2024

An analysis of corporate social responsibility and real earnings management

Rachel Brassine
rachel_brassine@yahoo.com

AN ANALYSIS OF CORPORATE SOCIAL RESPONSIBILITY AND REAL EARNINGS MANAGEMENT

A dissertation submitted to
Marshall University
in partial fulfillment of
the requirements for the degree of
Doctor of Business Administration
by
Rachel A. Brassine
Approved by
Dr. Nancy Lankton, Committee Chairperson
Dr. Mohammad Karim
Mr. Norman Mosrie
Dr. Doohee Lee

Marshall University
May 2024

Approval of Dissertation

We, the faculty supervising the work of Rachel A. Brassine, affirm that the dissertation, *An Analysis of Corporate Social Responsibility and Real Earnings Management*, meets the high academic standards for original scholarship and creative work established by the Doctor of Business Administration Program and the Lewis College of Business. The work also conforms to the requirements and formatting guidelines of Marshall University. With our signatures, we approve the manuscript for publication.

Dr. Nancy Lankton, Lewis College of Business	Committee Chairperson	3/8/24 Date
Dr. Mohammad Karim, Lewis College of Business	Committee Member	3/26/24 Date
Mr. Norman Mosrie, Lewis College of Business Advisory Board Member	Committee Member	3/8/24 Date
Dr. Doohee Lee, Lewis College of Business	Committee Member	3-8-2024 Date

Dedication

To my family, especially my spouse and children, who offered unconditional love and understanding throughout this academic journey. To my partner in life, Brian, for your dedication to our family for these three years while I achieved my academic goal. Your love and support got me through this process. To my children, G and OP, who spent many hours in the chair in our office just to spend time with me as I worked on this dissertation. I hope that I taught you that anything is possible with hard work.

To my mom who taught me that you are never too old to undertake any goal no matter the time you need to invest. You paved the way for me, always striving to better your education to pursue career goals. Your dedication taught me that I could do anything at any age as long as I tried my best. Sacrifices are short-term. Thank you for setting a great example.

To all my friends who cheered me on from the sidelines. Also, to my fellow cohort members, you hold a special place in my heart. I am forever changed for having met you and having you in my life.

Acknowledgments

Thank you, Dr. Nancy Lankton. I cannot thank you enough for your unwavering support, mentorship, and belief in my abilities. You provided more than academic guidance. You provided a source of motivation, challenging me to think outside of the box by providing insightful feedback. You provided a source of inspiration, challenging me to be a better scholar. I am forever grateful for your guidance, wisdom, and friendship. This dissertation is better because you were my chair. Thank you for the gift of your time, the most precious gift you could have ever given me.

Thank you, Dr. Mohammad Karim and Mr. Norman Mosrie. The time you spent reading my paper and providing valuable feedback made my dissertation better. Your time commitment is a great gift that I hope I never took for granted.

Thank you to Drs. Doohee Lee and Tim Bryan for your commitment to the DBA program at Marshall University. Your bright smiling faces was something I looked forward to over the last three years at ever residency visit to Huntington. Thank you for believing in me.

Table of Contents

Abstract

Real earnings management (REM) is costly in the form of intense loan restrictions, increased interest expense, and public scrutiny. Nevertheless, companies still practice REM. Based on agency and stakeholder theories, this research predicts that as a company's CSR score increases, REM will decrease, and this association will become more negative when a critical mass of females on the board of directors exists and when a board-level CSR committee is present. This study also predicts that when a company offers an executive incentive plan based on CSR metrics, REM will decrease, and the relationship will become more negative with a critical mass of females on the board of directors and in the presence of a CSR committee. This study investigates S&P 500 companies from 2017 through 2022. Stata statistical software from StataCorp LLC is used to analyze data gathered from Compustat, CSRHub, and hand-collected data from SEC proxy statements, forms DEF 14A, using OLS regression. The results suggest that CSR-linked executive compensation, the presence of a critical mass of females on the board of directors, and the presence of a board-level CSR committee are important governance tools to mitigate REM. This study contributes to the limited coverage of research on CSR-based incentive plans and its association with REM. This study also demonstrates the complexity of these relationships by finding support that CSR committees act as a governance-related moderator that can provide additional monitoring over CSR and REM.

Chapter 1: Introduction

Earnings management (EM) is a means for executives and management to make accounting and business decisions that alter reported short-term earnings to achieve certain objectives (Healy & Wahlen, 1999; Ronen & Yaari, 2008; Scott, 2015). EM literature is well studied (Callao et al., 2021; Healy & Wahlen, 1999). There are numerous incentives and motivations for managing earnings that have been studied such as contractual, lending, political, and financial (Callao et al., 2021; Healy & Wahlen, 1999). Even though there is an abundance of EM literature, EM remains a relevant topic. For example, multiple news outlets and the U.S. Securities and Exchange Commission (SEC) have recently reported a focus on companies that practice questionable earnings management (Eaglesham, 2023; Lamb et al., 2022; U.S. Securities Exchange and Commission, 2023; Whoriskey, 2019).

EM is accomplished by two different methods, accrual-based earnings management (AEM) and real earnings management (REM). AEM is a choice of accounting policies such as depreciation method, inventory valuation and allocation method, or calculation of bad debt reserves (Darmawan et al., 2019; Healy, 1985; Laksmana & Yang, 2014). REM involves real business financing, investing, or operating activities that occur when management takes an action that is a deviation from normal practice to meet a desired income effect (Roychowdhury, 2006; Xu et al., 2007). REM practices include intentionally reducing research and development expenses, offering deep sales discounts to increase sales, or postponing capital expenditures.

REM is the focus of this research for several reasons. First, REM can be costly to firms. For example, REM is associated with an increased cost of debt capital (Crabtree et al., 2014; J. H. Kim et al., 2020; J.-B. Kim & Sohn, 2013), lender penalties such as higher collateral requirements, shorter loan contracts, and more intense debt covenants (Pappas et al., 2019), and

higher probability of failure in periods after an initial public offering (Alhadab et al., 2015). Second, research finds that there is a shift in the prevalent use of AEM to REM (Graham et al., 2005; Y. Kim et al., 2012). The shift of EM from AEM to REM is occurring, in large part, after the accounting scandals in the early 2000s that resulted in the Sarbanes-Oxley Act of 2002 (SOX) in which the ethicality of EM became more questionable (Graham et al., 2005; Grasso et al., 2009; Y. Kim et al., 2012). Lastly, REM is harder to detect than AEM causing management to be more cautious in using AEM and more likely to utilize REM practices in recent years (Graham et al., 2005).

Because REM is often perceived as being unethical (Elias, 2004; Fischer & Rosenzweig, 1995; Grasso et al., 2009; Hamilton et al., 2018; Kaplan, 2001; Merchant & Rockness, 1994), its practice seems at odds with companies that partake in corporate social responsibility activities. Corporate social responsibility (CSR) is a company's integration of social, environmental, and economic concerns into its corporate culture, values, and decision-making processes (Dean, 2021). The link between CSR scores, a third party calculation of an index taking into account CSR activities and reporting, and EM has been studied with mixed results and across different cultures (Ahmad et al., 2023; E. Cho & Chun, 2016; Ghaleb et al., 2021; Sial et al., 2019). As for research conducted in the United States, several researchers find a negative relationship between CSR and REM covering years 1991 through 2009, collectively (Y. Hong & Andersen, 2011; Y. Kim et al., 2012). What is particularly interesting is the moderating effects of corporate governance, which are found to strengthen the relationship between CSR and EM.

CSR is becoming an extremely important concept for companies in their business operations. CSR reporting is approaching one hundred percent participation among Standard and Poor's 500 Index (S&P 500) companies, 98% of those companies reported on corporate

sustainability, an important component of CSR, in 2022 (Governance & Accountability Institute, Inc., n.d.-b). Organizations communicate the positive impacts of their CSR activities to stakeholders through CSR reports (Stobierski, 2021). CSR is motivating consumption decisions of the public today, which is paramount for companies to consider in striving to increase profits. For example, sales of products developed from CSR related practices drove 56% of all growth in sales from 2017 through 2022 (Frey et al., 2023). CSR activities and reporting are scored by third party companies and cannot be manipulated aside from bettering the company CSR practices and reporting (Khenissi et al., 2022). The CSR scores are becoming increasingly important to companies and many companies are incorporating incentive plans for executives based on them.

Research related to CSR and REM is limited. In addition, CSR-linked executive compensation is an underexplored area of CSR. With companies having an increased focus on their CSR practices, many are beginning to use CSR as an incentive for executive compensation. Blakeslee et al. (2022) found that 80% of S&P 500 companies use at least one environment, social, and governance (ESG) metric as part of the incentive payout formula. ESG is a measurable set of criteria used by investors to evaluate a company's investment in CSR as profitable and ethical (Dean, 2021). Fundamentally, CSR are policies and practices of a company to act responsibly and ESG is the method with which we measure those practices. While researchers find that CSR-linked compensation is associated with corporate governance (B. Hong et al., 2016; Ikram et al., 2019), limited research incorporating CSR-linked executive compensation and EM is available with Li and Thibodeau (2019) being an exception.

This study's research questions are (1) how do CSR-related factors associate with REM practices and (2) how do governance factors interact with the relationship between CSR-related

factors and REM? Prior research finds governance mechanisms can act as moderators, demonstrating that the relationship between CSR and EM may be more complex (Bear et al., 2010; Buertey et al., 2020; E. Cho & Chun, 2016; Sial et al., 2019; Toukabri & Kateb, 2022).

Agency and stakeholders theories are used extensively in EM literature and in the literature exploring the relationship between CSR and EM (Ahmad et al., 2023; Callao et al., 2021; E. Cho & Chun, 2016; Lambert, 2001). Agency relationships are contracts in which a principal delegates some decision making authority and engages an agent to perform some service on behalf of the principal (Fama & Jensen, 1983; Jensen & Meckling, 1976; Shapiro, 2005). Agency theory is concerned with resolving conflicts between the goals of principal and agent (Eisenhardt, 1989). Stakeholder theory is an organizations' conscientious choice to factor in the issues and needs of all stakeholder groups in formulating an effective strategy to communicate with them, and be proactive in addressing their concerns (Freeman, 1984). These theories lend themselves to the discussion of CSR practices, incentive contracts, and mitigating the use of EM practices.

Using agency and stakeholder theories, this study hypothesizes that the higher the company's CSR score, the less the company will engage in REM. The same relationship will be strengthened, i.e., become even lower, when moderated by the presence of a critical mass of females on the board of directors and the presence of a board-level CSR committee. More importantly, this study predicts a negative relationship between CSR-linked executive compensation and REM moderated by board gender diversity and the presence of a CSR committee. The hypotheses are tested using S&P 500 companies from 2017 to 2022 with data collected from Compustat, CSRHub, and annual proxy statements (SEC forms DEF 14A).

This research contributes to the literature by investigating whether CSR and REM have a

relationship and how corporate governance impacts this relationship, while analyzing the underexplored area of CSR-linked executive compensation. The literature has focused on incentives related to stock market performance in relation to EM (Callao et al., 2021). Therefore, this research is important with the rise of CSR reporting and compensation related to such reporting. The association of CSR to EM is mixed in that prior research finds both a positive and negative association. Therefore, more research in this area is imperative to garner clearer evidence in support of the relationship and the importance of both CSR scores and CSR-linked compensation.

Chapter 2: Literature Review and Theoretical Framework

Earnings Management

Earnings management (EM) is a means for management and executives to alter reported earnings by making decisions that affect short-term earnings to achieve certain short-term or long-term objectives (Healy & Wahlen, 1999; Ronen & Yaari, 2008; Scott, 2015). Other definitions of EM explain that managers alter financial reports to intentionally mislead external stakeholders regarding the financial performance of a company (Healy & Wahlen, 1999). Financial reporting communicates management information to many stakeholders including stock and debt investors, board of directors, customers, suppliers, employees, and regulators (Ghazali et al., 2015; Healy & Wahlen, 1999). Financial reporting affected by EM can be beneficial to stakeholders when it signals long-term value (Ronen & Yaari, 2008; Scott, 2015). However, when it conceals short- or long-term value, EM can be harmful (Ronen & Yaari, 2008; Scott, 2015).

Executives tend to manage earnings if there is an incentive to do so. Academic literature reveals several incentives that can be categorized as: (1) meeting capital market expectations and valuation requirements; (2) achieving contractual obligations such as management compensation incentives, long-term debt covenants, and retirement and executive change incentives; and (3) complying with political, anti-trust, and other government regulations such as tax implications, import relief, price control, and political connections (Callao et al., 2021; Healy & Wahlen, 1999; Scott, 2015). While archival research can only infer incentives for managing earnings, a study using survey and interview data reveals that the main reason for managing earnings is to meet or beat earnings expectations creating credibility in the capital market and improving management reputation (Graham et al., 2005). While this data is older, it is important because it

tries to understand management's reasons to partake in such activities (Habib et al., 2022).

The literature describes two types of EM: accrual-based earnings management (AEM) and real earnings management (REM). AEM is described as accounting policy choices that allow managers to transfer earnings between periods (Darmawan et al., 2019; Healy, 1985; Laksmana & Yang, 2014). It is a timing issue in which a company recognizes income early or delays recognizing expenses to either smooth income or strategically manipulate earnings (Darmawan et al., 2019; Healy, 1985; Laksmana & Yang, 2014). The focus is generally on discretionary accruals and examples are choice of depreciation method, inventory valuation and allocation methods, and calculation of bad debt provisions (Healy, 1985; Healy & Wahlen, 1999). While the choice of accounting treatments allow managers to use their discretion in decisions that affect financial reporting and can be viewed as normal business practice allowed under Generally Accepted Accounting Principles (GAAP), the choice can also be viewed as a deliberate manipulation that is misleading and does not accurately reflect a company's underlying economics (Hamilton et al., 2018; Healy & Wahlen, 1999).

On the other hand, REM occurs when management takes an action that is a deviation from normal practice involving real business financing, investing, or operating activities to meet a desired income effect (Roychowdhury, 2006; Xu et al., 2007). REM is accomplished by managing investing and operating activities such as reducing expenditures for research and development to show more cash flow, by timing the sale of fixed assets to reduce gains during the current period, or by structuring investment opportunities to take advantage of accounting policies (Gunny, 2010; Roychowdhury, 2006; Schipper, 1989; Xu et al., 2007). Financing decisions also affect REM by manipulating the timing of stock repurchases, stock options, hedges, and debt-equity swaps (Gunny, 2010; Roychowdhury, 2006; Schipper, 1989; Xu et al.,

2007). Based on the results of a systematic literature review, the most common forms of REM reported in the literature include overproducing goods to spread fixed costs over more goods produced, reducing research and development investments, and cutting other discretionary expenses such as advertising (Habib et al., 2022).

Some researchers suggest that the use of REM is not opportunistic, but rather signals increased future performance (Al-Shattarat et al., 2022; Beyer et al., 2018; Gunny, 2010; Jiang et al., 2018). In contrast, other researchers find that engaging in REM to undergo an initial public offering leads to a higher probability of failure in subsequent periods (Alhadab et al., 2015). Additionally, other researchers find that if identified, REM can be costly. REM is associated with a higher cost of debt capital due to financial savvy debt investors more easily identifying the use of EM practices (J.-B. Kim & Sohn, 2013). In addition, increased REM negatively impacts a company's bond rating, which in turn increases the cost of debt capital since creditors are more sensitive to risky activities (Crabtree et al., 2014; J. H. Kim et al., 2020). Finally, REM contributes to an association of penalties imposed by lenders in the form of higher interest spreads and required collateral, shorter loan contracts, and more intense debt covenants (Pappas et al., 2019).

Research shows that corporate managers and executives tend to perform REM versus AEM in response to legislation. Evidence has shown that after the passage of the Sarbanes-Oxley Act of 2002 (SOX), managers' patterns of EM switched from AEM to REM (Cohen et al., 2008)[1]. This evidence is importacont because SOX was enacted due to various accounting

[1] Cohen et al. (2008) and Graham et al. (2005) are the standards academic scholars use to emphasize REM post-SOX as their articles have been cited thousands of times.

scandals in the early 2000s. AEM is easier to detect than REM making managers more reluctant to use AEM and more likely to use REM to meet earnings targets in the post-SOX world (Graham et al., 2005). A survey of 401 managers and interviews with 20 of them yielded an overwhelming response indicating that managers would take real economic action to meet earnings benchmarks such as delaying expenditures for advertising, research and development, and maintenance, even if delaying the expenses would ultimately be more costly by forfeiting economic value, i.e., giving up the opportunity to yield a positive net present value (Cohen et al., 2008; Graham et al., 2005).

Other studies show that after the passage of rules, regulations, and legislation, EM practices shifted from AEM to REM. García Lara et al. (2020) find that more managers used REM after the passage of the Statement of Financial Accounting Standards No. 121, which addresses accounting for impairment of long-lived assets, identifiable intangibles, and goodwill. Ipino and Parbonetti (2017) and Ho et al. (2015) find that companies substitute AEM with REM in post-IFRS (International Financial Reporting Standards) periods, which suggests companies use the harder-to-detect REM while regulators intent was to increase earnings quality. Ipino and Parbonetti (2017) use a sample of 101,331 firm-year observations spanning 2000 to 2010 over thirty-three countries while Ho et al. (2015) use Chinese A-share firms in their sample for 4,050 firm-year observations covering 2002 through 2011. Chan et al. (2015) reported reduced AEM and an increase in REM after the passage of clawback provisions, which allow the board of directors to recover, for the company, compensation paid based on misstated financial statements (Chan et al., 2015). Kuo et al. (2014) reported a switch from AEM to REM for Chinese firms after China implemented the split share structure reform by capital market regulators. Cunningham et al. (2020) find a shift from AEM to REM after sample firms received U.S.

Securities and Exchange Commission comment letters questioning accounting issues related to specific accruals and estimates.

While newer in terms of academic focus and not as well studied as AEM, researchers find certain factors can mitigate or enhance REM. For example, auditor quality, as measured mostly by Big N auditor status and auditor tenure, is associated with REM. Most research finds a positive relationship between auditor quality signified by Big N auditors, and REM, meaning the greater the quality of the auditor, the more REM, perhaps because REM is harder to detect (Chi et al., 2011; Chowdhury & Eliwa, 2021). Similarly, as auditor tenure increases, the level of auditor scrutiny increases, which leads companies to use the harder-to-detect REM (Chi et al., 2011; Cohen & Zarowin, 2010). One study, Choi et al. (2018), finds a negative association with auditor quality suggesting that auditor quality mitigates REM because they are more likely to question the practices.

Additionally, academic literature finds a relationship between internal influences and EM. Researchers studying the characteristics of banking industry CEOs and their use of REM find evidence that as a CEO's compensation increases so does REM (Chou & Chan, 2018). However, other research examining the compensation of key executives, i.e., the top five paid executives of a company, finds that as compensation of the top four highest paid executives excluding the CEO increases, the extent of REM decreases (Cheng et al., 2016). In theory, the key subordinates are oriented toward long-term growth because they are generally younger and more likely to take over as CEO in the future, and they have the means to influence overall corporate decision making (Cheng et al., 2016). Other research shows that CEO tenure has a negative association with REM (Ali & Zhang, 2015; Cheng et al., 2016; Chou & Chan, 2018). CEO tenure is associated with experience and high ability, which breeds enhanced firm

performance and means EM is not needed to meet financial objectives (Ali & Zhang, 2015; Chou & Chan, 2018).

Researchers find that ownership and board and audit committee composition impact the use of REM. One study using Jordanian public firms finds that institutional and managerial ownership of companies reduces REM practices suggesting their sophisticated knowledge allows them to constrain REM by influencing managerial decisions (Al-Haddad & Whittington, 2019). However, they also find that outside, independent directors have a positive relationship with REM, implying a constraint on time available to effectively monitor management since outside directors have other responsibilities (Al-Haddad & Whittington, 2019). Garven (2015) discovers that the number of audit committee meetings provides a dampening effect on REM presumably because the greater frequency provides time to better monitor management's actions. Lastly, other research finds that women on boards has a negative impact on EM (Arun et al., 2015; Gavious et al., 2012; Orazalin, 2020). Another study examines gender diversity and REM, finding a negative association suggesting female directors enhance board effectiveness, improve board advisory roles and ethical behaviors, and deter opportunistic EM practices (Ghaleb et al., 2021).

Important to this study is the connection between ethics and EM. A survey of 122 public company managers indicate that managers perceive EM to be unethical (Hamilton et al., 2018). Managers also express concern that their company will be perceived as unethical if the company is included on one of the "watchlists", such as the *Forbes* Corporate Risk List, for engaging in risky practices such as EM (Hamilton et al., 2018). Several studies highlight the major themes surrounding ethics and earnings management. AEM, using discretion in accounting methods, is considered more unethical than REM, using judgement to make operating decisions (Fischer &

Rosenzweig, 1995; Grasso et al., 2009; Merchant & Rockness, 1994). Fischer and Rosenzweig (1995) administered a questionnaire to 235 undergraduate and graduate students and 265 accounting practitioners asking participants to rate on a five-point scale the ethical acceptability of EM. They found that respondents displayed a greater ethical sensitivity to AEM because it is achieved by accounting manipulation given accountants long history of being honest and providing accurate financial information (Fischer & Rosenzweig, 1995). Grasso et al. (2009) explains that professionals tolerate REM because they assume decisions surrounding managed earnings are ethically motivated, that is, there is a good reason for managing earnings by making certain operating, investing, or financing decisions.

Additionally, individual experience significantly affects perceived ethicality of earnings management such that individuals involved with companies that commit fraud perceive EM as more unethical than individuals not involved with companies that commit fraud (Merchant & Rockness, 1994). Researchers also find, based on a survey of 583 CPAs, that individuals who work for a company with a culture of higher ethical standards perceive EM as more unethical than those who work for a company with lower ethical standards (Elias, 2004). An experiment among MBA students finds that the perception of earnings management that personally benefits management is perceived as less ethical than earnings management that benefits the company and shareholders (Kaplan, 2001). Another line of research finds that the perceived ethicality of EM shifted after the enactment of SOX. Undergraduate and graduate students, and licensed professionals perceived the ethicality of EM more harshly in the post-SOX era than in the pre-SOX era (Grasso et al., 2009).

It is evident from this research that while not as unethical as AEM, REM may still be considered an unethical practice. Additionally, ethics is at the foundation of corporate social

responsibility with evidence showing that ethical companies tend to make managerial decisions that promote corporate social responsibility (Bartel, 2022). Ethics establish the guiding principles of CSR as they are linked through their objectives and nature (Brunk, 2010). Companies that are perceived to be more socially responsible are also perceived to be more ethical, which also significantly correlates with organizational performance (Jin & Drozdenko, 2010). For these reasons, research is emerging that examines how corporate social responsibility affects EM. In the next sections, the literature on corporate social responsibility and its influence on earnings management is reviewed.

Corporate Social Responsibility

Corporate social responsibility is most widely defined as societal expectations of a business including its economic, legal, ethical, and discretionary aspects (Carroll, 1979). Economic aspects of a business encompass the responsibility to sell goods at a profit, legal aspects are the requirements to operate within the law, ethical aspects are the responsibilities to act according to ethical norms above and beyond abiding by the law, and discretionary aspects involve how the corporation contributes to society (Carroll, 1979). This definition is somewhat vague as even Carroll states that much of these responsibilities are defined by social contracts and are ever evolving (Carroll, 1979). Perhaps a better definition of CSR is a company's integration of social, environmental, and economic concerns into its corporate culture, values, and decision-making processes (Dean, 2021). A closely related phrase to CSR is environmental, social, and governance (ESG). These terms differ as ESG is a measurable set of criteria used by investors to evaluate whether a company's investments in CSR are profitable and ethical (Dean, 2021). In other words, ESG is the mechanism by which CSR policies and practices are measured.

CSR is not a new concept for corporations. It has evolved over many years. In the late

1800s and early 1900s, social responsibility rested in the hands of individuals (i.e., progressives) who were eager to shift wealth more widely by aiding the socially and economically impoverished to enhance their standard of living (Hoffman, 2007). The concept of social responsibility shifted from individuals to companies in the 1920s and 1930s with the decline of labor unions (Hay & Gray, 1974; Hoffman, 2007). During this time, the corporation's concept of social responsibility began to focus on public relations, service, trusteeship, and public welfare (Hoffman, 2007; Lee, 2008). Additionally, corporations only undertook these responsibilities if it increased profits (Hoffman, 2007; Lee, 2008). Many of the social responsibility concepts of the 1920s have become common management practices in today's business world (Hoffman, 2007).

Howard R. Bowen's publication in 1953 titled *Social Responsibilities of the Businessman* altered the concept of social responsibility (Carroll, 1979). During the 1950s and 1960s corporations shifted towards philanthropy and customer, employee, and stockholder relations (Moura-Leite & Padgett, 2011). During these two decades, business and social issues became more integrated as numerous regulations were passed to protect consumers and employees, including the Fair Packaging and Labeling Act of 1960, the Equal Pay Act of 1963, and the National Environmental Policy Act of 1969 (Lee, 2008).

Critics of CSR argue that a corporation's responsibility to society is to make money for its shareholders (Lee, 2008). However, literature in the 1970s and 1980s raised the idea that by adopting CSR, companies would be driving stockholders' long-term interest (Lee, 2008; Wallich & McGowan, 1970). For example, when a company invests in employee training, even though some of those employees may leave, companies as a whole gain in the long-term because the same company may hire employees trained by another company (Wallich & McGowan, 1970). The evolving political, economic, and social climate inspired Carroll's (1979) work stating that

social responsibility has four areas for which a business has obligations to society including economic, legal, ethical, and discretionary obligations. While many definitions of CSR have been formulated, most build off of Carroll's work (Barauskaite & Streimikiene, 2021; Gillan et al., 2021). Carroll's conceptual model of corporate social performance assisted management in comprehending that economic performance is dependent on social responsibilities of the company (Carroll, 1979).

The 1990s saw an increase in strategy literature that studied CSR's relationship with financial performance and theories in organizational studies (Lee, 2008; Moura-Leite & Padgett, 2011). For example, Jones (1995), Clarkson (1995), and Donaldson and Preston (1995) integrate the stakeholder framework with CSR. They profess that the term stakeholder encompasses more groups than just shareholders, and that the corporation must distribute wealth and value without bias across all these groups (Clarkson, 1995; Donaldson & Preston, 1995; Jones, 1995). The academic literature provided enough evidence to shareholders that CSR could lead to long-term gains, which has increased CSR activities in organizations (Lee, 2008).

In the twenty-first century, businesses began to recognize CSR as an important, strategic issue (Moura-Leite & Padgett, 2011). In the mid-2000s, the Coalition for Environmentally Responsible Economies (CERES) argued that when companies proactively managed environmental issues, the company could eliminate potential regulatory and legal costs while improving its competitive advantage (Lee, 2008). In 2022, CSR reporting was nearing 100% participation among S&P 500 companies (Governance & Accountability Institute, Inc., n.d.-b).

Corporate governance practices are critical to many aspects of a corporation's operations. Both internal and external corporate governance can positively influence CSR (Velte, 2022). Studies find improved CSR performance by increasing board of director independence (Endrikat

et al., 2021; Ortas et al., 2017; Velte, 2022), board gender diversity (Byron & Post, 2016; Endrikat et al., 2021; Velte, 2022), board size (Endrikat et al., 2021; Velte, 2022; Zubeltzu-Jaka et al., 2020), and presence of a CSR committee (Endrikat et al., 2021). Board size and board independence bring with it more internal and external access to alternative sources of CSR-related knowledge, networks, and experience (Endrikat et al., 2021). Board gender diversity increases CSR because women tend to be more socially minded, have different morals and ethics than men, have a varied educational background, possess superior communication skills, do not suffer from overconfidence, and are risk averse (Endrikat et al., 2021). Additionally, Canavati (2018) finds evidence of a significant positive relationship of private, family ownership on CSR performance. Family-owned companies have a more vested interest in their reputation since the company and family are synonymous, thus families are influenced by both financial and non-financial goals (Canavati, 2018).

Additional research indicates mixed findings for the relationship between CSR and firm performance due to institutional factors such as country characteristics, forms and dimensions of CSR, and the measurement of CSR and financial performance (P et al., 2020). However, most studies find a positive relationship between CSR performance and financial performance (S. J. Cho et al., 2019; Okafor et al., 2021). When a company engages in CSR activities, they enhance the corporate reputation and confidence of all stakeholders that in turn, increase financial performance (Oh et al., 2017). CSR initiatives are associated with increased organizational performance, measured by product quality, total quality management, and marketing effectiveness (Singh & Misra, 2021; Suganthi, 2019). CSR activities assist a company in creating beneficial opportunities that link their business to society (Singh & Misra, 2021).

Corporate Social Responsibility and Earnings Management

Even though both are related to a company's ethical values, little research prior to 2011 investigated the link between CSR and EM (Y. Hong & Andersen, 2011). One of the first studies in this area examined non-financial United States companies and found that due to ethical and long-term profitability issues, firms that engage in CSR activities are less likely to engage in both AEM and REM (Y. Hong & Andersen, 2011). Furthermore, companies that present their environmental policies, activities, and performance (corporate environmental disclosure or CED) practice less REM due to conservative accounting decisions (Gerged et al., 2021).

However, subsequent research finds mixed evidence of CSR's relationship with EM. Similar to Hong and Andersen (2011), most studies report a negative correlation between CSR and EM (E. Cho & Chun, 2016; Dimitropoulos, 2022; Ghaleb et al., 2021; Gras-Gil et al., 2016; Y. Hong & Andersen, 2011; Kumala & Siregar, 2021; Y.-F. Kuo et al., 2021; Scholtens & Kang, 2013). Research that investigated Korean-listed companies and used a Korean CSR index, suggests that CSR activities will constrain the use of REM to enhance a company's rapport with all stakeholder groups gaining a competitive advantage and enhancing firm value (E. Cho & Chun, 2016). Other research that examined 24 EU-member countries, over the years 2003 to 2018, argues that CSR can mitigate conflicts of interest by reducing managerial incentives hinged on financial reporting (Dimitropoulos, 2022). However, research reporting a positive relationship between CSR and EM claims that companies partake in CSR activities to divert one's attention away from the fact that management is manipulating earnings to advance their personal interest (Buertey et al., 2020; Habbash & Haddad, 2020; Prior et al., 2008).

Expanding on this research stream, researchers have identified a significant number of factors that moderate the relationship between CSR and EM. For example, more diverse and

stronger corporate governance practices tend to strengthen the negative association between CSR and EM (E. Cho & Chun, 2016). Corporate governance defined as the mechanisms to monitor and motivate managers and executives to align their own interests with those of the shareholders, can curb opportunistic behaviors of managers (E. Cho & Chun, 2016). Cho and Chun (2016) quantify corporate governance practices by using a Korean index measuring practices on the following categories: protection of shareholders' rights, makeup of board of directors, disclosure, audit institutes, and distribution of operating income. Complementary research examining nonfinancial companies on the Johannesburg Stock Exchange over the period of 2012 through 2015, finds that a larger board size provides more diversity in academic backgrounds, skills, and expertise (Buertey et al., 2020). This diversity adds to increased management oversight and moderates a positive relationship between CSR and AEM by decreasing the strength of the relationship (Buertey et al., 2020). They also find that concentrated ownership, otherwise known as block ownership, also moderates the positive association between CSR and AEM by decreasing the strength of this relationship (Buertey et al., 2020). The findings suggest that ownership concentration aligns the goals of shareholders and managers leading to improved monitoring and use of CSR activities (Buertey et al., 2020).

The makeup of a corporation's board of directors is a governance tool used to align the interests of stakeholders and managers. Hypothesizing that women are more sensitive to society and focus the board on CSR-related issues and charitable giving, Sial et al. (2019) find that as a board of directors increases its female representation and independence, the negative relationship between CSR and AEM and REM is strengthened. Similarly, Bear et al. (2010) find that as the number of women on the board of directors increases so does the CSR strength ratings. Another study examining American companies finds that a critical mass of females on the board (three or

more), increases gender diversity in audit committees, and having a female CEO and female CFO strengthens the negative association between CSR and AEM (Toukabri & Kateb, 2022).

In summary, while the relationship between CSR and EM is mixed, moderating effects as those described above, generally make the relationship between CSR and EM more negative, either by weakening the effect of a positive relationship or strengthening the effect of a negative relationship. However, very little research has been conducted regarding incentive plans linked to CSR reporting and their relationship with REM. The goal of this research is to focus on how both CSR practices and CSR-linked executive compensation affect REM.

CSR-Linked Executive Compensation

Executive compensation has long been studied and the relationship it has with EM has been an area of interest for many years. Healy (1985) provides the foundation for much of the bonus compensation research and how it influences managerial decisions regarding accrual-basis and accounting-procedure decisions. Studying executive bonus plans over a 16 year period, Healy (1985) offers evidence that managers who are incentivized with bonus contracts will choose accruals that increase their compensation. Many researchers since have studied the effect of bonus compensation, in varying forms, on earnings management (Assenso-Okofo et al., 2021; Callao et al., 2021; Guidry et al., 1999; Harris et al., 2019).

While compensation and earnings management have been widely studied, there is limited research investigating the link between executive compensation specifically linked to CSR performance and its influence on EM. Researchers have found an association between executive compensation that links bonuses to CSR ratings and increased CSR activities. For instance, evidence shows that as CSR index improves, companies adjust CEO's compensation upward in response, specifically through option grants (Dunbar et al., 2020). Furthermore, evidence

suggests that executives who receive stock options value their company's CSR activities and take action to enhance the CSR score (Mahoney & Thorn, 2006). They also find a positive association between bonus and CSR strengths suggesting that executives who receive a bonus in a prior year will take action to ensure positive CSR measures in the subsequent year (Mahoney & Thorn, 2006). Maas (2018) hypothesizes that corporate social performance will increase if it is rewarded. However, the results are significant only when there is an obvious underlying quantification.

While bonus compensation has been tied to financial targets for decades, bonus compensation tied to CSR reporting is a rather novel concept. Radu and Smaili (2022) report a relationship between CSR-linked executive compensation and CSR committee and CSR performance. However, they do not analyze its effects on EM. More pertinent to this study, is work by Li and Thibodeau (2019), who find a negative correlation between CSR-linked executive compensation and AEM suggesting that managers who strive for higher social performance will avoid public scrutiny by partaking in less EM. Additionally, CSR incentives affect firm-level outcomes such as increases in long-term orientation and firm value, by focusing manager attention on stakeholders such as the environment and local communities as opposed to employees and customers (Flammer et al., 2019). They also find that the results intensify when the CSR-linked compensation is higher suggesting that using CSR compensation as a governance tool is more effective when it is substantive (Flammer et al., 2019). This research is a start in providing evidence that CSR-linked compensation influences outcomes, but more work is needed to understand how CSR-linked executive compensation influences on REM.

Theoretical Framework

Agency theory and stakeholder theory provide the theoretical background of this

research. Both theories have been used extensively in accounting research (e.g., Ahmad et al., 2023; Callao et al., 2021; E. Cho & Chun, 2016; Lambert, 2001). Through their focus on governance and ethics, agency and stakeholder theory are relevant to the research question of how CSR influences real earnings management.

Agency Theory

An agency relationship is defined as a contract in which a principal delegates some decision making authority and engages an agent to perform some service on behalf of the principal (Fama & Jensen, 1983; Jensen & Meckling, 1976; Shapiro, 2005). In agency relationships, agency problems arise when contracts involve an incentive, i.e., pay of some sort, and are not enforced (Fama & Jensen, 1983). When both parties, principal and agent, seek to achieve the highest level of satisfaction for their situation, the agent will generally act in the interest of the agent (Jensen & Meckling, 1976). This self-interest concept yields agency costs that are the total of expenditures incurred to structure, monitor, and bond contracts between the principal and agent plus residual loss due to the cost of enforcement exceeding the benefits (Fama & Jensen, 1983; Jensen & Meckling, 1976). Agency theory is concerned with resolving conflicts between the desires of the principal and agent, and differences toward risk and risk mitigation strategies (Eisenhardt, 1989).

There are solutions to agency problems. The literature focuses on incorporating governance techniques that attempt to limit the agent's self-serving behavior, i.e., positivist agency theory, and creating incentives that intend to align the goals of principal and agent, i.e., principal-agent theory (Eisenhardt, 1989; Jensen & Meckling, 1976; Shapiro, 2005). Accounting literature regarding EM utilizes governance techniques to overcome agency problems such as board and executive gender diversity (Ghaleb et al., 2021; Sial et al., 2019; Toukabri & Kateb,

2022), board independence (Buertey et al., 2020; Sial et al., 2019), and ownership attributes (Bear et al., 2010; Buertey et al., 2020). An effective board of directors is a positivist agency theory solution (Eisenhardt, 1989; Shapiro, 2005). Strong boards have more meetings and subcommittees such as a CSR committee (Eisenhardt, 1989; Shapiro, 2005). Strong boards also have members with long tenure, more expertise, and who represent specific ownership groups (Eisenhardt, 1989; Shapiro, 2005). The principal-agent theory is focused on determining the optimal contract for making the goals of principal and agent more congruent (Eisenhardt, 1989). The solution found in most literature is creating an incentive contract that aligns the interests of the agent with that of the principal (Demski & Feltham, 1978; Eisenhardt, 1989; Jensen & Meckling, 1976; Shapiro, 2005). This research utilizes CSR-linked executive compensation to align the interests of the executives with the company, and with the stakeholders that value CSR practices.

Overall, agency theory is the concept of resolving the agency issues, either with contracts or governing mechanisms, because agents naturally tend to act in their own self-interest (Eisenhardt, 1989; Fama & Jensen, 1983; Jensen & Meckling, 1976; Shapiro, 2005). The ethical code of the contract is enforced through a system of rewards and punishments, pecuniary or not, the punishment for offending behavior must be harsh in order to be effective (Noreen, 1988). The overarching solution is to procure an effective means of monitoring to align principal and agent interests in outcomes. The EM research, as reviewed previously, uses agency theory as one of the main theories to suggest the implementation of compensation contracts and governance techniques to effectively monitor agency relationships.

Stakeholder Theory

The concept of stakeholders was brought to the forefront of academic literature with

Freeman's work in 1984, *Strategic Management: A Stakeholder Approach*, proclaiming that all stakeholders, not just shareholders, must be satisfied for a company to have real success. Clarkson (1995) states that shareholder is not synonymous with stakeholder, and that the survival of a company depends on the adequate and fair treatment of all stakeholders so that they do not find alternatives. Stakeholders are defined as any individual or group that is affected by or can affect an organization with legitimate interests in the organization to obtain benefits with no priority of one set of interests over another (Donaldson & Preston, 1995; Freeman, 1984, 2015; Phillips et al., 2003). Many groups and individuals make up the stakeholders of a company such as suppliers, employees, governmental agencies, customers, stockholders, communities, media, and political groups (Freeman, 2015).

Stakeholder theory is a theory of ethics and organizational management that is made up of propositions suggesting managers have obligations to some group of stakeholders (Freeman, 2015; Phillips et al., 2003). Freeman (1984) provides the following seven propositions to explain stakeholder theory:

1. Organizations should design and implement communication processes with multiple stakeholders.
2. Organizations should explicitly negotiate critical issues with stakeholders and have voluntary agreements.
3. Organizations should garner special attention to understanding stakeholder needs, understanding their individual needs.
4. Organizations should integrate public relations personnel into their strategy formulations process.
5. Organizations should be proactive and anticipate stakeholders' concerns.

6. Organizations should allocate resources consistently in accordance with stakeholder concerns.
7. Managers in organizations should think in terms of how to best serve the stakeholder.

In summary, organizations should be conscientious of multiple stakeholder group issues and needs, be able to formulate an effective strategy to communicate with them, and be proactive in addressing stakeholder concerns (Freeman, 1984). Donaldson and Preston (1995) break stakeholder theory into three, mutually supportive aspects including (1) descriptive, or the understanding of how managers and stakeholders interact, (2) instrumental, or the consequences of manager behavior, and (3) normative aspect, or the foundation of the theory defining what managers ought to be doing and the moral ownership of the company (Donaldson & Preston, 1995; Freeman, 2015).

Stakeholder theory focuses on creating and distributing value to a company's primary stakeholder groups without giving preference to one group at the expense of another (Clarkson, 1995). Working through conflicting interests among stakeholder groups requires a company to use ethical judgment and choices (Clarkson, 1995). In this way, stakeholder theory lends itself naturally to discussing CSR. For example, Velte and Stawinoga (2020) find in a structured literature review, that CSR committees positively influence CSR reporting and performance, and that many of the journals in their literature review use stakeholder theory. CSR committees address different stakeholder concerns by ensuring those concerns are addressed in a published CSR report (Velte & Stawinoga, 2020). CSR reporting communicates stakeholder impacts across many groups such as those interested in social, environmental, and economical practices.

In summary, both agency and stakeholder theories use governance mechanisms and contracts to overcome the misalignment of agents and principals. In this research, CSR-linked

executive compensation is used as a mitigating tool to align executive goals with shareholder goals. Governance attributes such as board gender diversity and the use of a CSR committee is also investigated to determine the potential moderating effect on the overall relationship between CSR and REM.

Chapter 3: Research Hypotheses

This section develops the hypotheses regarding the direct effects of CSR score and CSR-linked incentive-based compensation on real earnings management and the effects of two moderating variables on this relationship including board gender diversity and the presence of a board-level CSR committee. According to stakeholder theory, a company must have the best interests of all stakeholders in mind to create value and distribute increased wealth (Clarkson, 1995; Freeman, 2015). This theoretically drives the company's desire to increase its CSR score and mitigate REM. Agency and stakeholder theories suggest the use of incentives to mitigate the agency problem and align executives' goals with stakeholders (Eisenhardt, 1989; Maas, 2018). This theory provides the baseline for predicting that CSR-linked compensation can decrease REM. Positivist agency theory suggests that governance mechanisms constrain an agent's self-serving nature, and supports a moderating impact of board gender diversity and a presence of CSR committee on this relationship (Eisenhardt, 1989).

CSR Score and REM

The first set of hypotheses predict that a company's CSR score will negatively impact the occurrence of REM. Stakeholder theory states that managers have an obligation to all groups of stakeholders. Because CSR meets many shareholder obligations, executives and managers have an interest in increasing the company's CSR and in consequence, the CSR score (Freeman, 2015). REM is opportunistic in favoring the obligations and goals of only a few stakeholder groups at the expense of other groups, violating stakeholder theory. For example, using REM to meet and beat forecasts is beneficial only to shareholders for increasing stock price or to executives for meeting incentive goals. Therefore, as managers work to increase the CSR score and add value to all stakeholder groups, the likelihood they will then opportunistically engage in

REM practices will decrease. Further, investing in research and development to enhance products will increase a company's CSR score via the community category in the CSRHub index. A common practice in REM is decreasing research and development to meet an earnings goal (Gunny, 2010; Roychowdhury, 2006; Schipper, 1989; Xu et al., 2007). These two concepts conflict with one another. Therefore, under stakeholder theory, the practice of bettering the product for the sake of all stakeholders should mitigate the REM practices often employed by management.

Agency theory compliments stakeholder theory in this research. Agency theory suggests that contracts can help establish incentives for agents to behave in a manner that benefits the principal (Jensen & Meckling, 1976). A company's desire to increase their CSR score creates an implicit contract between agent and principal for the agent to behave ethically. For example, the category of governance has a subcategory of leadership ethics. Leadership ethics includes ethical decision making and the effectiveness of treating shareholders equally (CSRHub, n.d.-a). As managers strive for higher CSR scores (i.e., more ethical decision making), these behaviors will lead to more ethical decision making around financial reporting, leading to lower REM.

Prior academic literature has yielded mixed results regarding CSR's impact on EM. Kim et al. (2012) hypothesize that CSR companies/managers tend to practice higher standards and in turn are incentivized to be honest, trustworthy, and ethical in their business practices. Using regression analysis they find that companies focusing on CSR manage their earnings less than non-CSR focused companies (Y. Kim et al., 2012). Stakeholder theory was used in several studies that report a negative relationship between CSR scores and REM for firms in Korea (E. Cho & Chun, 2016), India (Ahmad et al., 2023), and the United States (Y. Hong & Andersen, 2011). These studies all hypothesize and find that engaging in CSR activities in earnest impacts

many stakeholder groups and promotes more socially acceptable activities including practicing less EM (Ahmad et al., 2023; E. Cho & Chun, 2016; Y. Hong & Andersen, 2011). Likewise, some researchers use agency theory to hypothesize and find a negative relationship between CSR and REM stating that the CSR activities decrease agency problems by reducing managers' incentives to manage earnings (Ghaleb et al., 2021; Sial et al., 2019). The incentive shifts from managing earnings because managers treat CSR as a commitment to do the right thing, be truthful and ethical, and manage the company in a transparent manner (Sial et al., 2019).

Other researchers use agency theory to study the makeup of CSR index scores and their impact on EM and find positive relationships between the two variables claiming that agents utilize CSR activities to cover up the fact that they are manipulating earnings to benefit themselves (Buertey et al., 2020; Prior et al., 2008). However, these same studies investigate AEM rather than REM and none of the studies investigate only United States companies. Buertey et al. (2020) study companies on the Johannesburg Stock Exchange over a short three-year period of 2012 to 2015. Prior et al. (2008) study 593 companies from 26 countries based in Europe, North America, and Australia. In addition, their sample covers the short period of 2002 to 2004 (Prior et al., 2008).

This research follows most of the research in this area that hypothesizes CSR scores will negatively affect REM. In this study, I investigate combined REM and the three measures that make up combined REM which include the manipulation of cash flow, productions costs, and discretionary expenses. The manipulation of cash flow, production costs, and discretionary expenses is measured by the level of abnormal activities in each area as compared to industry benchmarks (Roychowdhury, 2006). Roychowdhury (2006) defines abnormal cash flow as measured by sales manipulation. The author explains abnormal cash flow as a temporary

increase in sales by offering lenient credit terms or offering price discounts. Abnormal production costs are defined by Roychowdhury (2006) as overproduction, which spreads fixed costs over a larger number of units thus cost per unit declines. And finally, abnormal discretionary expenses are a reduction in research and development, advertising, and maintenance expenditures. Following stakeholder theory and agency theory, these hypotheses predict that executives will strive to increase their CSR score to better the relationship with all stakeholders and provide for principal goals. As executives strive for higher scores, they will take actions that are more ethical and more consistent with reduced real earnings management practices, aligning their goals more with the goals of their principals. This leads to the set of hypotheses as follows:

H1a: CSR score will have a significant negative impact on combined REM, such that as a company's CSR score increases, combined REM will decrease.

H1b: CSR score will have a significant negative impact on abnormal levels of cash flow, such that as a company's CSR score increases, abnormal level of cash flow will decrease.

H1c: CSR score will have a significant negative impact on abnormal levels of production costs, such that as a company's CSR score increases, abnormal level of production costs will decrease.

H1d: CSR score will have a significant negative impact on abnormal levels of discretionary expenses, such that as a company's CSR score increases, abnormal level of discretionary expenses will decrease.

CSR-Linked Executive Compensation and REM

More companies are paying their executives CSR-linked executive compensation, which is executive pay based on third-party CSR scores (Blakeslee et al., 2022). As executives in these

companies strive to reach higher CSR scores and hence more pay, they should become more socially motivated and more ethical, resulting in lower REM. While the previous set of hypotheses predicted the direct effect of CSR score on REM, this set of hypotheses predict that CSR-linked compensation will also have a direct effect on all measures of REM.

Agency theory suggests that implementing incentive plans that align with the goals of agents and principals will reduce agency problems, such as earnings management (Freeman, 2015). Stakeholder theory suggests that motivating executives with CSR-linked compensation benefits all stakeholders. Executives will have additional motivation to engage in activities that benefit more stakeholder groups and likewise, forgo activities that only benefit a few stakeholder groups. CSR-linked compensation can also take pressure off financial performance and meeting financial expectations, which can help alleviate the pressure for executives to manage earnings. Therefore, companies that offer CSR-linked executive compensation should exercise less REM.

A few recent studies have examined CSR-linked executive compensation. However, it has most often been studied as a predictor of CSR score (Ikram et al., 2019; Radu & Smaili, 2022) and with indirect effects on AEM only (Li & Thibodeau, 2019). The current study focuses on the direct effect of CSR-linked compensation on REM because the incentives should be strong enough to de-motivate executives from engaging in REM, regardless of its effect on the CSR score. Because REM is harder to detect than AEM this is a stronger test of the relationship between CSR-linked executive compensation and EM.

Based on theory and prior research, the second set of hypotheses are stated as follows:

H2a: CSR-linked executive compensation will have a significant negative impact on combined REM, such that combined REM will be lower for companies that provide CSR-linked compensation than for those that do not.

H2b: CSR-linked executive compensation will have a significant negative impact on abnormal level of cash flow, such that abnormal level of cash flow will be lower for companies that provide CSR-linked compensation than for those that do not.

H2c: CSR-linked executive compensation will have a significant negative impact on abnormal level of production costs, such that abnormal level of production costs will be lower for companies that provide CSR-linked compensation than for those that do not.

H2d: CSR-linked executive compensation will have a significant negative impact on abnormal level of discretionary expenses, such that abnormal level of discretionary expenses will be lower for companies that provide CSR-linked compensation than for those that do not.

Moderating Effect of Board Gender Diversity

The next two sets of hypotheses predict that board gender diversity will have a moderating effect on the relationship between CSR score and REM and between CSR-linked compensation and REM. The primary reason for investigating board gender diversity is based on prior research that finds it strengthens the negative relationship between CSR and REM, i.e., gender diversity makes it more unlikely to practice REM if CSR is higher (Ghaleb et al., 2021; Sial et al., 2019). Some research has shown that women are more ethical and make better decisions. Glover et al. (2002) conducted a laboratory study that established a realistic, economic decision exercise, collecting data from 367 participants, and find that women are more consistently and likely to make ethical choices than men. This same study reviews literature and finds that other researchers have reached the same conclusions or found no significant results. However, researchers have never found that men were more ethical than women (Glover et al., 2002). Additional literature provides evidence for female CEOs acting in a more risk-averse

manner than male counterparts (Zalata et al., 2019). They found that after the passage of SOX when companies were assessed punitively, companies that had female CEOs had a shift away from financial reporting behaviors seen as questionable under SOX (Zalata et al., 2019). Bear et al. (2010) studied and found a positive association between the number of women board members and CSR ratings that strengthened as the number of women increased. They inferred that women are more sensitive to social and ethical issues. In general, this body of research has found that women and gender diverse boards are more ethical and focused on CSR activities than their male counterpart.

The current study investigates board gender diversity as a moderating effect. Most prior research shows a direct relationship between both board gender diversity and EM. For example, evidence shows that the presence of females on boards of directors in Italy results in fewer AEM practices (Maglio et al., 2020). Additionally, a study in the United Kingdom finds that companies with a greater presence of women directors and independent women directors, are more likely to adopt conservative accounting policies and partake in income-decreasing EM rather than income-increasing EM (Arun et al., 2015). Gull et al. (2018) find that the presence of female directors who have more business expertise and are on the audit committee, reduces the magnitude of EM. Lastly, a UK study examines two groups of public companies between 2007 and 2015: one group with a gender-diverse board of directors and one group without gender diversity (Harakeh et al., 2019). They find that board gender diversity reduces EM suggesting that female directors are more prone to apply conservative accounting practices regarding earnings management practices since they are more sensitive to risk (Harakeh et al., 2019).

Researchers have also studied the moderating effects of board gender diversity on the relationship between CSR score and both AEM and REM, showing that the relationship between

gender diversity and EM can be more complex. Prior literature shows a negative relationship between CSR and AEM where the negative association becomes stronger with a gender diverse board (Orazalin, 2020; Sial et al., 2019; Toukabri & Kateb, 2022). Women are more prevalent in high CSR indexed companies, they are more socially minded, and less inclined to participate in EM (Sial et al., 2019). These studies are slightly different than the research at hand due to the association with AEM rather than REM because REM is harder to detect, and EM has shifted to the practice of REM in a post-SOX era. Further, many of these studies cannot be generalized to the United States as they are conducted using data from emerging markets and the United States is a highly developed market. Orazalin (2020) conducts their study using data from Kazakhstan, Sial et al. (2019) uses companies in China, and Toukabri and Kateb (2022) use companies in the United States. This shows in addition to the added complexity of the relationship due to findings regarding a moderating effect, further research is needed to understand the relationship in a REM context with US-listed companies.

This prior literature gives reason to believe that board gender diversity would enhance the negative relationship between CSR scores and REM (i.e., make it stronger, more negative) because women behave differently than men. They act more ethically and may monitor executives' activities such that the connection between CSR activities and lower EM becomes even stronger. Ghaleb et al. (2021) study companies in the Jordanian market and find a negative relationship between CSR reporting and REM, as the reporting score increases, the use of REM decreases. This relationship becomes more negative as female representation on boards increases suggesting that women are better able to direct CSR activities that lead to more ethical financial reporting practices (Ghaleb et al., 2021). As an example, Johnson & Johnson is ranked first in the pharmaceuticals industry by Moody's ESG Scorecard in 2022, and its board has fifty percent

gender diversity with six out of twelve members being female (Johnson & Johnson, 2023). While this is anecdotal, it could be that board diversity adds additional oversight that will strengthen the relationships studied in this research. This research plans to empirically test the following hypotheses:

H3a: Board gender diversity moderates the relationship between CSR score and combined REM such that when there are more females on the board of directors, a higher CSR score will lead to less combined REM.

H3b: Board gender diversity moderates the relationship between CSR score and abnormal cash flow such that when there are more females on the board of directors, a higher CSR score will lead to less manipulation in cash flow.

H3c: Board gender diversity moderates the relationship between CSR score and abnormal production costs such that when there are more females on the board of directors, a higher CSR score will lead to less manipulation in production costs.

H3d: Board gender diversity moderates the relationship between CSR score and abnormal discretionary expenses such that when there are more females on the board of directors, a higher CSR score will lead to less manipulation in discretionary costs.

Given the arguments made in the above hypotheses, there is reason to believe board gender diversity will also moderate the relationship between CSR-linked compensation and REM. Female board members will act more ethically and socially conscious and may put a greater emphasis on the CSR portion of the bonus and on the resulting ethical actions of management and executives. Johnson & Johnson, with its diverse board and high CSR score, for example, paid a 34.5% percent executive compensation incentive in 2022 based on strategic ESG goals (Johnson & Johnson, 2023). This set of hypotheses predicts that because of its CSR-linked

compensation and its gender diversity, Johnson & Johnson will be less likely to practice EM. I hypothesize that combined REM and all measures of REM will decrease, and this effect will be made more negative by adding women to the board of directors.

H4a: Board gender diversity moderates the relationship between CSR-linked executive compensation and combined REM such that when there are more females on the board of directors, having CSR-linked executive compensation will lead to less combined REM.

H4b: Board gender diversity moderates the relationship between CSR-linked executive compensation and abnormal cash flow such that when there are more females on the board of directors, having CSR-linked executive compensation will lead to less manipulation of cash flow.

H4c: Board gender diversity moderates the relationship between CSR-linked executive compensation and abnormal production costs such that when there are more females on the board of directors, having CSR-linked executive compensation will lead to less manipulation of production costs.

H4d: Board gender diversity moderates the relationship between CSR-linked executive compensation and abnormal discretionary expenses such that when there are more females on the board of directors, having CSR-linked executive compensation will lead to less manipulation of discretionary expenses.

Moderating Effect of CSR Committee

The presence of a board-level CSR committee serves as a governance tool to signal to executives that CSR is a serious undertaking with the goal of providing benefit to all stakeholder groups. Board subcommittees allow for the board's effectiveness to be delegated to fewer decision makers to develop the strategic position for corporations (Eberhardt-Toth, 2017).

Companies that create board subcommittees for CSR signal to stakeholders that social issues are important and they tend to be more transparent in CSR activities (Eberhardt-Toth, 2017). If companies that have CSR subcommittees tend to be more transparent in CSR, then the presence of a CSR committee should further reduce the opportunistic behaviors of executives. This is in accordance with both stakeholder theory that focuses on the alignment of company goals with stakeholder goals (Freeman, 2015) and agency theory that posits that governance mechanisms limit the agency problem of the agent's self-serving behavior (Eisenhardt, 1989; Jensen & Meckling, 1976).

The body of literature regarding CSR committees is sparse. However, there are a few more recent articles that demonstrate the usefulness of these committees as a governance tool. Liao et al. (2015) find that following stakeholder theory, a company that has an active environmental committee increases environmental transparency. Similar findings show that the presence of an environmental committee is positively associated with corporate environmental performance (Dixon-Fowler et al., 2017). Most recently, Radu and Smaili (2022) find that the presence of a CSR committee provides a direct, significant effect on the environmental performance that falls under CSR. The authors find a positive effect of CSR committee presence on CSR-linked executive compensation that ultimately impacts the social dimension of CSR by aligning the interests of executives with the company's CSR objectives and goals (Radu & Smaili, 2022). This research suggests that when the board of directors reinforces the commitment to CSR practices by adding the oversight of a CSR committee, the committee becomes an important factor in implementing CSR-linked executive compensation, leading to increased CSR ratings (Radu & Smaili, 2022). The current research adds to the prior literature by hypothesizing that the CSR committee will moderate the relationship between CSR score, CSR-linked

executive compensation, and REM.

CSR committees heavily monitor CSR activities that promote company ethics by preventing corruption, protecting the environment, creating shared value, listening to stakeholders, reducing risk exposure, and overseeing corporate performance in regards to sustainable development and engagement among stakeholders (Salvioni & Gennari, 2019). For example, the Regulatory Compliance and Sustainability Committee at Johnson & Johnson is responsible for the oversight of the company's sustainability goals, objectives, and external industry benchmarks, and also oversees environmental regulations, anti-corruption laws, and risk management programs (Johnson & Johnson, 2023). Given this evidence in support for the presence of a CSR committee within the board of directors reducing risk, creating value, and the extra scrutiny over CSR practices, it is reasonable to think that this monitoring function will strengthen and reinforce the negative relationship between CSR activities and EM practices. This leads to the following hypotheses:

H5a: The presence of a board-level CSR committee moderates the relationship between CSR score and combined REM such that when a CSR committee is present (not present), a higher CSR score will lead to less (more) combined REM.

H5b: The presence of a board-level CSR committee moderates the relationship between CSR score and abnormal cash flow such that when a CSR committee is present (not present), a higher CSR score will lead to less (more) abnormal cash flow.

H5c: The presence of a board-level CSR committee moderates the relationship between CSR score and abnormal production costs such that when a CSR committee is present (not present), a higher CSR score will lead to less (more) abnormal production costs.

H5d: The presence of a board-level CSR committee moderates the relationship between

CSR score and abnormal discretionary expenses such that when a CSR committee is present (not present), a higher CSR score will lead to less (more) abnormal discretionary expenses.

The CSR committee should support the board in offering suggestions to reduce risk and maximize opportunities for creating value over the long term (Salvioni & Gennari, 2019). CSR committees may provide increased monitoring over CSR-linked incentive compensation plans and its relationship to risky behaviors such as REM (Whoriskey, 2019). Also, CSR committees promote ethical activities of the company and suggest that the presence of a CSR committee should enhance the negative relationship between CSR-linked executive compensation and REM, a practice that is perceived as unethical. Johnson & Johnson's Regulatory Compliance & Sustainability Committee works with its Compensation Committee to review non-financial benchmarks, including ESG. Given the close monitoring of CSR practices for incentive purposes, the following hypotheses are presented:

H6a: The presence of a CSR committee moderates the relationship between CSR-linked executive compensation and combined REM such that when a CSR committee is present (not present), having CSR-linked executive compensation will lead to less (more) combined REM.

H6b: The presence of a CSR committee moderates the relationship between CSR-linked executive compensation and abnormal cash flow such that when a CSR committee is present (not present), having CSR-linked executive compensation will lead to less (more) abnormal cash flow.

H6c: The presence of a CSR committee moderates the relationship between CSR-linked executive compensation and abnormal production costs such that when a CSR committee is

present (not present), having CSR-linked executive compensation will lead to less (more) abnormal production costs.

H6d: The presence of a CSR committee moderates the relationship between CSR-linked executive compensation and abnormal discretionary expenses such that when a CSR committee is present (not present), having CSR-linked executive compensation will lead to less (more) abnormal discretionary expenses.

Chapter 4: Methodology

Data

To test the hypotheses, the sample includes companies from the Standard and Poor's 500 Index (S&P 500) for the years 2017 to 2022. This time span includes several years prior to the Covid pandemic and a couple years during the pandemic. Very little research has investigated the level of EM during the Covid pandemic. Liu and Sun (2022) is one exception although they study AEM. While I do not examine the Covid years separately, this sample is interesting to study because the financial pressures from Covid may affect levels of REM.

This study uses companies from the S&P 500 because it accounts for approximately 80% of the available market value as of December 31, 2021 (B. Hong et al., 2016; S&P Dow Jones Indices, n.d.). The companies in the S&P 500 are paired with financial data from Wharton Research Data Services (WRDS) Compustat. Board data and compensation data were hand collected from proxies obtained through the SEC's Edgar database. CSR scores were retrieved from the CSRHub database from CSRHub LLC. Stata statistical software from StataCorp LLC was used for all analyses.

Measurement of Variables

CSR Score

I obtained CSR scores from the CSRHub database (Buertey et al., 2020). CSRHub aggregates data from multiple, major sources such as S&P Global, Institutional Shareholder Services, MSCI (ESG Intangible Value Assessment, ESG Impact Monitor, and ESG Carbon Metrics), Trucost ESG Analysis, Ideal Ratings, Arabesque S-Ray, Covalence, and Vigeo EIRIS (CSRHub, n.d.-b). CSRHub provides ratings for four categories of corporate social responsibility including community, employees, environment, and governance (CSRHub, n.d.-a). Each

category is comprised of three subcategories for a total of twelve subcategories (CSRHub, n.d.-a). The community category includes community development and philanthropy, product, and human rights and supply chain. The employee category includes compensation and benefits, diversity and labor rights, and training, health, and safety. The environment category includes energy and climate change, environment policy and reporting, and resource management. The governance category includes board, leadership ethics, and transparency and reporting. CSRHub provides a breakdown of each subscore while also providing a total score for each company for each month of each year. I pulled the total CSR score (CSR_Score) and the four subcategory scores for December of each year 2017 through 2022 for use in the empirical models because the December score reflects the CSR activities for the year.

CSR-Linked Compensation and CSR Committee

I identified S&P 500 companies with CSR-linked compensation from annual proxy statements, SEC forms DEF 14A. In each proxy statement, I went to the "Compensation Discussion and Analysis" section and reviewed the named executive compensation plans that generally include base salary, annual incentive awards, and long-term incentive awards. Following prior research, I searched for key terms in this section utilizing the following keywords (Ikram et al., 2019; Li & Thibodeau, 2019; Radu & Smaili, 2022):

- sustain such as sustainable and sustainability;
- environment such as environmental compliance and environmental goals;
- satisfaction such as customer satisfaction, client satisfaction, and employee satisfaction;
- corporate such as corporate social responsibility and corporate citizenship;
- ethic such as ethical standards and ethics training;
- community such as community development and community engagement;

- engage such as employee engagement, engage employees, community engagement; and
- safety, health, injury, and accident.

The variable CSR_Comp was coded with a value of 1 if any of the above key terms were used to describe the company's compensation plan for executives. If the company's proxy does not contain any of these keywords in their compensation discussion, the variable was coded with a value of 0.

I hand-collected data for the presence of a board-level CSR committee. The proxy statement for each company contains a list of board committees and the committee's responsibilities. I reviewed each committee's roles and responsibilities for the keywords listed above. Often, the keywords were also contained in the committee's name, e.g., Nominating, Governance, & Sustainability Committee was a committee name used very often by the companies I reviewed. Most commonly this committee was tasked with overall board governance and CSR policy oversight. The presence of a board-level committee with oversight of the company's CSR policies (CSR_Committee) is given the value of 1 if the company had a CSR committee present and 0 if a CSR committee was not present.

Board Gender Diversity

To arrive at female representation on the board of directors, I hand-collected board gender information from the annual proxy statements. I reviewed each proxy, first for a table of board of director characteristics, that most proxies in the later years provided. These tables provide a breakdown between male and female board members. If a table was not provided, the proxy gave a summary of each board of directors in which the proxy used pronouns to refer to the directors. I used standard gendered pronoun usage to identify the diversity of the directors.

I used this information to create a percentage of females on the board and then created a

dummy variable to represent the presence of a critical mass of female members (CMPerFem). Following prior research that uses 35% or more of females as a critical mass (Javaid et al., 2023; Kanter, 1977), I coded the variable as a 1 if the percentage of females was 35% or higher and a 0 if it was less than 35%.

REM

Following prior studies (Cohen et al., 2008; Cohen & Zarowin, 2010; Y. Kim et al., 2012; Roychowdhury, 2006), I measured REM using abnormal cash flow from operations, abnormal production costs, and abnormal discretionary expenses. In all three measures, a formula is used to calculate the normal level. The abnormal level is represented by the residual (i.e., ε_t) in the resulting equations, which I saved in the data file as the variables for hypothesis testing.

The normal level of operating cash flows is scaled by company size by dividing by assets lagged one year and is expressed as a linear function of sales following Kim et al. (2012) and Roychowdhury (2006). The regression for normal cash flow is analyzed by industry, indicated by the two-digit Standard Industrial Classification (SIC) code, and by year (Srivastava, 2019). The more negative the residual indicates more REM. For example, more lenient credit terms and increased credit sales or more sales discounts would lead to reduced cash flow as compared to industry counterparts causing a negative residual (Christensen et al., 2023; Srivastava, 2019). I multiplied the residual by negative one so that a higher number indicates more REM for ease of interpretation. The normal level of cash flows is calculated as follows:

$$CFO_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \beta_1(S_t/A_{t-1}) + \beta_2(\Delta S_t/A_{t-1}) + \varepsilon_t \quad (1)$$

where:

CFO_t = cash from operations in year t;

A_{t-1} = total assets at the end of period t - 1;

S_t = net sales during period t;

$\Delta S = S_t - S_{t-1}$; and

ε_t = abnormal operating cash flow or AB_CFO (Y. Kim et al., 2012; Roychowdhury, 2006).

The normal level of production costs is a sum of cost of goods sold and change in inventory during the year expressed as a linear function of sales scaled for company size by dividing by lagged assets as follows (Y. Kim et al., 2012; Roychowdhury, 2006):

$$PROD_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \beta_1(S_t/A_{t-1}) + \beta_2(\Delta S_t/A_{t-1}) + \beta_3(\Delta S_{t-1}/A_{t-1}) + \varepsilon_t \quad (2)$$

where:

$PROD_t$ = production costs in year t calculated as $COGS_t + \Delta INV_t$;

$COGS_t$ = cost of the goods sold in year t;

INV_t = inventory in year t;

INV_{t-1} = inventory in year t - 1;

$\Delta INV_t = INV_t - INV_{t-1}$;

A_{t-1} = total assets at the end of period t - 1;

S_t = net sales during period t;

$\Delta S = S_t - S_{t-1}$;

$\Delta S_{t-1} = S_{t-1} - S_{t-2}$; and

ε_t = abnormal production costs or AB_Prod.

The regression for normal level of production costs is analyzed for each industry (SIC code) and year (Y. Kim et al., 2012; Roychowdhury, 2006; Srivastava, 2019). The greater the positive residual, the more likely the company has managed earnings by increasing production to spread fixed costs over a larger number of units (Srivastava, 2019).

The last measure of real earnings manipulation is abnormal discretionary expenses which is scaled by assets and is a linear function of sales as indicated by the residual from the following equation:

$$DIS\_EXP_t/A_{t-1} = \alpha_0 + \alpha_1(1/A_{t-1}) + \beta(S_{t-1}/A_{t-1}) + \varepsilon_t \quad (3)$$

where:

DIS_EXP_t = discretionary expenses in year t defined as the sum of research and development, advertising, and selling, general, and administrative expenses (Y. Kim et al., 2012)[2];

A_{t-1} = total assets at the end of period t - 1;

S_{t-1} = net sales during period t - 1; and

ε_t = abnormal discretionary expenses or AB_Exp.

The regression for normal level of discretionary expenses is analyzed by industry (SIC code) and year. The greater the negative residual, the more likely REM practices have taken place by reducing discretionary costs (Srivastava, 2019). Similar to the cash flow measure, I multiplied the residual by negative one so that a higher value indicates more REM.

Finally, to analyze the combined effects of REM, the individual measures are summed as follows with a higher value indicating more REM:

$$Comb\_REM = AB\_CFO + AB\_Prod + AB\_Exp \quad (4)$$

Control Variables

Several company characteristics are associated with EM in previous studies and therefore

[2] Following Srivastava (2019), Computstat variable for selling, general, and administrative expenses already include advertising and research and development expenses. Therefore, I only pull XSGA in Compustat for this REM measure.

may affect the outcomes of this study. I controlled for these variables which include firm size (Buertey et al., 2020; Cohen et al., 2008; Dang et al., 2018; Y. Hong & Andersen, 2011; Y. Kim et al., 2012; Roychowdhury, 2006), firm age (Ahmad et al., 2023; Y. Kim et al., 2012), firm leverage (Ahmad et al., 2023; Ben Amar & Chakroun, 2018; Buertey et al., 2020; Dimitropoulos, 2022; Velte, 2019), and financial performance (Buertey et al., 2020; Y. Kim et al., 2012; Toukabri & Kateb, 2022). Firm size (Firm_Size) is measured by the natural logarithm of market value of equity (Cohen et al., 2008; Y. Kim et al., 2012; Roychowdhury, 2006). Prior research suggests that larger companies are less likely to engage in EM because they are under more strict monitoring (Ahmad et al., 2023; Bansal et al., 2021; Y. Kim et al., 2012). Firm age (Firm_Age) is included because as a company matures, the financial reporting behaviors can change and they are less likely to engage in EM practices (Ahmad et al., 2023; Y. Kim et al., 2012).

Numerous studies control for leverage (Lev), calculated as some variation of the debt-to-equity ratio (Ahmad et al., 2023; Ben Amar & Chakroun, 2018; Buertey et al., 2020; Dimitropoulos, 2022; Y. Kim et al., 2012; Velte, 2019) because highly leveraged firms may be more inclined to manipulate earnings to meet debt covenant restrictions (Buertey et al., 2020). This study follows Kim et al. (2012) and calculates leverage as long-term debt scaled by total assets because this is a better representation of debt restricted by covenants. Financial performance is measured by return on assets (ROA) to control for concerns that REM is associated with low performance (Gunny, 2010; Y. Kim et al., 2012; Roychowdhury, 2006; Toukabri & Kateb, 2022).

Additionally, other studies control for the company's auditor as the extent of earnings management may differ if a company uses a Big 4 auditor than if it does not (Buertey et al., 2020; Y. Kim et al., 2012; Toukabri & Kateb, 2022). However, in this study, only one company

was found to use an auditor other than a Big 4. Therefore, I did not control for this variable. The other studies also control for CPA on the audit committee. However, this information was not readily available in the data that I had access to, and the proxy statements often lacked this information as well. Therefore, I did not include CPA on the audit committee as a control variable.

Empirical Models

To test the hypotheses, I use ordinary least squares (OLS) regression analysis. I use OLS since it is a common method that predicts the relationship between one or more independent variables and a dependent variable. To determine the relationship that CSR score has with REM, hypotheses 1(a-d), I first test the direct effect that CSR score has on REM with the following equations:

$$COMB\_REM = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 Firm\_Size_{it} + \alpha_3 Firm\_Age_{it} + \alpha_4 Lev_{it} + \alpha_5 ROA_{it} + \varepsilon_{it} \quad (5a)$$

$$AB\_CFO = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 Firm\_Size_{it} + \alpha_3 Firm\_Age_{it} + \alpha_4 Lev_{it} + \alpha_5 ROA_{it} + \varepsilon_{it} \quad (5b)$$

$$AB\_PROD = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 Firm\_Size_{it} + \alpha_3 Firm\_Age_{it} + \alpha_4 Lev_{it} + \alpha_5 ROA_{it} + \varepsilon_{it} \quad (5c)$$

$$AB\_EXP = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 Firm\_Size_{it} + \alpha_3 Firm\_Age_{it} + \alpha_4 Lev_{it} + \alpha_5 ROA_{it} + \varepsilon_{it} \quad (5d)$$

Next, I test the direct effect of CSR compensation on REM, hypotheses 2(a-d), with the following set of equations:

$$COMB\_REM = \alpha_0 + \alpha_1 CSR\_Comp_{it} + \alpha_1 Firm\_Size_{it} + \alpha_3 Firm\_Age_{it} + \alpha_4 Lev_{it} + \alpha_5 ROA_{it} + \varepsilon_{it} \quad (6a)$$

$$AB\_CFO = \alpha_0 + \alpha_1 CSR\_Comp_{it} + \alpha_2 Firm\_Size_{it} + \alpha_3 Firm\_Age_{it} + \alpha_4 Lev_{it} + \alpha_5 ROA_{it} + \varepsilon_{it} \quad (6b)$$

$$AB\_PROD = \alpha_0 + \alpha_1 CSR\_Comp_{it} + \alpha_2 Firm\_Size_{it} + \alpha_3 Firm\_Age_{it} + \alpha_4 Lev_{it} + \alpha_5 ROA_{it} + \varepsilon_{it} \quad (6c)$$

$$AB\_EXP = \alpha_0 + \alpha_1 CSR\_Comp_{it} + \alpha_2 Firm\_Size_{it} + \alpha_3 Firm\_Age_{it} + \alpha_4 Lev_{it} + \alpha_5 ROA_{it} + \varepsilon_{it} \quad (6d)$$

Finally, to test the combined, direct effect of CSR score and CSR compensation on REM, I test the following equations:

$$COMB\_REM = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 Firm\_Size_{it} + \alpha_4 Firm\_Age_{it} + \alpha_5 Lev_{it} + \alpha_6 ROA_{it} + \varepsilon_{it} \quad (7a)$$

$$AB\_CFO = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 Firm\_Size_{it} + \alpha_4 Firm\_Age_{it} + \alpha_5 Lev_{it} + \alpha_6 ROA_{it} + \varepsilon_{it} \quad (7b)$$

$$AB\_PROD = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 Firm\_Size_{it} + \alpha_4 Firm\_Age_{it} + \alpha_5 Lev_{it} + \alpha_6 ROA_{it} + \varepsilon_{it} \quad (7c)$$

$$AB\_EXP = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 Firm\_Size_{it} + \alpha_4 Firm\_Age_{it} + \alpha_5 Lev_{it} + \alpha_6 ROA_{it} + \varepsilon_{it} \quad (7d)$$

To test the effects of gender diversity on the board of directors, I first test the interaction terms of critical mass of females with score and with CSR linked executive compensation on combined REM and each measure of REM as depicted in the following equations:

$$COMB\_REM = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 CMPerFem_{it} + \alpha_4 ScoreXFem_{it} + \alpha_5 ScoreXComp_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Firm\_Age_{it} + \alpha_8 Lev_{it} + \alpha_9 ROA_{it} + \varepsilon_{it} \quad (8a)$$

$$AB\_CFO = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 CMPerFem_{it} + \alpha_4 ScoreXFem_{it} + \alpha_5 ScoreXComp_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Firm\_Age_{it} + \alpha_8 Lev_{it} + \alpha_9 ROA_{it} + \varepsilon_{it} \quad (8b)$$

$$AB\_PROD = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 CMPerFem_{it} + \alpha_4 ScoreXFem_{it} + \alpha_5 ScoreXComp_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Firm\_Age_{it} + \alpha_8 Lev_{it} + \alpha_9 ROA_{it} + \varepsilon_{it} \quad (8c)$$

$$AB\_EXP = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 CMPerFem_{it} + \alpha_4 ScoreXFem_{it} + \alpha_5 ScoreXComp_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Firm\_Age_{it} + \alpha_8 Lev_{it} + \alpha_9 ROA_{it} + \varepsilon_{it} \quad (8d)$$

Following Ghaleb et al. (2021), I also test the moderating effect using a group analysis. I run equations 7(a-d) for the sample of firms with a critical mass of females and for the sample of firms without a critical mass of females. I then calculate the z-scores to test for significant differences in the coefficients of CSR score (hypotheses 3(a-d)) and compensation (hypotheses 4(a-d)) for firms with and without a critical mass of females on the board.

To test the effect that CSR committee has with CSR score and with CSR linked executive compensation on all measures of REM, the following equations with interaction terms are first analyzed:

$$COMB\_REM = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 CSR\_Committee_{it} + \alpha_4 ScoreXComp_{it} + \alpha_5 ScoreXCommittee_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Firm\_Age_{it} + \alpha_8 Lev_{it} + \alpha_9 ROA_{it} + \varepsilon_{it} \quad (9a)$$

$$AB\_CFO = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 CSR\_Committee_{it} + \alpha_4 ScoreXComp_{it} + \alpha_5 ScoreXCommittee_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Firm\_Age_{it} + \alpha_8 Lev_{it} + \alpha_9 ROA_{it} + \varepsilon_{it} \quad (9b)$$

$$AB\_PROD = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 CSR\_Committee_{it} + \alpha_4 ScoreXComp_{it} + \alpha_5 ScoreXCommittee_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Firm\_Age_{it} + \alpha_8 Lev_{it} + \alpha_9 ROA_{it} + \varepsilon_{it} \quad (9c)$$

$$AB\_EXP = \alpha_0 + \alpha_1 CSR\_Score_{it} + \alpha_2 CSR\_Comp_{it} + \alpha_3 CSR\_Committee_{it} + \alpha_4 ScoreXComp_{it} + \alpha_5 ScoreXCommittee_{it} + \alpha_6 Firm\_Size_{it} + \alpha_7 Firm\_Age_{it} + \alpha_8 Lev_{it} + \alpha_9 ROA_{it} + \varepsilon_{it} \quad (9d)$$

Additionally, to test the moderating effects of CSR committee on the relationships between CSR score and compensation, hypotheses 5(a-d) and 6(a-d), I test equations 7(a-d) using the sample of firms with a CSR committee and the sample of firms without a CSR

committee (Ghaleb et al., 2021). I then calculate z-scores to test for significant differences in the coefficients of CSR score (hypotheses 5(a-d)) and CSR-linked compensation (hypotheses 6(a-d)) for firms with and without a CSR committee.

Data Analysis

REM Analysis

The real earnings management logistic regressions measure the abnormal cash flow, abnormal production costs, and abnormal discretionary expenses as explained previously. To calculate the abnormal levels, the normal level of cash flow, production costs, and discretionary expenses are calculated by industry, indicated by two-digit SIC code, and fiscal year. To do this, I extracted the first two-digits of the SIC code to create a new variable for sorting by industry.

I pulled all the data from WRDS Compustat for the years 2015 through 2022 to run the three REM models accounting for the lagged variables: Equation (1) abnormal cash flows, Equation (2) abnormal production costs, and Equation (3) abnormal discretionary expenses. Following numerous studies, all financial companies in the SIC code range of 60-69 were removed due to the heavy regulation of these institutions (Ahmad et al., 2023; Cohen et al., 2008; Cohen & Zarowin, 2010; Y. Kim et al., 2012). Additionally, the top and bottom one percent of all continuous variables in the REM equations were winsorized to account for outliers (Cohen et al., 2008; Y. Kim et al., 2012; Roychowdhury, 2006).

The logistic regressions for the three REM measures were estimated using the "bysort" command in Stata to sort by two-digit SIC and fiscal year before running the regress command. The residuals from these equations represent the abnormal level of cash flow, production costs, and discretionary expenses. I saved these as variables in the data file. As noted earlier, the abnormal cash flow and abnormal discretionary expenses residuals were multiplied by negative

one before calculating the combined measure of REM.

Empirical Model Regression Analysis

To analyze the relationships of CSR score, CSR-linked compensation, female board representation, and board-level CSR committee with REM, I used Stata to merge the residuals calculated in the REM analysis with the CSR scores from CSRHub and the hand-collected data from proxy statements matching the data by company code (gvkey) and fiscal year. The regression statistics and significance levels of the hypotheses regressions (all variables of equations five through nine) are determined on the standard errors adjusted by clustering the data based on company and year (Y. Kim et al., 2012). I used the reghdfe Stata package to run my hypotheses regressions. This particular package allows for multi-way clustering and calculation of adjusted standard errors. This is important as the regressions in this study analyze standard errors on multi-way clustering of company code and fiscal year.

The hypotheses test the level of combined REM and each measure of REM to determine separate effects. Additionally, I test CSR score and CSR linked compensation separately and together in the reported results. Due to high collinearity with interaction terms, I test the moderating effects by groups for companies with and without a critical mass of females and companies with and without a board-level CSR committee. I include tests with interaction terms for presentation purposes.

Chapter 5: Results

Sample Selection

REM & Control Variables Sample Selection

From Compustat North America Fundamentals Annual data, I pulled the following information for 2015 through 2022 for all available companies: gvkey; company name; fiscal year-end; ticker symbol; sic; total assets; cost of goods sold; total inventories; operating activities net cash flow; selling, general, and administrative expense; market value equity; total long-term debt; net sales; and net income. This resulted in a total of 65,031 observations. From this set of observations, I removed the years 2015 and 2016 after I created the appropriate lagged variables in the REM measurement models which left 50,673 observations. Lastly, I removed finance companies (SIC 60-69) which left 28,864 observations. Removing finance companies last did not affect the results for calculating REM residuals as the residuals are calculated by SIC code by year.

S&P 500 Sample Selection

This study uses balanced panel data following prior studies regarding EM (Alawadi & Rashid, 2023; Bansal et al., 2023; Chen et al., 2022; Sitanggang et al., 2020). Sitanggang et al. (2020) emphasize that using balanced panel data may not be representative of the population because balanced panel data drops companies with missing data. However, Azzali et al. (2021) found no significant differences in results using balanced panel data versus unbalanced panel data. Therefore, I created balanced panel data by obtaining the S&P Dow Jones Indices for each year 2017 through 2022 to compile a list of S&P 500 companies for data collection. Each year, the index listed 505 companies. I matched up the annual lists and included only companies that were part of the S&P 500 list for all six years. This reduced the number of companies to 403 over

six years for 2,418 observations.

After I compiled and calculated the REM data from Compustat, I merged the file with the S&P 500 list of 2,418 observations. I removed any missing data for S&P 500 companies not provided in Compustat which left 386 companies for 2,316 observations. Five of these companies did not have CSR scores for one or more years. Therefore, the remaining data consisted of 381 companies and 2,286 observations.

The remaining list of 381 companies was used to hand collect data from proxy statements to identify the number of female board members, total number of board members, the presence of a CSR committee, and the presence of CSR-linked compensation. Some companies did not have six years of proxy statements available in the SEC Edgar database. This lack of proxy statements led to a reduced number of total observations of 2,064 representing 344 companies. From this sample, I excluded all companies with SIC codes starting with 60 through 69 to remove heavily regulated financial institutions that removed 456 observations for a final sample of 1,608 observations representing 268 companies from the S&P 500. Refer to Table B2, Sample Selection for a summary.

Results

Descriptive Statistics

Table B3 presents the sample distribution by two-digit SIC code. The most common industry represented in the sample is electric, gas, and sanitary services (SIC code 49) making up 11.52% of the sample (31 companies and 186 observations) followed by chemicals and allied products (SIC code 28) at 10.04% (27 companies and 162 observations) and business services (SIC code 73) at 9.67% (26 companies and 156 observations). The least common industries make up only 0.37% of the sample population each (1 company and 6 observations, each). These

industries are special trade contracts (SIC code 17), textile mill products (SIC code 22), lumber and wood products (SIC code 24), printing and publishing (SIC code 27), leather and leather products (SIC code 31), primary metal industries (SIC code 33), transportation services (SIC code 47), furniture and home furnishings stores (SIC code 57), hotels and other lodging places (SIC code 70), personal services (SIC code 72), motion pictures (SIC code 78), amusement and recreations services (SIC code 79), and finally engineering and management services (SIC code 87).

The descriptive statistics are reported in Table B4. The mean values of Comb_REM and AB_Prod are 0.479 and 0.650 indicating that on average firms tend to engage in REM by manipulating production. The mean values of AB_CFO and AB_Exp are -0.024 and -0.147 suggesting that on average companies tend to engage in less EM through adjustments to cash flows or reducing discretionary expenses. In this sample, 23.4% of the sample have a critical mass of females (Table B4). The average CSR score for the sample is 55.396. Company years with a board-level committee that has oversight of CSR policies and guidance is 68.2%. However, only 21.8% of company years in the sample reported paying executive compensation based on CSR activities. As for control variables, the average age of companies in the sample is 49.071 years and the average market value of equity is 10.445 million (Table B4). The average leverage of observations in this study is 32.3% with a mean ROA of 7.5%.

Table B5, Panel A reports statistically different means between observations with high CSR scores (above the mean) and low CSR scores (below the mean). Overall, companies with high CSR scores are significantly less likely to manipulate earnings (combined REM mean of 0.460 for high CSR companies versus 0.501 for low CSR score companies; $p < 0.001$). Additionally, high CSR scoring companies engage in less REM through abnormal cash flow

(means of -0.027 for high CSR companies versus -0.021 for low; $p = 0.001$) and abnormal production costs (means of 0.610 for high CSR scores versus 0.696 for low; $p < 0.001$). However, the mean for abnormal discretionary expenses is significantly ($p = 0.004$) higher for high CSR companies (mean = -0.124) than for low CSR companies (mean = -0.174) suggesting that companies are more likely to adjust discretionary spending as a form of REM. This sample also reports a higher percentage of observations meeting the critical mass of females on the board of directors (mean of 30.6% versus 27.1%; $p < 0.001$)), higher CSR scores (means of 59.618 and 50.434; $p < 0.001$), having a board-level CSR committee (77.4% versus 57.3%; $p < 0.001$), and more CSR compensation paid (25.8% versus 17.1%; $p < 0.001$). These results suggest that companies with a higher-than-average CSR score also have more governance mechanisms in place such as female directors, CSR committees, and CSR compensation.

Table B5, Panel B, presents the means of all measures of REM between groups that provide CSR-linked compensation and those that do not are all statistically different. Companies that provide CSR-linked compensation are less likely to engage in overall REM (means of 0.416 with CSR compensation versus 0.496 without; $p < 0.001$)), abnormal levels of cash flow (means of -0.039 with versus -0.020 without; $p < 0.001$), and production costs (means of 0.430 versus 0.711; $p < 0.001$)). As reported in prior groups, discretionary expenses have a statistically ($p < 0.001$) higher mean (0.025) for companies paying a CSR-linked compensation versus those that do not (mean = -0.195). Also reported, is a statistical difference in means ($p < 0.001$) for CSR scores for companies that provide CSR compensation (mean = 56.884) as compared to those that do not offer CSR compensation (mean = 54.981). The observations where CSR compensation is paid also yields a high percentage of observation years with CSR committees at 90.6% versus only 61.9% of observations without any kind of CSR-linked compensation that is statistically

different at $p < 0.001$. The difference in means for critical mass of females on the board of directors shows no statistical difference between groups.

I also ran the descriptive statistics for the sample split by critical mass of females on the board and by presence of a CSR committee because these are moderators in this study (Table B5, Panels C and D, respectively). In Table B5, Panel C, I report the difference in means between observations that meet a critical mass of females on the board of directors versus those observations that do not meet a critical mass. Only combined REM has a significant statistical difference ($p = 0.009$) between means of the group that reports having a critical mass of females (mean = 0.505) versus the group that does not have a critical mass of females (mean = 0.471). The between-group means for the three measures of REM are not statistically significant. I also find significant statistical differences in the means of CSR score ($p < 0.001$) and the presence of a board-level CSR committee ($p < 0.001$) between company years that meet the critical mass of females on their board and those that do not. The average score of company years that meet the critical mass of females is 57.448 versus a score of 54.771 for those that do not, suggesting that the lack of governance from a less diverse board results in lower CSR activity. Firms with a critical mass of females are more likely to have a CSR committee (81.4%) then those that do not have a committee (64.1%) showing that CSR committees are more likely with a diverse board and suggesting that board diversity and CSR committees are supplemental governance mechanisms. The difference in means between groups having a critical mass of females present and not present is not statistically different for CSR-linked compensation suggesting that women representation is not a driving force in compensation decisions.

This study also reports a statistical difference in study variables between companies that have a CSR committee present and those that lack such a committee (Table B5, Panel D). The

means of combined REM ($p = 0.003$), abnormal levels of cash flow ($p < 0.001$), abnormal production costs ($p < 0.001$), and abnormal discretionary expenses ($p < 0.001$) are statistically different between the committee groups, present and not present. Companies with a CSR committee have lower means for combined REM, abnormal cash flow, and abnormal production costs (means = 0.467, -0.027, and 0.615, respectively) than those without a CSR committee (means = 0.503, -0.019, and 0.724, respectively) suggesting that having a committee is associated with lower REM. Consistent with results discussed later, the statistically different means of abnormal discretionary expenses for observations with a CSR committee (mean = -0.121) and without a CSR committee (mean = -0.202) reports that companies have greater abnormal discretionary expenses when there is a CSR committee. Despite these results, CSR committees are generally associated with less REM and more CSR activities. Consistent with findings from Panel C, companies that report having a board-level CSR committee also have statistically different means for critical mass of females ($p < 0.001$) and CSR score ($p < 0.001$). The percentage of companies meeting the critical mass of females is 27.9% of the sample when a CSR committee is present versus 13.6% for the companies that do not have a committee present. The companies that have a CSR committee have an average CSR score of 56.375 as compared to a score of 53.301 for companies lacking a committee, suggesting that the presence of a committee is associated with more CSR activities presumably increasing the CSR score. Also, the percentage of companies with CSR-linked compensation and a CSR committee in this study is 29.0% which is statistically different ($p < 0.001$) from the percentage of companies with CSR-linked compensation that do not have a CSR committee (6.4%). These results suggest that the two governance mechanisms are highly associated.

The Pearson correlation coefficients appear in Table B6. CSR score, CSR-linked

compensation, and the presence of a board-level CSR committee are statistically significant and negatively correlated with combined REM, abnormal levels of cash flow, and abnormal levels of production. These correlations are in line with the predictions in this study. However, there is a positive correlation between these variables and abnormal levels of discretionary expenses signaling more REM, which is opposite of this study's hypotheses. Critical mass of females is positively and significantly associated with combined REM and is not significantly associated with the other measures of REM. This is not consistent with predictions. CSR committee and critical mass of females are positively associated with CSR score, but only CSR committee is significantly and positively associated with CSR compensation.

In terms of the control variables, firm size correlates significantly and positively with abnormal discretionary expenses, CSR score, CSR-linked compensation, CSR committee, and critical mass of females. Larger companies being associated with REM is opposite of expectations. However, larger companies focusing more on CSR activity and having more board diversity is consistent. Similarly, firm age is significantly correlated with discretionary expenses, CSR score, CSR compensation, and CSR committee. Firm age is statistically and negatively correlated with combined REM, abnormal levels of cash flow, and production costs. This follows expectations that as a firm ages, it has less of a need to manage its earnings. As companies increase their debt and become more leveraged, there is a significant, negative correlation with all measures of REM except for abnormal discretionary expenses. This is the opposite of expectations. Highly leveraged firms generally have an incentive to manage earnings to meet debt covenants. Finally, opposite again of expectations, high performing companies that would not need to manage earnings report a positive, significant correlation with all measures of REM except for abnormal discretionary expenses. Also inconsistent with expectations, they are

negatively associated with CSR-linked compensation and CSR committee. This is consistent with the positive association with REM.

Hypotheses Tests: The Relationship Between CSR Score, CSR-Linked Compensation, and REM

Table B7, Panel A shows the results of the regression of CSR score on combined REM (Equation 5a), CSR-linked compensation on combined REM (Equation 6a), and both score and compensation on combined REM (Equation 7a). The regressions are run separately for CSR score and CSR-linked compensation to analyze any individual direct effect before running the regression with both variables present. The results show the relationship between CSR score and combined REM is not significant (coefficient = -0.0034; p = 0.120), and the relationship between CSR-linked executive compensation and combined REM is not significant (coefficient = -0.0347; p = 0.174). These relationships are also not significant when both score (coefficient = -0.0032; p = 0.133) and compensation (coefficient = -0.0321; p = 0.201) are in the same regression. These findings mean that H1a and H2a are not supported.

Panel B of Table B7 presents the results of CSR score (coefficient = -0.0003; p = 0.368) and CSR-linked executive compensation (coefficient = -0.0142; p = 0.007) individually on abnormal levels of cash flow (Equations 5b and 6b, respectively). The results are significant for compensation only. The combined relationship of CSR score (coefficient = -0.0002; p = 0.474) and CSR-linked compensation (coefficient = -0.0140; p = 0.008) on abnormal levels of cash flow (Equation 7b) also shows a significant negative coefficient for compensation only. These results mean that H1b is not supported but H2b is supported. Similar results are reported in Panel C with an insignificant coefficient of -0.0053 (p = 0.312) for the relationship between CSR score and abnormal production costs (Equation 5c), and a significant negative coefficient of -0.0142 (p =

0.007) for the relationship between CSR-linked compensation and abnormal production costs (Equation 6c). Results are similar in the regression (Equation 7c) with both variables, CSR score has a coefficient of -0.0043 (p = 0.399) reporting insignificant findings and compensation's coefficient is -0.1954 (p = 0.012) reporting significant negative results. These results show support for H2c but not H1c.

The results in Panel D of Table B7 report on the relationship between CSR score and abnormal discretionary expenses (coefficient = 0.0022; p = 0.535) and on the relationship between CSR-linked compensation and abnormal discretionary expenses (coefficient = 0.1783; p = 0.003) (Equations 5d and 6d). Similar results are shown when both CSR score (coefficient = 0.0013; p = 0.703) and compensation (coefficient = 0.1772; p = 0.003) are analyzed together (Equation 7d). H1d is not supported, and because the coefficient for CSR compensation is opposite of what was predicted, H2d is also not supported. In fact, the results for H2d indicate higher instances of EM through adjusting discretionary expenses.

ROA is the only statistically significant control variables in equations 5a through 5d, 6a through 6d, and 7a through 7d. The coefficients for ROA are positive for combined REM, abnormal cash flow, and abnormal production costs (Equations 5a-c, 6a-c, and 7a-c) indicating that as firm performance increases, the company engages more in manipulation of cash flows and production costs. The ROA coefficients for abnormal discretionary expenses are statistically significant and negative (Equations 5d, 6d, and 7d) meaning that as firm performance increases, manipulation of discretionary expenses decreases. Firm size, firm age, and leverage are not significant in any of the equations.

Hypotheses Tests: The Relationship Between CSR Score, CSR-Linked Compensation, and REM Moderated by Critical Mass of Females

I next tested hypotheses 3(a-d) and 4(a-d) relating to the moderating effect of female diversity on the board of directors. Table B8, Panels A through D first presents the regressions with critical mass of female interaction terms with CSR score and compensation with all four measures of REM. Panel A of Table B8 presents the regression results for combined REM (Equation 8a). However, these results are unreliable as the interaction term of score and critical mass of females is highly correlated with critical mass of females at 99.46%. The regression with the interaction terms shows a significant coefficient (-0.0044; p = 0.036) for CSR score, while compensation (coefficient = -0.0246; p = 0.290) and the interaction terms are not significant (ScoreXFem: coefficient = 0.0012; p = 0.717 and CompXFem: coefficient = 0.0329; p = 0.399) (Table B8, Panel A). However, emphasis is placed on the unreliability of these results due to the high correlation among the interaction terms and the individual variables that make them up.

Therefore, I analyze the coefficients of CSR score and CSR-linked compensation between groups of firms with and without a critical mass of females present, which is presented in the second two columns of Table B8, Panel A. To test whether the hypotheses are supported, I calculated z-scores for the difference between coefficients. The results show that when a critical mass of females is present, neither CSR score (coefficient = -0.0019; p = 0.643) nor compensation (coefficient = -0.0498; p = 0.291) are statistically significant. When there is no critical mass present, there is a significant relationship between CSR score and combined REM (coefficient = -0.0047; p = 0.022). However, compensation remains not significant (coefficient = -0.0280; p = 0.238). Even though the coefficients are significantly different (z-score of 13.179 for CSR score and -9.657 for compensation), only one group and one variable show significant

results making it difficult to interpret the between group effects. Therefore, H3a and H4a are not supported. I can only conclude that CSR scores decrease REM when critical mass of females is not present, which is opposite of what was expected.

Panels B and C of Table B8 show similar results for Equations 8b and 8c, respectively. The abnormal levels of cash flows (Panel B) and productions costs (Panel C) analyses compare the regressions run with interaction terms, again unreliable due to high collinearity, and between groups of a critical mass of females present and not present. The coefficients in Panel B (abnormal cash flow analysis) and Panel C (abnormal production cost analysis) are not statistically significant for CSR score (coefficients = -0.0005 and -0.0079; p = 0.135 and 0.111, respectively). The interaction terms of critical mass of females with score and abnormal levels of cash flows (coefficient = 0.0007; p = 0.290) and abnormal levels of production costs (coefficient = 0.0089; p = 0.340) are also not significant. Additionally, the interaction terms of critical mass of females with compensation and abnormal levels of cash flow and production costs (coefficients = 0.0041 and 0.0612; p = 0.534 and 0.520, respectively) are not significant.

The second two columns of Table B8, Panels B and C show that when CSR score and CSR-linked compensation are analyzed between groups of a critical mass of females, present and not present, CSR score is not significant for either abnormal cash flows (coefficient with a critical mass = 0.0003; p = 0.720 and coefficient without a critical mass = -0.0005; p = 0.123) or abnormal production costs (coefficient with a critical mass = 0.0026; p = 0.818 and without a critical mass = -0.0081; p = 0.098). However, CSR-linked compensation has a significant, negative relationship for abnormal levels of cash flows (coefficient = -0.0132, p = 0.009) and production costs (coefficient = -0.1840; p = 0.010) in the groups without a critical mass of females while the results for abnormal cash flows (coefficient = -0.0180; p = 0.063) and

abnormal production costs (coefficient = -0.2517; p = 0.077) for firms with a critical mass are not significant. The coefficients between groups for abnormal cash flows and abnormal production costs are significantly different (z-score of 12.148 and -11.323, respectively). However, only the group without critical mass is statistically significant making it difficult to interpret between group effects. I can only conclude that CSR compensation lowers these two measures of REM when a critical mass of females is not present which is opposite to what is expected. Since it cannot be determined whether this is more REM than when a critical mass of females is present, I conclude that H3b, H3c, H4b, and H4c are not supported.

Table B8, Panel D shows the regression results of the interaction terms for a critical mass of females with score and compensation for informational purposes and between groups for interpretation. The regression with interaction terms shows that only compensation is significant in predicting abnormal discretionary expenses and in a positive direction like earlier results (coefficient = 0.1691; p = 0.003). CSR score and the interaction terms are not significant. The coefficients between groups of a critical mass of females present and not present for CSR score and abnormal discretionary expenses (coefficients = -0.0048 and 0.0040, respectively) are not significant (p = 0.569 with and 0.228 without a critical mass). Alternatively, CSR-linked compensation coefficients for a critical mass of females present and not present are both significant and statistically different from each other (z-score = 11.985) for the REM measure of abnormal discretionary expenses. However, the results are opposite to what is predicted. Results show that having a critical mass of females on the board has an increasing effect on abnormal discretionary expenses with a larger coefficient (with a critical mass = 0.2200; p = 0.041 versus without a critical mass = 0.692; p = 0.003). Therefore, neither H3d nor H4d are supported.

Like the prior analysis, ROA is the only statistically significant control variable in

equations 8a through 8d. The coefficients for ROA are positive for combined REM, abnormal cash flows, and abnormal production costs (equations 8a-c) suggesting that an increase in firm performance will increase these measures of EM. The ROA coefficients for abnormal discretionary expenses are statistically significant and negative (equation 8d) meaning that as firm performance increases, manipulation of discretionary expenses decreases. Firm size, age, and leverage have no significant effects.

Hypotheses Tests: The Relationship Between CSR Score, CSR-Linked Compensation, and REM Moderated by Board-Level CSR Committee

Table B9 presents the results of the moderating effect of CSR committee on the relationship between CSR score and CSR-linked executive compensation on combined REM (Panel A) and all three individual measures (Panels B through D). The first column presents the regression with the interaction terms of score with committee and compensation with committee. However, the results between groups in the second and third columns are for the hypotheses tests (Ghaleb et al., 2021) due to high collinearity between the interaction terms and the individual variables that make them up. The interaction term for CSR score and CSR committee is highly correlated with committee at 98.7%. Likewise, the interaction term for CSR-linked compensation and committee is highly correlated (93.98%) with compensation. The regressions run with interaction terms and all measures of REM only produce a significant positive coefficient for the relationship of CSR compensation with abnormal discretionary expenses (coefficient = 0.1675; p = 0.027).

The regressions with combined REM when the sample is split between observations that have a presence of CSR board-level committee and those that do not, results in no significant findings (Table B9, Panel A). The coefficient for CSR score with the presence of a CSR

committee is -0.0030 (p = 0.225) and without a committee is -0.0037 (p = 0.108), which means H5a is not supported. Likewise, compensation with a CSR committee present is not significant (coefficient = -0.0303; p = 0.165), nor is compensation without a committee (coefficient = -0.0404; p = 0.437), which shows no support for H6a.

Abnormal levels of cash flows (Table B9, Panel B) and abnormal production costs (Table B9, Panel C) show no significant results for CSR score between groups of observations with a CSR committee (coefficients = -0.0002, -0.0033; p = 0.678, 0.598, respectively) and those groups without a CSR committee (coefficients = -0.0003, -0.0057; p = 0.340, 0.287, respectively). Therefore, hypotheses 5b and 5c are not supported. The results in Table B9, Panels B and C are similar. They report significantly different coefficients for CSR compensation between groups when a CSR board-level committee is present and not present (z-score = 4.751 for abnormal cash flows and 3.558 abnormal production costs). The negative, significant results for CSR-linked executive compensation with abnormal levels of cash flows in observations when a board-level committee is present indicates that the presence of committee tasked with CSR oversight enhances the significance of compensation on reducing REM (coefficient = -0.0137; p = 0.010). However, H6b is only partially supported because CSR-linked compensation is not significant when a CSR committee is absent (coefficient = -0.0151; p = 0.058) making the coefficient uninterpretable. While having a committee reduces REM, I cannot conclude whether the reduction is stronger than when there is no committee. Likewise, when a committee is present, the coefficient for CSR-linked compensation with abnormal production costs is significantly negative (-0.1910; p =0.013) indicating less manipulation of production costs when a CSR committee is present (Table B9, Panel C). However, consistent with the regression for abnormal cash flows, the coefficient for compensation is not significant when a committee is

absent (coefficient = -0.2068; p = 0.079), making the coefficient uninterpretable and showing only partial support for H6c.

The results for abnormal discretionary expenses shown in Table B9, Panel D, depict significant positive coefficients for CSR-linked compensation in both groups. The coefficients are significantly different between groups (z-score -2.462). While the CSR-linked compensation is significantly positive, the regression results support the reduction in abnormal discretionary expenses when a CSR committee is present. The coefficient for CSR compensation when a committee is present (0.1744; p = 0.004) is less than when a committee is not present (coefficient = 0.1814; p = 0.028). This shows support for H6d since the coefficient is less when a committee is present, meaning less manipulation of discretionary expenses when a committee is tasked with CSR oversight.

Consistent with prior results, ROA is the only statistically significant control variable in equations 9a through 9d. The coefficients reported for ROA are positive in the combined REM, abnormal cash flow, and abnormal production costs analyses, which means that as firm performance increases so will these measures of REM. The ROA coefficients for abnormal discretionary expenses are statistically significant and negative (Equation 9d) only for observations with a CSR committee indicating that as a committee is present and firm performance increases, firms are less likely to engage in manipulation of discretionary expenses.

Robustness Tests

Based on prior research and to tease out any confounding effects, the empirical models (7a through 7d) were analyzed based on CSR subscores (Y. Kim et al., 2012). Each subcategory of the overall CSR score, including community (CSR_COMM), employees (CSR_EMP), environment (CSR_ENV), and governance (CSR_GOV), was investigated with combined REM

and each abnormal measure of REM. Each of these subscores could provide different results in predicting overall combined REM and each of the three REM measures. For instance, a company that has high CSR activities in one subcategory that drives ethical behavior, could have lower unethical financial reporting. See Table B10, Panels A through D for results regarding combined REM, abnormal cash flows, abnormal production costs, and abnormal discretionary expenses for the CSR subscores.

Substituting the CSR subscores for CSR score in equations 7a through 7b, shows that the CSR subscores, similar to the total CSR score, are not significant predictors of combined REM or any of the REM measures. Likewise, when substituting the subscores for the total CSR score, compensation still has a significant negative effect on abnormal cash flows and abnormal production costs and a positive effect on abnormal discretionary expenses. This CSR subscore analysis provides yet further validation of CSR-linked executive compensation as a driving governance tool in mitigating management of abnormal cash flows and production costs, yet a tool that is associated with more REM associated with abnormal discretionary expenses.

I conducted additional analysis on the presence of a critical mass of females on the board of directors. Kanter (1977) finds that a ratio of 65:35, majority to minority group members, provides minorities the ability to form coalitions and can affect group culture. Kanter (1977) also finds that a ratio of 60:40 is more balanced and other group dynamics play into the group culture. To test the idea of critical mass of females being 35% of representation on the board of directors, I run regression Equations 7(a-d) with 30% of the board being females and 40% of the board being females. The regression results for 30% and 40% of females on the board of directors is similar to 35% except that both groups are statistically significant for compensation and the group with higher female representation has lower abnormal levels of cash flow and production

costs.

These results show support for the moderating effect of females on the board for the relationship between CSR-linked compensation and abnormal cash flow at 30% female representation with a coefficient of -0.0164 (p = 0.029) for groups that meet the 30% threshold and a coefficient of -0.0127 (p = 0.012) for groups that do not meet the 30% threshold (z-score = -15.451). Similar results are reported for the relationship between CSR-linked compensation and abnormal levels of cash flow with a moderating effect of 40% female representation on the board of directors. Observations that meet the 40% threshold of female representation are significantly negative (coefficient = -0.0296; p = 0.009) and lower (z-score = -29.796) than observations that do not meet the 40% threshold (coefficient = -0.0127; p = 0.013). Female representation at the 30% (threshold met: coefficient = -0.2313; p = 0.036 and threshold not met: coefficient = -0.1762; p = 0.015) and 40% (threshold met: coefficient = -0.4280; p = 0.009 and threshold not met: coefficient = -0.1755; p = 0.021) threshold has a moderating effect on CSR-linked compensation and production costs that are significantly different (z-scores = -15.254 and -30.163, respectively) and negative. When I ran the regressions (Equations 7a-d) with a critical mass of 35% as suggested by the literature previous discussed, the groups that met a critical mass of females was just barely not significant.

Finally, the results for the relationship between CSR-linked compensation and abnormal levels of discretionary expenses when analyzed for threshold of female representation at 30% and 40% follow in significance and direction as critical mass tested at 35%. When groups meet the threshold of 30% women on the board of directors, CSR-linked compensation is positively associated with abnormal levels of discretionary expenses (coefficient = 0.2070; p = 0.019) and the results remain positive and significant without meeting the 30% threshold (coefficient =

0.1606; p = 0.005). The coefficients between the 30% threshold groups are statistically different with a z-score of 17.554. The coefficients are positive and significant when 40% of the board of directors are female (coefficient = 0.3322; p = 0.006) and when the 40% threshold is not met (coefficient = 0.1658; p = 0.004). The coefficients between groups at the 40% threshold are statistically different (z-score = 29.232).

Chapter 6: Discussion

Contributions and Research Implications

This paper expands prior research by investigating the effects of CSR score and CSR-linked executive compensation on real earnings management. The study also investigates the moderating effects of board gender diversity and the presence of a board-level CSR committee. Using agency theory, I develop and test six main hypotheses with the combined and separate measures of REM (twenty-four hypotheses in total). Results show that five of the predictions are supported or partially supported. The results, contributions, and implications for research are discussed in the following sections.

CSR Score

The univariate analysis in Table B5, Panel C reports significantly lower means for combined REM, abnormal cash flows, and abnormal production costs for companies with higher CSR scores. The same table shows that mean abnormal discretionary expenses are significantly higher for above average scoring CSR firms. However, the hypotheses testing results reported in this study show that the relationship between CSR score and REM, controlling for other company characteristics, is not significant. Other studies have reported CSR score having a negative relationship on REM thus reducing REM as the CSR score increases (Ahmad et al., 2023; E. Cho & Chun, 2016; Ghaleb et al., 2021; Y. Hong & Andersen, 2011; Y. Kim et al., 2012; Sial et al., 2019). These studies differ from the current study in a few ways. First, while most of these studies have the same control variables of firm size, firm age, leverage, and ROA, some of them contain a few more control variables that could alter the results. For instance, Sial et al. (2019) include factors of the board of directors such as board size, number of board meetings, board members' average age, and CEO power. Previous literature also uses market to

book ratio (Ahmad et al., 2023; E. Cho & Chun, 2016; Y. Kim et al., 2012). Advertising and research and development intensity are control variables used in two other studies related to CSR and REM (E. Cho & Chun, 2016; Y. Kim et al., 2012). In addition to the control variables included, there are multiple ways to calculate a control variable. Size in Kim et al. (2012), Cho and Chun (2016), and this study is calculated by the natural logarithm of market value of equity. However, Hong and Andersen (2011) calculate size as the natural logarithm of total assets. While I followed prior literature and used the control variables most widely used in literature exploring CSR and REM, future research could explore other control variables being careful to not introduce bias into the model (Whited et al., 2022).

Second, my results may be different because many prior studies were based on companies from other countries such as India (Ahmad et al., 2023), Korea (E. Cho & Chun, 2016), China (Sial et al., 2019), and Jordan (Ghaleb et al., 2021). Countries differ in their CSR regulations which may affect overall results. For instance, in India, significant revisions in the country's law went into place governing a public company's response to and reporting requirements for CSR, effective April 1, 2014 (Ahmad et al., 2023). Companies in Jordan are required to report on social strategies, contributions to the community, and environmental protection policies (Ghaleb et al., 2021). To date, no such laws exist in the United States. Since CSR reporting is largely voluntary in the United States, there is no requirement or obligation to spend funds or increase CSR activities. However, other countries have had reporting and/or spending requirements in place for nearly a decade.

A third difference in results could be that while some studies investigate US firms, they investigate much earlier years. Hong and Andersen (2011) study US firms from 1995 through 2005 while Kim et al. (2012) focus on US companies from 1991 through 2009. The years in this

study represent more recent years, 2017 through 2022. There are contradictory reasons that using more recent years may be an important factor in finding different results. As stated before, many companies voluntary report on CSR activities with nearly 100% in the S&P 500 reporting in 2022, the last year of my sample, this represents an era when CSR practices are more prolific (Governance & Accountability Institute, Inc., n.d.-b). However, to the contrary, there is investor resistance to CSR activities claiming that companies are overexaggerating their sustainability claims (Foley, 2023). Executives are discussing sustainability efforts less and less in earnings calls, which has been a growing trend (Maurer, 2023). Both factors may contribute to the possible perception of over inflation and reduced value in CSR scores.

Lastly, many of the prior studies use different CSR score datasets. Cho and Chun (2016) use CSR scores developed by the Korea Economic Justice Institute Index while Sial et al. (2019) use Rankins CSR Ratings. Others such as Ghaleb et al. (2021) use a content analysis checklist for CSR disclosures to develop a score and Ahmad et al. (2023) measure CSR by the company's spending on CSR activities. Highly regarded research in the United Stated uses WRDS MSCI KLD data for reporting CSR scores in academic literature (Y. Hong & Andersen, 2011; Y. Kim et al., 2012). Hatten et al. (2020) review the methodology behind KLD rankings. They state that total strengths are compared to total concerns to develop a total score. However, the observations ignore industry differences which may lead to skewed results when a dataset has more concerns than strengths. Recent literature recommends the use of more than one CSR rating system to account for skewed and biased data that may ignore industry differences (Chatterji et al., 2016; Conway, 2019). Even though the KLD dataset has been used in highly regarded literature in the past, I use CSRHub data because it compiles information and rankings across multiple CSR data sources (at least two and up to six sources) (CSRHub, n.d.-a). The CSRHub dataset also removes

biases by converting metrics to comparable measures and normalizes the data across industries into a new scoring schema that corrects for the flaw in the KLD data (Agyei-Mensah & Buertey, 2018; Buertey et al., 2020; CSRHub, n.d.-a). Given that this study reviews US companies using CSRHub scores, the results could be incomparable to prior studies. This impacts future research because the development of the score could make a difference in results making it difficult to achieve long-term conclusions abut the effects of CSR.

Additional implications of this research regarding CSR activities are two-fold. Initially, CSR scores and ranking may have been an important indicator of a company's CSR activities and how serious its investments were in improving the company's sustainability efforts. However, in more recent years, with the growth in sustainability reporting, there is less variation in the scores and the score's value in predicting on ethical behaviors may be on the decline. This sample's statistics for CSR score has an average of 55.396 with the 25th percentile score of 51.669 and 75th at 59.794 (Table B4). This is less than a ten-point difference on a scale of 100. Additionally, the decrease in sustainability mentioned during earnings calls is driven by investor behavior. If investors no longer find value in increased sustainability reporting and the reporting is more for consumers, CSR activities may not have the impact on ethicality that it once had decades ago when some of the initial research was conducted. These factors taken in tandem can aid the board of directors in their future efforts on CSR reporting, spending, and oversight of financial reporting. While this study does not find support for CSR score influencing REM, CSR score may be an important factor, nonetheless, as revealed in prior research. Given the change in the CSR landscape, perhaps moving into future research, score may be used as a control variable, impacting EM indirectly. CSR score may also play an important role as a moderator in future REM studies.

CSR-Linked Executive Compensation

Univariate results for the sample in this study reveal that CSR compensation reduces overall REM and abnormal levels of cash flows and production costs by reporting a significantly lower mean for observations where CSR-linked compensation is offered versus when CSR-linked compensation is not offered. However, the mean between these two groups for abnormal levels of discretionary expenses are significantly different and higher for those observations with CSR-linked compensation. This univariate analysis is supported by the multivariate analysis in the hypothesis testing that also controls for CSR score and other company characteristics such as size, age, leverage, and financial performance.

This study contributes to the literature by showing that CSR-linked executive compensation has significant effects on REM. To date, past literature has been scant when analyzing the relationships between CSR compensation on EM. Li and Thibodeau (2019) find that when executives receive CSR compensation by improving their CSR score, executive are less likely to engage in accruals based EM. Khenissi et al. (2022) find that offering the CEO incentive pay based on CSR criteria reduces both AEM and REM for a sample of French firms. My research contributes to the findings by offering significant results on the direct relationship between CSR-linked compensation and REM for United States companies that is lacking in past literature.

The results in this study suggest that when CSR-linked compensation is in the executive compensation package, executives engage in less REM by way of overproduction costs and reducing cash flows. The results contribute to stakeholder and agency theories used in this study. Stakeholder theory is upheld by executives being committed to the best interests of the stakeholder by increasing the companies CSR activities. Agency theory is also upheld in that the

compensation contract acts as a mechanism to align the interests of the company (i.e., engaging in CSR activities) and the executives (i.e., increasing pay). To obtain CSR-linked compensation, the executive must enhance the company's CSR profile and this study provides evidence that CSR-linked compensation reduces most measures of REM.

My results show the opposite effect of CSR compensation on abnormal discretionary expenses. Like any good governance mechanism, given the compensation incentive, executives may turn to other substandard practices that are harder to detect. Srivastava (2019) suggests that discretionary expenses are easier than production costs to manipulate without getting caught as it could be disguised as a managerial business decision. In addition, executives may want to manipulate discretionary expenses because as past studies have concluded, overproduction drives cash flow downward, but cutting discretionary expenses drives cash flow up (Chan et al., 2015; Y. Kim & Park, 2014; Srivastava, 2019). In this study, both abnormal cash flows and abnormal production costs have a negative relationship between CSR compensation and REM, while abnormal discretionary expenses have a positive relationship. Srivastava's suggestion is consistent with the results of this study.

My study contributes to the literature by providing evidence that all measures of REM are valuable to investigate. The results in this study reveal that executives are turning to the harder-to-detect use of abnormal discretionary expenses to manipulate earnings over the easier-to-detect manipulation of cash flows and production costs. Therefore, it is valuable to investigate the three separate measures in combined REM while other studies only study the combined measure (Ahmad et al., 2023; E. Cho & Chun, 2016; Y. Hong & Andersen, 2011; Y. Kim et al., 2012; Sial et al., 2019). This is consistent with the research that finds executives moved from AEM to REM in more recent years since REM is harder to detect (Cohen et al., 2008; Graham et al.,

2005).

Future studies will want to consider using CSR-linked compensation as a variable in their studies of REM with related CSR activities to determine if this variable has other positive or negative effects on executive behaviors in addition to effects on a company's financial reporting. For example, perhaps executive risk-taking behavior affects not only firm performance (Al-Shammari, 2021) but an executives' choice of CSR activities especially if related CSR compensation is also at stake. As stated before, very little research has factored in CSR-linked compensation, but the results of this study show that it is an important driving factor to be considered further. Additionally, this study suggests that other governance controls and monitoring may be needed to mitigate REM, especially when executive compensation is linked to CSR.

Critical Mass of Females on the Board of Directors

Univariate results representing means for the presence of a critical mass of females on the board of directors show no significant differences for the three measures of REM, but the difference in means for combined REM is significant. When a critical mass of females is present, the mean in this sample is higher than when a critical mass of females is not present. The group means are significantly different for CSR score (higher when a critical mass is present) and CSR committee (more likely to have a committee when a critical mass if present), but not for CSR-linked compensation. However, the multivariate regression testing the hypotheses of CSR score and REM is not consistent, and shows significant results only for company years without a critical mass on combined REM. Additionally, CSR-linked compensation is significant only when the board is lacking a critical mass for REM measures of abnormal cash flows and abnormal production costs. These results seem contrary and become inconclusive since only one

group has significant results.

In robustness testing, I analyzed different percentages of women on the board of directors and found that at 30% and 40% women, both groups of meeting the percentage threshold and not meeting the threshold produced significant results for the relationship between CSR-linked executive compensation and abnormal levels of cash flows and abnormal production costs. These results support hypotheses 4b and 4c. Factoring in the robustness testing, H4b and H4c change from not supported to supported. Critical mass as measured by 35% was on the cusp of being significant in my regression testing, and more negative which would also support H4b and H4c.

The hypotheses testing with additional robustness testing results suggest that women on the board of directors does reduce earnings manipulation undertaken by executives. However, only for certain measures of REM, abnormal levels of cash flows and production costs. Though on the contrary, abnormal discretionary expenses increase in the presence of a critical mass of females on the board. Perhaps women have less experience and are perceived as less of a threat in catching the harder-to-detect measure of REM, abnormal discretionary expenses. Therefore, the presence of women on the board is only a moderating factor in some situations. Consistent throughout this research, the prior results in this study reveal that a reduction of discretionary expenses is the preferred method of managing earnings and having more women on a board increases this activity.

Several studies report an enhanced negative relationship between CSR score and REM when boards have higher female representation. However, this research does not factor in CSR-linked compensation and only conducts research in other countries where women have a different value in the community (Ghaleb et al., 2021; Sial et al., 2019). Other research provides significant results in a direct relationship between board gender diversity and EM, but this

research focuses on accruals based EM and companies from the United Kingdom and Kazakhstan (Arun et al., 2015; Orazalin, 2020).

Another reason for the differences in results may be that women are becoming more commonplace on boards of directors. Spencer Stuart (Spencer Stuart, n.d.) reported an increase in new female directors from 26% in 2012 to 46% 2022. It also reports that while only 17% of all S&P 500 directors were women in 2012, 32% were women in 2022. This is just a ten-year period of time and represents an 88% change (Spencer Stuart, n.d.). This suggests that perhaps board gender diversity does not play as important of a governance role as it once did and possibly other diversity accounts for significant results in reducing measures of REM.

Board-Level CSR Committee

Like the prior univariate results discussed, the means between company years that have a CSR committee present is statistically different than the company years that do not have a CSR committee present. For combined REM, abnormal cash flows, and abnormal production costs, the mean is lower (i.e., less REM) for company years that have a CSR committee. On the other hand, abnormal discretionary expenses are higher indicating more manipulation to discretionary expenses when a CSR committee is present. Company years that have a CSR committee have statistically higher levels of a critical mass of females, higher CSR scores, and pay more CSR-linked compensation. These results are reflected and validated in the multivariate regression testing the hypotheses for compensation only. CSR score remains not significant in findings even with CSR committee as a moderating variable.

The regression results suggest that a board-level CSR committee compliments CSR incentive pay as a governance tool in reducing measures of abnormal levels of cash flows and production costs. The results also emphasize that discretionary expenses remain the means by

which management manipulates earnings even with a CSR committee and CSR-linked compensation. Additionally, it supports the importance of a board-level CSR committee and the prospect that since a majority of the compensation package still revolves around financial performance, some level of REM is bound to continue, and this research suggests that the means to manipulation is by cutting discretionary expenses no matter the structure of governance.

These results are consistent with Radu and Smaili (2022) who found the two governance tools of CSR-linked compensation and CSR committee are intertwined, working together to enhance a company's commitment to CSR. This study contributes to the literature because no other research investigates the use of a board-level CSR committee as a moderator between CSR score or CSR-linked executive compensation and REM. This study also contributes to the literature by suggesting that CSR-linked compensation and CSR committee are two governance tools to decrease REM.

While this study did not find significant results of CSR committee moderating the relationship between CSR score and REM, the findings may imply that score is not as influenced by a CSR committee since the ratings are independently generated by outside sources. Future research can explore other relationships between CSR committee and CSR score. For example, a board-level CSR committee may have a direct influence on CSR score.

Practical Implications

This study provides significant results that management and board of directors can use in their decisions to implement CSR-related compensation in their executive's pay packages and develop a board-level committee that monitors CSR policies and procedures to drive CSR scores. This research suggests that CSR-based compensation only works sometimes, in curbing manipulation of cash flows and production costs. However, executives may still manipulate

discretionary spending. This suggests that other governance controls may be needed to mitigate REM. This research implies that boards of directors can find value in board-level committees if the committee is structured to effectively oversee CSR policies and procedures. If these committees are responsible for CSR-linked executive compensation oversight or work in conjunction with the compensation committee, the reduction in REM could potentially be more substantial. Additionally, boards of directors may infer from the results that CSR compensation is more of an internal motivator for executives than a third-party ranking CSR score since compensation has a direct impact on the executive's livelihood. In turn, CSR-linked compensation provides a positive influence on the company's CSR activities so that the executives reach their compensation goals.

Implications of this research are far reaching for board of directors because it suggests that diversity may go beyond gender differences. While there are many articles and studies that call for diversity in the workplace, boardrooms, sports teams, etc., the lack of results of board gender diversity in this study is a call for boards to create an ever more diverse board (Bagh et al., 2023). Diversity breeds new ideas that could help find alternative ways of governing management to curb earnings manipulation if current mechanisms are not producing the desired results.

Study Limitations and Future Research

As with any research, there are limitations to this study. The first limitation is the sample size. Since data was hand collected from annual proxy statements, I only collected six years of data. The CSRHub database provides scores starting in December 2008. This study could be extended by adding data from 2008 to 2016. A larger sample could change the results of the study, especially in terms of the unsupported relationships with CSR score and the moderating

relationship with a critical mass of females that is marginally close to being significant. Additionally, due to the small sample size, this sample may not be representative of all US firms. Since 98% of S&P 500 companies report on corporate responsibility in 2022 as opposed to 85% in 2017, the majority of the companies in this study may be doing more in CSR initiatives then other US companies (Governance & Accountability Institute, Inc., n.d.-a, n.d.-b). The current study could be extended by looking at companies beyond the S&P 500.

Another limitation is the use of CSR compensation as a dummy variable. The use of dummy variables, especially in interaction terms, can cause multicollinearity and impede interpretation. Using a dummy variable was necessary because the proxy statements did not always disclose the percentage or amount of compensation based on CSR-related goals. Rather, many proxy statements only disclosed that CSR was part of the compensation package. This study opens the door for further research related to CSR-linked executive compensation. For example, Li and Thibodeau (2019) investigated objective versus subjective CSR-linked compensation, which could be used to extend the work on CSR-linked executive compensation and REM. They defined CSR compensation as objective if the executive knew how much they would earn (i.e., a specific percentage or amount) from achieving CSR goals. CSR compensation was defined as subjective if executives did not know how much they would earn prior to achieving the CSR goals (Li & Thibodeau, 2019). They found that CSR scores were more likely to increase under objective compensation contracts. The proxy statements reviewed in this study either stated the percentage of compensation that was tied to CSR goals or stated that compensation would be modified up and/or down without providing a specific percentage of their compensation package that would be affected. Further research could expand this concept and separate CSR compensation into objective and subjective types.

Along the same lines of research as compensation, future research could explore the roles and responsibilities of board-level CSR committees. Some questions future research could try to answer is if the level of commitment that the committee gives to CSR influences CSR score and/or REM. For instance, does having a committee strictly devoted to only CSR guidance play a role in moderating the relationship differently. Another role that the committee could investigate is the involvement in working with the compensation committee if CSR-linked executive compensation is part of the compensation package.

Another limitation is that board diversity was measured with just one form of diversity: gender. This was the most common and consistent diversity information available in the proxy statements. Future research could explore other areas of board diversity that would signal more ethical and socially responsible firm practices including less EM. Annual proxy statements are disclosing more information on board diversity beyond gender including ethnicity and race. In fact, 93% of S&P 500 companies disclosed the racial and ethnic composition of the board in 2022 (Spencer Stuart, n.d.). This may offer a more comprehensive picture of how board diversity impacts CSR score, CSR compensation, and REM. Spencer Stuart reported that in 2022, 46% of new directors on boards in the S&P 500 were made up of women. However, 72% of new board members were from historically underrepresented groups (Spencer Stuart, n.d.). While the focus has been on females in the past, there is an untapped area of research that delves into the realm of diversity including diversity in background, board member skills, and board characteristics.

Lastly, while REM is generally thought to be unethical, this study did not attempt to determine whether the practice was ethical or unethical, which could be a limitation in terms of explaining results. For example, the decrease of discretionary expenses such as research and development could be an elective business decision that makes sense for the company rather than

a manipulation of earnings just to reach earnings goals or covenant requirements. This concept could be especially true in this study as it spans years during a global pandemic (Covid) when many companies were forced to cut back on spending. In addition, during these years, some companies were more financially equipped to deal with a downturn in the economy and could absorb some of the changes while other companies were more greatly impacted. For instance, during Covid consumer spending was down 9.8% in just the second quarter of 2020 (U.S. Bureau of Labor Statistics, 2022). This essentially impacts the normal level of cash flows, production costs, and discretionary expenses, which are used to calculate abnormal levels in the REM regression analyses. Given that the ethical nature of REM is hard to determine, an area for future research would be to factor in the concept of meeting or beating analyst forecasts. If meeting or beating analyst forecasts has a positive and significant relationship with REM, then it may suggest that the company is undertaking REM for unethical reasons rather than as an elective business decision.

Chapter 7: Conclusion

In this study, I examine the effects that CSR score and CSR compensation have on REM across non-financial companies in the S&P 500. I hypothesize that as CSR score increases and companies provide CSR-linked compensation packages, REM will be reduced. I also hypothesize that as board gender diversity is present, in addition to score and compensation, REM will be mitigated. Lastly, I hypothesize that having a board-level committee responsible for CSR policies will reduce the effects of CSR score and compensation on REM. Agency and stakeholder theories drive the hypotheses predicting that executives will act on behalf of the stakeholders, working to better the CSR score and this will carry over to more ethical financial practices. Additionally, the CRS compensation contract will act as a governance tool in the agency relationship, also leading to less manipulation of earnings.

The results find no support for CSR score having an effect on REM. Results support the premise that CSR-linked compensation lowers abnormal levels of cash flows and production costs, but increases abnormal levels of discretionary expenses. This study finds mixed support for board gender diversity moderating the relationship between CSR-linked executive compensation and REM. However, the results partially support the hypothesis that a board-level CSR committee affects the relationship between CSR score and combined REM. Additionally, CSR committee shows partial support for all measures of REM and the relationship with CSR-linked executive compensation. Overall, these results show support that governance tools matter in decreasing REM. CSR-linked executive compensation, board gender diversity, and CSR committees play an important role in mitigating REM while CSR score is less important in reducing earnings manipulation.

This research contributes substantially to the limited research on CSR-linked executive

compensation and REM, and shows the importance of corporate governance as moderating variables such as board-level committees. Executives and boards can use the findings of this research to recognize the value of corporate social responsibility and the benefits of integrating with executive compensation. They can also use the results to identify important governance mechanisms, specifically the implementation of board-level committee devoted to CSR which can enhance the effects of CSR on REM. This research also offers many avenues for future research including exploring types of CSR-linked executive compensation, and using various measures of CSR scores in one study.

References

Agyei-Mensah, B. K., & Buertey, S. (2018). The effect of corruption and culture on corporate social performance: An empirical study. *Social Responsibility Journal*, *15*(8), 1071–1086. https://doi.org/10.1108/SRJ-12-2017-0271

Ahmad, G., Hayat, F., Almaqtari, F. A., Farhan, N. H. S., & Shahid, M. (2023). Corporate social responsibility spending and earnings management: The moderating effect of ownership structure. *Journal of Cleaner Production*, *384*, 135556. https://doi.org/10.1016/j.jclepro.2022.135556

Alawadi, H., & Rashid, N. (2023). Financial indicators and earnings management: A comprehensive panel data analysis of Jordan's non-financial companies. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *13*(2), 300–313. https://doi.org/10.6007/IJARAFMS/v13-i2/17154

Alhadab, M., Clacher, I., & Keasey, K. (2015). Real and accrual earnings management and IPO failure risk. *Accounting and Business Research*, *45*(1), 55–92. https://doi.org/10.1080/00014788.2014.969187

Al-Haddad, L., & Whittington, M. (2019). The impact of corporate governance mechanisms on real and accrual earnings management practices: Evidence from Jordan. *Corporate Governance: The International Journal of Business in Society*, *19*(6), 1167–1186. https://doi.org/10.1108/CG-05-2018-0183

Ali, A., & Zhang, W. (2015). CEO tenure and earnings management. *Journal of Accounting and Economics*, *59*(1), 60–79. https://doi.org/10.1016/j.jacceco.2014.11.004

Al-Shammari, H. A. (2021). CEO compensation and firm performance: The mediating effects of CEO risk taking behaviour. *Cogent Business & Management*, *8*(1), 1894893. https://doi.org/10.1080/23311975.2021.1894893

Al-Shattarat, B., Hussainey, K., & Al-Shattarat, W. (2022). The impact of abnormal real earnings management to meet earnings benchmarks on future operating performance. *International Review of Financial Analysis*, *81*, 101264. https://doi.org/10.1016/j.irfa.2018.10.001

Arun, T. G., Almahrog, Y. E., & Ali Aribi, Z. (2015). Female directors and earnings management: Evidence from UK companies. *International Review of Financial Analysis*, *39*, 137–146. https://doi.org/10.1016/j.irfa.2015.03.002

Assenso-Okofo, O., Jahangir Ali, M., & Ahmed, K. (2021). The impact of corporate governance on the relationship between earnings management and CEO compensation. *Journal of Applied Accounting Research*, *22*(3), 436–464. https://doi.org/10.1108/JAAR-11-2019-0158

Azzali, S., Mazza, T., Reichelt, K. J., & Wang, D. (2021). Does mandatory IFRS adoption affect audit hours and the effectiveness to constrain earnings management? Evidence from Italy. *Auditing: A Journal of Practice & Theory*, *40*(4), 1–25. https://doi.org/10.2308/AJPT-18-061

Bagh, T., Khan, M. A., Meyer, N., & Riaz, H. (2023). Impact of boardroom diversity on corporate financial performance. *Humanities and Social Sciences Communications*, *10*(1), 1–13. https://doi.org/10.1057/s41599-023-01700-3

Bansal, M., Ali, A., & Choudhary, B. (2021). Real earnings management and stock returns: Moderating role of cross-sectional effects. *Asian Journal of Accounting Research*, *6*(3), 266–280. https://doi.org/10.1108/AJAR-11-2020-0107

Bansal, M., Kumar, A., Bhattacharyya, A., & Bashir, H. A. (2023). Predictors of revenue shifting and expense shifting: Evidence from an emerging economy. *Journal of Contemporary Accounting & Economics*, *19*(1), 100339. https://doi.org/10.1016/j.jcae.2022.100339

Barauskaite, G., & Streimikiene, D. (2021). Corporate social responsibility and financial performance of companies: The puzzle of concepts, definitions and assessment methods. *Corporate Social Responsibility and Environmental Management*, *28*(1), 278–287. https://doi.org/10.1002/csr.2048

Bartel, J. (2022, June 27). Corporate social responsibility and business ethics. *Forbes*. https://www.forbes.com/sites/forbesfinancecouncil/2022/06/27/corporate-social-responsibility-and-business-ethics/

Bear, S., Rahman, N., & Post, C. (2010). The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *Journal of Business Ethics*, *97*(2), 207–221. https://doi.org/10.1007/s10551-010-0505-2

Ben Amar, A., & Chakroun, S. (2018). Do dimensions of corporate social responsibility affect earnings management? Evidence from France. *Journal of Financial Reporting and Accounting*, *16*(2), 348–370. https://doi.org/10.1108/JFRA-05-2017-0033

Beyer, B. D., Nabar, S. M., & Rapley, E. T. (2018). Real earnings management by benchmark-beating firms: Implications for future profitability. *Accounting Horizons*, *32*(4), 59–84. https://doi.org/10.2308/acch-52167

Blakeslee, E., Brignull, M., Ganu, S., Montecelos, M., Nelson, E., Newbury, R., Kuk, K., Velinov, V., Werner, S., Yi, Y., & Yu, J. (2022). *Global study on ESG incentives in executive compensation*. WTW. https://www.wtwco.com/en-gb/form-thank-you/2023/01/esg-ecba-gbl-gbl-wgc-20230104-global-study-on-esg-pg10985a1-03-lp-gated-confirmation

Brunk, K. H. (2010). Exploring origins of ethical company/brand perceptions—A consumer perspective of corporate ethics. *Journal of Business Research*, *63*(3), 255–262. https://doi.org/10.1016/j.jbusres.2009.03.011

Buertey, S., Sun, E.-J., Lee, J. S., & Hwang, J. (2020). Corporate social responsibility and earnings management: The moderating effect of corporate governance mechanisms. *Corporate Social Responsibility and Environmental Management*, *27*(1), 256–271. https://doi.org/10.1002/csr.1803

Byron, K., & Post, C. (2016). Women on boards of directors and corporate social performance: A meta-analysis. *Corporate Governance: An International Review*, *24*(4), 428–442. https://doi.org/10.1111/corg.12165

Callao, S., Jarne, J., & Wroblewski, D. (2021). A systematic approach to the motivations for earnings management: A literature review. *International Journal of Emerging Trends in Social Sciences*, *10*, 1–20. https://doi.org/10.20448/2001.101.1.20

Canavati, S. (2018). Corporate social performance in family firms: A meta-analysis. *Journal of Family Business Management*, *8*(3), 235–273. https://doi.org/10.1108/JFBM-05-2018-0015

Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of Management Review*, *4*(4), 497–505. https://doi.org/10.5465/amr.1979.4498296

Chan, L. H., Chen, K. C. W., Chen, T. Y., & Yu, Y. (2015). Substitution between real and accruals-based earnings management after voluntary adoption of compensation clawback provisions. *The Accounting Review*, *90*(1), 147–174. https://doi.org/10.2308/accr-50862

Chatterji, A. K., Durand, R., Levine, D. I., & Touboul, S. (2016). Do ratings of firms converge? Implications for managers, investors and strategy researchers. *Strategic Management Journal*, *37*(8), 1597–1614. https://doi.org/10.1002/smj.2407

Chen, H., Liu, S., Liu, X., & Wang, J. (2022). Opportunistic timing of management earnings forecasts during the COVID-19 crisis in China. *Accounting & Finance*, *62*(S1), 1495–1533. https://doi.org/10.1111/acfi.12830

Cheng, Q., Lee, J., & Shevlin, T. (2016). Internal governance and real earnings management. *The Accounting Review*, *91*(4), 1051–1085. https://doi.org/10.2308/accr-51275

Chi, W., Lisic, L. L., & Pevzner, M. (2011). Is enhanced audit quality associated with greater real earnings management? *Accounting Horizons*, *25*(2), 315–335. https://doi.org/10.2308/acch-10025

Cho, E., & Chun, S. (2016). Corporate social responsibility, real activities earnings management, and corporate governance: Evidence from Korea. *Asia-Pacific Journal of Accounting & Economics*, *23*(4), 400–431.

Cho, S. J., Chung, C. Y., & Young, J. (2019). Study on the relationship between CSR and financial performance. *Sustainability*, *11*(2), Article 2. https://doi.org/10.3390/su11020343

Choi, A., Choi, J.-H., & Sohn, B. C. (2018). The joint effect of audit quality and legal regimes on the use of real earnings management: International evidence. *Contemporary Accounting Research*, *35*(4), 2225–2257. https://doi.org/10.1111/1911-3846.12370

Chou, Y.-Y., & Chan, M.-L. (2018). The impact of CEO characteristics on real earnings management: Evidence from the US banking industry. *Journal of Applied Finance & Banking*, *8*(2), 17–44.

Chowdhury, S. N., & Eliwa, Y. (2021). The impact of audit quality on real earnings management in the UK context. *International Journal of Accounting and Information Management*, *29*(3), 368–391. https://doi.org/10.1108/IJAIM-10-2020-0156

Christensen, T. E., Huffman, A., Lewis-Western, M. F., & Valentine, K. (2023). A simple approach to better distinguish real earnings manipulation from strategy changes. *Contemporary Accounting Research*, *40*(1), 406–450. https://doi.org/10.1111/1911-3846.12830

Clarkson, M. E. (1995). A stakeholder framework for analyzing and evaluating corporate social performance. *Academy of Management Review*, *20*(1), 92–117. https://doi.org/10.5465/amr.1995.9503271994

Cohen, D. A., Dey, A., & Lys, T. Z. (2008). Real and accrual-based earnings management in the pre- and post-Sarbanes-Oxley periods. *The Accounting Review*, *83*(3), 757–787.

Cohen, D. A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, *50*(1), 2–19. https://doi.org/10.1016/j.jacceco.2010.01.002

Conway, E. (2019). To agree or disagree? An analysis of CSR ratings firms. *Social and Environmental Accountability Journal*, *39*(3), 152–177. https://doi.org/10.1080/0969160X.2019.1613248

Crabtree, A., Maher, J. J., & Wan, H. (2014). New debt issues and earnings management. *Advances in Accounting*, *30*(1), 116–127. https://doi.org/10.1016/j.adiac.2014.04.005

CSRHub. (n.d.-a). *CSRHub ESG data schema description*. Retrieved May 31, 2023, from https://www.csrhub.com/csrhub-esg-data-schema

CSRHub. (n.d.-b). *Frequently asked questions about ESG*. Retrieved June 6, 2023, from https://www.csrhub.com/frequently-asked-questions-about-esg

Cunningham, L. M., Johnson, B. A., Johnson, E. S., & Lisic, L. L. (2020). The switch-up: An examination of changes in earnings management after receiving SEC comment letters. *Contemporary Accounting Research*, *37*(2), 917–944. https://doi.org/10.1111/1911-3846.12546

Dang, C., Li, Z., & Yang, C. (2018). Measuring firm size in empirical corporate finance. *Journal of Banking & Finance*, *86*, 159–176. https://doi.org/10.1016/j.jbankfin.2017.09.006

Darmawan, I. P. E., T, S., & Mardiati, E. (2019). Accrual earnings management and real earnings management: Increase or destroy firm value? *International Journal of Multicultural and Multireligious Understanding*, *6*(2), Article 2. https://doi.org/10.18415/ijmmu.v6i2.551

Dean, M. (2021, October 28). *CSR vs. ESG: Making the case for measurable sustainability*. Thomas. https://www.thomasnet.com/articles/other/csr-vs-esg/

Demski, J. S., & Feltham, G. A. (1978). Economic incentives in budgetary control systems. *The Accounting Review*, *53*(2), 336–359.

Dimitropoulos, P. E. (2022). Corporate social responsibility and earnings management in the EU: A panel data analysis approach. *Social Responsibility Journal*, *18*(1), 68–84. https://doi.org/10.1108/SRJ-04-2020-0156

Dixon-Fowler, H. R., Ellstrand, A. E., & Johnson, J. L. (2017). The role of board environmental committees in corporate environmental performance. *Journal of Business Ethics*, *140*(3), 423–438. https://doi.org/10.1007/s10551-015-2664-7

Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, *20*(1), 65–91. https://doi.org/10.5465/amr.1995.9503271992

Dunbar, C., Li, Z. (Frank), & Shi, Y. (2020). CEO risk-taking incentives and corporate social responsibility. *Journal of Corporate Finance*, *64*, 101714. https://doi.org/10.1016/j.jcorpfin.2020.101714

Eaglesham, J. (2023, March 10). SEC is focusing on earnings manipulation by companies. *Wall Street Journal*. https://www.wsj.com/articles/sec-is-focusing-on-earnings-manipulation-by-companies-9bc2c592

Eberhardt-Toth, E. (2017). Who should be on a board corporate social responsibility committee? *Journal of Cleaner Production*, *140*, 1926–1935. https://doi.org/10.1016/j.jclepro.2016.08.127

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, *14*(1), 57–74. https://doi.org/10.5465/amr.1989.4279003

Elias, R. Z. (2004). The impact of corporate ethical values on perceptions of earnings management. *Managerial Auditing Journal*, *19*(1), 84–98. https://doi.org/10.1108/02686900410509839

Endrikat, J., de Villiers, C., Guenther, T. W., & Guenther, E. M. (2021). Board characteristics and corporate social responsibility: A meta-analytic investigation. *Business & Society*, *60*(8), 2099–2135.

Fama, E. F., & Jensen, M. C. (1983). Agency problems and residual claims. *The Journal of Law and Economics*, *26*(2), 327–349. https://doi.org/10.1086/467038

Fischer, M., & Rosenzweig, K. (1995). Attitudes of students and accounting practitioners concerning the ethical acceptability of earnings management. *Journal of Business Ethics*, *14*(6), 433–444. https://doi.org/10.1007/BF00872085

Flammer, C., Hong, B., & Minor, D. (2019). Corporate governance and the rise of integrating corporate social responsibility criteria in executive compensation: Effectiveness and implications for firm outcomes. *Strategic Management Journal*, *40*(7), 1097–1122. https://doi.org/10.1002/smj.3018

Foley, M. (2023, November 14). Businesses are struggling to find the right balance on sustainability reporting. *Forbes*. https://www.forbes.com/sites/maryfoley/2023/11/14/businesses-are-struggling-to-find-the-right-balance-on-sustainability-reporting/

Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.

Freeman, R. E. (2015). Stakeholder theory. In *Wiley Encyclopedia of Management* (pp. 1–6). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118785317.weom020179

Frey, S., Bar Am, J., Doshi, V., Malik, A., & Noble, S. (2023). *Consumers care about sustainability-and back it up with their wallets*. NielsenIQ and McKinsey & Company. https://nielseniq.com/global/en/insights/report/2023/consumers-care-about-sustainability-and-back-it-up-with-their-wallets/

García Lara, J. M., García Osma, B., & Penalva, F. (2020). Conditional conservatism and the limits to earnings management. *Journal of Accounting and Public Policy*, *39*(4), 106738. https://doi.org/10.1016/j.jaccpubpol.2020.106738

Garven, S. (2015). The effects of board and audit committee characteristics on real earnings management: Do boards and audit committees play a role in its promotion or constraint? *Academy of Accounting and Financial Studies Journal*, *19*(1), 67–84.

Gavious, I., Segev, E., & Yosef, R. (2012). Female directors and earnings management in high-technology firms. *Pacific Accounting Review*, *24*(1), 4–32. https://doi.org/10.1108/01140581211221533

Gerged, A. M., Albitar, K., & Al-Haddad, L. (2021). Corporate environmental disclosure and earnings management-The moderating role of corporate governance structures. *International Journal of Finance & Economics*, 1–22. https://doi.org/10.1002/ijfe.2564

Ghaleb, B. AA., Qaderi, S. A., Almashaqbeh, A., & Qasem, A. (2021). Corporate social responsibility, board gender diversity and real earnings management: The case of Jordan. *Cogent Business & Management*, *8*(1), 1883222.

Ghazali, A. W., Shafie, N. A., & Sanusi, Z. M. (2015). Earnings management: An analysis of opportunistic behaviour, monitoring mechanism and financial distress. *Procedia Economics and Finance*, *28*, 190–201. https://doi.org/10.1016/S2212-5671(15)01100-4

Gillan, S. L., Koch, A., & Starks, L. T. (2021). Firms and social responsibility: A review of ESG and CSR research in corporate finance. *Journal of Corporate Finance*, *66*, 101889. https://doi.org/10.1016/j.jcorpfin.2021.101889

Glover, S. H., Bumpus, M. A., Sharp, G. F., & Munchus, G. A. (2002). Gender differences in ethical decision making. *Women in Management Review*, *17*(5), 217–227. https://doi.org/10.1108/09649420210433175

Governance & Accountability Institute, Inc. (n.d.-a). *2018 flash report S&P 500*. https://www.ga-institute.com/research/ga-research-directory/sustainability-reporting-trends/2018-sp-500r-flash-report.html

Governance & Accountability Institute, Inc. (n.d.-b). *2023 sustainability reporting in focus*. https://www.ga-institute.com/fileadmin/ga_institute/images/FlashReports/2023/G_A-IN-FOCUS-Report-2023-Final.pdf

Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, *40*(1), 3–73. https://doi.org/10.1016/j.jacceco.2005.01.002

Gras-Gil, E., Palacios Manzano, M., & Hernández Fernández, J. (2016). Investigating the relationship between corporate social responsibility and earnings management: Evidence from Spain. *BRQ Business Research Quarterly*, *19*(4), 289–299. https://doi.org/10.1016/j.brq.2016.02.002

Grasso, L. P., Tilley, P. A., & White, R. A. (2009). The ethics of earnings management: Perceptions after Sarbanes-Oxley. *Management Accounting Quarterly*, *11*(1), 45–69.

Guidry, F., J. Leone, A., & Rock, S. (1999). Earnings-based bonus plans and earnings management by business-unit managers. *Journal of Accounting and Economics*, *26*(1), 113–142. https://doi.org/10.1016/S0165-4101(98)00037-8

Gull, A. A., Nekhili, M., Nagati, H., & Chtioui, T. (2018). Beyond gender diversity: How specific attributes of female directors affect earnings management. *The British Accounting Review*, *50*(3), 255–274. https://doi.org/10.1016/j.bar.2017.09.001

Gunny, K. A. (2010). The relation between earnings management using real activities manipulation and future performance: Evidence from meeting earnings benchmarks.

Contemporary Accounting Research, *27*(3), 855–888. https://doi.org/10.1111/j.1911-3846.2010.01029.x

Habbash, M., & Haddad, L. (2020). The impact of corporate social responsibility on earnings management practices: Evidence from Saudi Arabia. *Social Responsibility Journal*, *16*(8), 1073–1085. https://doi.org/10.1108/SRJ-09-2018-0232

Habib, A., Ranasinghe, D., Wu, J. Y., Biswas, P. K., & Ahmad, F. (2022). Real earnings management: A review of the international literature. *Accounting & Finance*, *62*(4), 4279–4344. https://doi.org/10.1111/acfi.12968

Hamilton, E., Hirsch, R., Murthy, U., & Rasso, J. (2018, November 1). The ethicality of earnings management. *Strategic Finance*. https://www.sfmagazine.com/articles/2018/november/the-ethicality-of-earnings-management/

Harakeh, M., El-Gammal, W., & Matar, G. (2019). Female directors, earnings management, and CEO incentive compensation: UK evidence. *Research in International Business and Finance*, *50*, 153–170. https://doi.org/10.1016/j.ribaf.2019.05.001

Harris, O., Karl, J. B., & Lawrence, E. (2019). CEO compensation and earnings management: Does gender really matters? *Journal of Business Research*, *98*, 1–14. https://doi.org/10.1016/j.jbusres.2019.01.013

Hatten, K. J., Keeler, J. P., James, W. L., & Kim, K. (2020). Reflecting on the methods used in KLD research. *The Journal of Business and Economic Studies*, *24*(1), 1–32.

Hay, R., & Gray, E. (1974). Social responsibilities of business managers. *Academy of Management Journal*, *17*(1), 135–143. https://doi.org/10.5465/254777

Healy, P. M. (1985). The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics*, *7*(1), 85–107. https://doi.org/10.1016/0165-4101(85)90029-1

Healy, P. M., & Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting Horizons*, *13*(4), 365–383. https://doi.org/10.2308/acch.1999.13.4.365

Ho, L.-C. J., Liao, Q., & Taylor, M. (2015). Real and accrual-based earnings management in the pre- and post-IFRS periods: Evidence from China. *Journal of International Financial Management & Accounting*, *26*(3), 294–335. https://doi.org/10.1111/jifm.12030

Hoffman, R. C. (2007). Corporate social responsibility in the 1920s: An institutional perspective. *Journal of Management History*, *13*(1), 55–73. https://doi.org/10.1108/17511340710715179

Hong, B., Li, Z., & Minor, D. (2016). Corporate governance and executive compensation for corporate social responsibility. *Journal of Business Ethics*, *136*(1), 199–213. https://doi.org/10.1007/s10551-015-2962-0

Hong, Y., & Andersen, M. L. (2011). The relationship between corporate social responsibility and earnings management: An exploratory study. *Journal of Business Ethics*, *104*(4), 461–471. https://doi.org/10.1007/s10551-011-0921-y

Ikram, A., Li, Z. (Frank), & Minor, D. (2019). CSR-contingent executive compensation contracts. *Journal of Banking & Finance*, 105655. https://doi.org/10.1016/j.jbankfin.2019.105655

Ipino, E., & Parbonetti, A. (2017). Mandatory IFRS adoption: The trade-off between accrual-based and real earnings management. *Accounting and Business Research*, *47*(1), 91–121. https://doi.org/10.1080/00014788.2016.1238293

Javaid, H. M., Ain, Q. U., & D'Ecclesia, R. (2023). Female directors in the boardroom and intellectual capital performance: Does the "critical mass" matter? *Financial Innovation*, *9*(1), 74. https://doi.org/10.1186/s40854-023-00476-4

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305–360.

Jiang, H., Habib, A., & Wang, S. (2018). Real earnings management, institutional environment, and future operating performance: An international study. *The International Journal of Accounting*, *53*(1), 33–53. https://doi.org/10.1016/j.intacc.2018.02.004

Jin, K. G., & Drozdenko, R. G. (2010). Relationships among perceived organizational core values, corporate social responsibility, ethics, and organizational performance outcomes: An empirical study of information technology professionals. *Journal of Business Ethics*, *92*(3), 341–359. https://doi.org/10.1007/s10551-009-0158-1

Johnson & Johnson. (2023). *Form DEF 14A 2023*. https://johnsonandjohnson.gcs-web.com/node/51421/html

Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review*, *20*(2), 404–437. https://doi.org/10.5465/amr.1995.9507312924

Kanter, R. M. (1977). Some effects of proportions on group life: Skewed sex ratios and responses to token women. *American Journal of Sociology*, *82*(5), 965–990. https://doi.org/10.1086/226425

Kaplan, S. E. (2001). Ethically related judgments by observers of earnings management. *Journal of Business Ethics*, *32*(4), 285–298. https://doi.org/10.1023/A:1010600802029

Khenissi, M., Jahmane, A., & Hofaidhllaoui, M. (2022). Does the introduction of CSR criteria into CEO incentive pay reduce their earnings management? The case of companies listed in the SBF 120. *Finance Research Letters*, *48*, 102880. https://doi.org/10.1016/j.frl.2022.102880

Kim, J. H., Lee, S. H., & Keun Yoo, Y. (2020). Real earnings management and the cost of debt capital: International evidence. *Asia-Pacific Journal of Accounting & Economics*, *27*(2), 151–172. https://doi.org/10.1080/16081625.2018.1518148

Kim, J.-B., & Sohn, B. C. (2013). Real earnings management and cost of capital. *Journal of Accounting and Public Policy*, *32*(6), 518–543. https://doi.org/10.1016/j.jaccpubpol.2013.08.002

Kim, Y., & Park, M. S. (2014). Real activities manipulation and auditors' client-retention decisions. *The Accounting Review*, *89*(1), 367–401. https://doi.org/10.2308/accr-50586

Kim, Y., Park, M. S., & Wier, B. (2012). Is earnings quality associated with corporate social responsibility? *The Accounting Review*, *87*(3), 761–796. https://doi.org/10.2308/accr-10209

Kumala, R., & Siregar, S. V. (2021). Corporate social responsibility, family ownership and earnings management: The case of Indonesia. *Social Responsibility Journal*, *17*(1), 69–86. https://doi.org/10.1108/SRJ-09-2016-0156

Kuo, J.-M., Ning, L., & Song, X. (2014). The real and accrual-based earnings management behaviors: Evidence from the split share structure reform in China. *The International Journal of Accounting*, *49*(1), 101–136. https://doi.org/10.1016/j.intacc.2014.01.001

Kuo, Y.-F., Lin, Y.-M., & Chien, H.-F. (2021). Corporate social responsibility, enterprise risk management, and real earnings management: Evidence from managerial confidence. *Finance Research Letters*, *41*, 101805. https://doi.org/10.1016/j.frl.2020.101805

Laksmana, I., & Yang, Y. (2014). Product market competition and earnings management: Evidence from discretionary accruals and real activity manipulation. *Advances in Accounting*, *30*(2), 263–275. https://doi.org/10.1016/j.adiac.2014.09.003

Lamb, L., Wright, J., Morlino, S., & Boyle, D. (2022, May 1). The SEC's EPS initiative. *Strategic Finance*. https://www.sfmagazine.com/articles/2022/may/the-secs-eps-initiative/

Lambert, R. A. (2001). Contracting theory and accounting. *Journal of Accounting and Economics*, *32*(1), 3–87. https://doi.org/10.1016/S0165-4101(01)00037-4

Lee, M.-D. P. (2008). A review of the theories of corporate social responsibility: Its evolutionary path and the road ahead. *International Journal of Management Reviews*, *10*(1), 53–73. https://doi.org/10.1111/j.1468-2370.2007.00226.x

Li, Z., & Thibodeau, C. (2019). CSR-contingent executive compensation incentive and earnings management. *Sustainability*, *11*(12), 3421.

Liao, L., Luo, L., & Tang, Q. (2015). Gender diversity, board independence, environmental committee and greenhouse gas disclosure. *The British Accounting Review*, *47*(4), 409–424. https://doi.org/10.1016/j.bar.2014.01.002

Liu, G., & Sun, J. (2022). The impact of COVID-19 pandemic on earnings management and the value relevance of earnings: US evidence. *Managerial Auditing Journal*, *37*(7), 850–868. https://doi.org/10.1108/MAJ-05-2021-3149

Maas, K. (2018). Do corporate social performance targets in executive compensation contribute to corporate social performance? *Journal of Business Ethics*, *148*(3), 573–585. https://doi.org/10.1007/s10551-015-2975-8

Maglio, R., Rey, A., Agliata, F., & Lombardi, R. (2020). Connecting earnings management and corporate social responsibility: A renewed perspective. *Corporate Social Responsibility and Environmental Management*, *27*(2), 1108–1116. https://doi-org.marshall.idm.oclc.org/10.1002/csr.1868

Mahoney, L. S., & Thorn, L. (2006). An examination of the structure of executive compensation and corporate social responsibility: A Canadian investigation. *Journal of Business Ethics*, *69*(2), 149–162. https://doi.org/10.1007/s10551-006-9073-x

Maurer, M. (2023, June 12). Companies quiet diversity and sustainability talk amid culture war boycotts. *Wall Street Journal*. https://www.wsj.com/articles/executives-quiet-their-sustainability-talk-on-earnings-calls-amid-growing-culture-war-3a358c1f

Merchant, K. A., & Rockness, J. (1994). The ethics of managing earnings: An empirical investigation. *Journal of Accounting and Public Policy*, *13*(1), 79–94. https://doi.org/10.1016/0278-4254(94)90013-2

Moura-Leite, R. C., & Padgett, R. C. (2011). Historical background of corporate social responsibility. *Social Responsibility Journal*, *7*(4), 528–539. https://doi.org/10.1108/17471111111117511

Noreen, E. (1988). The economics of ethics: A new perspective on agency theory. *Accounting, Organizations and Society*, *13*(4), 359–369. https://doi.org/10.1016/0361-3682(88)90010-4

Oh, S., Hong, A., & Hwang, J. (2017). An analysis of CSR on firm financial performance in stakeholder perspectives. *Sustainability*, *9*(6), Article 6. https://doi.org/10.3390/su9061023

Okafor, A., Adeleye, B. N., & Adusei, M. (2021). Corporate social responsibility and financial performance: Evidence from U.S tech firms. *Journal of Cleaner Production*, *292*, 126078. https://doi.org/10.1016/j.jclepro.2021.126078

Orazalin, N. (2020). Board gender diversity, corporate governance, and earnings management: Evidence from an emerging market. *Gender in Management: An International Journal*, *35*(1), 37–60. https://doi.org/10.1108/GM-03-2018-0027

Ortas, E., Álvarez, I., & Zubeltzu, E. (2017). Firms' board independence and corporate social performance: A meta-analysis. *Sustainability*, *9*(6), Article 6. https://doi.org/10.3390/su9061006

P, G. K., Subroto, B., T, S., & Saraswati, E. (2020). Explaining the complexity relationship of CSR and financial performance using neo-institutional theory. *Journal of Asian Business and Economic Studies*, *27*(3), 227–244. https://doi.org/10.1108/JABES-10-2019-0106

Pappas, K., Walsh, E., & Xu, A. L. (2019). Real earnings management and loan contract terms. *The British Accounting Review*, *51*(4), 373–401. https://doi.org/10.1016/j.bar.2019.03.002

Phillips, R., Freeman, R. E., & Wicks, A. C. (2003). What stakeholder theory is not. *Business Ethics Quarterly*, *13*(4), 479–502. https://doi.org/10.5840/beq200313434

Prior, D., Surroca, J., & Tribó, J. A. (2008). Are socially responsible managers really ethical? Exploring the relationship between earnings management and corporate social

responsibility. *Corporate Governance: An International Review*, *16*(3), 160–177. https://doi.org/10.1111/j.1467-8683.2008.00678.x

Radu, C., & Smaili, N. (2022). Alignment versus monitoring: An examination of the effect of the CSR committee and CSR-linked executive compensation on CSR performance. *Journal of Business Ethics*, *180*(1), 145–163. https://doi.org/10.1007/s10551-021-04904-2

Ronen, J., & Yaari, V. (2008). *Earnings management: Emerging insights in theory, practice, and research*. Springer. https://link.springer.com/book/10.1007/978-0-387-25771-6

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics*, *42*(3), 335–370. https://doi.org/10.1016/j.jacceco.2006.01.002

S&P Dow Jones Indices. (n.d.). *S&P 500®*. Retrieved June 6, 2023, from https://www.spglobal.com/spdji/en/indices/equity/sp-500/

Salvioni, D. M., & Gennari, F. (2019). *Stakeholder perspective of corporate governance and CSR committees* (SSRN Scholarly Paper 3523684). https://papers.ssrn.com/abstract=3523684

Schipper, K. (1989). Earnings management. *Accounting Horizons*, *3*(4), 91–102.

Scholtens, B., & Kang, F. (2013). Corporate social responsibility and earnings management: Evidence from Asian economies. *Corporate Social Responsibility & Environmental Management*, *20*(2), 95–112. https://doi.org/10.1002/csr.1286

Scott, W. R. (2015). *Financial accounting theory.* (7th ed.). Pearson.

Shapiro, S. P. (2005). Agency theory. *Annual Review of Sociology*, *31*(1), 263–284. https://doi.org/10.1146/annurev.soc.31.041304.122159

Sial, M. S., Chunmei, Z., & Khuong, N. V. (2019). Do female and independent directors explain the two-way relationship between corporate social responsibility and earnings management of Chinese listed firms? *International Journal of Accounting & Information Management*, *27*(3), 442–460. https://doi.org/10.1108/IJAIM-03-2018-0027

Singh, K., & Misra, M. (2021). Linking corporate social responsibility (CSR) and organizational performance: The moderating effect of corporate reputation. *European Research on Management and Business Economics*, *27*(1), 100139. https://doi.org/10.1016/j.iedeen.2020.100139

Sitanggang, R. P., Karbhari, Y., Matemilola, B. T., & Ariff, M. (2020). Audit quality and real earnings management: Evidence from the UK manufacturing sector. *International Journal of Managerial Finance*, *16*(2), 165–181. https://doi.org/10.1108/IJMF-03-2018-0095

Spencer Stuart. (n.d.). *2022 S&P 500 board diversity snapshot*. https://www.spencerstuart.com/-/media/2022/june/diversitysnapshot/sp500_board_diversity_snapshot_2022.pdf

Srivastava, A. (2019). Improving the measures of real earnings management. *Review of Accounting Studies*, *24*(4), 1277–1316. https://doi.org/10.1007/s11142-019-09505-z

Stobierski, T. (2021, April 8). Types of corporate social responsibility to be aware of. *Business Insights Blog*. https://online.hbs.edu/blog/post/types-of-corporate-social-responsibility

Suganthi, L. (2019). Examining the relationship between corporate social responsibility, performance, employees' pro-environmental behavior at work with green practices as mediator. *Journal of Cleaner Production*, *232*, 739–750. https://doi.org/10.1016/j.jclepro.2019.05.295

Toukabri, M., & Kateb, I. (2022). The bidirectional relationship between corporate social responsibility and financial reporting quality: Does gender diversity matter? Evidence from US companies. *Journal of Corporate Accounting & Finance*. https://doi.org/10.1002/jcaf.22603

U.S. Bureau of Labor Statistics. (2022). *Changes to consumer expenditures during the COVID-19 pandemic.* The Economics Daily. https://www.bls.gov/opub/ted/2022/changes-to-consumer-expenditures-during-the-covid-19-pandemic.htm

U.S. Securities and Exchange Commission. (2023, February 7). *SEC charges Gentex and chief financial officer in connection with EPS initiative*. https://www.sec.gov/enforce/34-96819-s

Velte, P. (2019). Does board composition influence CSR reporting? A meta-analysis. *Corporate Ownership and Control*, *16*(2), 48–59. https://doi.org/10.22495/cocv16i2art5

Velte, P. (2022). Meta-analyses on corporate social responsibility (CSR): A literature review. *Management Review Quarterly*, *72*(3), 627–675. https://doi.org/10.1007/s11301-021-00211-2

Velte, P., & Stawinoga, M. (2020). Do chief sustainability officers and CSR committees influence CSR-related outcomes? A structured literature review based on empirical-quantitative research findings. *Journal of Management Control*, *31*(4), 333–377. https://doi.org/10.1007/s00187-020-00308-x

Wallich, H. C., & McGowan, J. J. (1970). Stockholder interest and the corporation's role in social policy. In *A new rationale for corporate social responsibility* (Supplementary paper no. 31, pp. 39–59). Committee for Economic Development. https://www.conference-board.org/us/committee-economic-development

Whited, R. L., Swanquist, Q. T., Shipman, J. E., & Moon, J. R., Jr. (2022). Out of control: The (over) use of controls in accounting research. *The Accounting Review*, *97*(3), 395–413. https://doi.org/10.2308/TAR-2019-0637

Whoriskey, N. (2019, December 17). *SEC cracks down on earnings management*. Harvard Law School Forum on Corporate Governance. https://corpgov.law.harvard.edu/2019/12/17/sec-cracks-down-on-earnings-management/

Xu, R. Z., Taylor, G. K., & Dugan, M. T. (2007). Review of real earnings management literature. *Journal of Accounting Literature*, *26*, 195–228.

Zalata, A. M., Ntim, C., Aboud, A., & Gyapong, E. (2019). Female CEOs and core earnings quality: New evidence on the ethics versus risk-aversion puzzle. *Journal of Business Ethics*, *160*, 515–534. https://doi.org/10.1007/978-3-031-18794-0_12

Zubeltzu-Jaka, E., Álvarez-Etxeberria, I., & Ortas, E. (2020). The effect of the size of the board of directors on corporate social performance: A meta-analytic approach. *Corporate Social Responsibility and Environmental Management*, *27*(3), 1361–1374. https://doi.org/10.1002/csr.1889

Appendix A: IRB Approval Letter

MARSHALL UNIVERSITY
www.marshall.edu

Office of Research Integrity

February 26, 2024

Rachel Brassine
2307 Kathleen Dr.
Greenville, NC 27858

Dear Rachel,

This letter is in response to the submitted dissertation abstract titled *"An Analysis of Corporate Social Responsibility and Real Earnings Management."* After assessing the abstract, it has been deemed not to be human subject research and therefore exempt from oversight by the Marshall University Institutional Review Board (IRB). The Code of Federal Regulations (45CFR46) has set forth the criteria utilized in making this determination. Since the study does not involve human subjects as defined in DHHS regulation 45 CFR §46.102(e) it is not considered human subject research. If there are any changes to the abstract, you provided then you would need to resubmit that information to the Office of Research Integrity for review and determination.

I appreciate your willingness to submit the abstract for determination. Please feel free to contact the Office of Research Integrity if you have any questions regarding future protocols that may require IRB review.

Sincerely,

Bruce F. Day, ThD, CIP
Director

Appendix B: Tables

Table B1: Summary of Variables

Variable	Definition
Dependent Variables	
COMB_REM	Aggregate of real earnings manipulation proxies as measured by AB_CFO, AB_PROD, and AB_EXP
AB_CFO	Abnormal level of cash flows from operations
AB_PROD	Abnormal level of production costs as defined by cost of goods sold plus the change in inventories
AB_EXP	Abnormal level of discretionary expenses as defined by sum of R&D expenses, advertising expenses, and selling, general, and administrative expenses
Independent Variables	
CSR_Score	Net score of CSR rating from CSRHub rating data for the community, employees, environment, and governance dimensions
CSR_Comp	Indicator variable where 1 denotes the presence CSR-linked executive compensation, 0 indicating no such compensation
Moderating Variables	
CMPerFem	Indicator variable where 1 denotes the presence of critical mass of females on the board of directors (greater than 35%), 0 otherwise
CSR_Committee	Indicator variable where 1 represents the presence of a CSR committee, 0 denotes the absence of a CSR committee
Control Variables	
Firm_Size	Natural logarithm of market value of equity
Firm_Age	1 plus number of years since first appeared in Compustat database
Lev	Long-term liabilities divided by total assets
ROA	Profit after tax divided by total assets
Robustness Test Variables	
CSR_COMM	Community subscore of CSRHub score
CSR_EMP	Employees subscore of CSRHub score
CSR_ENV	Environment subscore of CSRHub score
CSR_GOV	Governance subscore of CSRHub score

Table B2: Sample Selection

	Company Count	Observation Years (6 each company)
Listed on S&P 500 each year	505	
Removed for not being on S&P 500 for all years	-102	
Listed on S&P 500 each year for 2017-2022	403	2,418
Remove missing data from Compustat	-17	-102
Remove missing CSR scores	-5	-30
Remove missing proxy data	-37	-222
Remove financial institutions	-76	-456
Total	268	1,608

Table B3: Sample Description: Distribution of Firm-Year Observations by Two-Digit Standard Industrial Classification (SIC) Code

Industry	Two-Digit SIC	# of Obs.	% of Sample	Cumulative Percent
Metal Mining, Ores	10	12	0.74%	0.74%
Oil and Gas	13	60	3.72%	4.46%
Nonmetallic Minerals, Except Fuels	14	12	0.74%	5.20%
General Building Contractors	15	18	1.12%	6.32%
Special Trade Contractors	17	6	0.37%	6.69%
Food, Beverage	20	96	5.95%	12.64%
Tobacco Products	21	12	0.74%	13.38%
Textile Mill Products	22	6	0.37%	13.75%
Apparel and Other Textile Products	23	18	1.12%	14.87%
Lumber and Wood Products	24	6	0.37%	15.24%
Paper and Allied Products	26	24	1.49%	16.73%
Printing and Publishing	27	6	0.37%	17.10%
Chemicals and Allied Products	28	162	10.04%	27.14%
Petroleum and Coal Products	29	24	1.49%	28.62%
Rubber and Misc Plastic Products	30	12	0.74%	29.37%
Leather and Leather Products	31	6	0.37%	29.74%
Primary Metal Industries	33	6	0.37%	30.11%
Fabricated Metal Products	34	24	1.49%	31.60%
Industrial Machinery and Computer Equipment	35	108	6.69%	38.29%
Electronic and Other Electronic Equipment	36	90	5.58%	43.87%
Transportation Equipment	37	54	3.35%	47.21%
Instruments and Related Products	38	132	8.18%	55.39%
Railroad Transportation	40	18	1.12%	56.51%
Trucking and Warehousing	42	18	1.12%	57.62%
Water Transportation	44	12	0.74%	58.36%
Air Transportation	45	36	2.23%	60.59%
Transportation Services	47	6	0.37%	60.97%
Communications	48	30	1.86%	62.83%
Electric, Gas, and Sanitary Services	49	186	11.52%	74.35%
Wholesale Trade – Durable Goods	50	24	1.49%	75.84%
Wholesale Trade – Nondurable Goods	51	18	1.12%	76.95%
Building Materials and Garden Supplies	52	18	1.12%	78.07%
General Merchandise Stores	53	30	1.86%	79.93%
Automotive Dealers and Service Stations	55	24	1.49%	81.41%
Apparel and Accessory Stores	56	18	1.12%	82.53%
Furniture and Home furnishings Stores	57	6	0.37%	82.90%
Eating and Drinking Places	58	24	1.49%	84.39%
Miscellaneous Retail	59	24	1.49%	85.87%

Industry	Two-Digit SIC	# of Obs.	% of Sample	Cumulative Percent
Hotels and Other Lodging Places	70	6	0.37%	86.25%
Personal Services	72	6	0.37%	86.62%
Business Services	73	156	9.67%	96.28%
Motion Pictures	78	6	0.37%	96.65%
Amusement and Recreation Services	79	6	0.37%	97.03%
Health Services	80	30	1.86%	98.88%
Engineering and Management Services	87	6	0.37%	99.26%
Other	99	12	0.74%	100.00%

Table B4: Descriptive Statistics for Full Sample

	n	Mean	Std. Dev	25th Percentile	75th Percentile
Dependent Variables:					
Comb_REM	1,614	0.479	0.221	0.347	0.537
AB_CFO	1,614	-0.024	0.034	-0.045	-0.015
AB_Prod	1,614	0.650	0.507	0.334	0.792
AB_Exp	1,614	-0.147	0.353	-0.247	0.073
Independent Variables:					
CMPerFem	1,614	0.234	0.423	0.000	0.000
CSR_Score	1,614	55.396	5.579	51.669	59.794
CSR_Committee	1,614	0.682	0.466	0.000	1.000
CSR_Comp	1,614	0.218	0.413	0.000	0.000
Control Variables:					
Firm_Age	1,614	49.071	20.339	31.000	72.000
Firm_Size	1,610	10.445	1.012	9.688	11.012
Lev	1,612	0.323	0.161	0.215	0.404
ROA	1,614	0.075	0.069	0.032	0.114

Table B5: Descriptive Statistics by Groups

Panel A: Descriptive Statistics for Company Years with CSR score above mean (high) and below mean (low)

	High CSR Companies		Low CSR Companies		
	n	Mean	n	Mean	p-value of t-test
Dependent Variables:					
Comb_REM	872	0.460	742	0.501	<0.001
AB_CFO	872	-0.027	742	-0.021	0.001
AB_Prod	872	0.610	742	0.696	<0.001
AB_Exp	872	-0.124	742	-0.174	0.004
Independent Variables:					
CMPerFem	872	0.306	742	0.271	<0.001
CSR_Score	872	59.618	742	50.434	<0.001
CSR_Committee	872	0.774	742	0.573	<0.001
CSR_Comp	872	0.258	742	0.171	<0.001

Panel B: Descriptive Statistics for Company Years with and without CSR-linked executive compensation

	CSR Compensation		No CSR Compensation		
	n	Mean	n	Mean	p-value of t-test
Dependent Variables:					
Comb_REM	352	0.416	1,262	0.496	<0.001
AB_CFO	352	-0.039	1,262	-0.020	<0.001
AB_Prod	352	0.430	1,262	0.711	<0.001
AB_Exp	352	0.025	1,262	-0.195	<0.001
Independent Variables:					
CMPerFem	352	0.264	1,262	0.225	0.125
CSR_Score	352	56.884	1,262	54.981	<0.001
CSR_Committee	352	0.906	1,262	0.619	<0.001

Panel C: Descriptive Statistics for Company Years with and without a Critical Mass of Females

	CM Females Present		CM Females Not Present		
	n	Mean	n	Mean	p-value of t-test
Dependent Variables:					
Comb_REM	377	0.505	1,237	0.471	0.009
AB_CFO	377	-0.022	1,237	-0.025	0.093
AB_Prod	377	0.692	1,237	0.637	0.066
AB_Exp	377	-0.165	1,237	-0.141	0.241
Independent Variables:					
CSR_Score	377	57.448	1,237	54.771	<0.001
CSR_Committee	377	0.814	1,237	0.641	<0.001
CSR_Comp	377	0.247	1,237	0.209	0.125

Panel D: Descriptive Statistics for Company Years with and without a board-level CSR Committee

	CSR Committee		No CSR Committee		
	n	Mean	n	Mean	p-value of t-test
Dependent Variables:					
Comb_REM	1,100	0.467	514	0.503	0.003
AB_CFO	1,100	-0.027	514	-0.019	<0.001
AB_Prod	1,100	0.615	514	0.724	<0.001
AB_Exp	1,100	-0.121	514	-0.202	<0.001
Independent Variables:					
CMPerFem	1,100	0.279	514	0.136	<0.001
CSR_Score	1,100	56.375	514	53.301	<0.001
CSR_Comp	1,100	0.290	514	0.064	<0.001

Table B6: Correlations Among Regression Variables

	1	2	3	4	5	6	7	8	9
1. Comb_REM	1.0000								
2. AB_CFO	0.8869*	1.0000							
3. AB_Prod	0.9084*	0.9975*	1.0000						
4. AB_Exp	-0.7646*	-0.9741*	-0.9640*	1.0000					
5. CSR_Score	-0.1110*	-0.0925*	-0.0974*	0.0794*	1.0000				
6. CSR_Comp	-0.1501*	-0.2351*	-0.2284*	0.2568*	0.1409*	1.0000			
7. CSR_Committee	-0.0751*	-0.1009*	-0.1002*	0.1066*	0.2568*	0.2547*	1.0000		
8. CMPerFem	0.0648*	0.0419	0.0458	-0.0292	0.2031*	0.0382	0.1574*	1.0000	
9. ScoreXFem	0.0442	0.0477	0.0492**	-0.0476	0.5186*	0.1004*	0.2560*	0.7428*	1.0000
10. CompXFem	-0.1305*	-0.2101*	-0.2032*	0.2305*	0.1622*	0.9517*	0.2594*	0.1505*	0.2260*
11. ScoreXComm	-0.0859*	-0.1072*	-0.1072*	0.1106*	0.3745*	0.2622*	0.9872*	0.1870*	0.3206*
12. CompXComm	-0.1365*	-0.2188*	-0.2124*	0.2408*	0.1401*	0.9398*	0.3393*	0.0606**	0.1225*
13. Firm_Size	0.0297	-0.0329	-0.0236	0.0556**	0.3420*	0.0684*	0.1373*	0.0641**	0.1768*
14. Firm_Age	-0.1667*	-0.1281*	-0.1371*	0.1050*	0.3008*	0.2338*	0.1178*	0.0013	0.0830*
15. Lev	-0.1510*	-0.1155*	-0.1231*	0.0934*	0.0057	0.0201	0.0125	0.0079	0.0030
16. ROA	0.3643*	0.2950*	0.3089*	-0.2442*	0.0145	-0.1747*	-0.1247*	-0.0197	0.0214*

Table B6: Continued

	10	11	12	13	14	15	16
10. CompXFem	1.0000						
11. ScoreXComm	0.2716*	1.0000					
12. CompXComm	0.9142*	0.3461*	1.0000				
13. Firm_Size	0.0791*	0.1807*	0.0823*	1.0000			
14. Firm_Age	0.2238*	0.1561*	0.2033*	0.0909*	1.0000		
15. Lev	-0.0104	0.0109	0.0042	-0.0395	-0.0237	1.0000	
16. ROA	-0.1458*	-0.1169*	-0.1549*	0.2152*	-0.1733*	-0.0821*	1.0000

The * and ** indicate statistical significance based on a two-tailed test at the 0.01 and 0.05 levels, respectively.

Table B7: Regression Results of CSR Score and CSR-Linked Compensation on REM

Panel A: Combined REM

	Equation (5a)		Equation (6a)		Equation (7a)	
	All Company Years (n=1,608)		All Company Years (n=1,608)		All Company Years (n=1,608)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	-0.0034	0.120			-0.0032	0.133
CSR_Comp			-0.0347	0.174	-0.0321	0.201
Firm_Size	-0.0020	0.883	-0.0068	0.602	-0.0012	0.928
Firm_Age	-0.0009	0.098	-0.0010	0.079	-0.0008	0.137
Lev	-0.1712	0.060	-0.1730	0.055	-0.1703	0.058
ROA	**1.0913**	0.002	**1.0624**	0.003	**1.0631**	0.002
_cons	**0.7038**	0.004	**0.5822**	0.007	**0.6896**	0.005

Panel B: Abnormal Cash Flow

	Equation (5b)		Equation (6b)		Equation (7b)	
	All Company Years (n=1,608)		All Company Years (n=1,608)		All Company Years (n=1,608)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	-0.0003	0.368			-0.0002	0.474
CSR_Comp			**-0.0142**	0.007	**-0.0140**	0.008
Firm_Size	-0.0025	0.314	-0.0025	0.252	-0.0021	0.368
Firm_Age	-0.0001	0.281	-0.0001	0.494	0.0000	0.631
Lev	-0.0200	0.180	-0.0198	0.170	-0.0196	0.176
ROA	**0.0144**	0.003	**0.1315**	0.005	**0.1315**	0.005
_cons	0.0190	0.414	0.0047	0.831	0.0128	0.572

Table B7: continued

Panel C: Abnormal Production Costs

	Equation (5c)		Equation (6c)		Equation (7c)	
	All Company Years (n=1,608)		All Company Years (n=1,608)		All Company Years (n=1,608)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	-0.0053	0.312			-0.0043	0.399
CSR_Comp			**-0.1989**	0.011	**-0.1954**	0.012
Firm_Size	-0.0321	0.373	-0.0348	0.289	-0.0274	0.433
Firm_Age	-0.0015	0.230	-0.0011	0.373	-0.0008	0.508
Lev	-0.3192	0.154	-0.3176	0.144	-0.3141	0.150
ROA	**2.2251**	0.002	**2.0527**	0.004	**2.0537**	0.004
_cons	**1.2892**	0.010	**1.0584**	0.019	**1.2026**	0.013

Panel D: Abnormal Discretionary Expenses

	Equation (5d)		Equation (6d)		Equation (7d)	
	All Company Years (n=1,608)		All Company Years (n=1,608)		All Company Years (n=1,608)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	0.0022	0.535			0.0013	0.703
CSR_Comp			**0.1783**	0.003	**0.1772**	0.003
Firm_Size	0.0326	0.217	0.0306	0.196	0.0282	0.264
Firm_Age	0.0007	0.408	0.0001	0.857	0.0001	0.948
Lev	0.1680	0.268	0.1645	0.259	0.1633	0.264
ROA	**-1.2776**	0.018	**-1.1218**	0.028	**-1.1221**	0.028
_cons	**-0.0644**	0.043	-0.4808	0.079	-0.0526	0.066

Table B8: Regression Results of CSR Score and CSR-Linked Compensation on REM Moderated by Critical Mass of Females

Panel A: Combined REM

	Equation (8a)		Critical Mass by Percent			
	All Company Years (n=1,608)		Company Years with (n=376)		Company Years without (n=1232)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	**-0.0044**	0.036	-0.0019	0.643	**-0.0047**	0.022
CSR_Comp	-0.0246	0.290	-0.0498	0.291	-0.0280	0.238
CMPerFem	-0.0453	0.829				
ScoreXFem	0.0012	0.717				
CompXFem	0.0329	0.399				
Firm_Size	-0.0011	0.938	-0.0147	0.550	0.0029	0.836
Firm_Age	-0.0007	0.174	-0.0010	0.340	-0.0006	0.218
Lev	-0.1738	0.058	-0.2574	0.201	-0.1516	0.091
ROA	**1.0741**	0.002	**1.3184**	0.005	**1.0091**	0.003
_cons	**0.7344**	0.003	**0.8219**	0.029	**0.7032**	0.005

Note: The interaction term of CSR_Score and CMPerFem (ScoreXFem) is highly correlated with CMPerFem at 99.46%.

Table B8: continued

Panel B: Abnormal Cash Flow

	Equation (8b)		Critical Mass by Percent			
	All Company Years (n=1,608)		Company Years with (n=376)		Company Years without (n=1232)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	-0.0005	0.135	0.0003	0.720	-0.0005	0.123
CSR_Comp	**-0.0130**	0.009	-0.0180	0.063	**-0.0132**	0.009
CMPerFem	-0.0355	0.350				
ScoreXFem	0.0007	0.290				
CompXFem	0.0041	0.534				
Firm_Size	-0.0021	0.379	-0.0033	0.357	-0.0017	0.520
Firm_Age	0.0000	0.701	0.0000	0.900	0.0000	0.682
Lev	-0.0203	0.171	-0.0399	0.285	-0.0154	0.271
ROA	**0.1325**	0.005	**0.1363**	0.047	**0.1305**	0.004
_cons	0.0239	0.332	0.0066	0.872	0.0199	0.441

Note: The interaction term of CSR_Score and CMPerFem (ScoreXFem) is highly correlated with CMPerFem at 99.46%.

Table B8: continued

Panel C: Abnormal Production Costs

	Equation (8c)		Critical Mass by Percent			
	All Company Years (n=1,608)		Company Years with (n=376)		Company Years without (n=1232)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	-0.0079	0.111	0.0026	0.818	-0.0081	0.098
CSR_Comp	**-0.1808**	0.012	-0.2517	0.077	**-0.1840**	0.010
CMPerFem	-0.4645	0.413				
ScoreXFem	0.0089	0.340				
CompXFem	0.0612	0.520				
Firm_Size	-0.0264	0.444	-0.0468	0.398	-0.0209	0.590
Firm_Age	-0.0007	0.580	-0.0006	0.816	-0.0007	0.566
Lev	-0.3234	0.147	-0.6016	0.275	-0.2533	0.229
ROA	**2.0700**	0.004	**2.1968**	0.037	**2.0224**	0.003
_cons	**1.3594**	0.009	1.1664	0.111	**1.3000**	0.014

Note: The interaction term of CSR_Score and CMPerFem (ScoreXFem) is highly correlated with CMPerFem at 99.46%.

Table B8: continued

Panel D: Abnormal Discretionary Expenses

	Equation (8d)		Critical Mass by Percent			
	All Company Years (n=1,608)		Company Years with (n=376)		Company Years without (n=1232)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	0.0040	0.228	-0.0048	0.569	0.0040	0.228
CSR_Comp	**0.1691**	0.003	**0.2200**	0.041	**0.1692**	0.003
CMPerFem	0.4547	0.271				
ScoreXFem	-0.0084	0.226				
CompXFem	-0.0325	0.630				
Firm_Size	0.0274	0.274	0.0354	0.338	0.0256	0.381
Firm_Age	0.0000	0.989	-0.0004	0.829	0.0001	0.892
Lev	0.1698	0.256	0.3841	0.328	0.1172	0.400
ROA	**-1.1284**	0.030	-1.0147	0.150	**-1.1438**	0.026
_cons	**-0.6489**	0.040	-0.3511	0.418	-0.6167	0.062

Note: The interaction term of CSR_Score and CMPerFem (ScoreXFem) is highly correlated with CMPerFem at 99.46%.

Table B9: Regression Results of CSR Score, CSR-Linked Compensation, and Critical Mass of Females on REM Moderated by Presence of a Board-Level CSR Committee

Panel A: Combined REM

	Equation (9a)		CSR Committee			
	All Company Years (n=1,608)		Company Years with (n=1096)		Company Years without (n=512)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	-0.0035	0.118	-0.0030	0.225	-0.0037	0.108
CSR_Comp	-0.0213	0.663	-0.0303	0.165	-0.0404	0.437
CSR_Committee	-0.0000	1.000				
ScoreXComm	0.0002	0.931				
CompXComm	-0.0145	0.733				
Firm_Size	-0.0015	0.912	-0.0089	0.490	0.0098	0.656
Firm_Age	-0.0008	0.136	-0.0007	0.153	-0.0007	0.365
Lev	-0.1709	0.057	-0.1423	0.129	**-0.1965**	0.041
ROA	**1.0712**	0.003	**1.3316**	0.001	**0.6656**	0.027
_cons	**0.7014**	0.003	**0.7326**	0.009	**0.6385**	0.015

Note: The interaction term of CSR_Score and CSR_Committee (ScoreXComm) is highly correlated with CSR_Committee at 98.72%. The interaction term of Comp and CSR_Committee (CompXComm) is highly correlated with Comp at 93.98%.

Table B9: continued

Panel B: Abnormal Cash Flow

	Equation (9b)		CSR Committee			
	All Company Years (n=1,608)		Company Years with (n=1096)		Company Years without (n=512)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	-0.0003	0.309	-0.0002	0.678	-0.0003	0.340
CSR_Comp	-0.0131	0.068	**-0.0137**	0.010	-0.0151	0.058
CSR_Committee	-0.0085	0.656				
ScoreXComm	0.0002	0.650				
CompXComm	-0.0011	0.848				
Firm_Size	-0.0022	0.367	-0.0020	0.383	-0.0027	0.491
Firm_Age	-0.0000	0.622	-0.0001	0.452	0.0000	0.885
Lev	-0.0196	0.175	-0.0138	0.389	-0.0257	0.119
ROA	**0.1318**	0.006	**0.1465**	0.003	**0.1090**	0.050
_cons	0.0185	0.432	0.0065	0.798	0.0251	0.428

Note: The interaction term of CSR_Score and CSR_Committee (ScoreXComm) is highly correlated with CSR_Committee at 98.72%. The interaction term of Comp and CSR_Committee (CompXComm) is highly correlated with Comp at 93.98%.

Table B9: continued

Panel C: Abnormal Production Costs

	Equation (9c)		CSR Committee			
	All Company Years (n=1,608)		Company Years with (n=1096)		Company Years without (n=512)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	-0.0058	0.260	-0.0033	0.598	-0.0057	0.287
CSR_Comp	-0.1758	0.099	**-0.1910**	0.013	-0.2068	0.079
CSR_Committee	-0.1181	0.675				
ScoreXComm	0.0023	0.662				
CompXComm	-0.0232	0.794				
Firm_Size	-0.0278	0.431	-0.0288	0.403	-0.0313	0.587
Firm_Age	-0.0008	0.500	-0.0010	0.380	-0.0001	0.969
Lev	-0.3145	0.148	-0.2240	0.347	-0.4086	0.098
ROA	**2.0596**	0.004	**2.3303**	0.002	**1.6394**	0.045
_cons	**1.2829**	0.011	**1.1275**	0.026	**1.3513**	0.027

Note: The interaction term of CSR_Score and CSR_Committee (ScoreXComm) is highly correlated with CSR_Committee at 98.72%. The interaction term of Comp and CSR_Committee (CompXComm) is highly correlated with Comp at 93.98%.

Table B9: continued

Panel D: Abnormal Discretionary Expenses

	Equation (9d)		CSR Committee			
	All Company Years (n=1,608)		Company Years with (n=1096)		Company Years without (n=512)	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
CSR_Score	0.0026	0.444	0.0005	0.917	0.0024	0.510
CSR_Comp	**0.1675**	0.027	**0.1744**	0.004	**0.1814**	0.028
CSR_Committee	0.1266	0.538				
ScoreXComm	-0.0023	0.558				
CompXComm	0.0098	0.873				
Firm_Size	0.0284	0.266	0.0220	0.378	0.0438	0.298
Firm_Age	0.0001	0.928	0.0004	0.656	-0.0007	0.617
Lev	0.1632	0.263	0.0955	0.562	0.2378	0.162
ROA	**-1.1202**	0.032	**-1.1452**	0.025	-1.0828	0.081
_cons	**-0.6000**	0.046	-0.4014	0.167	-0.7379	0.058

Note: The interaction term of CSR_Score and CSR_Committee (ScoreXComm) is highly correlated with CSR_Committee at 98.72%. The interaction term of Comp and CSR_Committee (CompXComm) is highly correlated with Comp at 93.98%.

Table B10: CSR Subscore Regressions

Panel A: Combined REM (Equation 7a)

	Community Subscore All Firms		Employee Subscore All Firms		Environment Subscore All Firms		Governance Subscore All Firms	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
XXX_Score	-0.0034	0.074	-0.0036	0.072	-0.0012	0.435	-0.0014	0.440
CSR_Comp	-0.0307	0.220	-0.0315	0.207	-0.0354	0.166	-0.0321	0.201
Firm_Size	-0.0019	0.891	-0.0021	0.878	-0.0045	0.734	-0.0055	0.680
Firm_Age	-0.0008	0.135	-0.0007	0.182	-0.0011	0.062	-0.0009	0.099
Lev	-0.1680	0.058	-0.1792	0.051	-0.1721	0.059	-0.1709	0.058
ROA	**1.0588**	0.002	**1.0558**	0.003	**1.0935**	0.002	**1.0671**	0.003
_cons	**0.6953**	0.002	**0.7260**	0.004	**0.6188**	0.008	**0.6359**	0.007

Panel B: Abnormal Cash Flow (Equation 7b)

	Community Subscore All Firms		Employee Subscore All Firms		Environment Subscore All Firms		Governance Subscore All Firms	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
XXX_Score	-0.0003	0.181	-0.0005	0.106	0.0000	0.934	0.0000	0.954
CSR_Comp	**-0.0138**	0.008	**-0.0137**	0.008	**-0.0142**	0.007	**-0.0142**	0.008
Firm_Size	-0.0021	0.362	-0.0018	0.419	-0.0026	0.270	-0.0026	0.261
Firm_Age	-0.0000	0.631	-0.0000	0.940	-0.0001	0.484	-0.0001	0.494
Lev	-0.0193	0.180	-0.0208	0.159	-0.0199	0.170	-0.0199	0.171
ROA	**0.1311**	0.005	**0.1305**	0.005	**0.1315**	0.005	**0.1314**	0.005
_cons	0.0155	0.476	0.0264	0.249	0.0043	0.846	0.0040	0.864

Table B10: continued

Panel C: Abnormal Production Costs (Equation 7c)

	Community Subscore All Firms		Employee Subscore All Firms		Environment Subscore All Firms		Governance Subscore All Firms	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
XXX_Score	-0.0053	0.159	-0.0084	0.096	0.0003	0.930	-0.0001	0.980
CSR_Comp	**-0.1926**	0.013	**-0.1912**	0.012	**-0.1990**	0.011	**-0.1986**	0.012
Firm_Size	-0.0271	0.422	-0.0238	0.479	-0.0340	0.326	-0.0347	0.302
Firm_Age	-0.0008	0.496	-0.0003	0.779	-0.0011	0.379	-0.0011	0.384
Lev	-0.3097	0.153	-0.3322	0.134	-0.3171	0.145	-0.3175	0.146
ROA	**2.0470**	0.004	**2.0373**	0.003	**2.0527**	0.004	**2.0531**	0.004
_cons	**1.2361**	0.009	**1.3936**	0.006	**1.0648**	0.019	**1.0629**	0.023

Panel D: Abnormal Discretionary Expenses (Equation 7d)

	Community Subscore All Firms		Employee Subscore All Firms		Environment Subscore All Firms		Governance Subscore All Firms	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
XXX_Score	0.0022	0.355	0.0053	0.133	-0.0010	0.661	-0.0013	0.707
CSR_Comp	**0.1757**	0.003	**0.1735**	0.003	**0.1778**	0.003	**0.1808**	0.003
Firm_Size	0.0273	0.260	0.0236	0.325	0.0334	0.187	0.0318	0.194
Firm_Age	0.0000	0.982	-0.0003	0.687	0.0002	0.792	0.0002	0.787
Lev	0.1611	0.269	0.1737	0.242	0.1661	0.255	0.1664	0.255
ROA	**-1.1194**	0.029	**-1.1120**	0.027	**-1.1218**	0.028	**-1.1174**	0.029
_cons	**-0.5563**	0.050	**-0.6940**	0.024	-0.4588	0.091	-0.4310	0.121

Table B11: Hypotheses Summary

Hypothesis	Supported?
H1a: Higher CSR score → less combined REM	Not Supported
H1b: Higher CSR score → less abnormal levels of cash flow	Not Supported
H1c: Higher CSR score → less abnormal levels of production costs	Not Supported
H1d: Higher CSR score → less abnormal levels of discretionary expenses	Not Supported
H2a: CSR compensation → less combined REM	Not Supported
H2b: CSR compensation → less abnormal level of cash flow	Supported
H2c: CSR compensation → less abnormal level of production costs	Supported
H2d: CSR compensation → less abnormal level of discretionary expenses	Not Supported
H3a: Higher CSR score X critical mass of females → less combined REM.	Not Supported
H3b: Higher CSR score X critical mass of females → less manipulation in cash flow	Not Supported
H3c: Higher CSR score X critical mass of females → less manipulation in production costs	Not Supported
H3d: Higher CSR score X critical mass of females → less manipulation in discretionary costs	Not Supported
H4a: CSR compensation X critical mass of females → less combined REM	Not Supported
H4b: CSR compensation X critical mass of females → less manipulation of cash flow	Not Supported
H4c: CSR compensation X critical mass of females → less manipulation of production costs	Not Supported
H4d: CSR compensation X critical mass of females → less manipulation of discretionary expenses	Not Supported
H5a: CSR committee X CSR score → less combined REM	Not Supported
H5b: CSR committee X CSR score → less abnormal levels of cash flow	Not Supported
H5c: CSR committee X CSR score → abnormal levels of production costs	Not Supported
H5d: CSR committee X CSR score → less abnormal levels of discretionary expenses	Not Supported
H6a: CSR committee X CSR compensation → less combined REM	Not Supported
H6b: CSR committee X CSR compensation → less abnormal levels of cash flow	Partially Supported
H6c: CSR committee X CSR compensation → less abnormal levels of production costs	Partially Supported
H6d: CSR committee X CSR compensation → less abnormal levels of discretionary expenses	Supported