Three Essays in Financial Accounting

by

Rudresh Pandey

Thesis submitted in fulfilment of
the requirements for the degree of
PHILOSOPHIAE DOCTOR
(PhD)

PhD Program in Social Sciences
Department of Accounting and Law
University of Stavanger Business School
2023

University of Stavanger

NO-4036 Stavanger

NORWAY

www.uis.no

© Rudresh Pandey 2024

ISBN: 978-82-8439-238-7

ISSN: 1890-1387

PhD: Thesis UiS No. 760

I dedicate this thesis to my parents,
Geeta and Subash Pandey.

Acknowledgements

I extend a heartfelt thank you to my dissertation advisors, Marius Sikveland and Dengjun Zhang, for their unwavering support and guidance for the thesis, as well as their mentorship and encouragement throughout my Ph.D. journey. I also thank Frank Asche, Bernt Arne Ødegaard, and Ermanno Affuso. I also wish to express my thanks to my family and fellow PhD students, past and present, for their friendship, their assistance, and their many words of encouragement along the way.

CONTENTS

Sr. No.	Title	Page No.
	Acknowledgements	iv
Chapter 1	Introduction	1-15
Chapter 2	The impact of ESG Related Reputation Risk on Earnings Management	16-86
Chapter 3	Gender diversity in the boardroom: assessing the impact of female director nonwork roles on firm financial performance	87-163
Chapter 4	The impact of employee diversity on innovation process and financial performance: Evidence from a multi-stage model	164-210

1 Introduction

The global business landscape is undergoing a paradigm shift. As stakeholders increasingly prioritize not only financial returns but also social and environmental impact, the concept of Environmental, Social, and Governance (ESG) has gained significant prominence (Henisz, 2023). Firms today are evaluated not merely on their profit margins but on their commitment to sustainability, ethical practices, and governance structures (Christensen et al., 2021; Albuquerque et al., 2019). A central aspect of this transformation is the recognition of reputation risk related to ESG practices, and diversity – both at the board level and throughout the organizational hierarchy. Reputation, long considered an intangible asset, has quantifiable implications on a firm's financial performance. In the context of ESG, reputation risks arise when firms fail to meet stakeholder expectations concerning environmental stewardship, social responsibility, or ethical governance. One such area under the spotlight is diversity, with an increasing body of evidence suggesting that firms with diverse leadership and workforce exhibit better financial performance. Board gender diversity has emerged as a critical factor. While progress has been made, women remain underrepresented in many boardrooms globally. This underrepresentation not only raises ethical concerns but also deprives firms of diverse perspectives that could enrich decision-making processes. Similarly, diversity among employees, encompassing education, race, ethnicity, and other parameters, offers a mosaic of perspectives that can foster innovation and improve risk management.

Yet, the question remains: How do these elements – ESG reputation risk, board gender diversity, and broader employee diversity – influence a firm's financial performance and behavior?

The purpose of this dissertation is to investigate the relationship between firms' financial performance and behavior, ESG reputation risk, board gender diversity, or employee diversity. Thus, the first

essay, ***The impact of ESG Related Reputation Risk on Earnings Management*** (***Paper 1***), focuses on the impact of reputation risk related to ESG incidents on firms' earnings management practices and the role of the investor sustainability sentiments e.g., climate risk, climate change, and ESG investing on firm earnings management practices and ESG related reputation risk. Firms, now more than ever, are exposed to increased attention on their actions, especially in areas of Environmental, Social, and Governance (ESG) compliance (Martin & Moser, 2016). Beyond immediate financial implications, ESG-related incidents can have ripple effects that tarnish a company's public image and influence investor sentiment. This understanding aids stakeholders in comprehending how firms communicate their financial standing and risk management strategies related to ESG factors, enabling more informed decision-making and evaluations of firms' sustainability and responsibility practices. The findings show that firms with higher reputation risk related to ESG incidents are more likely to manage earnings through discretionary accruals and manipulate real operating activities, and investor sentiment towards sustainability positively moderates the relationship between ESG reputation risk and earnings management.

The second essay, Gender diversity in the boardroom: assessing the impact of female director non-work roles on firm financial performance (Paper 2), focuses on parental status of the female board member and firm financial performance. Parental childcare responsibilities can constrain the time available for preparing or investigating board business and reduce the time available for networking activities, industry meetings, education, serving on other boards, and after-work activities. Employee-level research indicates that mothers with young children are less productive than non-mothers (Wallace & Young, 2008; Wharton & Blair-Loy, 2006). However, research linking parenthood and job performance remains limited and indirect at the executive level (Adams, 2016). The findings show that women at the

executive level are not affected by their responsibilities in their private lives as proxied by the number of young children and being single mothers. An important implication is that women should not be excluded from corporate governance work if they have busy private lives. Further, our analysis of the functioning of boards of private firms indicates a negative impact of board gender diversity on firm financial performance. The negative effect becomes stronger as the number of women on the board increases, supporting the critical mass theory. Therefore, before it becomes mandatory for private firms to also have a minimum of 40% female board representation in Norway, further investigation into the function of boards in private firms is required.

The final study, ***The impact of employee diversity on innovation process and financial performance: Evidence from a multi-stage model*** (***Paper 3***), focuses on the effects of employee diversity with regard to ethnicity and education on a firm's innovation process and performance. Human capital, skills, and application of information technology are becoming more important for adding and creating value for firms exposed to rapid globalization (Smulowitz et al., 2019; Wu et al., 2020). While previous studies have analyzed this relationship, we extend previously applied multi-stage econometric models by including Blau's index of heterogeneity, and, at the same time account for both endogeneity and self-selection bias. We find support for a significant and positive impact of employee diversity in education and the likelihood that firms will engage and invest in innovation activities. However, ethnic diversity has a significant and negative effect on a firm's likelihood of investing in innovation activities and consequent performance. We also provide a detailed analysis of the impact of R&D collaboration on firm performance and find that collaboration with universities and research institutes positively impacts firm performance.

The subsequent portions of this introductory chapter are organized in the following manner. In section 2, we introduce the theoretical foundation that supports this dissertation. Section 3 outlines the

research design and its philosophical orientation, describes the context in which the research was conducted, lists the sources of data, and explains the analytical methods employed. Concluding this chapter, section 4 gives an overview of the essays included in the dissertation and underscores the implications of the key findings.

2. THEORETICAL FRAMEWORK

The theoretical framework explains and outlines the theories that can interpret the research question at hand and is pivotal for deriving meaning from the research findings. It is a cornerstone for any PhD thesis to be grounded in robust theoretical foundations. For this dissertation, agency theory, attention-based view, and human capital theory have been leveraged to serve as the theoretical backbone to explore the research problems identified. Specifically, the application of agency theory is paramount for understanding how agency relationships can generate agency issues that necessitate the conflicts of interest between different stakeholders, primarily principals (shareholders) and agents (managers). The core premise of the Attention-Based View of the firm, argues that the behavior and resultant strategies of a firm are fundamentally shaped by how firms allocate the attention of those in decision-making roles. This perspective posits that organizational actions, decisions, and outcomes are not merely the result of environmental stimuli or available resources but are critically influenced by the selective attention of organizational decision-makers. This view would also have implications for corporate governance and management decisions. The core concept of human capital theory explores the relationship between the skills, knowledge, and experience of individuals and their economic value. This theory posits that firms today are navigating through an era marked by rapid technological advancements, shifting market dynamics, and an intensified competition for talent. In this volatile landscape, human

capital emerges as a differentiator, a source of innovation, and a driver of resilience.

To summarize, this dissertation employs a well-rounded theoretical framework, grounding the research in agency theory, attention-based view, and human capital theory to explore and make sense of the identified research problems. This theoretical base is crucial to understand the complexities and nuances of the research subjects and to draw meaningful conclusions from the study's findings.

2.1 Agency Theory

Agency Theory provides a framework to understand and analyze the complexities arising from the relationships between principals and agents. This theory, developed by Jensen & Meckling (1976), explores the multifaceted dynamics and potential conflicts that occur when principals delegate decision-making authority to agents, thereby engendering a plethora of implications in various domains such as corporate governance, contract design, finance, and organizational behavior. Central to Agency Theory is the concept of the principal-agent relationship. The principal, such as a shareholder, assigns the responsibility of decision-making to an agent, typically a manager or executive. In this relationship, the agent is entrusted to act in the best interests of the principal, aligning their decisions and actions with the goals and objectives of the principal. The work of Fama & Jensen (1983) expanded on this, exploring the role of boards in monitoring managerial behavior, and ensuring alignment with shareholder interests, thereby contributing to the development of governance structures that prioritize shareholder value.

In accounting literature, agency theory has been influential in shaping the understanding of financial reporting, disclosure practices, and internal control mechanisms. It serves as a foundational theoretical framework to analyze and inform practices, structures, and mechanisms

in accounting and governance aimed at mitigating conflicts of interest and aligning objectives between different stakeholders. Extensive literature explores how incentive structures, informed by agency theory, can impact accounting choices and earnings management. It examines how performance-based incentives can either mitigate or exacerbate manipulative accounting practices depending on the alignment of managerial and shareholder interests. The literature emphasizes the role of the board of directors in monitoring managerial actions and safeguarding shareholder interests. From an agency theory perspective, gender diversity on corporate boards is explored as a mechanism to enhance board functions, mitigate agency conflicts, and align the interests of managers and shareholders. Diverse boards are theorized to exhibit better monitoring, more effective governance, and increased shareholder value protection due to the varied perspectives and approaches brought by female directors (Carter et al., 2003). Accordingly, agency theory is applied in ***Paper 1: The impact of ESG Related Reputation Risk on Earnings Management*** to predict that companies with a high reputation risk score are more likely to engage in earnings management. Jang et al. (2022) highlight the potential conflict of interest arising from the agency problem, where managers prioritize their financial interests over the broader interests of stakeholders and the company. Agency theory is again applied in ***Paper 2: Gender diversity in the boardroom: assessing the impact of female director nonwork roles on firm financial performance*** to predict that the share of female board members is negatively related to firm financial performance.

2.2 Attention-Based View

The Attention-Based View (ABV) of the firm posits that organizational outcomes and strategies are significantly shaped by where and how organizational decision-makers allocate their attention. The attention allocated by directors to various roles, issues, and tasks can shape the decision-making processes, strategic choices, and overall effectiveness

of the board in governing the organization and enhancing firm performance. Research in the domain of ABV and gender primarily explores how men and women differ in allocating attention in organizational settings. Studies suggest that female decision-makers often exhibit a more inclusive and comprehensive attention focus, considering a broader range of factors and stakeholders in decision-making processes (Nielsen & Huse, 2010). In the context of corporate governance and the role of female directors, applying an attention-based perspective can provide nuanced insights into the association between female directors' nonwork roles and the financial performance of firms. Female directors often juggle multiple roles, both within and outside the professional sphere. Their nonwork roles, such as familial and societal responsibilities, can impact their attention allocation and, consequently, their contributions to board activities and decision-making processes. Understanding how female directors balance their professional and nonwork roles and allocate their attention is crucial in analyzing their impact on corporate governance and firm financial performance. ***Paper 2: Gender diversity in the boardroom: assessing the impact of female director nonwork roles on firm financial performance*** applies Attention-Based View of the firm to analyze the association between female director nonwork roles and firm financial performance.

2.3 Human Capital Theory

Human Capital Theory, with its emphasis on the economic value of skills, knowledge, and health, has been instrumental in analyzing how investments in human capital can influence firm financial performance. Several studies have explored how developing and managing human capital efficiently leads to enhanced productivity, innovation, and profitability within firms. The literature indicates that human capital can serve as a source of competitive advantage for firms (Becker, Huselid, & Ulrich, 2001). Skilled, knowledgeable, and motivated employees can drive innovation, enhance operational efficiency, and

contribute to the creation of value, thus positively influencing financial performance. Several studies have shown a positive correlation between human capital and innovation and productivity within firms (Hitt, Bierman, Shimizu, & Kochhar, 2001). Employees with higher levels of education, skills, and experience are more likely to contribute to the development of innovative solutions and processes, driving organizational productivity and financial success. The literature is abundant with studies showcasing that employee, fortified with skills, knowledge, and motivation, can drive innovative capabilities, elevate operational efficacy, and engender value, thereby contributing to optimal financial performance. Investments in employee development, through education and skill enhancement, are regarded as linchpins for escalating organizational productivity and achieving superior financial outcomes. This theoretical framework has been instrumental in deciphering how meticulous development and proficient management of human capital can orchestrate enhanced innovation, productivity, and financial robustness within firms. ***Paper 3: The impact of employee diversity on innovation process and financial performance: Evidence from a multi-stage model***, applies human capital theories to analyze the effects of employee diversity with regard to ethnicity and education on a firm's innovation process and performance.

3 Data and Method

3.1 Context and source of data

The three studies included in the dissertation are archival in nature and rely on secondary data from different jurisdictions.

The first study (***Paper 1***) is the analysis of the impact of reputation risk related to ESG incidents on firms' earnings management practices in the United States. Previous empirical studies on corporate social responsibilities and ESG performance rely on the measures created by self-reported data. However, being self-reported, the data might reflect

a company's subjective views rather than objective metrics. There is a potential for companies to emphasize their achievements and downplay their shortcomings. In this paper, we measure reputational risk as an event-based measure of firm-level negative ESG incidents constructed from an extensive collection compiled by RepRisk from 2007 to 2020 for firms listed in the United States. RepRisk conducts daily screenings of 100,000 documents from various sources, including media, regulatory, and commercial outlets. These documents are available in 23 different languages, and the screenings aim to identify any negative environmental, social, and governance (ESG) incidents. Each of these risk incidents is analyzed according to the three parameters, i.e., severity (harshness) of the risk incident or criticism, reach (influence based on readership/circulation as well as by importance in a specific country) of the information source, and, novelty (newness) of the issues addressed for the company and/or project, i.e., is this the first time a company/project is exposed to this ESG Issue in this location. This approach allows a more frequent and objective evaluation of each firm's environmental, social, and governance (ESG) impact over time.

The second study (***Paper 2***) analyzes the impact of board gender diversity and the nonwork roles of female directors on firm financial performance using firm- and individual-level data available from Statistics Norway. The firm financial information is from the Norwegian Corporate Accounts database (*Regnskapsdatabasen*), and data on firm governance (e.g., chairperson, board member, and deputy member) are obtained from the Register of Business Enterprises (*Foretaksregisteret*). The data on female director parental status and children are from the National Population Register compiled by the Norwegian Tax Administration (*Skatteetaten*). Our initial sample comprises all public and private firms in Norway with more than 50 employees from 2008 to 2015. In Norway, firms are registered either as limited liability public firms (*allmennaksjeselskap*, ASA) or as limited

liability private firms (*aksjeselskap*, AS). Because of our interest in the role of corporate boards in private firms, we focus on the latter.

The third study (***Paper 3***) uses a combination of two data sources to evaluate the effects of employee diversity on a firm's innovation process and performance. The first data source is the large-scale Community Innovation Surveys (CIS)of the Norwegian firms conducted by the national statistical office (Statistisk Sentralbyrå, SSB, Norway), which sends out a questionnaire to firms in Norway every two years. The CIS is constructed according to the EU agency Eurostat's general guidelines on questionnaire structure and data collection and based on a common methodological approach prescribed by the Oslo Manual on Innovation Research. We use CIS data for the manufacturing sector and focus on four waves of CIS surveys: 2008–2010, 2010–2012, 2012–2014, and 2014–2016. The data on employee education level and ethnicity come from the National Population Register compiled by the Norwegian Tax Administration (*Skatteetaten*). We merged the two data sets using firm identification numbers.

3.2 Empirical Methods

In academic research, the choice of methodological approach is pivotal to the validity of findings. This dissertation, comprising three distinct studies, unified in its reliance on archival research. Specifically, in ***Paper 1 and Paper 2***, ordinary least square techniques are applied to analyze the effects of ESG related reputation risk and earnings management practices (***Paper 1***) and the impact of board gender diversity and the nonwork roles of female directors on firm financial performance (***Paper 2***). To estimate the effects of employee diversity on firms' innovation process and performance (***Paper 3***), and control for selection and endogeneity bias we apply a modified version of the four-equation model proposed by Crépon et al. (1998), also known as

the CDM model. The standard version of the CDM model uses a four-equation modeling procedure to analyze firms' decisions on innovation input and output. Our empirical model divides the innovation process into four stages, as suggested by (Crépon et al., 1998). More specifically, to estimate a firm's innovation behaviour, the first equation accounts for the assumption that the firm engages in innovation activities (R&D). The second equation accounts for the degree or intensity of these activities, i.e., the firm's desire to invest in R&D. The third equation accounts for subsequent innovation output, while the fourth equation accounts for the firm profit following innovation output. Thus, employing panel data estimation methods aligns with the argument that these techniques are apt for accounting analysis, as they allow researchers to address and reduce the impact of potential endogeneity concerns (Nikolaev & Van Lent, 2005).

4 Summary of the studies

The first essay: examines whether firms with reputation risk related to ESG incidents engage in earnings management practices and examine the role of investor sentiments towards sustainability in moderating the relationship between ESG related reputation risk and earnings management. The findings reveal that firms with a high reputation risk exposure are more likely to manage earnings through discretionary accruals and real activities. The results also shows that that investor sentiments towards sustainability affect the relationship between ESG related reputation risk and earnings management practices. The findings are consistent with the shareholder expense view literature, which predicts that when managers' incentives are solely linked to short-term financial results, they may be less motivated to invest time, resources, and effort into CSR activities that may not yield immediate financial benefits (Choi and Lee, 2019; Ferrel et al., 2016; Hart and Zingales, 2017).

The second essay: investigates the impact of female board representation on firm financial performance and whether this is subject to female board member nonwork roles in both private and public firms. The finding suggests that active participation by female directors in decision-making may create additional conflict between managers and boards and this negatively impacts firm performance, although a gender-diverse board may also provide firms with larger networks and wider experiences. The findings show that financial performance is unaffected by nonwork roles when controlling for the effect of female gender diversity, suggesting that any difference in board member performance is due to gender diversity and not the nonwork roles of female directors.

The third essay: contributes to the innovation process literature by offering empirical evidence of how diversity among employees affects a firm's decision to engage in innovation activities and firm financial performance. The study focused on diversity among employee ethnicities and education to explain how knowledge and skills acquired through formal education impact innovation and firm performance, improving understanding of the interaction between knowledge and the innovation process. The findings support a significant and positive impact of employee diversity in education on the likelihood that firms will engage and invest in innovation activities. However, ethnic diversity has a significant and negative effect on a firm’s likelihood of investing in innovation activities and consequent performance. The results also provide a detailed analysis of the impact of R&D collaboration on firm performance and find that collaboration with universities and research institutes positively impacts firm performance.

References

Adams, R. B. (2016). Women on boards: The superheroes of tomorrow? *The Leadership Quarterly*, *27*(3), 371-386.

Albuquerque, R., Koskinen, Y., & Zhang, C. (2019). Corporate social responsibility and firm risk: Theory and empirical evidence. *Management Science*, 65(10), 4451-4469.

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate Governance, Board Diversity, and Firm Value. *Financial Review*, 38, 33-53.

Christensen, H. B., Hail, L., & Leuz, C. (2021). Mandatory CSR and sustainability reporting: Economic analysis and literature review. *Review of Accounting Studies*, 26(3), 1176-1248.

Crépon, B., E. Duguet, and J. Mairessec. 1998. Research, innovation and productivi [Ty: an econometric analysis at the firm level. *Economics of Innovation and New Technology* 7 (2):115-158.

Fama, E. F., & Jensen, M. C. (1983). Separation of Ownership and Control. *Journal of Law and Economics*, 26, 301-325.

Henisz, W. J. (2023). The value of organizational purpose. *Strategy Science*.

Jang, G., Kang, H., & Kim, W. (2022). Corporate executives' incentives and ESG performance. *Finance Research Letters*, *49*, 103187.

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.

Martin, P. R., & Moser, D. V. (2016). Managers’ green investment disclosures and investors’ reaction. *Journal of Accounting and Economics*, 61(1), 239-254.

Nikolaev, V., & Van Lent, L. (2005). The endogeneity bias in the relation between cost-of-debt capital and corporate disclosure policy. *European Accounting Review*, 14(4), 677-724.

Nielsen, S., & Huse, M. (2010). The Contribution of Women on Boards of Directors: Going Beyond the Surface. *Corporate Governance: An International Review*, 18(2), 136-148.

Ocasio, W. (1997). Towards an Attention-Based View of the Firm. *Strategic Management Journal*, 18(S1), 187-206.

Penman, S. (2010). Accounting for value. Columbia University Press.

Smulowitz, S., Becerra, M., & Mayo, M. (2019). Racial diversity and its asymmetry within and across hierarchical levels: The effects on financial performance. *Human Relations*, 72(10), 1671-1696.

Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. The Journal of finance, 43(1), 1-19.

Wallace, J. E., & Young, M. C. (2008). Parenthood and productivity: A study of demands, resources and family-friendly firms. *Journal of Vocational Behavior*, *72*(1), 110-122.

Wharton, A. S., & Blair-Loy, M. (2006). Long work hours and family life. *Journal of Family Issues*, *27*(3), 415-436.

Wu, L., L. Hitt, and B. Lou. 2020. Data analytics, innovation, and firm productivity. *Management Science* 66 (5):2017-2039.

The impact of ESG Related Reputation Risk on Earnings Management

Rudresh Pandey[1]

Department of Accounting and Law, UiS Business School, University of Stavanger, N-4036 Stavanger, Norway, Email- rudresh.pandey@uis.no

Marius Sikveland

Associate Professor, Department of Accounting and Law, UiS Business School, University of Stavanger, N-4036 Stavanger, Norway, Email- marius.sikveland@uis.no

The paper is not included in the repository because it has not yet been published.

[1] *Corresponding author;* rudresh.pandey@uis.no

Gender diversity in the boardroom: assessing the impact of female director nonwork roles on firm financial performance

Rudresh Pandey[14]

Department of Accounting and Law, UiS Business School, University of Stavanger, N-4036 Stavanger, Norway, Email-rudresh.pandey@uis.no

Marius Sikveland

Department of Accounting and Law, UiS Business School, University of Stavanger, N-4036 Stavanger, Norway, Email-marius.sikveland@uis.no

Dengjun Zhang

Department of Accounting and Law, UiS Business School, University of Stavanger, N-4036 Stavanger, Norway, Email-dengjun.zhang@uis.no

The paper is not included in the repository because it has not yet been published.

[14] *Corresponding author;* rudresh.pandey@uis.no

The impact of employee diversity on innovation process and financial performance: Evidence from a multi-stage model

Rudresh Pandey[20]

Ph.D. Research Scholar, Department of Accounting and Law, UiS Business School, University of Stavanger, N-4036 Stavanger, Norway, Email- rudresh.pandey@uis.no

Marius Sikveland

Associate Professor, Department of Accounting and Law, UiS Business School, University of Stavanger, N-4036 Stavanger, Norway, Email- marius.sikveland@uis.no

Dengjun Zhang

Associate Professor, Department of Accounting and Law, UiS Business School, University of Stavanger, N-4036 Stavanger, Norway, Email- dengjun.zhang@uis.no

The paper is not included in the repository because it has not yet been published.

[20] *Corresponding author;* rudresh.pandey@uis.no