their reputation.<sup>1</sup> In addition, previous findings verify gender characteristics exist among female and male auditors and this characteristic can impact auditors' judgment and decision-making. O'Donnell and Johnson (2001) find that females rate disconfirming information more important than male counterparts. Studies further provide evidence in the differences between male-female characteristics; prior audit engagement studies have shown males have resulted in inferior audit quality (e.g., Cameran et al., 2017; Hardies et al., 2016; Ittonen et al., 2012; Lee, Nagy, and

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<sup>1</sup> Conservatism decreases the audit partners' risk of preserving their reputations. Still, too much conservatism may result in the firm disagreeing with conservative accounting resulting in the audit partner losing the client. Future research may examine excessive conservatism effects, such as audit partner replacement.

Zimmerman, 2019). Hardies, Lennox, and Li (2016) further find that the presence of a female audit partner would result in an audit fee premium regardless of it was a Big Four or non- Big Four. The results can be interpreted to imply that the selection of a female audit partner is associated with higher (perceived) audit quality, thus justifying the premium (Hadies et al., 2015). These studies show the perceived benefits of female audit partners across firms.

Overall, previous studies have addressed the possible influence of female partners' characteristics to the effectiveness of audit decision-making within financial reporting. However, the academic literature lacks empirical research on male-female CEO, CFO gender composition with audit partners, and the effect on financial reporting quality. Given the evidence provided above, female audit partners will influence the CEO or CFO to be more conservative in their accounting choices. In this study, I extend this research stream and explore how the gender of the audit partner can influence the CEO or CFO's impact on financial reporting quality.

## **2.4 CEO, CFO, and Audit Partner Group Dynamic**

The primary focus of this study is the gender composition of the CEO, CFO, and audit partner. The impact a CEO and CFO makes as a key decision maker is well addressed. Favaro (2001) explains how the CFO's role has extended outside financial reporting. The role of the CFO includes strategic and operational guidance of decisions and a key leadership role in companies. The CFO also has the primary accountability for their company's financial reporting: "Accounting, control, risk management and asset

preservation are the province of the CFO. The CFO must ensure company compliance with financial reporting and control requirements” (Li et al., 2010). The CEO and CFO is accountable for SOX controls, in addition, the CEO and CFO must attest to the appropriateness of the controls (Chava and Purnanandam, 2010; Feng, Ge, Luo, Shevlin, 2011; Jiang et al., 2010). Ge et al. (2011) argue that manager-specific characteristics can significantly influence the accounting choices.

The impact of CEOs upon CFOs is shown within Geiger and Taylor’s (2003) research: “The emergent financial certification era will require CEOs to forge new and stronger relationships with other corporate executives. As partners in certification, CEOs and CFOs must forge stronger and more interactive working relationships” (p. 365). But the CEO and CFO are not the only individuals certifying the financial statement, the audit partner is an additional stakeholder. The audit partner is providing the assurance.

As stated above, SOX requires auditors to independently attest to the clients’ internal controls appropriateness and effectiveness. Logically, internal controls should result in accurate financial information that reflects financial statement transparency. Appropriate internal controls also allow companies to communicate dependable financial statements to financial statement users. This communication between the CEO, CFO, and audit partner requires a close relationship in executing the task of certifying the financial statements. Although the audit partners involvement with the client differs within different phases of the audit the group dynamic encompasses the same objective to provide quality financial statements.

## **2.5 Hypothesis on CEO or CFO and Accounting Conservatism**

In this paper, I explore the role of both the CEO and CFO gender composition in accounting conservatism. My study adds to the literature within accounting conservatism and female corporate leadership. A female conservative mind-set is driven through risk aversion. Studies across literature streams support the notion that females are more risk averse than males.

As stated earlier, there are several explanations for the existence and continuation of accounting conservatism. I draw on the encouragement of accounting conservatism through litigation. Thus, the notion of litigation is much more likely to occur when net assets are overstated. Since the expected litigation costs of overstatement are higher than those of understatement, the CEO and CFO have incentives to report conservative values to prevent negative outcomes.

As described in detail above previous studies have found similar linkages. Companies with female CEOs report more conservative earnings (Ho et al., 2015). Since female CEOs are more risk-averse, the finding shows females to recognize losses in reported earnings more quickly than male. Previous literature throughout accounting conservatism measures results in consistent findings that companies with male CEOs are less conservative in financial reporting.

In summary, the majority of evidence within the literature indicates the difference in gender in risk attitudes with females considered more risk averse than males. Because CEOs and CFOs are responsible for disclosing the completeness and accuracy of the financial statements, and because female CFOs are more conscious to risks, I anticipate

companies with male CEO or CFO will exercise less discretion in the recognition and measurement of profit and require less levels of verification of gains than losses, thereby increasing the potential risk of an overstatement. The above discussion leads to the following hypothesis:

H1: The presence of a male CEO or CFO is associated with lower accounting conservatism.

## **2.6 Hypotheses on Audit Partner Gender and Group Dynamic and Accounting Conservatism**

In recent years researchers have started to explore additional stakeholders beyond CEO or CFO to understand financial reporting quality. In my study I introduce audit partner due to the assurance they provide over completeness and accuracy of the financial statements. There are two primary audit partner responsibilities: the audit report, which is directly under the audit partner's control, and the client's audited financial statements, which are the responsibility of the CEO or CFOs but are also affected by the audit process (Francis, 2011).

The audit committee governs the CEO, CFO, and audit partner and appoints the audit partner. The CEO and CFO are responsible for assessing and managing the firm's risk. In contrast, the audit committee must consider guidelines and policies to administer the process. The audit committee faces regulatory pressure to follow U.S. Securities and Exchange Commission (SEC), PCAOB, New York Stock Exchange (NYSE), and NASDAQ guidelines. Communication requirements between the audit committee and the

audit partner are outlined by NYSE, NASDAQ, and PCAOB (Bujno, Hitchcock, Parsons, Lamm, 2018). The communication requirements focus on the audit committee's responsibility to oversee the audit partner. At the same time, the PCAOB has auditing standards for the audit partners to comply with to prevent adverse outcomes. The audit committee and audit partner must follow regulatory guidelines and standards.

The audit committee works with the CEO, CFO, and audit partner to obtain the information required to offer substantiated oversight of the financial statements. Similarly, the audit committee oversees the entire financial reporting process. To do so effectively, it should be familiar with the processes the CEO and CFO have established and determine whether they are designed effectively. Audit committees oversee and monitor the financial reporting process, and in performing this duty, they rely on audit partners given their independence and professional reputation.

Audit partners exert work during the audit to collect evidence related to the audit results. There are behavior differences in gender when conducting audit processes. Studies show that female auditors are less overconfident compared to their male counterparts, therefore male audit partners may undermine audit risks (Ittonen and Peni, 2012; Chams and Garcia-Blandon, 2019; Nekhili et al., 2018; Hardies et al., 2015; Owhoso and Weickgenannt, 2009). A female auditor is more effective in processing information, for example, a female auditor will be more attentive than a male counterpart with negative news (Chung and Monroe, 2001). Females tend to follow rules and regulations closely and have higher moral reasoning, this results in female auditors overestimating their responsibilities which often means they assign more resources to audit tasks (Karjalainen, Niskanen, and Niskanen, 2018; Fondas and Salsalos, 2000;

Ittonen et al., 2013). Given the evidence presented in these studies, females provide more effective due diligence than their male counterparts when conducting audit tasks. Female audit partners require higher audit assurance to preserve their reputation, directly influencing the auditor's assessment of financial reporting quality (Huang et al., 2014).

To arrive at my prediction, I first acknowledge that females perform a thorough financial reporting assurance to decrease risk, and female audit partners would select the less risky approach when faced with financial reporting alternatives. For instance, they would be more sensitive to overstating net assets and have conservative reporting. The risk aversion a female audit partner acts on is to prevent negative outcomes, such as overstating assets. In summary, the audit partner has the power and discretion to influence the CEO or CFO, which can influence reporting preferences in the company's financial statements. The audit partner can raise awareness to the CEO or CFO if a concern arises and make accounting adjustments accordingly. In this study, I postulate that gender differences in audit partners will influence the CEO or CFO in determining the level of accounting conservatism. Specifically, focusing on female risk aversion behavior may have implications for the financial statement's provided to financial statement users. I acknowledge a female CEO and CFO are already risk-averse; therefore, the female audit partner would have no further duty to increase accounting conservatism to a female CEO or CFO, whereas a male CEO or CFO is less risk-averse and, therefore may be impacted by the female audit partner. The above discussion leads to the following hypotheses:



H2: Accounting conservatism is higher among firms with a female audit partner.

H3: The presence of a female audit partner on the engagement will increase the level of accounting conservatism with the presence of male CEO or CFO.

## **CHAPTER 3: METHODS**

I begin with my study population and data gathering techniques. I next describe my measure of accounting conservatism. I conclude this section with my empirical models employed to test my hypotheses.

### **3.1 Variable Measure of Accounting Conservatism**

Various methods are used to measure accounting conservatism. I use an income statement measures of conservatism earnings measure (skewness). A basic component of a conservative reporting organization is the early and full recognition of losses in the financial statements and the delayed and gradual recognition of gains. If such tendencies occur, the earnings distribution would be negatively skewed (left tail). I apply the skewness measure to capture this distribution.

Lower values of skewness of earnings reflects more conservative accounting. This is because losses are recognized immediately, whereas gains are recognized gradually, creating negative skewness. This measure is based on Givoly and Hayn (2000), who explain that accounting conservatism requires immediate and complete recognition of negative news and a delayed and gradual recognition of positive events, leading to a

negatively skewed earnings distribution. The skewness of earnings measure in each analysis is measured as  $E[(X-\mu)^3]/\sigma^3$  (Givoly and Hayn, 2000), where X is the ROA, and  $\mu$  and  $\sigma$  are estimated by the mean and standard deviation of the ROA distribution. The skewness of earnings measure is calculated at the firm level every year on a rolling basis over the last five years, centered on the current year t. I focus on skewness because this measure captures conservatism and is influenced by firms' managerial discretion.<sup>2</sup>

### 3.2 Empirical Tests on CEO or CFO Gender Hypothesis

To test my first hypothesis, I investigate whether the presence of a female CEO or CFO is positively associated with accounting conservatism. I employ the skewness measures from Givoly and Hayn (2000) to estimate conservatism and include relevant factors as control variables:

$$\begin{aligned} \text{Conservatism}_{i,t} = & \alpha_0 + \alpha_1 \text{MCEO}_{i,t} + \alpha_2 \text{MCFO}_{i,t} + \alpha_3 \text{FAP}_{i,t} + \alpha_4 \text{LOSS}_{i,t} + \alpha_5 \text{LIT}_{i,t} + \\ & \alpha_6 \text{BIG4}_{i,t} + \alpha_7 \text{NAT\_EXPERT\_AP}_{i,t} + \alpha_8 \text{CITY\_EXPERT\_AP}_{i,t} + \\ & \alpha_9 \text{LEVERAGE}_{i,t} + \alpha_{10} \text{FASSETS}_{i,t} + \alpha_{11} \text{SIZE}_{i,t} + \alpha_{12} \text{GROWTH}_{i,t} + \\ & \alpha_{13} \text{INSIDEROWN\_CEO}_{i,t} + \alpha_{14} \text{INSIDEROWN\_CFO}_{i,t} + \alpha_{15} \text{DUALITY}_{i,t} + \\ & \alpha_{16} \text{SEGMENTBUS}_{i,t} + \alpha_{17} \text{SEGMENTGEO}_{i,t} + \eta + \delta + \varepsilon_{i,t} \quad (1) \end{aligned}$$

<sup>2</sup> Previous studies have used other accounting conservatism measures. However, most of them are time series model measures (i.e. Basu, 1997), whereas my analysis requires firm-specific measure

Subscripts represent observations for firm  $i$  at period  $t$ . I estimate the regression using a pooled sample at the firm level. Model (1) tests the effect of MCEO and MCFO on accounting conservatism (SKEWNESS); MCEO or MCFO is equal to 1 if the CEO or CFO is male, respectively, and 0 otherwise. A positive coefficient on MCEO ( $\alpha_1$ ) or MCFO ( $\alpha_2$ ) would indicate lower conservatism and support H1.

Model (1) includes several control variables for conditions that can impact audit quality.<sup>3</sup> In addition to firm size and firm growth, Lee et al., (2019) include the number of business and geographic segments (SEGMENTBUS and SEGMENTGEO) to measure audit complexity.

Firms with more business segments will increase complexity when providing assurance (Lee et al., 2019). Following Jones (1991) and Khan and Watts (2009), I control fixed assets (FASSETS), measured by the book value of fixed assets scaled by total assets at the beginning of the fiscal year.

To isolate audit partner effects, I control for indicators of audit firms, quality, and risk. Studies have found that Big Four accounting firms (PwC, EY, KPMG, and Deloitte) have higher-quality audits than non-Big Four firms since larger firms have incentives to detect and reveal misreporting (Francis and Yu, 2009). The larger firms have more to lose if they supply a lower-than-expected quality of an audit since they have a more reputation at stake that spans more and larger clients (DeAngelo, 1981).

<sup>3</sup> Previous literature use related control variables in tests of audit quality (Pratt and Stice, 1994), DeFond, Raghunandan, and Subramanyam (2002), Frankel, Johnson, and Nelson (2002), Ashbaugh, Lafond, and Mayhew (2003), Carcello and Nagy (2004), Carey and Simnett (2006), Lim and Tan (2008), Gul, Fung, and Jaggi (2009), Knechel, Rouse, and Schelleman (2009).

Additionally, studies use the presence of litigation as an indicator of audit quality. Studies show that non-Big Four firms experience more litigation issues than Big Four firms despite larger firms having more money available for litigation scenarios (Palmrose, 1988). Since non-Big Four firms face additional litigation issues, their audit quality is inferior than Big Four firms. Additional research has shown that companies audited by Big Four firms have a higher earnings response coefficient than ones audited by non-Big Four firms; this is showing that Big Four firms have audit quality (Teog, 1993). In addition, prior research argues that the probability of restatement reduces with the improvement of audit quality and the auditor's knowledge of the client's work (Chin and Chi, 2009). Therefore, I control for the Big Four (BIG4) as a proxy for audit quality (DeAngelo, 1981). BIG4 is measured as a dummy variable equal to 1 for a Big Four auditor and 0 otherwise.

Previous literature displays that industry expertise increases audit quality (Balsam et al., 2003). Audit partner expertise (NAT\_EXPERT\_AP and CITY\_EXPERT\_AP) is being controlled for as a dummy variable; 1 if the audit partner is an expert and 0 otherwise. Consistent with prior literature, I use two measures for audit partner expertise: measure audit fees at the 1) national level (based on all clients of each auditor), and 2) city (office) level (based on each auditor office as shown on the audit opinion) (Greiner, Higgs, and Smith, 2021; Bills, Swanquist, and Whited, 2016; and Francis and Yu, 2009).

Continuing with control variables, I include duality (DUALITY) and executive ownership (INSIDEROWN\_CEO and INSIDEROWN\_CFO). Leadership incentive contracts are an important corporate governance mechanism (Murphy, 1999 and Adut, Holder, and Robin, 2013). Bowen et al. (2008) report that accounting discretion is related

to governance variables. This research supports CEO duality leads to more discretion. In addition, to control for agency problems I include executive ownership to measure separation of CEO and CFO ownership and control by the percent of the firm owned by CEO or CFO (LaFond and Roychowdhury, 2008).

In expansion, I control for litigation (LIT) as industry indicators capture differences in conservatism. LIT is a dummy variable that equals one if the firm is in a litigious industry and zero otherwise. Following Francis et al. (1994), industry codes of 2833–2836 (biotechnology), 3570–3577 (computer equipment), 3600–3674 (electronics), 5200–5961 (retailing), and 7370–7374 (computer services) are considered to represent litigious industries.

Additional controls are included to isolate the role of gender in my test of conservative accounting. I control for company size (SIZE) as the natural log of total assets at the end of the fiscal year. The firm's leverage (LEVERAGE) is measured as the sum of long-term debt and debt in current liabilities deflated by the market value of equity at the end of the fiscal year.

Consistent with Khan and Watts (2009), firm growth (GROWTH) suggests that high-growth firms report more conservative earnings; this is measured by the sales growth defined as the percentage of annual growth in total sales and financial performance. I further control for loss (LOSS) as the indicator variable for financial performance, this is equal to one when income before extraordinary items is negative and zero otherwise. I also include vectors of year indicators ( $\eta$ ) control for macroeconomic and time period effects and industry effects ( $\delta$ ) control for industry-specific heterogeneity.

### 3.2 Empirical Tests on Audit Partner Hypothesis

To test my second hypotheses, I investigate whether audit partner gender influences accounting conservatism. I utilize model (1) to test my second hypotheses and measure accounting conservatism with earning skewness. In model (1), the coefficient on FAP ( $\alpha_3$ ) captures the effect of audit partner gender on accounting conservatism. Consistent with H2, if female audit partners adopt more conservative accounting policies, I expect  $\alpha_3$  to be negative.

### 3.3 Empirical Tests on CEO, CFO, and Audit Partner Group Dynamic

In H3, I investigate whether the presence of a female audit partner will increase the level of accounting conservatism with the presence of male CEO or CFO.

$$\begin{aligned} \text{Conservatism}_{i,t} = & \alpha_0 + \alpha_1 \text{MCEO}_{i,t} + \alpha_2 \text{MCFO}_{i,t} + \alpha_3 \text{CHGTOFAP}_{i,t} + \\ & \alpha_4 \text{MCEO}_{i,t} * \text{CHGTOFAP}_{i,t} + \alpha_5 \text{MCFO}_{i,t} * \text{CHGTOFAP}_{i,t} + \alpha_6 \text{LOSS}_{i,t} + \alpha_7 \text{LIT}_{i,t} + \\ & \alpha_8 \text{BIG4}_{i,t} + \alpha_9 \text{NAT\_EXPERT\_AP}_{i,t} + \alpha_{10} \text{CITY\_EXPERT\_AP}_{i,t} + \alpha_{11} \text{LEVERAGE}_{i,t} + \\ & \alpha_{12} \text{FASSETS}_{i,t} + \alpha_{13} \text{SIZE}_{i,t} + \alpha_{14} \text{GROWTH}_{i,t} + \alpha_{15} \text{INSIDEROWN\_CEO}_{i,t} + \\ & \alpha_{16} \text{INSIDEROWN\_CFO}_{i,t} + \alpha_{17} \text{DUALITY}_{i,t} + \alpha_{18} \text{SEGMENTBUS}_{i,t} + \\ & \alpha_{19} \text{SEGMENTGEO}_{i,t} + \eta + \delta + \epsilon_{i,t} \quad (2) \end{aligned}$$

In model (2),  $\alpha_4$  and  $\alpha_5$  reflect the effect of a female audit partner on the relation between CFO or CFO and accounting conservatism. A negative coefficient on the interaction MCEO\*CHGTOFAP ( $\alpha_4$ ) and MCFO\*CHGTOFAP( $\alpha_5$ ) would indicate more accounting conservatism. All other variables are as previously explained.

### **3.4 Sample Selection**

My sample consists of U.S.-based public companies from 2016-2021 with available data from Compustat where I locate annual files to obtain necessary financial data for my dependent and control variables. I then merge Execucomp, for which I can identify gender of firms' CEOs and CFOs; missing data on CEO or CFO compensation were assumed to be zero. Following, I locate necessary audit firm data through audit analytics. Audit partner data, including name, was collected from the PCAOB website.<sup>4</sup> I hand-collected audit partner gender data resulting in an original data set. Hand-collecting audit partner gender included looking up each audit partner by name on LinkedIn to identify gender. If the audit partner's gender could not be identified on LinkedIn, a Google search was conducted where I could locate the audit partner within their firm website to identify gender. All audit partners' gender could be identified, and no further investigation was needed. My hand-collected data was essential in conducting this study as it provided rich information regarding the impact audit partner gender encompasses on the CEO or CFO gender and accounting conservatism. My final sample consists of 4,997 firm-year observations with data available on all model variables.

<sup>4</sup> <https://pcaobus.org/>



## CHAPTER 4: RESULTS

### 4.1 Descriptive statistics

Table 1 reports descriptive information about variables used to test my hypotheses. My model includes 4,997 firm-year observations, and consistent with prior research, I winsorize all continuous variables at the 1 percent and 99 percent levels to reduce the influence of potential outliers. The descriptive statistics in Table 1 show that SKEWNESS has a mean of -0.0767, similar to Louis, Sun, and Urcan (2012) and Givoly and Hayn (2000).

As expected, individuals that identify as male comprise a larger percentage of the sample: 93.66 percent of the firm-year observations are male CEOs, and 87.61 percent of firm-year observations are male CFOs. Female audit partners represent 16.89 percent of firm-year observations. Audit partners with industry expertise (CITY\_EXPERT\_AP) are identified in 45 percent of the firm-year observations.

Companies in my sample have a mean value for SIZE of 8.16, which translates into total assets of \$13,919 million. Approximately 88 percent of company-year observations in my sample have a Big Four auditor. Regarding GROWTH, companies in my sample experience sales growth of 9 percent. In sum, the descriptive statistics in Table 1 are consistent with prior research.

In Table 1, Panel B, I examine simple comparisons of means of the audit partner, CEO, and CFOs gender and SKEWNESS; the t-statistic is shown after the mean. The t-test reveals that a female audit partner (FAP) is significantly different compared to the male audit partner regarding SKEWNESS (MAP) (MAP= -0.0620 FAP= -0.1505;  $t=1.65$ ,  $p=.09$ ). It also reveals there is a significant difference between male and female CFOs (MCFO= 0.1200; FCFO= 0.1435;  $t=1.90$ ;  $p=0.0595$ ). The difference in means is significant on a univariate basis and its magnitude suggests the female audit partner holds twice as much skewness compared to males. Lastly, the t-test shows an insignificant difference between MCEO and FCEO. These univariate statistics indicate that a female audit partner and female CEO increase accounting conservatism significantly more than their male counterparts. Thus, the findings are consistent with my second and third hypotheses; however, they should be interpreted with caution since they may be biased due to correlated omitted variables. See Table 1 in appendix.

Table 2 reports Spearman correlations between regression variables in model (1). The main variables of interest are SKEWNESS, MCEO, MCFO, and FAP. There is a positive and significant correlation between MCEO and MCFO, and a negative and significant correlation between MCEO and FAP. The significant correlations indicate a possible multicollinearity between the MCEO and MCFO and MCEO and FAP variables in a multivariate setting, but confounding effects with additional variables may influence simple correlations, thus, these results should be viewed with caution. All significant correlations do not indicate multicollinearity and should not compromise findings as all significant correlations are less than 0.80. Variance inflation factors (VIF) on examined and discussed in the multiple regression analyses. See Table 2 in appendix.

## **4.2 Test of Hypothesis 1**

Table 3 presents the results of my first hypothesis that the presence of a male CEO or CFO is associated with lower accounting conservatism. All inferences concerning predicted directions of variables used to test hypotheses are based on one-tailed t-tests. Consistent with my expectation, my results conclude that having a male CEO or CFO is associated with lower accounting conservatism. The coefficient of MCEO is 0.1497 and significant (p-value of .026), and the CFO coefficient is 0.0934 and is significant (p-value .051). My findings indicate that the presence of a male CEO or CFO presence is associated with lower accounting conservatism, thus supporting my H1.

The control variables are consistent with expectations and prior literature. Along with DeFond et al. (2002), I find significance in the predicted direction for the LOSS, SIZE, GROWTH, and LEVERAGE coefficients.

## **4.3 Test of Hypothesis 2**

Table 3 reports my results of H2 that the presence of a female audit partner will increase accounting conservatism. The coefficient of female audit partner (FAP) is -0.0994 and is significant (p value .024). Consistent with H2, this finding indicates that female audit partners report more conservative accounting. See Table 3 in appendix.

## **4.4 Test of Hypothesis 3**

The main results to test H3 are shown in Table 4. To test H3, I keep the indicator variables for male CEOs and CFOs but replace the FAP with an indicator variable that

captures when there is an audit partner change and the change results in a female audit partner replacing a male audit partner. Specifically, CHGTOFAP equals 1 if a female audit partner replaces a male audit partner, -1 if a male replaces a female, and 0 for no change. This measure will allow the model to test the impact of a female audit partner in her first year on the engagement, resulting in a more powerful test of the influence of a female audit partner. Investigating the interactions of MCEO\*CHGTOFAP and MCFO\*CHGTOFAP tests whether a female audit partner will increase accounting conservatism with a male CEO or CFO. The interaction coefficient of MCEO \* CHGTOFAP is .3312 and is not significant (p-value .1785) and the coefficient of MCFO\*CHGTOFAP is - 0.4568 and is significant (p-value .037). Consistent with my prediction, this finding indicates that the presence of a female audit partner on the engagement will increase the level of accounting conservatism with the presence of male CFO. This evidence is consistent with my previous analyses: first, a male CEO or CFO is associated with lower accounting conservatism, and second, a female audit partner is associate with higher accounting conservatism.<sup>5</sup> See Table 4 in appendix.

#### **4.5 Robustness**

I conduct robustness tests in Table 5. First, to address the concerns that my results may be driven by winsorization, I assess whether the results on H1, H2, and H3 persist when I remove the winsorization of my variables; my findings are unchanged for H1, H2, and H3. Next, I identify outliers by calculating the studentized residual (i.e. rstudent) for each observation and remove those with an absolute value greater than three (Belsley, Kuh, 1980). When removing the outliers H1, H2, and H3 are supported.<sup>6</sup> I also review the VIF

of each explanatory variable in model (1), and there is no indication that multicollinearity draws concerns about inferences, for H1 and H2.<sup>7</sup> I also reviewed the VIF of each explanatory variable for model (2) that tests H3, and there is an indication that multicollinearity could hinder inferences about my interaction: MCEO\*CHGTOFAP (VIF 24.39) therefore, in untabulated analysis, I estimated the same regression without the interaction between MCEO\*CHGTOFAP, and I obtain the same results reported in Table 4 of my main analysis.

This analysis indicates a potential inference issue due to high multicollinearity, which tends to reduce statistical significance. I obtain similar results when the variable driving the correlation is removed. See Table 5 in appendix.

In addition, previous literature has controlled for ROA as it can correlate with audit quality as it reflects the company's performance. Therefore, I estimate models (1) and (2) to include ROA as an additional control. Table 6 reports results from this analysis and yields inferences consistent with my main analyses. See Table 6 in appendix.

Due to concern that controlling for LOSS is driving results, I exclude LOSS in model (1) and (2). Table 7 reports results from this analysis and yields inferences consistent with my main analyses. See Table 7 in appendix.

<sup>5</sup> Results reported in Table 4 exclude audit partner changes in which a male replaces a female (i.e. CHGTOFAP = -1). The results are qualitatively similar if I assume CHGTOFAP is equal to zero if change from female to male.

<sup>6</sup> When removing outliers for H3, the results supported the significance for MCEO\*CHGTOFAP and, conversely, did not support the significance of MCFO\*CHGTOFAP. Although this conclusion differs from the main findings of MCFO\*CHGTOFAP as significant, it supports H3.

<sup>7</sup> I follow Kennedy, P. 2003. A Guide to Econometrics. MIT Press Cambridge, Massachusetts. in determining in VIF is a concern.

I also conduct alternative analysis of H1, H2, and H3 that incorporates each variable alone in separate regressions with control variables. Specifically, Table 8 shows separate regressions were conducted for MCEO, MCFO, FAP, CHGTOFAP, and MCEO+MCFO. MCEO+MCFO is the sum of MCEO and MCFO and aims to simplify the analysis of the role of CEO and CFO in the financial reporting process. Table 8 reports results from this analysis and yields inferences consistent with my primary analyses: MCEO, MCFO, FAP are significant at the 5 percent level and CHGTOFAP and MCEO+MCFO are significant at the 1 percent level. See Table 8 in appendix.

My main analysis results in the inference of CEO or CFO; Table 9 uses the new variable for including both male CEO and CFO as MCEO+MCFO. Although my findings for H1 and H2 remain consistent, H3 is not supported: a change to a female audit partner does not influence a male CEO and CFO using the MCEO+MCFO measure. Future research could consider analyzing the CEO and CFO for two main reasons: the impact a CEO and CFO make as key decision makers and the attestation to the completeness and accuracy of the financial statements. See Table 9 in appendix.

Lastly, I conduct several cross-sectional regression analyses using SIZE, BIG4/Non-BIG4, and LEVERAGE subsamples. First, I analyze the upper and lower cut of size; this is cut by the average size of all firms (8.1604). MCEO results in lower conservatism within smaller firms, and female audit partners result in higher conservatism. When engaging in a BIG4 or Non-BIG4 firm, MCEO results in lower accounting conservatism. FAP has higher accounting conservatism at a BIG4 firm. Within non-BIG4 firms, a male CEO and CFO are associated with lower accounting conservatism. There is no significance between a female audit partner and non-BIG4

firms. When analyzing a change to a female audit partner on a MCEO or MCFO the result is not significant among non-BIG4 subsample.<sup>8</sup> Lastly, I split the average leverage (.35) by upper and lower cuts. The results show a firm with high and low leverage will have an MCEO or MCFO with lower accounting conservatism. My findings show with high leverage a female audit partner may influence a MCEO. Future research could consider further analyzing firm leverage and accounting conservatism to understand the differential role of gender in these subsamples. See Table 10 in appendix.

<sup>8</sup> Note: there are insufficient observations to estimate a coefficient for MCFO\*CHGTOFAP; therefore, this results in 0.

## **CHAPTER 5: CONCLUSIONS**

As researchers continue to explore how managers' characteristics influence financial reporting quality, it is important to consider how the gender composition and audit partner relate to accounting conservatism. I test three hypotheses. The first two hypotheses investigate the effect of CEO, CFO, and audit partner gender on accounting conservatism. The third hypothesis considers female audit partners' influence on the level of accounting conservatism among male CEO or CFOs. These hypotheses draw from risk aversion theory involving females' managerial characteristics to act in risk aversion compared to their male counterparts.

I test my hypotheses using methodologies applied in previous research regarding accounting conservatism. Consistent with my predictions, I find that the presence of a male CEO or CFO leads to a lower level of accounting conservatism and that a female audit partner is associated with higher accounting conservatism. In addition, I find the presence of a female audit partner on the engagement increases the level of accounting conservatism with the presence of male CFO. Lower accounting conservatism can lead to negative outcomes, and for this reason, the results of this study inform regulators and governance boards with evidence of gender differences at both the executive and audit partner levels.



My results are robust to several issues, including but not limited to winsorization and separate analyses using subsamples to address multicollinearity. These alternative considerations to the primary analyses enhance inferences about CEO, CFO, and audit partner gender and accounting conservatism. Despite my efforts to examine relevant variables, I acknowledge that other factors affecting the findings of this study may exist. Future research might investigate other CEO, CFO, and audit partner characteristics.

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## APPENDIX A: VARIABLE DEFINITIONS

### Variable Definition

BIG4	Dummy variable of 1 if audit firm is one of the Big 4 (i.e. Deloitte, KPMG, E&Y, and PwC), and 0 otherwise
CHGTOFAP	Dummy variable of 1 if a female partner replaces a male partner, and 0 otherwise
CITY_EXPERT_AP	Dummy variable of 1 if an auditor is the number 1 auditor in a city and industry in terms of aggregated audit fees in a specific fiscal year, and 0 otherwise
NAT_EXPERT_AP	Dummy variable of 1 if an auditor is the number 1 auditor in an industry in terms of aggregated audit fees in a specific fiscal year, and 0 otherwise
FAP	Female audit partner is equal to 1 if the engagement audit partner is a female, and 0 otherwise
FASSETS	Book value of fixed assets scaled by total assets at the beginning of the fiscal year
GROWTH	Sales growth defined as the percentage of annual growth in total sales
INSIDEROWN_CEO	The number of shares held by the CEO divided by the total number of shares outstanding
INSIDEROWN_CFO	The number of shares held by the CFO divided by the total number of shares outstanding
LEVERAGE	A firm's leverage is measured as the sum of long-term debt and debt in current liabilities deflated by market value of equity at the end of the fiscal year
LIT	An indicator variable that equals 1 if the firm is in a litigious industry, and 0 otherwise. Following Francis et al. (1994), primary industry codes of 2833–2836 (biotechnology), 3570–3577 (computer equipment), 3600–3674 (electronics), 5200–5961 (retailing), and 7370–7374

	(computer services) are considered to represent litigious industries
LOSS	Indicator variable for financial performance set to 1 when income before extraordinary items (IB) is negative, and 0 otherwise
MCEO	Male Chief Executive Officer is equal to 1 if the CEO is a male and 0 otherwise
MCFO	Male Chief Financial Officer is equal to 1 if the CEO is a male and 0 otherwise
MCEO+MCFO	The sum of MCEO and MCFO
ROA	Ratio of income (loss) from continuing operations to total assets at the beginning of the year
SEGMENTBUS	The number of the firm's business segments (Compustat Segments)
SEGMENTGEO	The number of the firm's geography segments (Compustat Segments)
SIZE	The firm's size calculated as the natural log of total assets at the end of the fiscal year
SKEWNESS	$E[(X-\mu)^3]/\sigma^3$ (Givoly and Hayn, 2000), where X is the ROA, and $\mu$ and $\sigma$ are estimated by the mean and standard deviation of the ROA distribution
$\eta$	A vector of year indicator variables
$\delta$	A vector of industry indicator variables based on two-digit industry SIC code

**Table 1**

**Panel A: Full Sample Descriptive Statistics**

Variable	n	Mean	Std. Deviation	P25	P50	P75
SKEWNESS	4,997	-0.0767	1.4133	-0.2588	0.0000	0.2583
MCEO	4,997	0.9366	0.2438	1.0000	1.0000	1.0000
MCFO	4,997	0.8761	0.3295	1.0000	1.0000	1.0000
CHGTOFAP	4,764	0.0052	0.3138	0.0000	0.0000	0.0000
FAP	4,997	0.1689	0.3747	0.0000	0.0000	0.0000
LOSS	4,997	0.2105	0.4077	0.0000	0.0000	0.0000
LIT	4,997	0.2550	0.4359	0.0000	0.0000	1.0000
BIG4	4,997	0.8815	0.3232	1.0000	1.0000	1.0000
NAT_EXPERT_AP	4,997	0.0086	0.0924	0.0000	0.0000	0.0000
CITY_EXPERT_AP	4,997	0.4547	0.4980	0.0000	0.0000	1.0000
LEVERAGE	4,997	0.3468	0.2478	0.1710	0.3288	0.4709
FASSETS	4,997	0.2795	0.2447	0.0900	0.1857	0.4173
SIZE	4,997	8.1604	1.6144	7.0383	8.0333	9.2203
GROWTH	4,997	0.0948	0.2680	-0.0238	0.0610	0.1652
INSIDEROWN_CEO	4,997	0.0166	0.0410	0.0011	0.0038	0.0116
INSIDEROWN_CFO	4,997	0.0017	0.0030	0.0002	0.0007	0.0019
DUALITY	4,997	0.3010	0.4587	0.0000	0.0000	1.0000
SEGMENTBUS	4,997	1.0347	0.5888	0.6931	1.0986	1.6094
SEGMENTGEO	4,997	1.1972	0.6676	0.6931	1.3863	1.6094

Table 1 presents summary statistics for all variables used in my study. All continuous variables are winsorized at the top and bottom 1 percent of their distributions to mitigate the effects of extreme value.

**Panel B: Gender Subsamples of AP, CEO, and CFO**

Variable	MAP M [n=4,153]	FAP M [n=844]	t-statistic	MCEO M [n=4,680]	FCEO M [n=317]	t-statistic	MCFO M [n=4,378]	FCFO M [n=619]	t-statistic
SKEWNESS	-0.0620	-0.1505	1.65*	0.0615	0.0735	-1.3	0.1200	0.1435	-1.9*



**Table 2**

**Correlation of variables**

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.
1. SKEWNESS	1.000																	
2. MCEO	0.011	1.000																
3. MCFO	0.012	0.030*	1.000															
4. FAP	-0.019	<b>-0.034</b>	-0.023	1.000														
5. LOSS	<b>-0.306</b>	0.030*	0.035*	-0.005	1.000													
6. LIT	0.014	<b>-0.036</b>	0.003	-0.001	<b>0.038</b>	1.000												
7. BIG4	-0.011	<b>-0.053</b>	0.013	<b>0.042</b>	<b>-0.109</b>	<b>-0.066</b>	1.000											
8. NAP_EXPERT_AP	-0.006	0.000	-0.031*	0.004	0.014	-0.016	0.028*	1.000										
9. CITY_EXPERT_AP	<b>-0.035</b>	0.016	-0.012	0.001	<b>-0.067</b>	<b>-0.088</b>	<b>0.109</b>	<b>0.145</b>	1.000									
10. LEVERAGE	-0.009	-0.001	-0.007	0.014	0.016	<b>-0.033</b>	<b>0.145</b>	0.007	<b>0.108</b>	1.000								
11. FASSETS	<b>-0.037</b>	<b>-0.037</b>	-0.019	-0.020	<b>0.080</b>	<b>-0.172</b>	<b>0.056</b>	0.001	<b>0.059</b>	<b>0.157</b>	1.000							
12. SIZE	-0.017	0.002	<b>-0.036</b>	0.022*	<b>-0.216</b>	<b>-0.140</b>	<b>0.397</b>	<b>0.056</b>	<b>0.229</b>	<b>0.234</b>	<b>0.184</b>	1.000						
13. GROWTH	<b>0.220</b>	0.019	-0.002	0.022*	<b>-0.162</b>	<b>0.045</b>	<b>-0.047</b>	-0.010	<b>-0.057</b>	<b>0.078</b>	<b>-0.071</b>	<b>-0.037</b>	1.000					
14. INSIDEROWN_CEO	0.009	0.020	-0.000	0.024*	0.024*	0.018	<b>-0.139</b>	-0.012	<b>-0.046</b>	<b>-0.071</b>	<b>-0.064</b>	<b>-0.220</b>	<b>0.047</b>	1.000				
15. INSIDEROWN_CFO	0.015	-0.002	<b>0.041</b>	0.003	<b>0.133</b>	0.017	<b>-0.138</b>	<b>-0.037</b>	<b>-0.077</b>	<b>-0.041</b>	-0.028*	<b>-0.289</b>	0.019	<b>0.317</b>	1.000			
16. DUALITY	0.009	<b>0.039</b>	<b>0.063</b>	0.011	<b>-0.065</b>	<b>-0.047</b>	<b>-0.043</b>	0.001	0.030*	-0.021	0.028*	<b>0.054</b>	-0.009	<b>0.307</b>	<b>0.098</b>	1.000		
17. SEGMENTBUS	-0.022	0.018	0.034*	0.025*	<b>-0.049</b>	<b>-0.124</b>	<b>0.048</b>	-0.026*	<b>0.035</b>	-0.054	<b>-0.043</b>	<b>0.097</b>	<b>-0.050</b>	<b>-0.035</b>	<b>-0.038</b>	-0.013	1.000	
18. SEGMENTGEO	-0.007	<b>0.064</b>	<b>0.037</b>	0.027*	-0.015	-0.025*	<b>0.038</b>	0.023	<b>-0.041</b>	<b>-0.107</b>	<b>-0.237</b>	<b>0.104</b>	<b>-0.064</b>	-0.027*	<b>-0.075</b>	0.005	<b>0.080</b>	1.000

\*. Indicates significance levels at less than 10 percent, and bolded values are significant at less than 5 percent, respectively. This table reports Spearman correlations of variables for the sample of 4,997 firm observations over the period of 2016-2021. See Appendix A for variable definitions.

**Table 3**

**CEO, CFO, Audit Partner Gender and Accounting Conservatism**

$$\text{Conservatism}_{i,t} = \alpha_0 + \alpha_1 \text{MCEO}_{i,t} + \alpha_2 \text{MCFO}_{i,t} + \alpha_3 \text{FAP}_{i,t} + \alpha_4 \text{LOSS}_{i,t} + \alpha_5 \text{LIT}_{i,t} + \alpha_6 \text{BIG4}_{i,t} + \alpha_7 \text{NAT\_EXPER\_AP}_{i,t} + \alpha_8 \text{CITY\_EXPERT\_AP}_{i,t} + \alpha_9 \text{LEVERAGE}_{i,t} + \alpha_{10} \text{FASSETS}_{i,t} + \alpha_{11} \text{SIZE}_{i,t} + \alpha_{12} \text{GROWTH}_{i,t} + \alpha_{13} \text{INSIDEROWN\_CEO}_{i,t} + \alpha_{14} \text{INSIDEROWN\_CFO}_{i,t} + \alpha_{15} \text{DUALITY}_{i,t} + \alpha_{16} \text{SEGMENTBUS}_{i,t} + \alpha_{17} \text{SEGMENTGEO}_{i,t} + \eta + \delta + \epsilon_{i,t}$$

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Variables	Expected Sign	SKEWNESS	
		Coefficient	t-value
MCEO	H1: +	0.1497**	1.94
MCFO	H1: +	0.0934*	1.64
FAP	H2: -	-0.0994**	-1.98
Control Variables			
LOSS	-	-1.0282***	-20.75
LIT	+	0.1571**	2.28
BIG4	-	0.0261	0.41
NAT_EXPERT_AP	-	-0.0692	-0.29
CITY_EXPERT_AP	-	-0.0440	-1.05
LEVERAGE	+	0.0282	0.34
FASSETS	-	-0.1039	-0.81
SIZE	-	-0.0448***	-2.89
GROWTH	+	0.7029***	9.32
INSIDEROWN_CEO	+	-0.4094	-0.81
INSIDEROWN_CFO	+	25.0054***	3.45
DUALITY	-	-0.0329	-0.77
SEGMENTBUS	-	-0.0663**	-1.97
SEGMENTGEO	-	0.0079	0.23
Intercept		0.1295	0.21
Industry Fixed Effects		Yes	
Year Fixed Effects Adj.		Yes	
R <sup>2</sup>	18.1%		
Observations		4997	4997

\*\*\*, \*\*, \* Represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a one-tailed test.

Table 3 presents coefficient estimates for regression of the effect of male CEO or CFO and audit partner gender on accounting conservatism (SKEWNESS). I use OLS regression for CEO or CFO and audit partner gender and accounting conservatism. My dependent variable SKEWNESS is computed using Givoly and Hayn model (Givoly and Hayn, 2000), respectively. In Model 1, MCEO and MCFO are gender dummy variables; 1 if CEO or CFO is male, 0 otherwise. In addition, the audit partner (AP) is a gender dummy variable: 1 if the audit partner is female, 0 otherwise. My variables of interest include MCEO, MCFO, and FAP. T-value is shown after the coefficient. See Appendix A for the other variable definitions.

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**Table 4**

**CEO, CFO, and Audit Partner Group Dynamic and Accounting Conservatism**

$$\text{Conservatism}_{i,t} = \alpha_0 + \alpha_1 \text{MCEO}_{i,t} + \alpha_2 \text{MCFO}_{i,t} + \alpha_3 \text{CHGTOFAP}_{i,t} + \alpha_4 \text{MCEO}_{i,t} * \text{CHGTOFAP}_{i,t} + \alpha_5 \text{MCFO}_{i,t} * \text{CHGTOFAP}_{i,t} + \alpha_6 \text{LOSS}_{i,t} + \alpha_7 \text{LIT}_{i,t} + \alpha_8 \text{BIG4}_{i,t} + \alpha_9 \text{NAT\_EXPER\_AP}_{i,t} + \alpha_{10} \text{CITY\_EXPERT\_AP}_{i,t} + \alpha_{11} \text{LEVERAGE}_{i,t} + \alpha_{12} \text{FASSETS}_{i,t} + \alpha_{13} \text{SIZE}_{i,t} + \alpha_{14} \text{GROWTH}_{i,t} + \alpha_{15} \text{INSIDEROWN\_CEO}_{i,t} + \alpha_{16} \text{INSIDEROWN\_CFO}_{i,t} + \alpha_{17} \text{DUALITY}_{i,t} + \alpha_{18} \text{SEGMENTBUS}_{i,t} + \alpha_{19} \text{SEGMENTGEO}_{i,t} + \eta + \delta + \epsilon_{i,t}$$

Variables	SKEWNESS		
	Expected Sign	Coefficient	t-value
MCEO	+	0.1457**	1.76
MCFO	+	0.1191**	1.95
CHGTOFAP	-	-0.1121	-0.27
MCEO* CHGTOFAP	H3: -	0.3312	0.92
MCFO * CHGTOFAP	H3: -	-0.4568**	-1.79
Control Variables			
LOSS	-	-1.0429***	-20.02
LIT	+	0.1517	2.18
BIG4	-	0.0262	0.40
NAT_EXPERT_AP	-	-0.0701	-0.28
CITY_EXPERT_AP	-	-0.0435	-0.99
LEVERAGE	+	0.0298	0.34
FASSETS	-	-0.1634	-1.23
SIZE	-	-0.0416**	-2.56
GROWTH	+	0.7294***	9.20
INSIDEROWN_CEO	+	-0.5146	-0.96
INSIDEROWN_CFO	+	29.0502***	3.77
DUALITY	-	-0.0217	-0.48
SEGMENTBUS	-	-0.0780**	-2.21
SEGMENTGEO	-	-0.0062	-0.18
Intercept		-0.1171	-0.19
Industry Fixed Effects		Yes	
Year Fixed Effects		Yes	
Adj. R <sup>2</sup>	17.7%		
Observations		4764	

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\*\*\*, \*\*, \* Represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a one-tailed test.

Table 4 presents coefficient estimates for regression of the effect of a female audit partner and a male CEO or CFO on accounting conservatism (SKEWNESS). I use OLS regression to test the influence of a female audit partner with a male CEO or CFO and accounting conservatism. My dependent variable SKEWNESS is computed using Givoly and Hayn model (Givoly and Hayn, 2000). In Model 1, MCEO\* CHGTOFAP and MCFO\* CHGTOFAP are my variables of interest as MCEO\*CHGTOFAP is the interaction of a female audit partner on a male CEO. In addition, MCFO\*CHGTOFAP is the interaction of a female audit partner with a male CFO. See Appendix A for the other variable definitions.

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**Table 5**

**OLS Regression Robustness**

Variable	Expected Sign	SKEWNESS				VIF	
		Unwinsorized		Removal of Outliers			
		H1 & H2	H3	H1 & H2	H3	H1 & H2	H3
MCEO	H1: +	0.1663** 2.07	0.1563* 1.85	0.1063* 1.60	0.1532** 2.20	1.08	1.14
MCFO	H1: +	0.0971* 1.65	0.1189* 1.93	0.0941** 1.91	0.0969* 1.89	1.08	1.13
FAP	H2: -	-0.0915* -1.76		-0.0941** -2.18		1.08	
CHGTOFAP	-		-0.1240 -0.30		0.0801 0.22		24.39
MCEO* CHGTOFAP	H3: -		0.3235 0.89		-0.4425* -1.38		17.43
MCFO * CHGTOFAP	H3: -		-0.4189* -1.62		0.1407 0.63		8.25
Control Variables							
LOSS	-	-1.1154*** -22.30	-1.1160*** -21.74	-0.9816*** -23.04	-0.9573*** -21.77	1.25	1.24
LIT	+	0.2109*** 2.97	0.1948*** 2.67	0.0642 1.08	0.0467 0.77	2.75	2.74
BIG4	-	0.0049 0.08	0.0090 0.14	0.0365 0.67	0.0776 1.39	1.28	1.28
NAT_EXPERT_AP	-	-0.0616 -0.25	-0.0613 -0.24	-0.0732 -0.36	-0.0882 -0.42	1.51	1.54
CITY_EXPERT_AP	-	-0.0576 -1.33	-0.0511 -1.15	-0.0286 -0.79	-0.0180 -0.49	1.33	1.32
LEVERAGE	+	0.0562 0.75	0.1098 1.38	-0.0202 -0.28	-0.0407 -0.55	1.31	1.31
FASSETS	-	-0.1357 -1.03	-0.1877 -1.40	-0.2153* -1.96	-0.2520** -2.25	2.98	2.97
SIZE	+	-0.0604*** -4.05	-0.0614*** -4.02	-0.0381*** -2.85	-0.0358*** -2.62	1.91	1.90

GROWTH	+	0.0128* 1.95	0.0128* 1.95	0.6980*** 10.76	0.7050*** 10.53	1.25	1.25
INSIDEROWN_CEO	+	-0.0219 -0.09	-0.0653 -0.21	-0.0046 -0.01	-0.0157 -0.03	1.33	1.30
INSIDEROWN_CFO	-	0.2239 0.32	0.3228 0.37	22.0020*** 3.54	25.0354*** 3.88	1.42	1.40
DUALITY	-	-0.0279 -0.66	-0.0233 -0.54	-0.0334 -0.90	-0.0496 -1.31	1.18	1.18
SEGMENTBUS	-	-0.0743** -2.14	-0.0857** -2.41	-0.0520* -1.80	-0.0553* -1.86	1.20	1.20
SEGMENTGEO	-	-0.0141 -0.41	-0.0291 -0.82	0.0137 0.47	0.0070 0.23	1.56	1.57
Intercept		0.0642 0.10	0.0794 0.12	-0.1197 -0.23	-0.1965 -0.37		
Industry Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes
Adj R <sup>2</sup>		15.9%	16.0%	21.2%	21.2%		
Observations		4997	4764	4879	4645	4997	4764

\*\*\*, \*\*, \* Represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a one-tailed test.  
Table 5 presents coefficient estimates for regression of the effect of H1, H2, and H3 and the removal of winsorization, outliers, and VIF.  
See Appendix A for the other variable definitions.

**Table 6**

**OLS Regression controlling for ROA**

H1 & H2		SKEWNESS				
		Expected Sign	Coefficient	t-value	H3	
Variables					Coefficient	t-value
MCEO	H1: +		0.1901***	2.57	0.1811**	2.28
MCFO	H1: +	0.1076**		1.97	0.1268**	2.17
FAP	H2: -	-0.1021**		-2.12		
CHGTOFAP	-				-0.1424	-0.36
MCEO* CHGTOFAP	H3: -				0.2936	0.85
MCFO * CHGTOFAP	H3: -				-0.3974*	-1.62
Control Variables						
LOSS	-		-0.3319***	-5.73	-0.3240***	-5.31
LIT	+		0.1930***	2.93	0.1984***	2.87
BIG4	-	0.0115		0.19	0.0098	0.15
NAT_EXPERT_AP	-	-0.0661		-0.29	-0.0465	-0.19
CITY_EXPERT_AP	-	0.0048		0.12	0.0038	0.09
LEVERAGE	+	0.1393*		1.73	0.1455*	1.72
ROA	-		4.3562***	20.98	4.5126***	20.52
FASSETS	-	-0.1467		-1.20	-0.2056	-1.61
SIZE	+		-0.0640***	-4.30	-0.0615***	-3.95
GROWTH	+		0.4280***	5.83	0.4387***	5.68
INSIDEROWN_CEO	+	-0.4667		-0.96	-0.5703	-1.11
INSIDEROWN_CFO	-		30.4037***	4.38	33.8886***	4.59
DUALITY	-	-0.0575		-1.40	-0.0499	-1.16
SEGMENTBUS	-	-0.0650**		-2.02	-0.0757**	-2.24
SEGMENTGEO	-	0.0036		0.11	-0.0105	-0.31
Intercept			-0.2011	-0.34	-0.2040	-0.34
Industry Fixed Effects		Yes	Yes		Yes	
Year Fixed Effects					Yes	
Adj R <sup>2</sup>			24.5%		24.5%	
Observations			4997		4764	

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\*, \*\*, \*\*\* Significant at the 10 percent, 5 percent, and 1 percent levels, respectively. Table 5 shows results of Model 1 and 2 with ROA as a control. Variable definitions can be found in Appendix.

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**Table 7**

**OLS Regression removing LOSS**

Variable	SKEWNESS				
	Expected Sign	H1 &H2		H3	
		Coefficient	t value	Coefficient	t value
MCEO	H1: +	0.1221*	-1.52	0.1202*	1.39
MCFO	H1: +	0.0770*	-1.30	0.1047*	1.65
FAP	H2: -	-0.1033**	-1.98		
CHGTOFAP	-			-0.0218	-0.05
MCEO* CHGTOFAP	H3: -			0.2390	0.64
MCFO * CHGTOFAP	H3: -			-0.4740**	-1.78
Control Variables					
LIT	+	0.0681	0.95	0.0746	0.99
BIG4	-	0.0455	0.69	0.0414	0.60
NAT_EXPERT_AP	-	-0.1379	-0.55	-0.1454	-0.56
CITY_EXPERT_AP	-	-0.0750*	-1.72	-0.0754*	-1.65
LEVERAGE	+	-0.1431*	-1.65	-0.1434	-1.57
FASSETS	-	-0.1551	-1.17	-0.2123	-1.53
SIZE	+	0.0099	0.62	0.0136	0.82
GROWTH	+	1.0073***	13.06	1.0388***	12.83
INSIDEROWN_CEO	+	-0.2890	-0.55	-0.3735	-0.67
INSIDEROWN_CFO	-	9.0954	1.21	12.5036	1.57

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DUALITY	-	0.0141	0.32	0.0283	0.60
SEGMENTBUS	-	-0.0526	-1.50	-0.0597	-1.62
SEGMENTGEO	-	0.0042	0.12	-0.0055	-0.15
Intercept		-0.3027	-0.48	-0.5208	-0.79
Industry Fixed Effects		Yes	Yes	Yes	Yes
Year Fixed Effects		Yes	Yes	Yes	Yes
Adj R <sup>2</sup>		10.9%		10.7%	
Observations		4997		4764	

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\*\*\*, \*\*, \* Represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a one-tailed test.

Table 7 shows results of Model 1 and 2 without LOSS as a control.

Variable definitions can be found in Appendix

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**Table 8**

**OLS Regression with individual variables**

SKEWNESS					
Variable	MCEO	MCFO	FAP	CHGTOFAP	MCEO+MCFO
Expected Sign	+	+	-	-	+
	0.1524**	0.0994**	-0.1008**	-0.2004***	0.1150***
	1.98	1.75	-2.01	-2.41	2.54
Control Variables					
LOSS	-1.0274***	-1.0269***	-1.0253***	-1.0221***	-1.0284***
	-20.73	-20.71	-20.69	-20.10	-20.75
LIT	0.1603**	0.1600**	0.1563**	0.1414**	0.1605**
	2.33	2.32	2.27	2.01	2.33
BIG4	0.0182	0.0116	0.0186	0.0233	0.0171
	0.29	0.18	0.29	0.36	0.27
NAT_EXPERT_AP	-0.0716	-0.0781	-0.0678	-0.0760	-0.0769
	-0.30	-0.32	-0.28	-0.31	-0.32
CITY_EXPERT_AP	-0.0395	-0.0378	-0.0383	-0.0336	-0.0410
	-0.94	-0.90	-0.91	-0.79	-0.98
LEVERAGE	0.0284	0.0294	0.0358	0.0362	0.0255
	0.34	0.35	0.43	0.42	0.30
FASSETS	-0.1067	-0.1026	-0.1147	-0.1619	-0.0987
	-0.84	-0.80	-0.90	-1.25	-0.77
SIZE	-0.0447***	-0.0437***	-0.0456***	-0.0421***	-0.0436***
	-2.89	-2.82	-2.94	-2.66	-2.82
GROWTH	0.7007***	0.7041***	0.7062***	0.7223***	0.7016***
	9.29	9.34	9.36	9.34	9.31
INSIDEROWN_CEO	-0.4176	-0.3807	-0.4376	-0.4968	-0.3781
	-0.82	-0.75	-0.86	-0.95	-0.75
INSIDEROWN_CFO	25.0160***	24.4128***	24.7863***	27.7738***	24.6920***
	3.45	3.37	3.42	3.70	3.41
DUALITY	-0.0302	-0.0334	-0.0263	-0.0221	-0.0356
	-0.71	-0.78	-0.61	-0.50	-0.83

SEGMENTBUS	-0.0626*	-0.0627*	-0.0633*	-0.0782**	-0.0641*
	-1.86	-1.87	-1.88	-2.27	-1.91
SEGMENTGEO	0.0115	0.0115	0.0118	-0.0040	0.0096
	0.34	0.34	0.35	-0.11	0.28
Intercept	-0.0278	0.0206	0.1229	0.1350	-0.1054
	-0.05	0.03	0.20	0.22	-0.17
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes
Adj R <sup>2</sup>	18.0%	18.0%	18.0%	18.2%	18.2%
Observations	4997	4997	4997	4764	4997

\*\*\*, \*\*, \* Represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a one-tailed test.

Table 8 shows results of H1, H2, and H3 analyses that incorporates each variable separately.

Variable definitions can be found in Appendix.

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**Table 9****OLS Regression MCEO+MCFO**

Variable	Expected Sign	SKEWNESS			
		H1 &H2		H3	
		Coefficient	t value	Coefficient	t value
MCEO_MCFO	+	0.1135***	2.51	0.1154***	2.56
FAP	H2: -	-0.0988**	-1.97		
CHGTOFAP	-			-0.0460	-0.17
MCEO_MCFO* CHGTOFAP	H3: -			-0.0764	-0.54
Control Variables					
LOSS		-1.0280***	-20.75	-1.0290***	-20.78
LIT	+	0.1571**	2.28	0.1602**	2.33
BIG4	-	0.0245	0.39	0.0194	0.31
NAT_EXPERT_AP	-	-0.0707	-0.29	-0.0747	-0.31
CITY_EXPERT_AP	-	-0.0435	-1.04	-0.0430	-1.03
LEVERAGE	+	0.0285	0.34	0.0239	0.29
FASSETS	-	-0.1032	-0.81	-0.0987	-0.77
SIZE	+	-0.0446***	-2.88	-0.0437***	-2.82
GROWTH	+	0.7037***	9.34	0.7038***	9.34
INSIDEROWN_CEO	+	-0.4016	-0.79	-0.3892	-0.77
INSIDEROWN_CFO	-	24.8680***	3.43	24.5683***	3.39

DUALITY	-	-0.0335	-0.78	-0.0369	-0.86
SEGMENTBUS	-	-0.0662**	-1.97	-0.0652*	-1.94
SEGMENTGEO	-	0.0080	0.24	0.0089	0.26
Intercept		-0.0988	-0.16	-0.1132	-0.18
Industry Fixed Effects		Yes		Yes	
Year Fixed Effects		Yes		Yes	
Adj R <sup>2</sup>		18.1%		18.2%	
Observations		4997		4764	

\*\*\*, \*\*, \* Represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a one-tailed test.

Table 8 shows alternative results of H1, H2, and H3 that includes MCEO\_MCEO as male CEO and MCFO as one variable.

Variable definitions can be found in Appendix.

**Table 10**

**OLS Regression Subsamples**

Variable	Expected Sign	SIZE=8.16		SIZE >=8.16		BIG4		Non-BIG4		LEVERAGE <=,350		LEVERAGE >=,350	
		H1 & H2	H3	H1 & H2	H3	H1 & H2	H3	H1 & H2	H3	H1 & H2	H3	H1 & H2	H3
MCEO	H1: +	0.1733*	0.2009**	0.0995	0.0543	0.1251*	0.1122*	0.7031*	0.8536**	0.0571**	0.0699	0.2268**	0.2069**
		1.64	1.76	0.86	0.43	1.57	1.31	1.57	1.75	0.51	0.58	2.05	1.73
MCFO	H1: +	0.0840	0.1154*	0.0548	0.0689	0.0647	0.0876*	0.3571*	0.4121**	0.0275**	0.0266	0.1364**	0.1879**
		1.08	1.37	0.63	0.74	1.07	1.35	1.56	1.69	0.33	0.30	1.68	2.14
FAP	H2: -	-	-	-0.0405	-	-0.0864*	-	-0.2408	-	-0.1618**	-	-0.0332	-
		0.1286**	-	-0.51	-	-1.64	-	-1.22	-	-2.18	-	-0.47	-
CHGTOFAP	-	-	0.2201	-	-0.8025	-	-0.2176	-	0.5943	-	0.0682	-	-0.4968
		-	0.44	-	-1.12	-	-0.51	-	0.42	-	0.12	-	-0.77
MCEO*	H3: -	-	-0.1349	-	1.2197*	-	0.4058	-	-0.8094	-	-0.0741	-	0.8214*
CHGTOFAP			0.44		1.89		1.09		-0.56		-0.15		1.47
MCFO*	H3: -	-	-0.4131	-	-0.4994	-	-0.4210	-	-	-	-0.3779	-	-0.3782
CHGTOFAP			-1.29*		-1.19		-1.63*		-		-1.00		-1.07
Control Variables													
LOSS	-	-	-	-	-	-	-	-	-1.0007***	-	-	-	-
		0.8919**	0.9109**	1.3265*	1.3383***	1.0650**	1.0818**	0.9957***	-6.91	1.0470***	1.0604**	1.0130**	1.0285**
		*	*	**	-14.34	*	*	-7.31	-	-14.89	*	*	*
		-14.70	-14.32	-14.96	-	-19.73	-19.06	-	-	-	-14.38	-14.21	-13.68
LIT	+	0.0620	0.0744	0.2092*	0.1752	0.1464**	0.1419*	0.0098	-0.0219	0.1263	0.0889	0.2010*	0.2452**
		0.70	0.8	1.83	1.46	1.98	1.83	0.05	-0.10	1.39	0.93	1.84	2.13
BIG4	-	0.0620	-0.0017	0.5115*	0.5289**	-	-	-	-	0.0433	0.0288	-0.0289	-0.0049
		0.70	-0.02	*	2.07	-	-	-	-	0.54	0.35	-0.26	-0.04
NAT_EXPERT_	-	0.1025	0.0879	-0.0721	-0.0703	-0.0872	-0.0846	-0.9823	-1.0033	0.3167	0.2845	-0.5874	-0.5774
AP		0.09	0.08	-0.26	-0.24	-0.36	-0.34	-0.77	-0.75	0.91	0.76	-1.58	-1.51
CITY_EXPERT	-	-0.0707	-0.0745	-0.0393	-0.0350	-0.0687	-0.0649	0.0734	0.0169	-0.0464	-0.0291	-0.0403	-0.0496
_AP		-1.27	-1.28	-0.60	-0.51	-1.53	-1.38	0.53	0.12	-0.78	-0.47	-0.66	-0.78
LEVERAGE	+	0.0628	0.0836	-0.0065	-0.0297	0.0173	0.0174	0.1548	0.1688	-0.2416	-0.3621	0.1144	0.1121
		0.60	0.76	-0.04	-0.19	0.19	0.18	0.61	0.63	-0.93	-1.33	0.8	0.74
FASSETS	-	-0.2452	-0.3192*	0.1316	0.0859	-0.0663	-0.1099	-0.1473	-0.4146	-0.1374	-0.2256	-0.0531	-0.1121
		-1.45	-1.81	0.61	0.38	-0.49	-0.78	-0.31	-0.83	-0.7	-1.10	-0.3	-0.61
SIZE	+	-	-0.0730**	-0.0534*	-0.0474	-0.0319*	-0.0277	-	-0.1828***	-0.0474**	-0.0373	-0.0331	-0.0370
		0.0741**	-2.03	-1.67	-1.42	-1.93	-1.61	0.1830***	-2.81	-2.13	-1.61	-1.39	-1.48
		-2.16	-	-	-	-	-	-2.96	-	-	-	-	-
GROWTH	+	0.7257**	0.7570**	0.6608*	0.6776***	0.7036**	0.7297**	0.7286***	0.7731***	0.9383***	0.9523**	0.4669**	0.5000**
		*	*	**	5.08	*	*	3.69	3.66	8.39	*	*	*
		7.77	7.7	5.20	8.56	8.47	8.47	3.69	3.66	8.39	8.13	4.48	4.54
INSIDEROWN_	+	-0.8345	-1.0547*	1.3596	1.6061	0.0044	-0.0542	-1.5265	-1.5615	-0.7199	-0.9367	-0.0805	-0.1310



CEO	-1.47	-1.75	1.10	1.26	0.01	-0.09	-1.27	-1.22	-1.06	-1.31	-0.1	-0.15
INSIDEROWN_	26.9329*	31.5866*	7.2488	10.9806	22.9300*	27.2365*	37.7093**	42.4491**	17.7601*	22.4697*	40.0613*	44.8522*
CFO	**	**	0.39	0.56	**	**	2.13	2.26	1.81	*	**	**
	3.44	3.8			2.79	3.11				2.15	3.5	3.69
DUALITY	-0.0298	-0.0067	0.0010	0.0001	-0.0359	-0.0227	0.0085	-0.0323	-0.0858	-0.0755	0.0178	0.0279
	-0.50	-0.11	0.02	0.00	-0.78	-0.47	0.06	-0.21	-1.42	-1.19	0.29	0.42
SEGMENTBUS	-0.0671	-0.0893*	-0.0372	-0.0403	-	-	0.103	0.0446	-0.0349	-0.0544	-0.0602	-0.0685
	-1.32	-1.67	-0.78	-0.81	0.0920**	0.0993**	0.76	0.31	-0.7	-1.04	-1.28	-1.38
					*	*						
					-2.62	-2.69						
SEGMENTGEO	-0.0240	-0.031	0.0386	0.0162	0.0023	-0.0157	0.0764	0.0546	-0.0021	-0.0081	0.0067	-0.0023
	-0.55	-0.68	0.68	0.28	0.06	-0.41	0.71	0.47	-0.05	-0.17	0.13	-0.04
Intercept	0.6896	0.4431	-0.6878	-0.6980	-0.0854	-0.0958	0.5905	0.6353	0.4871	0.4637	-0.6784	-0.6921
	0.76	0.47	-0.75	-0.74	-0.14	-0.15	0.60	0.62	0.61	0.56	-0.68	-0.67
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adj R2	16.6%	16.7%	20.1%	19.5%	18.6%	18.3%	16.1%	15.0%	16.8%	16.5%	19.7%	19.1%
Observations	2665	2528	2332	2236	4405	4197	16%	567	2696	2566	2301	2198

\*\*\*, \*\*, \* Represent significance at the 1 percent, 5 percent, and 10 percent levels, respectively, using a one-tailed test.

Table 10 shows cross-sectional regression analysis using subsamples of SIZE, BIG4/non-BIG4, and LEVERAGE.

Note: there are insufficient observations to estimate a coefficient for MCFO\*CHGTOFAP within Non-BIG4 H3; therefore, this is blank.

Variable definitions can be found in Appendix.