

**MINISTRY OF EDUCATION AND TRAINING
UNIVERSITY OF ECONOMICS HO CHI MINH CITY**



Pham Thi Ngoc Bich

**DOES AUDITOR GENDER OR GENDER DIVERSITY
MATTER TO AUDIT QUALITY? THE MODERATING
ROLES OF AUDITOR WORKLOAD AND
EXPERIENCE: EVIDENCE FROM VIETNAM.**

PH.D. DISSERTATION IN ECONOMICS

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STATEMENT OF DECLARATION

I hereby declare that this dissertation, entitled Does auditor gender or gender diversity matter to audit quality? The moderating roles of auditor workload and experience: evidence from Vietnam, is my original work. The research and writing have been completed independently, and all sources of information, data, and references have been properly acknowledged. This dissertation has not been submitted for any degree or qualification at any other institution.

I confirm that all the work presented in this dissertation is authentic and accurately reflects my research findings.

June 10th, 2025

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TABLE OF CONTENTS

LIST OF ACRONYMS.....	A
LIST OF TABLES	B
LIST OF FIGURES	C
ABSTRACT	D
CHAPTER 1: INTRODUCTION.....	1
1.1. Introduction	1
1.2. Background and Motivation	1
1.3. Research Objectives and Questions.....	5
1.4. Research Methods	6
1.5. Scope and Limitations of the research	7
1.5.1. Scope of the research	7
1.5.2. Limitations of the research.....	8
1.6. Contributions of the research	9
1.6.1. Theoretical Contributions.....	9
1.6.2. Practical Contributions.....	9
1.7. Structure of the Dissertation	10
1.8. Conclusion.....	12
CHAPTER 2: LITERATURE REVIEW.....	14
2.1. Introduction	14
2.2. Definitions, Measurements and Frameworks of Audit Quality.....	15

2.2.1. Definitions	15
2.2.2. Measurements	17
2.2.3. Audit Quality Frameworks.....	21
2.2.3.1. Practical perspective.....	21
2.2.3.2. Theoretical perspective	23
2.3. Main streams in audit quality literature.....	27
2.3.1. Consequences of audit quality	27
2.3.1.1. Financial Reporting Credibility	27
2.3.1.2. Cost of Capital and Market Reactions	27
2.3.1.3. Corporate Governance and Stakeholder Confidence	28
2.3.1.4. Firm Performance and Investment Efficiency	28
2.3.2. Determinants of audit quality.....	28
2.3.2.1. Auditor Characteristics	29
2.3.2.2. Client Characteristics	31
2.3.2.3. Audit-Client Contracting Features	32
2.3.2.4. Regulatory Environments	34
2.3.3. Research Gap	35
2.4. Theoretical Framework.....	38
2.4.1. Social Role Theory.....	38
2.4.2. Role Congruity Theory	39
2.4.3. Information-Processing /Decision-Making Perspective	40
2.5. Audit Environment and Financial Disclosure in Vietnam.....	41
2.5.1. Auditing Profession.....	41
2.5.2. Challenges and Concerns in Audit Market	42
2.5.3. Audit Quality: Key Decision-Makers	43
2.5.4. Financial Information Disclosure and Pre-issuance Restatements in Vietnam	

2.5.4.1. Regulations on Financial Statement Disclosure	44
2.5.4.2. Mandatory Explanations for Financial Statement Adjustments (Pre- issuance Restatements).....	45
2.6. Hypothesis Development	46
2.6.1. Auditor Gender and Audit quality	46
2.6.2. Auditor Gender Diversity and Audit quality.....	49
2.6.3. Moderation of Auditor Workload on the Association between Auditor Gender and Audit Quality	51
2.6.4. Moderation of Auditor Experience on the Association between Auditor Gender and Audit Quality	52
2.6.5. Moderation of Auditor Workload and Auditor Experience on the Association between Auditor Gender and Audit Quality	54
2.7. Conceptual Framework	56
2.8. Conclusion.....	57
 CHAPTER 3: RESEARCH METHODS.....	 59
3.1. Introduction	59
3.2. Research Design	59
3.2.1. Research Objectives and Approach	59
3.2.2. Justification for a Quantitative Approach	60
3.2.3. Research Design and Data Collection Strategy	61
3.3. Sample and Data Collection	62
3.3.1. Sample selection.....	62
3.3.1.1. Research Scope and Sample Selection.....	62
3.3.1.2. Sample Selection Process.....	63
3.3.2. Data collection	64
3.4. Measurements.....	66

3.4.1. Dependent variable: Audit Quality	66
3.4.1.1. Pre-issuance Restatements (Restate).....	67
3.4.1.2. A Composite Measure of Audit Quality - AQuality	68
3.4.2. Variables of Interest: Gender and Gender Diversity.....	70
3.4.2.1. Auditor Gender (PGen and AGen).....	70
3.4.2.2. Auditor Gender Diversity (ADiver).....	71
3.4.3. Moderating variables: Auditor Workload and Auditor Experience.....	71
3.4.3.1. Auditor Workload (PWork and AWork) and Its Interaction with Auditor Gender (PWG and AWG)	71
3.4.3.2. Auditor Experience (PExper, AExper) and its Interaction with Auditor Gender (PEG and AEG).....	72
3.4.3.3. The Combined Moderating Effect of Auditor Workload and Auditor Experience (PWEG and AWEG).....	72
3.4.4. Control variables	73
3.4.4.1. Auditor Characteristics (Big4 and AuditorRotation).....	74
3.4.4.2. Client's Corporate Governance (Dual, BODsize and BOMsize)	74
3.4.4.3. Client's Size, Profitability and Leverage (ClientSize, LOSS, ROA, and leverage) 75	
3.4.4.4. Client's Gender in Governance and Top Management (CEOGen, ChiefGen, ChairGen, FBOD, and FBOM)	76
3.5. Research Models.....	79
3.6. Validity and Reliability.....	83
3.6.1. Goodness-of-Fit.....	83
3.6.1.1. Overall significance of the predictors	83
3.6.1.2. Predictive Accuracy	84
3.6.2. Multicollinearity.....	85
3.7. Robustness Tests.....	86

3.7.1. Adding Control Variable.....	86
3.7.2. Using Alternative Measure of Dependent Variable.....	88
3.8. Conclusion.....	88
 CHAPTER 4: FINDINGS AND DISCUSSION	89
4.1. Introduction	89
4.2. Descriptive Statistics	90
4.3. Correlation Matrix.....	93
4.4. Multivariate Analysis.....	97
4.4.1. Auditor Gender and Audit Quality.....	97
4.4.2. Auditor Gender Diversity and Audit Quality.....	101
4.4.3. Moderating effects of Auditor Workload and Auditor Experience	104
4.5. Validation and Reliability	111
4.5.1. Goodness-of-Fit.....	111
4.5.1.1. Likelihood Ratio Chi-Square Test	112
4.5.1.2. Hosmer-Lemeshow Test	112
4.5.1.3. Classification Matrix.....	113
4.5.2. Multicollinearity.....	113
4.6. Robustness Tests.....	114
4.6.1. Adding Control Variable.....	115
4.6.2. Using Alternative Measure of Dependent Variable.....	117
4.7. Conclusion.....	119
 CHAPTER 5: CONCLUSION.....	121
5.1. Introduction	121
5.2. Summary of Key Findings.....	122
5.3. Implications of the Research.....	125

5.3.1. Theoretical Implications.....	125
5.3.1.1. Introduction of Two Theory-Informed, Output-Based Measures of Audit Quality	125
5.3.1.2. Contextualizing Gender Effects in a Non-Western, Developing Economy	127
5.3.1.3. Gender Diversity - Beyond the Presence of Women	127
5.3.1.4. Advancing a Multi-Moderator Framework in Audit Research.....	128
5.3.2. Managerial Implications.....	129
5.3.2.1. Addressing Structural Barriers Faced by Female Audit Partners	129
5.3.2.2. Leveraging Gender-Diverse Signing Teams for Higher Audit Quality	130
5.3.2.3. Managing Auditor Workload to Sustain Audit Quality.....	130
5.3.2.4. Re-engaging Experienced Auditors in Later Career Stages	131
5.3.2.5. Balancing Dual Demands on Female Audit Partners	131
5.4. Policy Implications	132
5.4.1.1. Promote Gender Equity in Audit Leadership.....	132
5.4.1.2. Encourage Gender-Diverse Signing Teams	132
5.4.1.3. Regulate Auditor Workload to Mitigate Quality Risks	133
5.4.1.4. Address Quality Risks in Later Career Stages	133
5.4.1.5. Institutionalize Composite Audit Quality Measures	134
5.5. Limitations of the Research	134
5.6. Recommendations for Future Research	136
5.7. Conclusion.....	138
THE AUTHOR'S LIST OF WORKS	I
REFERENCES	II

APPENDIX 1: DEFINITION OF VARIABLES.....	XI
APPENDIX 2: A SAMPLE OF THE EXPLANATION LETTER	XIV
APPENDIX 3: LIST OF COMPANIES INCLUDED IN THE SAMPLE.....	XVII
APPENDIX 4: OUTPUTS GENERATED IN STATA.....	XXIX

LIST OF ACRONYMS

AAERs	Accounting and Auditing Enforcement Releases
AICPA	American Institute of Certified Public Accountants
BOD	Board Of Directors
BOM	Board Of Management
CEO	Chief Executive Officer
CFO	Chief Financial Officer
DA	Discretionary Accruals
FASB	Financial Accounting Standards Board
GC	Going Concern Opinions
HOSE	Ho Chi Minh Stock Exchange
MAO	Modified Audit Opinions
MOF	Ministry Of Finance
PCAOB	Public Company Accounting Oversight Board
SEC	Securities and Exchange Commission
SSC	State Securities Commission of Vietnam
U.K.	United Kingdom
U.S.	United States of America
VACPA	Vietnam Association of Certified Public Accountants

LIST OF TABLES

Table 2.1: Summary of output-based audit quality measurements (DeFond & Zhang, 2014).....	18
Table 2.2: Units of analysis in audit research (Francis, 2011).....	24
Table 3.1: Data selection process.....	64
Table 3.2: Explanation of AQuality measure.....	69
Table 3.3: Summary of variables	76
Table 4.1: Descriptive statistics	91
Table 4.2: Correlation Matrix	95
Table 4.3: Test for H1a and H1b – Associations between auditor gender and audit quality (n = 3,223).....	99
Table 4.4: Test for H2 - Association between gender diversity and audit quality (n = 3,223).....	103
Table 4.5: Test for H3a, H3b, H4a, H4b, H5a and H5b - Moderating effects of auditor workload and auditor experience on the relationships of auditor gender and audit quality (n = 3,223).....	105
Table 4.6: Robustness test with the added control variable (DA)	116
Table 4.7: Robustness test with the alternative dependent variable (DA)	118

LIST OF FIGURES

Figure 2.1: IAASB (2014) framework of audit quality	23
Figure 2.2: Indicators of audit quality (Knechel et al., 2013).....	25
Figure 2.3: Audit quality Framework (DeFond & Zhang, 2014).....	26
Figure 2.4: Conceptual Framework of the study.....	57

ABSTRACT

Title: Does auditor gender or gender diversity matter to audit quality? The moderating roles of auditor workload and experience: Evidence from Vietnam

Abstract:

Prior research highlights gender differences in risk aversion, confidence levels, ethical standards, and communication, suggesting that female participation in audits may enhance quality. Investigating gender differences has consistently attracted significant attention from researchers, policymakers, businesses, educators, governments, and the public. The literature calls for further research in developing economies, as these countries are marked by significant levels of gender inequality, making research into gender differences particularly crucial.

Vietnam, as a developing country with distinct gender characteristics, offers an interesting case for examining gender differences. This study aims to understand the impact of auditor gender and gender diversity on audit quality, focusing on the moderating roles of auditor workload and experience in Vietnam.

The study employs a quantitative archival research design, with data hand-collected from unstructured sources. The sample includes 3,223 firm-year observations from non-financial companies listed on HOSE for the period from 2010 to 2023. Five hypotheses are tested using logistic regression in Stata, with additional validity, reliability, and robustness checks.

The study finds that female audit partners are negatively linked to audit quality, while female auditors-in-charge show a positive association. Gender-diverse signing teams enhance audit quality. Interestingly, auditor workload and experience individually

weaken the negative link between female audit partners and audit quality, turning it positive. However, their combined effect strengthens the negative association.

This study not only extends the existing auditing literature on gender differences but also provides meaningful practical recommendations for enhancing audit quality and improving gender equality in the auditing profession.

Keywords: Auditor gender, Gender diversity, Audit quality, Auditor workload, Auditor experience, Moderating effect, and Vietnam

Chapter 1: INTRODUCTION

1.1. Introduction

The Introduction chapter serves as a roadmap for the entire research. It offers a comprehensive overview of the study's background and motivation, research objectives and questions, research methodology, scope and limitations, and the contributions of the research.

First, the chapter introduces the background of the research topic, addressing the research gap and motivations for the study. The research objectives and questions are then clearly stated. The next section of the chapter outlines the research methods, summarizing the research design, sample and data collection, measurements, and models. The scope, limitations, and contributions of the research are also discussed. The final section presents the structure of the dissertation, providing a brief overview of the five chapters.

1.2. Background and Motivation

Ensuring high-quality auditing is not only essential to the accuracy and reliability of financial information but also central to maintaining public trust and effective corporate governance (Francis, 2004; Arens, Elder, Beasley, & Hogan, 2023). Accordingly, improving audit quality remains a core concern among regulators, policymakers, audit professionals, and academic researchers. In Vietnam, where the audit profession is still developing amid growing economic complexity, the need for evidence-based insights to guide regulatory and professional improvements has become increasingly urgent.

This study aims to respond directly to this need by investigating how auditor gender and gender diversity influence audit quality, with particular attention to the moderating

roles of auditor workload and experience. The findings are expected to contribute not only to the academic literature on audit quality determinants but also to practical efforts aimed at strengthening Vietnam's audit profession. Specifically, the study is intended to inform policy debates on gender equality in the accounting and auditing sector, support audit firms in designing more effective engagement teams, and guide regulators in shaping workload standards and gender diversity policies that enhance audit outcomes.

In recent decades, global accounting scandals such as Enron, WorldCom, Parmalat, Lehman Brothers and more recently, the Carillion and Wirecard cases have raised serious doubts about audit quality and posed significant challenges to the public accounting profession (Camfferman & Wielhouwer, 2019). These failures have underscored the importance of understanding the factors that contribute to audit quality. In Vietnam, recent high-profile corporate scandals involving FLC Group, SCB, Van Thinh Phat, Tan Hoang Minh, and others, have generated similar concerns (Luu, 2024). Regulatory responses, such as suspending licenses of implicated auditors (Nguyen Hanh, 2024), reflect attempts to restore trust, but also underscore systemic weaknesses. (L. Nguyen, Kend, & Luong, 2023). This context highlight the urgent need for empirical research that can inform both regulatory reform and professional practice in Vietnam.

Prior studies have explored various determinants of audit quality, including client characteristics, engagement dynamics, and regulatory factors. However, auditor characteristics have emerged as a particularly important domain, with direct influence on audit outcomes (Francis, 2011; DeFond & Zhang, 2014; Mnif & Cherif, 2022). Despite this, research on individual auditors remains limited due to data constraints in many countries (Garcia-Blandon, Argilés-Bosch, & Ravenda, 2019). Notably, Vietnam presents a unique advantage in this regard: audit reports must be signed by both an

audit partner and an auditor-in-charge. This disclosure allows researchers to investigate the role of individual auditor attributes—and combinations thereof—in shaping audit quality.

Among the various auditor attributes studied, gender has gained increased attention due to its social, behavioral, and ethical implications. A growing body of literature suggests that female auditors may differ from their male counterparts in terms of risk aversion, ethical sensitivity, and communication style—traits that may impact audit judgment (Khelif & Achek, 2017; Mnif & Cherif, 2022). This is supported by broader economic research, including Claudia Goldin’s Nobel Prize-winning work on gender and labor market outcomes (Tolbert, 2023). In auditing, the significance of gender was amplified by the high-profile Kassman v. KPMG discrimination lawsuit, which triggered further inquiry into how gender-based biases affect auditor performance and promotion (Lennox & Wu, 2018).

Most empirical research on auditor gender and audit quality has focused on developed economies (Ittonen, Vähämaa, & Vähämaa, 2013; Nasution & Jonnergård, 2017; Hossain, Chapple, Monroe, & Smith, 2018; Yang, Liu, & Mai, 2018; Lee, Nagy, & Zimmerman, 2019; Mnif & Cherif, 2022). These studies often find that female auditors are associated with higher audit quality, measured through proxies such as lower discretionary accruals or greater conservatism. However, Khelif and Achek (2017) argue that these findings should not be generalized to non-Western countries without further testing, as social norms, institutional environments, and gender roles differ widely. Vietnam, in particular, represents a transitional gender context. While women have made significant gains in education and labor force participation, gender inequality persists in leadership, compensation, and household roles (UN Women, 2021). Vietnam ranks higher than many regional peers in the Global Gender Gap Index, but still trails far behind Western nations (World Economic Forum, 2023).

These conditions warrant deeper inquiry into whether gender effects observed in Western studies hold true in Vietnam or whether local socio-cultural factors shape a different dynamic.

Moreover, auditing is a team-based process. Thus, in addition to individual gender effects, gender diversity within the audit team may play a significant role in audit outcomes. Gender-diverse teams can introduce broader perspectives, reduce groupthink, and enhance problem-solving capacity (Condie, Lisic, Seidel, Truelson, & Zimmerman, 2023). Although interest in diversity has increased in accounting literature over the past five years (Ghio, Occhipinti, & Verona, 2024), studies on gender diversity in audit teams remain rare - especially in emerging markets.

To date, only two studies have examined the effect of auditor gender on earnings management (a proxy for audit quality) in Vietnam (M. K. Nguyen, Nguyen, Nguyen, & Nguyen, 2016; Nguyen Thi Ngoc Cam, 2019). Both find that female auditors are associated with reduced earnings management, consistent with findings from Western contexts. However, these studies do not address team-level gender diversity or potential moderating factors that may shape gender effects, such as workload and experience.

Emerging literature suggests that such interactions matter. For example, Mnif and Cherif (2022) find that female audit partners can mitigate the negative impact of high workload on audit quality. Liu and Xu (2021) report inconsistent results regarding experience, possibly due to gender-based differences in decision-making and cognitive style. These findings raise the possibility that the relationship between gender and audit quality is not linear or uniform, but rather conditioned by other factors. This study responds to that gap by examining whether workload and experience strengthen or weaken the gender–audit quality relationship. It goes beyond a simple two-way

moderation by employing a three-way interaction framework, allowing for the examination of three-way moderation effects (Aiken, 1991; Dawson & Richter, 2006; Hayes, 2022) to test whether experience moderates the moderating effect of workload on the association between gender and audit outcomes.

Finally, while much of the literature relies on discretionary accruals as a proxy for audit quality, this measure has limitations - especially in emerging markets with different financial reporting practices (DeFond & Zhang, 2014). To address this, the study proposes a novel audit quality proxy tailored to the Vietnamese context, aiming to more directly capture audit outcomes that reflect both auditor performance and public interest considerations.

1.3. Research Objectives and Questions

The objectives of my research are to understand the effect of gender and gender diversity of co-signing auditors (the auditor-in-charge and the audit partner) on audit quality in the distinctive context of Vietnam. Additionally, the moderating roles of auditor workload and auditor experience on the relationship between auditor gender and audit quality are also examined.

To achieve the above objectives of my study, the following questions need to be addressed.

1. Is there a relationship between auditor gender and audit quality?
2. Do female auditors or gender-diverse teams improve audit quality?
3. Does auditor workload moderate the relationship between auditor gender and audit quality?
4. Does auditor experience moderate the relationship between auditor gender and audit quality?

5. Does auditor experience moderate the moderating role of auditor workload in determining the relationship between auditor gender and audit quality?

In this study, the individual auditor attributes, including gender, workload, and experience, are measured separately for audit partners and auditors-in-charge.

1.4. Research Methods

This study employs a quantitative approach to examine the relationships between auditor gender, gender diversity, and audit quality, while also exploring the moderating effects of auditor workload and experience in Vietnam. It utilizes an archival research design, manually collecting data from unstructured sources such as audit reports, audited financial statements, annual reports, and audit firms' transparency reports due to the lack of available third-party data. The study uses a sample of non-financial firms listed on the Ho Chi Minh Stock Exchange (HOSE) from 2010 to 2023 to ensure data credibility.

Audit quality – the dependent variable - is proxied using two new measures: Restate and AQuality. Restate is the propensity of pre-issuance restatements that is coded as 1 if a client firm must restate their financial statements prior to audit report issuance, resulting in earnings discrepancy of 5% or more, 0 otherwise. AQuality is the propensity of auditors for identifying and reporting material misstatements. It is a composite measure of good audit quality that combines modified audit opinions (MAO) and pre-issuance restatements (Restate). AQuality is coded as 1 if either MAO or Restate equals 1, and 0 otherwise.

To address the research questions, this study applies multiple logistic regression analysis using Stata software. Three regression models are developed. Equation 1 investigates the relationship between female auditors and audit quality, addressing

research question 1. Equation 2 extends this analysis by including both auditor gender and gender diversity variables to answer research question 2. The final model, presented in Equation 3, includes both two-way and three-way interaction terms to assess how workload or experience individually moderate the relationship between auditor gender and audit quality, as well as how experience moderates the moderating effect of workload—a moderated moderation effect. Equation 3 is designed to address research questions 3, 4, and 5.

Additional tests for validity and reliability are also conducted, including Goodness-of-Fit tests and checks for multicollinearity. Robustness is further evaluated by incorporating additional control variables and employing alternative dependent variables, namely discretionary accruals (DA).

1.5. Scope and Limitations of the research

1.5.1. Scope of the research

This study investigates the impact of auditor gender and gender diversity on audit quality, with a particular focus on the moderating effects of auditor workload and experience in Vietnam. Therefore, it is conducted within the context of Vietnam and targets individual auditors as the unit of analysis, examining data from audit firms and client firms in the country. The study focuses on co-signing auditors who conduct audits for listed companies in Vietnam.

My research is limited to the Vietnamese audit market, offering insights specific to this social, cultural, economic and regulatory environment. The time frame of the research will span the past fourteen years from 2010 to 2023, shedding light on recent trends in audit practice and outcomes. It will not address all individual characteristics of auditors, nor will it examine audit quality drivers beyond gender and gender diversity.

Additionally, the results are specific to Vietnam and may not be generalizable to other geographic regions.

1.5.2. Limitations of the research

Despite providing valuable insights into the relationship between auditor gender, gender diversity, and audit quality—particularly the moderating roles of auditor workload and experience—this study has certain limitations that must be considered. The study concentrated exclusively on the Vietnamese context. While this provides a deeper understanding of these factors in a non-Western, developing economy, the findings may not be fully generalizable to countries with different social, cultural, economic, or regulatory characteristics.

Next, the study examines only the gender and gender diversity of two co-signing auditors (the audit partner and the auditor-in-charge), rather than the entire audit engagement team. While these auditors play a crucial role, they represent only part of the broader team. Excluding other members—such as audit managers, seniors, and specialists—may limit the study’s ability to fully capture the influence of gender diversity on audit outcomes.

Third, due to time and resource constraints in collecting and analyzing unstructured archival data, the sample consists of companies listed on the Ho Chi Minh Stock Exchange (HOSE). While this ensures consistency, it limits generalizability beyond publicly listed firms, which face different regulatory requirements and external pressures than private companies or state-owned enterprises.

Finally, limitations exist in measuring auditor workload and audit quality. Workload is proxied by audit engagements with listed firms, excluding non-listed clients and other duties like strategy and training due to data unavailability. Additionally, while the two new audit quality measures strongly indicate good audit quality, they provide weaker

insights into poor-quality audits, as the absence of detected misstatements does not necessarily imply poor audit quality.

1.6. Contributions of the research

1.6.1. Theoretical Contributions

My study extends auditing research in several ways. First, it examines the impact of auditor gender and gender diversity on audit quality in Vietnam, a developing, non-Western economy with distinct regulatory characteristics. Additionally, the study contributes to the ongoing debate on whether gender and gender diversity genuinely influence audit quality.

Third, my study provides empirical evidence on the moderating effects of auditor workload and experience—both independently and together—on the gender-audit quality relationship, addressing a gap in existing literature. It highlights the dynamic interplay between individual and situational factors, aligning with role theory (Biddle, 1979), and contributes to a multi-moderator framework for auditing research.

Finally, the study advances audit quality measurement by introducing two direct output-based proxies—Restate and AQuality—which better capture audit effectiveness than traditional discretionary accruals. The AQuality measure, combining Restate and MAO, offers a more comprehensive assessment of audit quality.

1.6.2. Practical Contributions

This study contributes to the theoretical understanding of audit quality in Vietnam while offering practical recommendations for audit firms and policymakers.

First, Vietnamese audit firms should implement targeted diversity initiatives to mitigate leadership discrimination against female audit partners. Professional bodies shall

establish policies supporting women's career advancement, while government interventions, such as gender equality regulations, can help foster a more inclusive audit profession.

Second, to enhance audit quality, firms should prioritize gender diversity in audit teams. In Vietnam, an effective team structure may involve male audit partners and female auditors-in-charge, utilizing their complementary strengths in leadership and analytical rigor to improve audit outcomes.

Third, audit firms should monitor workload distribution, particularly during peak periods, to prevent burnout and maintain audit quality. Strategies such as equitable task allocation, seasonal staffing adjustments, and technology adoption are recommended.

Fourth, mid-to-late-career auditors may experience declining motivation, impacting audit outcomes. Firms should implement career development initiatives, leadership opportunities, and performance monitoring to sustain engagement and quality.

Finally, experienced female audit partners may manage workload more effectively and maintain audit quality longer than their male counterparts. However, excessive assignments in later career stages should be avoided to prevent performance deterioration.

1.7. Structure of the Dissertation

My dissertation is organized into five chapters, each of which builds upon the previous one to provide a comprehensive examination of the research topic. A brief overview of each chapter is provided below:

- **Chapter 1: Introduction**

This introductory chapter provides an overview of the research background, identifies the problem statement, outlines the research questions and objectives, and highlights the study's significance, scope and limitations. It also briefly describes the research methods, and concludes with an outline of the dissertation's structure.

- **Chapter 2: Literature Review**

This chapter provides a detailed review of literature on auditor gender, gender diversity, and audit quality, emphasizing how auditor workload and experience may influence these relationships. It starts by defining key constructs and introducing theories—Social Role Theory, Role Congruity Theory, and the Information-Processing Perspective—to explore gender dynamics in audit practices. A review of audit quality frameworks and empirical studies follows, focusing on definitions, measurements, and auditor characteristics. The chapter also outlines the Vietnamese auditing context, including its regulatory framework. It concludes with hypotheses and a conceptual framework grounded in the reviewed theories and literature.

- **Chapter 3: Research Methods**

The third chapter outlines the research methodology and data collection and analysis methods used to examine the relationship between auditor gender, gender diversity, and audit quality, with a focus on the moderating effects of workload and experience. It describes the research design, sample selection, data collection, and measurements, including key variables. Three empirical models are developed to analyze the main relationships and moderating effects. The chapter also addresses validity, reliability, and robustness tests to ensure the rigor of the research process.

- **Chapter 4: Findings and Discussion**

This chapter presents the results of the data analysis, structured around the research questions and hypotheses. It begins with descriptive statistics and a correlation matrix, followed by multivariate analyses examining the relationships between auditor gender and audit quality, auditor gender diversity and audit quality, and the moderating effects of auditors' workload and experience. Subsequently, the findings are interpreted and discussed in the context of the theoretical framework and existing literature. This discussion emphasizes the implications of the results, highlighting their contributions to the field and addressing the research questions. The chapter concludes with validation and reliability test results.

• **Chapter 5: Conclusion**

The final chapter summarizes the main findings, outlines the limitations as well as contributions of the study to both theory and practice, and offers recommendations for future research. Practical implications and potential applications of the findings are also discussed.

Each chapter builds on the previous one, contributing to a comprehensive understanding of the association between, auditor gender, gender diversity and audit quality in the context of Vietnam, emphasizing how women cope with workload pressure and the challenges of the late career cycle.

1.8. Conclusion

This chapter provides a comprehensive overview of the research, laying a solid foundation for the study. It introduces the research topic, highlights the gap in the existing literature, and explains the motivations behind the study. By clearly stating the research objectives and questions, it sets the stage for the investigation into the relationships between auditor gender, gender diversity, and audit quality.

The chapter also outlines the literature review, methodology, scope, limitations, and contributions of the research. Finally, the structure of the dissertation is presented, guiding the reader through the subsequent chapters, each building upon the insights introduced here. The introduction chapter is followed by the literature review chapter, which offers a comprehensive review of the existing research on the relationship between auditor gender, gender diversity, and audit quality, with a particular focus on the moderating roles of auditor workload and experience.

Chapter 2: LITERATURE REVIEW

2.1. Introduction

This chapter provides a comprehensive review of the literature on the relationship between auditor gender, gender diversity, and audit quality, with attention to the moderating roles of auditor workload and experience. The review begins with the definitions, measurements, and frameworks of audit quality to establish a foundation for understanding the literature on audit quality. Next, the main streams of research on audit quality are thoroughly presented and analyzed to provide a comprehensive overview of the audit quality literature. The section concludes by clearly outlining and justifying the research gap. Following this, the theoretical underpinnings of Social Role Theory, Role Congruity Theory, and the Information-Processing Perspective will be discussed, offering a valuable foundation for examining how gender-based attributes and team dynamics may shape audit practices and outcomes.

Given that this research is conducted in Vietnam, the audit environment and financial disclosure in Vietnam will also be described. This includes the audit profession, challenges and concerns in audit market, audit quality: key decision-makers, and financial information disclosure. Hypothesis development is the next section of this chapter. By systematically reviewing the related studies, the chapter establishes the foundation for formulating hypotheses that guide the empirical investigation of my research. These hypotheses explore the relationships between auditor gender and audit quality, gender diversity and audit quality, and the moderating effects of auditor workload and experience. Of particular interest is the moderating effect of auditor workload and experience on the relationship between auditor gender and audit quality. The chapter will conclude with the conceptual framework for my research, which is built upon the underlying theories and hypotheses developed.

2.2. Definitions, Measurements and Frameworks of Audit Quality

2.2.1. Definitions

Audit quality is a multifaceted concept that has been widely debated in both academic and professional contexts. Despite its importance, there is no universally accepted definition of audit quality, and various perspectives have been proposed depending on the research focus, context, and stakeholder interests.

One of the earliest views emphasizes the personal attributes of the auditor, particularly competence and independence. Mautz and Sharaf (1961) and Wallace (1980) suggest that an audit is of high quality when the auditor possesses strong technical ability (competence) and maintains objectivity in the face of client pressure (independence). Building on this foundation, DeAngelo (1981b) provides one of the most widely cited formal definitions, viewing audit quality as "the market-assessed joint probability that a given auditor will both discover a breach in the client's accounting system and report the breach." This definition captures the dual dimensions of detection and reporting of material misstatements, which are driven respectively by the auditor's competence and independence.

Other scholars have approached audit quality from different angles. Francis (2004) links audit quality to audit failure, arguing that higher audit failure rates reflect lower audit quality. An audit failure occurs when an auditor issues an unqualified opinion on financial statements that are materially misstated. It may also occur when a client subsequently goes bankrupt without having received a prior going-concern opinion, despite signs of financial distress. Recognizing that audit failures are relatively rare, Francis (2011, 2024) broadens the conceptualization of audit quality by focusing on observable audit outcomes in non-failed audits - namely, the audit report and the audited financial statements. Francis argues that these outcomes serve as useful proxies

for capturing variation in audit quality. Specifically, audit quality can be reflected in the likelihood of issuing a going-concern opinion for clients facing financial distress. Additionally, audit quality is viewed along a continuum of financial reporting quality or earnings quality, indicating the extent to which audited financial statements fairly represent a firm's underlying economic reality.

DeFond and Zhang (2014), along with Knechel, Krishnan, Pevzner, Shefchik, and Velury (2013), also share the perspective of audit quality as a continuum of Francis (2011, 2024). DeFond and Zhang (2014) define that higher audit quality refers to providing stronger confidence that the financial statements fairly represent the company's underlying economics, taking into account its financial reporting system and inherent attributes. They emphasize that audit quality is a multifaceted concept shaped by both client demand and auditor supply, relying on the incentives and competencies of the client and auditor. Additionally, regulation and the institutions intervene the client's and auditor's incentives and competencies (DeFond & Zhang, 2014). On the other hand, Knechel et al. (2013) propose a balance scorecard view of audit quality, composed of audit outcomes, processes, and judgments.

In summary, while other perspectives - including those of Francis (Francis, 2004, 2011, 2024), DeFond and Zhang (2014), and Knechel et al. (2013) - further enrich the understanding of audit quality by viewing it along a continuum or within a balanced scorecard framework, they are ultimately grounded in DeAngelo's foundational concept. This study adopts DeAngelo's (1981b) definition of audit quality - focusing on the joint probability of detecting and reporting material misstatements - as its conceptual foundation. This definition offers a clear, theoretically grounded, and empirically testable framework that aligns closely with the research objectives. Since this study examines how auditor gender and gender diversity affect audit quality - potentially through their influence on competence and independence - it is essential to

adopt a definition that captures both dimensions. Moreover, DeAngelo's definition underpins much of the existing literature and supports the use of audit outcomes (e.g., modified opinions, restatement of financial statements) as proxies for audit quality, which are employed in this study. Thus, it ensures conceptual clarity and alignment with the dissertation's research design, methodology, and intended contributions.

2.2.2. Measurements

Effective research on audit quality requires a valid and reliable measurement approach. However, because audit quality is inherently unobservable, defining and measuring it poses significant challenges. Among the most influential contributions, DeFond and Zhang (2014) offer a comprehensive classification of audit quality proxies, widely adopted in contemporary literature. They categorize these proxies into two main types: input-based and output-based measures.

Input-based proxies—such as Big N affiliation or audit fees—reflect audit inputs or effort but may lack a direct link to audit outcomes. As such, they are often considered weak indicators of actual audit quality. In contrast, output-based proxies capture the results of audit work and are viewed as more reliable. These include material misstatements, auditor communications, financial reporting quality, and perception-based measures.

This study emphasizes output-based proxies, particularly direct measures such as restatements and audit opinions. As highlighted by DeFond and Zhang (2014), direct proxies for audit quality provide a more accurate representation of actual audit outcomes and are generally less susceptible to measurement error than indirect measures, such as accruals-based indicators of earnings quality. Table 2.1 summarizes these output-based proxies, incorporating Modified Audit Opinions (MAOs) within the auditor communication category. While Going Concern (GC) Opinions are common in

the U.S., many other jurisdictions—including Vietnam—use MAOs as a broader equivalent (see Perry, Srinidhi, & Yang, 2023).

Table 2.1: Summary of output-based audit quality measurements (DeFond & Zhang, 2014)

Proxy category	Commonly used proxies	Directness	Egregiousness	Actual vs. Perceived	Measurement error	Strengths	Weaknesses
Material misstatements	Restatements, AAERs	Relatively more direct	Relatively more egregious	Actual	Low	Relatively strong evidence of poor audit quality	Does not capture subtle quality variation Cannot infer high quality from lack of misstatements Rare and low power
Auditor communication	GC opinions	Relatively more direct	Relatively more egregious	Actual	Low	Uniquely captures auditor independence Relatively strong evidence of poor audit quality	Does not capture subtle quality variation Only applies to distressed firms, limits generalizability
	MAO (Modified audit opinions)	Relatively more direct	Relatively more egregious	Actual	Low	Uniquely captures auditor independence and professional skepticism	Does not capture subtle quality variation

						Relatively strong evidence of good audit quality	Cannot infer low quality from lack of MAOs
Financial reporting quality	DA, Meet/beat, Accrual quality, Conservatism	Relatively less direct	Relatively less egregious	Actual	High	<ul style="list-style-type: none"> - Tightly linked to continuous nature of audit quality - Suggests within-GAAP manipulation - May signal more egregious undetected misstatements - Captures quality variation for a large number of firms 	<ul style="list-style-type: none"> - Subject to large measurement error and potential bias - Limited consensus on measurement
Perception-based	Market reaction, Cost of capital, Change in market share, PCAOB inspections	Depends on proxy	Degree of egregiousness can be inferred	Perceived	Can be high	<ul style="list-style-type: none"> - Captures perceptions of users such as investors and audit committees - Captures subtle quality variation - Measurable for a large number of firms - Equity measures reflect net benefits and costs of audit quality 	<ul style="list-style-type: none"> - Limited consensus on measurement for some (e.g., cost of capital) - Cost of capital is very indirect

Source: Adapted from DeFond and Zhang (2014)

Two widely used material misstatement proxies are restatements and Accounting and Auditing Enforcement Releases (AAERs). Restatements arise when previously audited financial statements are subsequently revised to correct material misstatements, and they are widely regarded as clear indicators of audit failure, reflecting the auditors'

inability to detect these errors during the initial audit process (Hennes, Leone, & Miller, 2008). They are regarded as one of the most accurate indicators of audit quality (Rajgopal, Srinivasan, & Zheng, 2021). However, restatement and enforcement data are generally not publicly available in Vietnam, limiting their applicability in this study.

In Vietnam's regulatory context, Modified Audit Opinions (MAOs) are a more feasible and relevant output-based proxy. A MAO reflects the auditor's decision to disclose material misstatements despite possible client pressure to issue a clean opinion. It captures both critical dimensions of audit quality as defined by DeAngelo (1981b): competency (e.g., exercising a high level of professional skepticism) and independence (e.g., reporting misstatements when identified). Thus, MAOs serve as a strong, direct measure of audit quality in the Vietnamese context.

Nevertheless, MAOs have inherent limitations. They may not capture nuanced variations in audit quality and can be misinterpreted, particularly in situations where no MAO is issued despite the performance of high-quality audit work. For example, when auditors identify material misstatements and clients agree to make the necessary adjustments prior to the issuance of the audit report, a clean opinion may be issued. In such cases, the absence of a MAO does not imply low audit quality; rather, it may reflect effective auditor performance in detecting and resolving issues before the audit opinion is finalized. Identifying and incorporating such pre-issuance audit adjustments into the analysis could mitigate this limitation by offering additional insights into auditor competence and independence—fundamental dimensions of audit quality as articulated by DeAngelo (1981b). This type of adjustment may be conceptualized as a distinct form of restatement—termed here as a pre-issuance restatements—in contrast to the post-issuance restatements that dominate the extant auditing literature.

2.2.3. Audit Quality Frameworks

As well discussed above, audit quality is multifaceted concept, much debated but little understood. Thus, over the years, standard-setting bodies and academics have developed various frameworks to define and measure audit quality. Such frameworks are exceptionally crucial for practitioners, researchers, financial statement users, and society to better understand and evaluate audit quality. I will analyze two different perspectives of audit quality frameworks: one developed by standard-setters (practical perspective) and the other from academic research (theoretical perspective).

2.2.3.1. Practical perspective

The U.K.'s Financial Reporting Council (FRC) initiated the first formal effort to create a framework for audit quality in 2006, and an updated version in 2008. Council (2008) outlined five key drivers of audit quality: (1) the audit firm culture; (2) the skills and personal qualities of audit partners and staff; (3) the effectiveness of the audit process; (4) the reliability and usefulness of audit reporting; and (5) the factors outside the control of auditors. A more comprehensive and international framework of audit quality developed by the International Auditing and Assurance Standards Board (IAASB) in 2014. IAASB (2014) also identified five key elements that contribute to audit quality: (1) input factors; (2) process factors; (3) output factors; (4) key interactions within the financial reporting supply chain; and (5) contextual factors.

The two frameworks are quite similar, with several differences and additions. The input factors of the IAASB (2014) framework include (1) the audit firm culture and (2) the skills and personal qualities of audit partners and staff of the Council (2008) framework. Otherwise, IAASB extends the level of quality attributes into three levels: engagements, firms, and nations. The next two factors, namely the audit process and audit outputs/audit reports, are the same. The contextual factors of the IAASB (2014)

framework and the factors outside the control of auditors of the Council (2008) both refer to the external environment that could directly or indirectly affects audit quality. One of the main differences between two frameworks lies in the key interactions within the financial reporting supply chain emphasized by the IAASB (2014) framework. The key participants in this supply chain are those charged with governance, managers, auditors, users and regulators. The framework highlights the interactions among these individuals, collectively influencing the quality of financial reporting and contribute to the reliability and transparency of financial information. The IAASB (2014) framework of audit quality is intended to raise awareness of audit quality elements/drivers and encourage stakeholders to explore ways to improve it. The framework is shown in Figure 1.

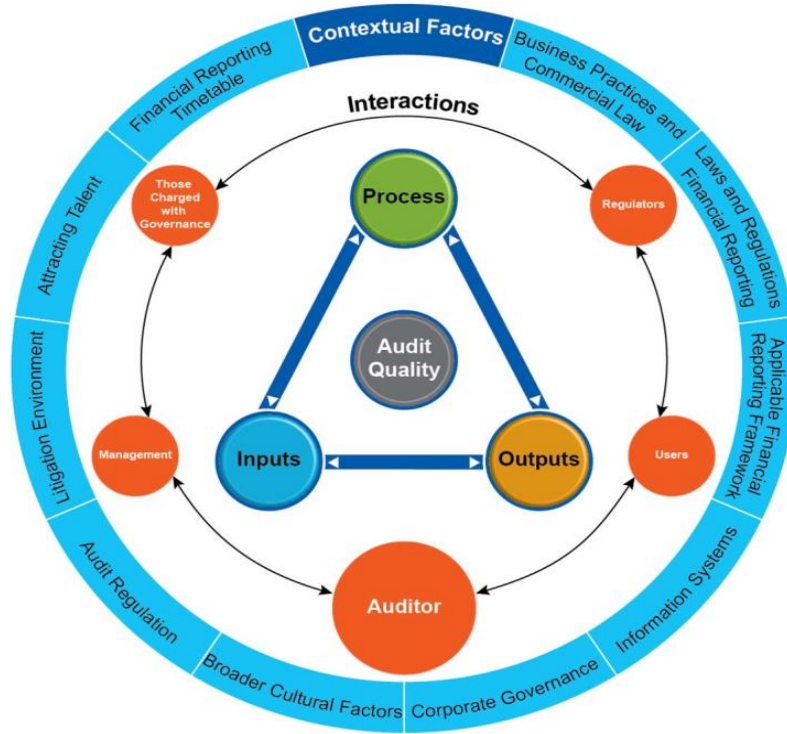


Figure 2.1: IAASB (2014) framework of audit quality

In sum, the practical framework provides guidance for practitioners and regulators to apply in their specific circumstances to improve audit quality, while the theoretical framework synthesizes existing research and provides suggestions for future research on audit quality.

2.2.3.2. Theoretical perspective

Developing a framework for understanding and researching audit quality has also garnered significant attention from researchers. First, I would like to discuss about the study of Francis (2011). Francis (2011) introduces a highly influential and widely cited framework for audit quality in the literature. The Francis (2011) framework is structured around multiple units of analysis for researching audit quality, including (1) audit inputs, (2) audit process, (3) accounting/audit firms, (4) audit industry and audit

markets, and (5) economic consequences of audit outcomes. Francis (2011) aims to propose a theoretical framework that researchers can use to identify their unit of analysis and develop their research ideas. The units of analysis proposed by Francis (2011) is presented in Table 2.1.

Table 2.2: Units of analysis in audit research (Francis, 2011)

Audit Inputs
Audit tests
Engagement team personnel
Audit Processes
Implementation of audit tests by engagement team personnel
Accounting Firms
Engagement teams work in accounting firms
Accounting firms hire, train, and compensate auditors, and develop audit guidance (testing procedures)
Audit reports are issued in name of accounting firms
Audit Industry and Audit Markets
Accounting firms constitute an industry
Industry structure affects markets and economic behavior
Institutions
Institutions affect auditing and incentives for quality, e.g., State Boards of Accountancy, the AICPA, FASB, SEC, and PCAOB, as well as the broader legal system
Economic Consequences of Audit Outcomes
Audit outcomes affect clients and users of audited accounting information

Two years later, the work of Francis (2011) was extended by Knechel et al. (2013). They provided a comprehensive review of audit quality research, synthesizing it into various indicators of audit quality. They adopt a "balanced scorecard" approach, categorizing audit quality indicators into four key areas: (1) inputs, (2) process, (3) outcomes, and (4) context, with a detailed list of indicators for each category. These indicators of audit quality is depicted in Figure 2.

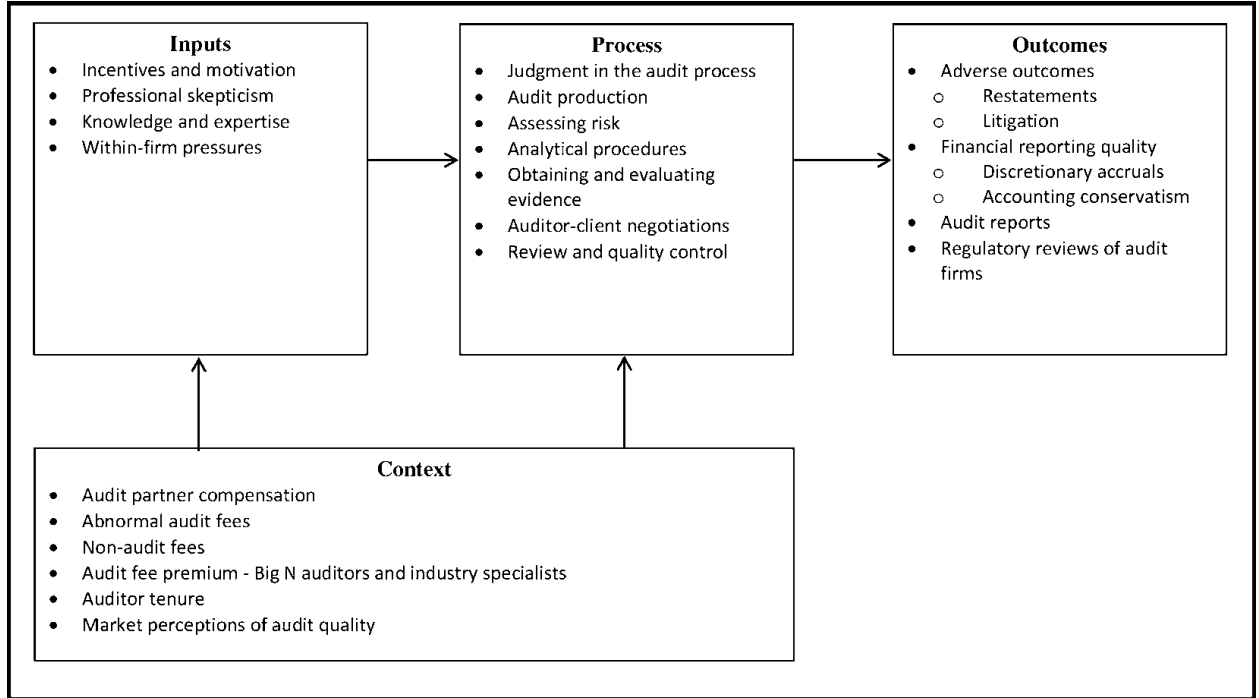


Figure 2.2: Indicators of audit quality (Knechel et al., 2013)

As you can see, the Knechel et al. (2013) framework for audit quality is similar to the IAASB (2014) framework in terms of key factors. The difference is that the Knechel et al. (2013) framework identifies constructs that have been studied in the, while the IAASB framework provides specific guidelines for stakeholders to improve audit quality.

Finally, the study by DeFond and Zhang (2014) should be discussed due to its contribution to and influence on the literature on audit quality. This paper organizes the vast body of archival auditing research into a cohesive framework, emphasizing the determinants of audit quality, including auditor incentives and competencies, client incentives and competencies, and regulatory factors. While Francis (2011) and Knechel et al. (2013) focus solely on the supply-side of audit quality, DeFond and Zhang (2014) examine both the client demand and auditor supply perspectives. Furthermore, they emphasize the role of regulatory intervention in influencing both the demand and

supply sides of audit quality. The audit quality framework of DeFond and Zhang (2014) is shown in Figure 3.

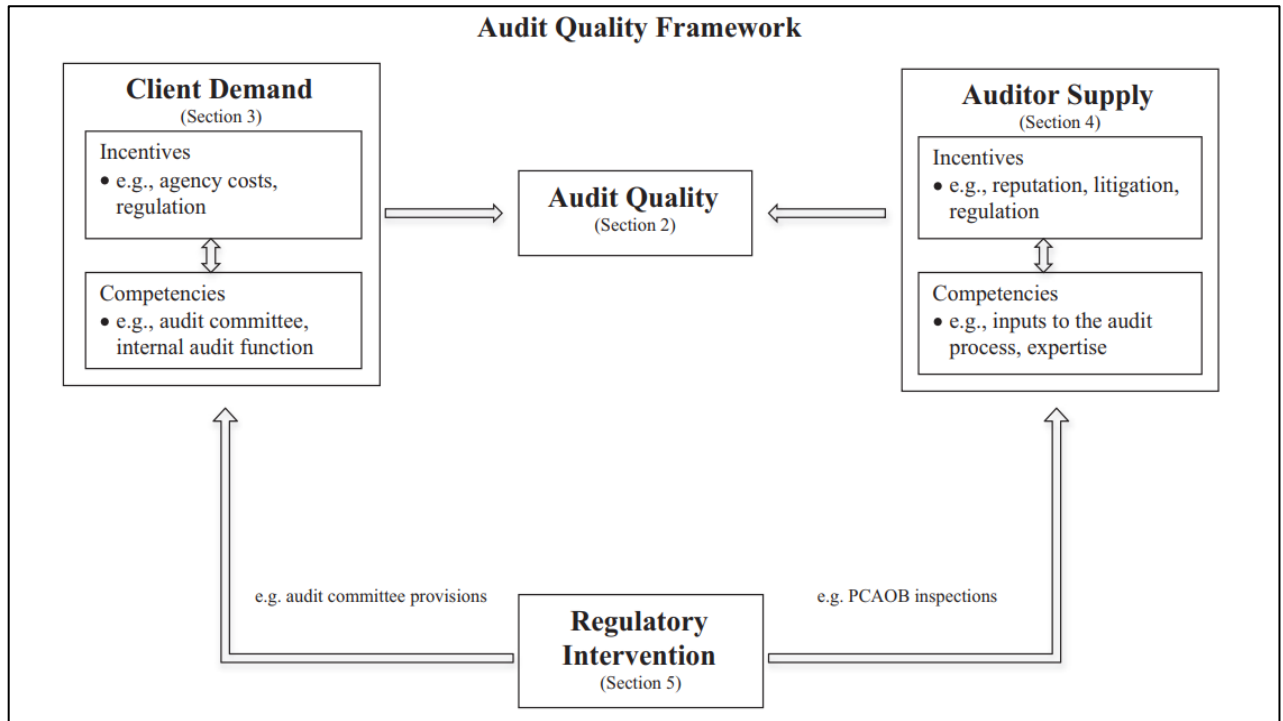


Figure 2.3: Audit quality Framework (DeFond & Zhang, 2014)

The question now is which framework should researchers rely on when studying audit quality? In my view, each framework has its own strengths and weaknesses. DeFond and Zhang (2014) offer a broad framework that addresses both sides of audit quality: the client-demand side and the auditor-supply side, while also recognizing the role of regulatory intervention on both sides. Knechel et al. (2013) provide extensive indicators of audit quality from the supply-side perspective, organized into a scorecard with four categories: inputs, process, outputs, and context. Lastly, Francis (2011) identifies multiple units of analysis in audit research, also from the auditor-side view: individual auditors, audit firms, audit tests, process, industry and markets, institutions, and the economic consequences of audit outcomes. Notably, Francis (2011) is the only

framework that includes the consequences of audit quality, while Knechel et al. (2013) and DeFond and Zhang (2014) focus primarily on the determinants.

2.3. Main streams in audit quality literature

The literature on audit quality primarily explores its determinants and consequences (Francis, 2011). In this section, we will review the key streams of research on audit quality, highlighting existing findings and limitations. This analysis will help identify the gaps in the literature that my study aims to address.

2.3.1. Consequences of audit quality

Numerous studies have examined the consequences of audit quality across various dimensions, including financial reporting credibility, cost of capital and market reactions, corporate governance and shareholder confidence, firm performance and investment efficiency. The research on these consequences of audit quality will be briefly reviewed and discussed in the following sub-sections.

2.3.1.1. Financial Reporting Credibility

High audit quality improves financial reporting credibility by reducing earnings management and increasing transparency (Francis, 2004). Studies have shown that client firms audited by high-quality auditors are less likely to engage in accrual-based or real earnings management (Dechow, Ge, & Schrand, 2010). Moreover, high audit quality enhances earnings informativeness, allowing investors to make better decisions (Knechel et al., 2013).

2.3.1.2. Cost of Capital and Market Reactions

Audit quality influences a firm's cost of capital and its stock price by mitigating information asymmetry and reducing the perceived risk among investors. Research

indicates that firms with high-quality auditors (BigN) experience lower equity and debt financing costs (Mansi, Maxwell, & Miller, 2004; Pittman & Fortin, 2004). Le, Tran, and Vo (2021) finds similar findings in Vietnam. Additionally, investors react negatively to the disclosure of going concern audit reports (Menon & Williams, 2010).

2.3.1.3. Corporate Governance and Stakeholder Confidence

Audit quality contributes to effective corporate governance by acting as a monitoring mechanism that ensures effective managerial stewardship (Cohen, Krishnamoorthy, & Wright, 2012). Audit quality strengthens internal control effectiveness and mitigates agency conflicts between managers and shareholders (Carcello, Hermanson, & McGrath, 1992). Furthermore, firms with reputable auditors gain higher trust from stakeholders, including regulators, investors, and creditors (DeFond & Zhang, 2014).

2.3.1.4. Firm Performance and Investment Efficiency

Finally, empirical evidence suggests a positive association between audit quality and firm performance. High audit quality facilitates better investment decisions by reducing financial misstatements and promoting efficient capital allocation (Hilary, Biddle, & Verdi, 2009). Additionally, firms with high-quality auditors exhibit improved operational efficiency and profitability (C. J. P. Chen, Shimin, & Xijia, 2001).

In conclusion, the literature consistently highlights the significant impact of audit quality on financial reporting reliability, cost of capital, corporate governance, and firm performance. High audit quality not only enhances stakeholder confidence but also promotes transparency and accountability in financial markets.

2.3.2. Determinants of audit quality

While the consequences of audit quality are well understood, researchers and practitioners continue to investigate what drives audit quality. Various factors

determine audit quality, ranging from auditor characteristics, client characteristics, auditor-client contracting features to regulatory environments. We will summarize and analyze these audit quality drivers in the following sub-sections.

2.3.2.1. Auditor Characteristics

Among the determinants of audit quality, auditor characteristics are of the greatest concern, as they directly impact audit quality (DeFond & Zhang, 2014). There are three levels of analysis for studying auditor characteristics: individual auditors, audit offices and audit firms. We will examine each of these three units of analysis.

At the audit firm level, researchers investigate various aspects such as firm size, reputation, industry expertise, and compensations influence audit quality. DeAngelo (1981b) is one of the earliest works to examine firm-level factors affecting audit quality. The researcher argues that larger audit firms, due to their reputational capital and economic independence from individual clients, provide higher-quality audits. Francis and Dechun (2008) investigate how the Big4 firms tend to deliver superior audit quality due to their resources, global networks, and rigorous internal quality controls. This study supports the notion that large firms are more capable of mitigating risks associated with complex and multinational audits. Although much of the literature supports a positive relationship between auditor size and audit quality, Lawrence, Minutti-Meza, and Zhang (2011), along with other researchers, question the positive association. They find that the impact of Big 4 is not significantly different from that of non-Big 4 with regard to the three audit quality proxies. Furthermore, DeFond and Zhang (2014) argue that if Big N firms dominate the audit market, competition is reduced, which decreases auditors' incentives to deliver high-quality audits.

Regarding the audit office level, characteristics such as office size, regional influence, and culture play a vital role in shaping audit outcomes. Francis and Yu (2009) study

office-level effects and found that larger audit offices tend to produce higher-quality audits due to economies of scale and access to more resources. The research also indicates that local office leadership and culture heavily influence audit quality. Choi, Kim, Kim, and Zang (2010) notes that audit offices with greater industry specialization are more likely to deliver high-quality audits. This suggests that expertise and reputation at the office level can mitigate the risk of audit failures. Aobdia, Lin, and Petacchi (2015) explore audit office characteristics and audit quality in terms of office-specific incentives and client portfolios, finding that certain office characteristics (e.g., tenure with a particular industry) enhance the ability of auditors to detect misstatements.

What about the lowest, yet most important, unit of analysis for auditor characteristics? There is limited research on individual auditor characteristics because many countries rarely disclose personal information about engagement auditors (Garcia-Blandon et al., 2019; Mnif & Cherif, 2022). However, in some countries, such as those in the Scandinavian region, China, and the U.S. since 2017, regulations require the disclosure of engagement partners' information, or mandate that audit reports be signed by two audit partners. Lennox and Wu (2018) provide a comprehensive review of audit partner research. The paper discusses various characteristics of individual auditors, such as age, gender, experience, expertise, education, and ethical disposition, are critical determinants of audit quality.

Similarly, Francis (2011) explores the significance of individual auditor characteristics in influencing audit quality. The researcher argues that while much of the prior research focuses on firm-level factors, individual auditors play a crucial role in audit outcomes. Specifically, the study suggests that the personal attributes of auditors, such as their expertise, experience, ethical standards, and professional judgment, can directly affect the quality of audits. Francis calls for more attention to the impact of

individual auditor traits, rather than solely concentrating on the audit firm or office level. Gul, Wu, and Yang (2013) find that auditor characteristics like experience and cognitive biases affect audit judgments. Their study demonstrate that more experienced auditors tend to exercise greater skepticism, leading to better-quality audits. Hardies, Breesch, and Branson (2016) focus on the impact of auditor gender, showing that female auditors tend to provide higher-quality audits due to risk aversion and ethical differences compared to their male counterparts. This aligns with behavioral differences observed in professional judgments. In addition to personal traits, the research on individual auditors also investigates others factors such as auditors' workload, tenure, and specilisation (Suhardianto, Leung, & Ntim, 2020; Q. T. Pham, Tran, Pham, & Ta, 2022; Tran, Nguyen, Pham, & Tran, 2023).

In summary, while much of the previous research focuses on firm-level chracteristics, individual auditors play a pivotal role in determining audit outcomes, as each audit is conducted by a specific audit team led by an audit partner and/or manager. However, due to the lack of disclosure of individual auditors' names in audit reports, this stream of research has been underinvestigated, opening opportunities for future research.

2.3.2.2. Client Characteristics

Audit quality is influenced not only by auditor-related factors but also by client-specific characteristics, which can shape auditors' incentives, independence, and judgment. Prior research has explored various client attributes, including firm size, financial distress, corporate governance, and earnings management, in relation to audit quality.

First, larger firms tend to have higher audit quality due to stronger internal controls and greater resources available to engage top-tier auditors (DeAngelo, 1981b). Empirical studies suggest that Big 4 auditors are more likely to audit larger firms, leading to better financial reporting quality (Francis, 2011). Additionally, large firms often face

higher scrutiny from regulators and investors, which increases their demand for high-quality audits (Lawrence et al., 2011).

On the other hand, firms in financial distress pose challenges to audit quality, as they may engage in earnings management to mask poor performance (Geiger & Raghunandan, 2002). Auditors may issue more conservative audit opinions, such as going concern modifications, for financially distressed clients to mitigate litigation risk (Carey, Geiger, & O'Connell, 2008).

Another client-related factor of audit quality is corporate governance. Strong corporate governance mechanisms enhance audit quality by reducing information asymmetry and ensuring high quality financial reporting (Cohen et al., 2012). Board independence, board size, and CEO duality significantly influence audit quality (Abbott, Parker, & Peters, 2004).

Finally, firms that engage in aggressive earnings management often experience lower audit quality (Dechow et al., 2010). Auditors play a crucial role in constraining earnings manipulation, but client pressure and economic bonding can sometimes impair audit independence (K. Y. Chen et al., 2005).

In brief, client characteristics play a crucial role in determining audit quality, with factors such as firm size, financial distress, corporate governance, and earnings management influencing the auditor's ability to provide a high-quality audit.

2.3.2.3. Audit-Client Contracting Features

The contractual relationship between auditors and clients is fundamental to audit quality, influencing auditor independence, risk assessment, and professional skepticism. Several contracting features, such as audit fees, auditor tenure, and non-audit services, have been extensively studied in relation to audit quality.

Audit fees reflect the risk and complexity of an engagement, as well as the client's importance to the audit firm. It can influence audit quality in two opposing ways. Research first suggests that higher audit fees often indicate greater audit effort, leading to better quality audits (K. Y. Chen et al., 2005). High fees may also reflect complex engagements that require extensive testing and expertise, which can improve financial reporting reliability (Hay, Knechel, & Wong, 2006). Conversely, excessive audit fees can create an economic dependence between auditors and clients, impairing auditor independence and leading to lower audit quality (DeAngelo, 1981a).

The length of the auditor-client relationship also has significant implications for audit quality. Proponents argue that long-term auditor-client relationships enhance the auditor's knowledge of the client's operations, leading to better risk assessments and higher audit quality (Ling, Jie, & Ping, 2018). However, others suggest that excessive tenure can mitigate auditor independence and reduce professional skepticism (Mautz & Sharaf, 1961). Studies have found that longer tenure is associated with higher earnings management (Tran, Nguyen, Pham, & Tran, 2025). Regulatory concerns have led to mandatory auditor rotation policies in some jurisdictions, including Vietnam, to mitigate this risk (Mara, Annalisa, & Marco, 2014; Nicolăescu, 2014).

Similar to auditor tenure, the impact of non-audit services, such as consulting and tax advisory, on audit quality is debated, with both positive and negative perspectives. Non-audit services create conflicts of interest, as auditors may become financially reliant on clients, impairing their objectivity (Knechel et al., 2013). Studies have found that higher non-audit service fees are associated with lower audit quality, as auditors may be reluctant to challenge aggressive accounting practices to protect lucrative consulting fees (Frankel, Johnson, & Nelson, 2002). Some researchers argue that non-audit service fees can enhance audit quality by improving auditors' understanding of clients' operations, leading to more effective audits (Hohenfels & Quick, 2020).

In summary, audit-client contracting features significantly influence audit quality by shaping auditor independence, risk assessment, and professional skepticism. While higher audit fees, longer tenure, and non-audit services may enhance audit quality, excessive audit and non-audit fees and extended relationships may impair independence. Mandatory auditor rotation is an effective mechanism to ensure auditor independence and objectivity, which in turn enhances audit quality.

2.3.2.4. Regulatory Environments

The regulatory environment plays a critical role in shaping audit quality by setting standards, enforcing compliance, and influencing auditor behavior (DeFond & Zhang, 2014). Stronger regulatory oversight is generally associated with higher audit quality, as it enhances auditor independence, reduces financial misreporting, and increases investor confidence (Feroz, Kyungjoo, & Pastena, 1991). Key regulatory factors affecting audit quality include audit standards, enforcement mechanisms, auditor liability, and mandatory requirements such as auditor rotation and disclosure rules.

The regulatory environment varies significantly between countries, particularly between developed and developing nations, leading to differences in audit quality. In developed countries, robust regulatory frameworks and enforcement mechanisms often result in higher audit quality. Conversely, developing countries may face challenges such as weaker regulatory structures and limited enforcement, which can adversely affect audit quality. For instance, a study by Kleinman and Lin (2017) examines the impact of cultural, legal, and market factors on audit regulation across various countries. They found that differences in legal codes and financial market liquidity significantly influence the strength of audit regulatory efforts, thereby affecting audit quality. Furthermore, research by H. H. Pham (2023) highlights that cultural, legal, and institutional factors shape auditors' roles and perceptions of audit quality differently

across countries. This underscores the necessity of considering each country's unique regulatory environment when assessing audit quality.

Therefore, studies on audit quality must account for the specific regulatory contexts of individual countries, as these environments significantly influence auditors' practices and the overall quality of audits.

2.3.3. Research Gap

Research has consistently demonstrated the importance of audit quality in enhancing financial reporting credibility, reducing the cost of capital, and improving corporate governance and firm performance. These well-documented consequences highlight audit quality as a core concern for academics, practitioners, and regulators. Accordingly, a large body of literature has sought to identify its determinants, typically grouped into four categories: auditor characteristics, client characteristics, audit engagement features, and the regulatory environment. Among these, auditor characteristics—particularly at the individual level—have been recognized as having a direct and critical influence on audit outcomes (Francis, 2011; Lennox & Wu, 2018).

Despite increasing recognition of the importance of individual auditors, research in this area has been constrained by data limitations, as auditor identities are not disclosed in many jurisdictions (Garcia-Blandon et al., 2019). As a result, most empirical studies have focused on audit firm- or office-level characteristics. Even in jurisdictions where individual auditor data are available, the existing literature is largely concentrated in developed countries such as the U.S., U.K., Australia, and Scandinavian nations (Nasution & Jonnergård, 2017; Hossain et al., 2018; Karjalainen, Niskanen, & Niskanen, 2018; Lee et al., 2019; Liu & Xu, 2021; Mnif & Cherif, 2022). These settings differ markedly from developing countries in terms of institutional maturity,

regulatory enforcement, and prevailing gender norms—factors that may limit the generalizability of prior findings.

Although studies in emerging markets such as China and Taiwan (e.g., K. Y. Chen et al., 2005; Yang et al., 2018; Perry et al., 2023) have begun to address this gap and offer valuable insights, they do not fully reflect the unique regulatory and socio-cultural dynamics of other developing economies. In particular, limited scholarly attention has been devoted to Vietnam—a market undergoing extensive audit reforms prompted by high-profile audit failures and shaped by distinct gender dynamics.

While some studies have investigated audit quality in the Vietnamese context, they have primarily focused on demand-side factors such as board characteristics, top executive gender, board gender, and board diversity (Hoang, Abeysekera, & Ma, 2017; V. K. Nguyen, 2017; Hoang Thi, Dang Ngoc, & Ngo Thanh, 2023; Q. K. Nguyen, 2024), or on audit firm-level characteristics, including firm size (K. N. Pham, Duong, Pham, & Ho, 2017) and firm tenure (Mai, Tran, Pham, & Tran, 2023). Only two studies to date have focused on auditor gender as a determinant of audit quality in Vietnam (M. K. Nguyen et al., 2016; Nguyen Thi Ngoc Cam, 2019). However, these studies have several limitations.

First, both studies rely on small samples, use outdated data (2009–2013 and 2014–2018), and adopt discretionary accruals as their sole proxy for audit quality. While discretionary accruals are widely used in the literature as an indicator of earnings management, they are an indirect and imperfect measure of audit quality (DeFond & Zhang, 2014). This is because they primarily reflect managerial reporting behavior rather than the auditor's actual performance in detecting and reporting material misstatements. Given this limitation—especially in the context of Vietnam's

developing audit market—there is a clear need for alternative proxies that more directly capture auditor performance.

To address this concern, my research proposes a direct measure of audit quality that is more closely aligned with the conceptual foundation provided by DeAngelo (1981b), who defines audit quality as the joint probability that an auditor will both detect and report a material misstatement. By adopting a measure that better reflects this definition, the study seeks to offer a more valid and context-relevant assessment of audit quality in Vietnam.

In addition to measurement concerns, the prior studies focus solely on auditor gender as an isolated characteristic, without considering the influence of team-level gender diversity or the interacting effects of other auditor attributes. In contrast, recent literature has increasingly emphasized the importance of team-level diversity—particularly gender diversity—as a driver of higher audit quality. Gender-diverse teams may improve audit performance by encouraging diverse perspectives, fostering critical thinking, and improving team communication (Condie et al., 2023; Ghio et al., 2024). Despite these insights, no existing studies in Vietnam have examined the effect of gender diversity within co-signing audit teams, presenting a meaningful research opportunity—particularly given the country's distinct institutional and gender dynamics (UN Women, 2021; World Economic Forum, 2023).

Furthermore, emerging international literature has highlighted that gender effects are often conditional—shaped by contextual factors such as workload and experience (Mnif & Cherif, 2022; Liu & Xu, 2021). These findings suggest that simplistic main-effect models may be insufficient, and that more nuanced, multi-factor frameworks are needed to understand how gender dynamics unfold in audit settings.

Therefore, this study addresses a critical gap by examining how auditor gender and gender diversity influence audit quality in Vietnam—an under-researched, non-Western context with unique institutional, cultural, and gender norms. More importantly, it investigates how these relationships are moderated by auditor workload and experience, incorporating two- and three-way interaction perspectives that reflect recent theoretical developments, as outlined by Aiken (1991) and Hayes (2022). In doing so, the study moves beyond fragmented or isolated findings to provide an integrated, empirically grounded contribution that is both contextually relevant and theoretically informed.

2.4. Theoretical Framework

2.4.1. Social Role Theory

Social role theory, primarily developed by psychologist Eagly (1987), proposes that observed differences in men's and women's behaviors are shaped by the societal roles that they are expected to fulfil rather than inherent biological or psychological differences. Due to the division of labor in society, women are more likely to hold communal roles including nurturing, cooperation, and support. In contrast, men are more likely to assume agentic roles, which focus on assertiveness, independence, and goal achievement.

Social role theory suggests that female auditors might exhibit higher levels of ethical sensitivity, caution, and detail orientation due to their communal roles. Men, driven by agentic expectations, might approach audits with more confidence or risk-taking, leading to different audit behaviors. These gender-based behaviors, shaped by societal roles, influence how auditors perform their tasks and the overall quality of the audit engagements they produce.

To sum up, social role theory posits that female auditors and managers are expected to be more risk-averse and cautious, more compliant with rules and regulations, and less overconfident, which can enhance audit quality. Khlif and Achek (2017) also support this view in their review paper on gender on accounting research.

2.4.2. Role Congruity Theory

Two psychologists, Karau and Eagly (2002), introduce role congruity theory, which extends social role theory of Eagly (1987). The theory specifically focuses on the fit between individuals' social roles and their gender stereotypes, particularly in the context of leadership and authority. The theory suggests that people face prejudice and discrimination when their roles do not align with the stereotypical expectations associated with their gender.

The core of role congruity theory is the concept of incongruity. When people observe a woman in a leadership position, the generally divergent expectations associated with women and leaders clash, potentially leading to prejudice. This prejudice can manifest in various ways: less favorable attitudes towards female leaders, reduced opportunities for women to access leadership positions, and greater challenges for women in achieving success as leaders.

Role congruity theory also stems from the idea of a “glass ceiling” - a barrier of prejudice and discrimination that prevents women from accessing top management positions (Morrison, 1992). Thus, role congruity theory posits that women in top management positions, such as audit partners, encounter negative attitudes from others and experience significant challenges in their roles, which can prevent them from delivering high-quality audits.

2.4.3. Information-Processing /Decision-Making Perspective

The information-processing/decision-making perspective is not a well-articulated theory but rather a concept or framework often used in organizational behavior and team dynamics research (Knippenberg & Schippers, 2007). In a comprehensive review of 40 years of research, Williams and O'Reilly (1998) highlight two primary perspectives in the study of work-group diversity and performance, each offering opposite predictions: the information perspective and the social categorization perspective. While the information perspective supports work group diversity, the social categorization perspective discourages it. My research would be guided by the information perspective.

The information-processing/decision-making perspective suggests that diverse teams (e.g., teams with members who differ in gender, background, expertise, or experiences) are better equipped to make high-quality decisions because they bring together a wider range of task-relevant knowledge, skills, and abilities, as well as varied opinions and viewpoints. The diversity also provides a larger pool of resources that can be valuable for addressing non-routine problems. The need to integrate different types of information and reconcile diverse viewpoints can stimulate more communication, collaboration, and creative thinking, helping to prevent premature consensus on issues that require thorough consideration (Knippenberg & Schippers, 2007).

The information perspective can explain how gender diversity improves audit quality for several reasons. Gender-diverse teams offer a wider range of perspectives, knowledge, and skills, which enhances decision-making and task execution in audits. First, differences in knowledge and skills help auditors perform various tasks in an audit engagement more effectively, such as risk assessment, evaluating a client's internal controls, obtaining and assessing audit evidence, and forming an audit opinion

while exercising professional judgment properly. Second, diverse teams often outperform homogeneous ones by promoting thorough analysis and consideration of alternative viewpoints. This is crucial for maintaining professional skepticism throughout the audit, as required by ISA/VSA200. Finally, integrating various types of information and reconciling diverse perspectives fosters communication and creative thinking, which are vital for auditors to detect fraud and irregularities more effectively.

2.5. Audit Environment and Financial Disclosure in Vietnam

Vietnam's audit environment and financial disclosure framework have evolved significantly, driven by regulatory reforms, economic growth, and increasing integration into global markets. This section explores Vietnam's audit environment, regulatory framework, and financial disclosure practices, highlighting key developments, ongoing challenges, and their implications for audit quality. Understanding this environment is crucial for assessing the broader context in which auditors operate and how regulatory dynamics influence audit outcomes in Vietnam.

2.5.1. Auditing Profession

The auditing profession in Vietnam has experienced significant growth, expanding from just two audit firms at its inception in 1991 to 210 firms by the end of 2022 (VACPA, 2022). As of 2021, the total workforce in audit firms reached 13,724 employees, including 2,228 practicing auditors who are authorized to sign audit reports (VACPA, 2022). To become a practicing auditor in Vietnam, individuals must obtain a Certificate of Practicing Auditor Registration (Vietnam CPA License) issued by the Ministry of Finance (MOF). This requires a university degree in a related field, at least 36 months of work experience, and successful completion of certification exams (Law on Independent Audit, 2011).

The Big Four accounting firms (PwC, Deloitte, EY, and KPMG) have a strong presence in Vietnam, providing services to multinational corporations, large foreign and domestic companies. Additionally, local firms are increasingly playing a significant role in auditing small and medium-sized enterprises (SMEs). The Vietnam Association of Certified Public Accountants (VACPA) is the main professional body representing auditors in the country. It plays a vital role in developing the profession by offering training programs, certifications, and continuing professional education. The VACPA also works closely with the MOF and SSC (State Securities Commission of Vietnam) to ensure that auditors adhere to professional and ethical standards.

At the 2022 annual meeting of managing partners of audit firms, held on December 29, 2022, the Ministry of Finance (MOF), in coordination with the Vietnam Association of Certified Public Accountants (VACPA), reported that the Big Four audit firms accounted for 56% of total revenue from financial statement audits in 2021. Across 210 audit firms, total revenue from financial statement audits reached approximately VND 3,807 billion. However, the Big Four dominated the listed company segment, contributing 72% of the total revenue from listed companies. This highlights their strong market presence and dominance in Vietnam's audit market for publicly traded firms.

2.5.2. Challenges and Concerns in Audit Market

Despite significant progress, Vietnam's audit industry faces several challenges. The relatively young nature of the profession, with only 30 years of development, is evident in the limited number of qualified auditors—2,228 practicing auditors serving around 62,500 clients (VACPA, 2022).

Furthermore, annual inspections by both the MOF and SSC have revealed that many audit files do not meet the requirements, leading to a significant number of auditors

being suspended from practice or receiving warnings, as reflected in the inspection sample (Hai Lien, 2024; State Securities Commission, 2024). Recent major scandals, such as those involving Tan Hoang Minh, FLC Group, and Saigon Joint Stock Commercial Bank (SCB), have raised further concerns about the quality of financial statement audits in Vietnam. As a result, research on audit quality drivers has become an urgent and important issue in the current context.

2.5.3. Audit Quality: Key Decision-Makers

In Vietnam, audit reports must be signed by two practicing auditors: the auditor-in-charge, who oversees the engagement, and the audit partner, who serves as the legal representative of the audit firm (Law on Independent Audit, 2011). Meanwhile, financial statements require the signatures of the preparer, the chief accountant, and the legal representative (typically the CEO or, in some cases, the Chairman) (Law on Accounting, 2003, 2015).

The auditor-in-charge and the audit partner play essential roles in ensuring the quality and compliance of audit engagements. The auditor-in-charge manages the audit process, leads the audit team, propose adjustments for misstatements, and coordinate closely with the client's chief accountant. Once the audit is complete, they prepare the report for the audit partner's review.

The audit partner, as the Legal Representative, reviews and approves audit reports, ensuring compliance with legal and ethical standards. They maintain auditor independence, communicate with the CEO or Board of Directors, and oversee quality control in engagements and within the firm. Overall, the auditor-in-charge executes the audit, while the audit partner ensures compliance and final approval, both contributing to audit quality in Vietnam.

Additionally, the CEO and chief accountant hold primary responsibility for financial reporting and influence audit quality. The CEO ensures financial statements comply with Vietnamese Accounting Standards (VAS), establishes internal controls, and facilitates external audits. The chief accountant, responsible for managing the accounting function, ensures accurate reporting, regulatory compliance, and supports auditors during the audit process. Their combined efforts enhance transparency, reliability, and overall audit quality.

In summary, the auditor-in-charge and audit partner, as co-signing auditors, have the direct and greatest influence on audit quality, while the CEO and Chief Accountant determine the quality of financial reporting.

2.5.4. Financial Information Disclosure and Pre-issuance Restatements in Vietnam

Vietnam has a unique financial reporting framework that mandates public disclosure of financial information at multiple stages throughout the fiscal year. This regulatory structure, governed by Circular 155/2015/TT-BTC issued by the Ministry of Finance (MOF), is designed to enhance transparency, investor protection, and market efficiency.

2.5.4.1. Regulations on Financial Statement Disclosure

Under Circular 155/2015/TT-BTC, public companies are required to disclose financial statements at three key intervals:

- Quarterly financial statements: Companies must publish unaudited financial statements within 20 days after the end of each quarter.

- Biannual financial statements: Semi-annual financial statements must be reviewed by an accredited audit firm and disclosed within 45 days after the first half of the fiscal year.
- Annual financial statements: Companies must publicly disclose their audited annual financial statements, ensuring compliance with Vietnamese Accounting Standards (VAS) and relevant regulations.

The multi-stage disclosure framework aims to provide timely and relevant financial information to investors, ensuring that market participants have access to updated financial data throughout the year.

2.5.4.2. Mandatory Explanations for Financial Statement Adjustments (Pre-issuance Restatements)

A distinctive feature of Vietnam's disclosure framework is the requirement for companies to provide explanations for significant financial discrepancies. Specifically:

- If after-tax profit changes by 10% or more compared to the same period in the previous year, companies must disclose and explain the variance.
- If the difference between pre-audit and post-audit net profit (or loss) reaches or exceeds 5%, companies must restate their financial statements to reflect the auditor's adjustments; and issue an Explanation Letter, clarifying the reasons for the discrepancy.

This regulation establishes pre-issuance restatements as an integral part of Vietnam's financial disclosure system, requiring companies to acknowledge and justify material misstatements detected during the audit process. By enforcing these disclosure requirements, Circular 155/2015/TT-BTC reinforces the role of pre-issuance

restatements as a mechanism for ensuring financial reporting reliability, aligning with the broader objectives of corporate governance and investor protection in Vietnam.

2.6. Hypothesis Development

2.6.1. Auditor Gender and Audit quality

Connell's ground-breaking work (2020) defines gender as the social, cultural, and behavioral attributes, roles, and expectations that a society considers appropriate for men, women, and other gender identities. It is distinct from biological sex, which refers to physical differences in reproductive anatomy (Khelif & Achek, 2017). Connell (2020) also highlights that gender is a fluid and socially constructed concept that can vary widely across cultures and over time.

As well discussed above, social role theory (Eagly, 1987) suggests that females are anticipated to exhibit greater risk aversion and caution, adhere more closely to rules and regulations, and display less overconfidence. Behavioral and psychology studies also provide empirical evidence suggesting the presence of differences in behavior between women and men, particularly in the accounting profession as well as the stock market, regarding risk-taking (Byrnes, Miller, & Schafer, 1999; Charness & Gneezy, 2012), ethical considerations (Bernardi & Arnold Sr, 1997; You, Maeda, & Bebeau, 2011), and confidence levels (Barber & Odean, 2001; Hardies, Breesch, & Branson, 2012).

Auditors, particularly engagement audit partners and auditors-in-charge, are responsible for managing and leading audit engagements. Due to differences in risk preferences, ethical development, sensitivity, and overconfidence mentioned, female auditors are anticipated to deliver higher audit quality compared to their male counterparts. Most empirical studies suggest a positive association between female

auditors and audit quality, as measured by audit fees (an input-based audit quality proxy), discretionary accruals (an output-based audit quality proxy for financial reporting quality), and going concern opinions (an output-based proxy for auditor communication).

First, Ittonen and Peni (2012) use data from three Nordic countries - Denmark, Finland, and Sweden - and find that the representation of women in audit engagements has a positive and significant impact on audit fees. Similarly, Hardies, Breesch, and Branson (2015) show that clients tend to pay more in audit fees for female auditors in Belgium. Lee et al. (2019) find the similar findings in the U.S. Using discretionary accruals as a measure of audit quality, researchers have also found that female partners improve audit quality in Finland (Niskanen, Karjalainen, Niskanen, & Karjalainen, 2011; Ittonen et al., 2013), in Sweden (Ittonen et al., 2013; Mnif & Cherif, 2022), in Spain (Garcia-Blandon et al., 2019), as well as in China (Li, Qi, Tian, & Zhang, 2017). Finally, Hardies et al. (2016) demonstrate that female audit partners tend to issue more going concern (GC) opinions to private companies facing financial difficulties in Belgium.

However, some studies indicate a negative association between female auditors and audit quality. Hossain et al. (2018) discover that female auditors in Australia were less inclined to issue going concern opinions for financially distressed companies, contrasting with the findings of Hardies et al. (2016) in Belgium. Yang et al. (2018) also indicate that male auditors demonstrate superior audit quality compared to female auditors in China. These results could be explained by role congruity theory (Karau & Eagly, 2002). This theory posits that women in top management positions, such as audit partners, encounter negative attitudes from others and experience significant challenges in their roles, which can prevent them from delivering high-quality audits.

To the best of my knowledge, most prior studies focus on the audit partner (Ittonen et al., 2013; Cahan & Sun, 2015; Hardies et al., 2016; Lennox & Wu, 2018; Garcia-Blandon et al., 2019; Liu & Xu, 2021; Mnif & Cherif, 2022; Condie et al., 2023). Some refer to individual auditors in general, which could include both co-signing auditors (Gul et al., 2013; Li et al., 2017; Yang et al., 2018; Perry et al., 2023), or managers and partners in audit teams (Cameran, Ditillo, & Pettinicchio, 2018). In my research, given the specific context of Vietnamese regulations, which require both the audit partner and the auditor-in-charge to personally sign audit reports, the effects of audit partner gender and auditor-in-charge gender on audit quality will be investigated separately.

In Vietnam, there are two studies on this issue. One is the study by M. K. Nguyen et al. (2016), which examines the impact of auditor gender on discretionary accrual management. The other is the study by Nguyen Thi Ngoc Cam (2019), which investigates the impact of auditor gender on audit quality, measured by discretionary accruals. The studies show that auditor gender can help restrict earnings management, indicating an improvement in audit quality. These results align with the findings of studies conducted in Western countries (Ittonen et al., 2013; Hardies et al., 2016; Garcia-Blandon et al., 2019; Lee et al., 2019). However, given the differences in gender equality in Vietnam - a non-Western country - and its unique social and cultural environment, I anticipate that the effect of auditor gender on audit quality may differ in Vietnam. This is because social expectations, gender role perceptions, and workplace dynamics in Vietnam may not empower female auditors to fully exercise their professional judgment or assertiveness in audit engagements. As such, the contextual differences may lead to outcomes that contrast with findings in more gender-equal societies.

Therefore, I formulate separate hypotheses regarding the association between auditor gender and audit quality for audit partners and auditors-in-charge, respectively, as follows:

H1a: There is a negative association between female audit partners and audit quality.

H1b: There is a negative association between female auditors-in-charge and audit quality.

2.6.2. Auditor Gender Diversity and Audit quality

Gender diversity refers to the representation and inclusion of multiple gender identities within a group, organization, or society. Emphasizing gender diversity involves promoting equality and reducing barriers that prevent people of different genders from participating fully and equally (Perry et al., 2023).

The information-processing perspective (Knippenberg & Schippers, 2007) underpins the positive impact of gender diversity on audit quality. This approach suggests that a diverse audit team, in terms of gender, race, ethnicity, or experience, can bring broader perspectives, better coordination, and a wider range of knowledge and skills, all of which are essential for effective risk assessment, evaluation of audit evidence, and fraud detection. Furthermore, the variety of viewpoints encourages thorough analysis, promotes professional skepticism, and enhances decision-making. By integrating diverse information and fostering creative thinking, gender-diverse teams are better equipped to meet the complexities of audits, ultimately contributing to higher audit quality.

Gender diversity is particularly compelling compared to other forms of demographic and cognitive diversity, such as age, race, and education. According to social role theory (Eagly, 1987), men, characterized by breadwinning roles, and women,

associated with caregiving roles, tend to cooperate and support each other effectively when working together, which can lead to improved work outcomes. However, other types of diversity may hinder performance due to coordination costs, as argued by He, Li, Monroe, and Si (2021).

A few studies provide empirical evidence on the impact of auditor gender diversity and audit quality. The study by Cameran et al. (2018) is one of the first to examine whether audit team diversity affects audit quality, using a small sample of 187 audit engagements for Italian non-financial listed companies. They find that a greater proportion of audit hours performed by senior members of the audit team, such as managers and partners, is associated with a decrease in audit quality. They also document that greater diversity in educational backgrounds and a higher percentage of female partners and managers on the audit team are associated with improved audit quality. Nekhili, Javed, and Chtioui (2018) and Nekhili, Javed, and Nagati (2022) investigate the gender diversity of audit partners from two different audit firms leading a joint audit in France. Their findings indicate that audit partner pairs with a mix of genders tend to charge higher fees and are more effective at limiting earnings management compared to all-male partner pairs. Conducting similar studies in Chinese settings, He et al. (2021), Koh, Li, Liu, and Wang (2023), and Perry et al. (2023) support the finding that the diversity among two co-signing audit partners, including gender diversity, enhances audit quality. Therefore, I expect to find a positive association between the gender diversity of two signing auditors and audit quality in Vietnam, leading to the following hypothesis:

H2: There is a positive association between auditor gender diversity and audit quality.

2.6.3. Moderation of Auditor Workload on the Association between Auditor Gender and Audit Quality

Auditor workload has been recognized as a key determinant of audit quality (Francis, 2011). According to Job Demands–Resources Theory (Bakker & Demerouti, 2007), excessive workload constitutes a job demand that can deplete an individual's cognitive and physical resources, thereby reducing job performance if not offset by adequate resources. In the audit context, a high workload may impair auditors' ability to maintain professional skepticism or exercise sound judgment, ultimately compromising audit quality. This effect is particularly concerning for audit partners, whose supervisory and signing responsibilities directly impact the outcome of the audit engagement.

Empirical research has consistently supported this theoretical expectation. For example, Lennox and Wu (2018) suggest that when audit partners are overextended across multiple engagements, they may reallocate effort or reduce audit procedures to meet deadlines, increasing the risk of low-quality audits. Similarly, Sundgren and Svanström (2014) find that the number of concurrent audit assignments handled by the auditor-in-charge negatively correlates with audit quality. In the Chinese context, J. Chen, Dong, Han, and Zhou (2020) report that higher audit partner workload is associated with reduced accrual quality and a lower likelihood of issuing modified audit opinions. Furthermore, López and Peters (2012) show that workload pressures intensify the negative effects of busy season scheduling on audit outcomes, highlighting a moderation effect.

Importantly, Mnif and Cherif (2022) provide direct evidence of gender-specific moderation, showing that female audit partners can buffer or even reverse the negative effects of high workload on audit quality. Their findings suggest that gender and

workload may interact in complex ways, and that gender-related differences in coping mechanisms, risk aversion, or ethical sensitivity may play a role in shaping audit outcomes under pressure.

Building on these insights, this study examines whether auditor workload moderates the relationship between auditor gender and audit quality in the Vietnamese setting. Given the two-tier signing structure in Vietnam, where both audit partners and auditors-in-charge are disclosed, the following hypotheses are proposed to separately test the moderating effect at each role level:

H3a: The workload of audit partners negatively moderates the relationship between their gender and audit quality, such that the effect of gender on audit quality weakens as workload increases.

H3b: The workload of auditors-in-charge negatively moderates the relationship between their gender and audit quality, such that the effect of gender on audit quality weakens as workload increases.

2.6.4. Moderation of Auditor Experience on the Association between Auditor Gender and Audit Quality

Auditor experience, like workload, is widely acknowledged as an important factor influencing audit quality. According to Expertise Theory (Chi, Glaser, & Farr, 1988), professional experience facilitates the development of domain-specific knowledge, cognitive structures, and decision-making skills through repeated exposure to complex audit tasks. Consequently, experienced auditors are expected to exhibit stronger judgment, more accurate risk assessments, and greater efficiency—attributes that contribute to higher audit quality (Cahan & Sun, 2015; Zhaoyan, Hux, Chih-Chen, & Min, 2022).

As discussed previously, behavioral differences between women and men - particularly in risk-taking, ethical considerations, and confidence levels - can influence audit quality. However, these gender-based behavioral effects may diminish over time as auditors increasingly conform to standardized professional norms—particularly within hierarchical and male-dominated work cultures such as the auditing profession (Chatman & Flynn, 2001). As auditors gain experience, their behaviors may become increasingly shaped by firm culture, economic pressures, or efficiency goals, thereby narrowing the behavioral gap between male and female auditors. In addition, female auditors tend to exhibit greater risk aversion and stronger ethical behavior (Eagly, 1987). Over time, as they gain more experience, they may learn to navigate gender biases and structural barriers, enabling them to deliver audit quality that may surpass that of their male counterparts. Furthermore, Nehme, Kozah, and Khalil (2025) indicate that experience may influence the view of male auditors on dysfunctional audit behavior compared to female auditors. Dysfunctional audit behavior refers to unethical or counterproductive behaviors by auditors that undermine the quality and integrity of the audit process (Paino, Ismail, & Smith, 2010).

Building on these insights, this study proposes that auditor experience negatively moderates the relationship between auditor gender and audit quality. Specifically, while female auditors may initially exhibit lower audit quality, this effect may weaken as experience increases. Given the dual-signature system in Vietnam, the following hypotheses are proposed to separately assess this moderation effect for audit partners and auditors-in-charge:

H4a: The experience of audit partners negatively moderates the relationship between their gender and audit quality, such that the effect of gender on audit quality weakens as experience increases.

H4b: The experience of auditors-in-charge negatively moderates the relationship between their gender and audit quality, such that the effect of gender on audit quality weakens as experience increases.

2.6.5. Moderation of Auditor Workload and Auditor Experience on the Association between Auditor Gender and Audit Quality

Building on prior studies (Hossain et al., 2018; Yang et al., 2018) and considering the specific characteristics of the Vietnamese context, this study proposes that female auditors may be associated with lower audit quality. Furthermore, it is suggested that this relationship may weaken as workload increases. At this stage, the analysis extends to explore the multiple boundary conditions of the gender–audit quality relationship by examining the moderation of experience on the moderating effect of workload on the relationship between auditor gender and audit quality. Based on Expertise Theory (Chi et al., 1988), higher professional experience is expected to strengthen the moderating effect of workload on the relationship between auditor gender and audit quality. However, this study proposes that in the context of Vietnam, strong gender discrimination pressures may cause experience to weaken, rather than enhance, the moderating effect of workload on this relationship.

This is because, although female auditors may manage workload pressure more efficiently than their male counterparts, resulting in a higher audit quality as workload increases (Mnif & Cherif, 2022). However, under intense time pressure and high job demands, even experienced professionals are susceptible to stress and burnout (Goodwin & Donghui, 2016; J. Chen et al., 2020; Mnif & Cherif, 2022). Furthermore, female auditors face ongoing emotional and cognitive burdens associated with gender bias and discrimination (Karau & Eagly, 2002), which may intensify as they progress in their careers. The moderating effect of workload on the relationship between auditor

gender and audit quality is expected to diminish with increasing experience, as female auditors may face compounded pressures—both from workload demands and accumulated gender-based discrimination—which can lead to burnout. According to Maslach’s burnout theory, burnout extends beyond fatigue to include emotional exhaustion, cynicism, and a diminished sense of personal efficacy (Maslach & Jackson, 1981; Maslach, Schaufeli, & Leiter, 2001). In summary, as female auditors advance in their careers, the combined pressures of heavy workload and emotional strain from gender bias can intensify burnout, resulting in a more significant decline in audit quality.

Drawing on these theoretical and empirical insights, this study introduces a three-way moderation framework (Aiken, 1991; Dawson & Richter, 2006; Ju, Qin, Xu, & DiRenzo, 2016; Hayes, 2022) to examine whether the combined effect of auditor workload and experience moderates the relationship between auditor gender and audit quality. This framework provides a more nuanced understanding of how individual and contextual factors interact to influence audit outcomes. The analytical approach and model are adapted from the study by Ju et al. (2016). Given the dual-signature format of audit reports in Vietnam—which identifies both the audit partner and the auditor-in-charge—the following hypotheses are proposed:

H5a: The experience of audit partners negatively moderates the moderating effect of their workload on the relationship between auditor gender and audit quality, such that the moderating effect of workload becomes weaker as experience increases.

H5b: The experience of auditors-in-charge negatively moderates the moderating effect of their workload on the relationship between auditor gender and audit quality, such that the moderating effect of workload becomes weaker as experience increases.

2.7. Conceptual Framework

The aim of my research is to examine the relationship between gender, gender diversity, and audit quality, with particular attention to the moderating roles of workload and experience. By understanding how gender-related dynamics in audit teams affect audit outcomes, the study seeks to fill gaps in current literature and provide insights for improving audit practices. The conceptual framework of my research integrates three key theories, including Social Role Theory, Role Congruity Theory, and Information-Processing Perspective, to build a cohesive approach to understanding the gender-audit quality nexus. The Social Role and Role Congruity theories explain how gender-based expectations influence auditor behavior, while the information-processing perspective emphasizes the strategic and cognitive benefits of gender diversity. Together, these theories provide a robust foundation for understanding the nuanced ways in which gender dynamics affect audit outcomes.

The conceptual model is presented in Figure 2.4, illustrating how auditor gender, gender diversity, and audit quality are interconnected through the lens of the aforementioned theories, with specific hypotheses developed accordingly. In addition, this study examines auditor workload and experience as two moderators of the relationship between auditor gender and audit quality. Furthermore, it explores both the simple and moderated moderating effects, highlighting how workload or/and experience influence this relationship.

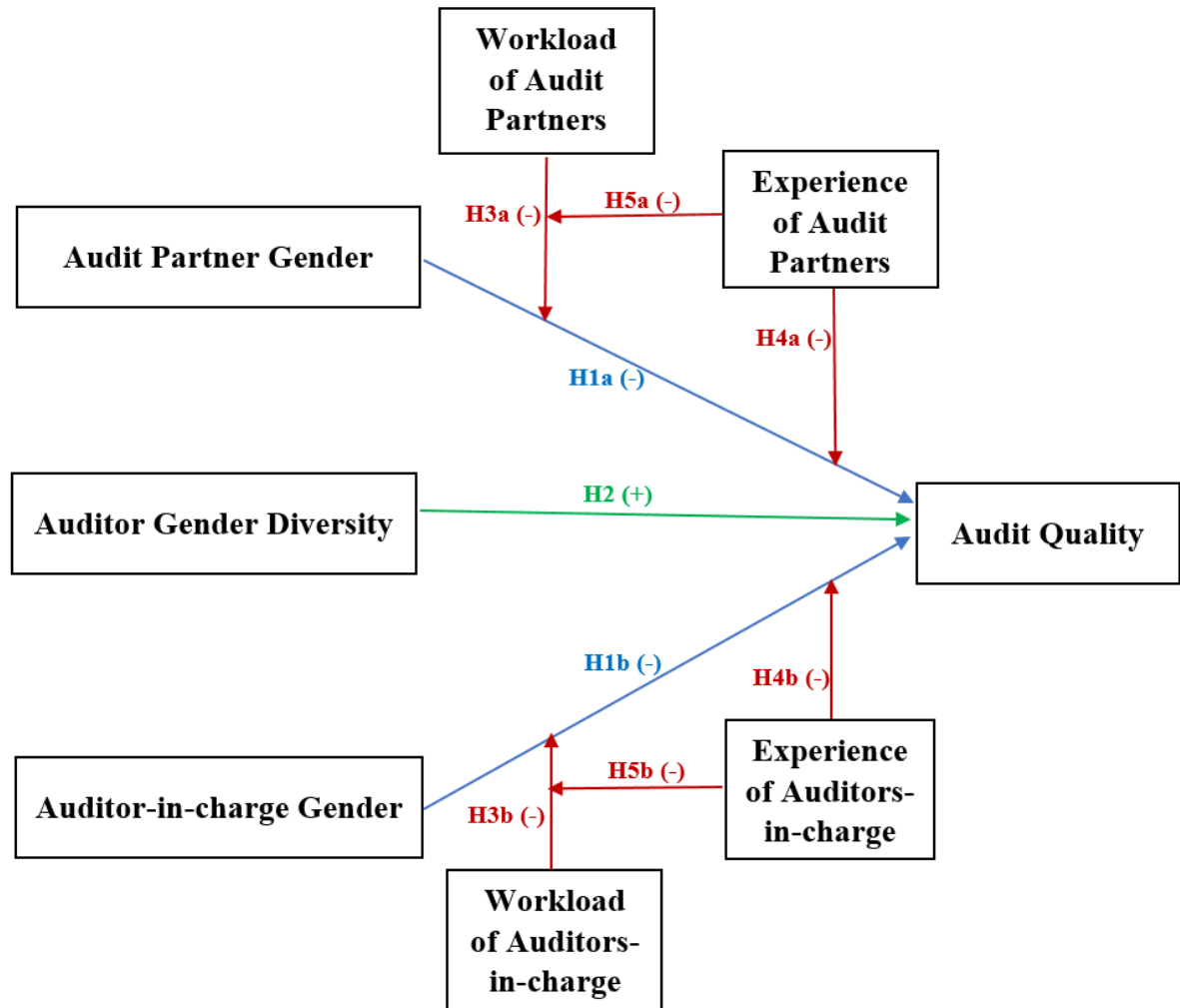


Figure 2.4: Conceptual Framework of the study

2.8. Conclusion

In summary, this literature review has provided a comprehensive examination of the existing research on audit quality, with a particular focus on the influence of auditor gender, gender diversity, and related factors such as auditor workload and experience. The review has highlighted key theoretical frameworks, including Social Role Theory, Role Congruity Theory, and the Information-Processing Perspective, to understand how gender dynamics may shape audit practices and outcomes. Furthermore, empirical

studies have been analyzed to explore the direct and indirect relationships between these variables and their impact on audit quality.

Despite significant contributions to the field, gaps remain in understanding the complex interplay between gender, gender diversity and audit quality, particularly in the presence of auditor workload and experience. These gaps provide an opportunity for further investigation, which this research aims to address. The insights gained from this review inform the conceptual framework of the study, establishing a solid foundation for the development of hypotheses and guiding the empirical analysis to follow. By addressing these gaps, this research seeks to contribute new knowledge to the literature on audit quality, with practical implications for the auditing profession and its diverse teams.

Chapter 3: RESEARCH METHODS

3.1. Introduction

This chapter outlines the research methods employed in this study to examine the relationship between auditor gender, gender diversity, and audit quality, as well as the moderating effects of auditors' workload and experience. The methodology is organized to ensure clarity and reproducibility, aligning with the research objectives and providing a foundation for understanding the study's design, data collection, and analysis.

The chapter begins by describing the research design, explaining the study's framework and approach, followed by an outline of the sample selection and data collection processes. Next, a comprehensive overview of the study's measurements, including dependent variables, interest variables, moderating variables, and control variables, is provided.

The research models are then developed for empirical analysis, with three equations addressing the association between auditor gender and audit quality (Equation 1), the relationship between auditor gender diversity and audit quality (Equation 2), and the moderating effects of auditor workload and experience on these associations (Equation 3). The next section discusses the methods used to ensure validity and reliability, including model fit and multicollinearity concerns. Finally, the chapter presents additional robustness tests conducted to validate the study's findings. Each section of the chapter offers transparency in the study's methodology, supporting the rigor of the research process.

3.2. Research Design

3.2.1. Research Objectives and Approach

The primary objective of this study is to explore how auditor gender and gender diversity among co-signing auditors (including the auditor-in-charge and the audit partner) influence audit quality in Vietnam, a developing economy. Additionally, this research examines the moderating effects of auditor workload and experience on the relationship between auditor gender and audit quality.

To achieve these objectives, the study follows a quantitative research approach, which allows for systematic analysis of relationships among variables, hypothesis testing, and generalization of findings (Creswell & Creswell, 2023). Given that prior audit quality research predominantly employs quantitative methods, including archival data analysis, experiments, and surveys (Knechel et al., 2013; DeFond & Zhang, 2014; Khlif & Achek, 2017; Lennox & Wu, 2018), this study adopts a similar approach to ensure consistency with established methodologies in the field.

3.2.2. Justification for a Quantitative Approach

A quantitative approach is well-suited for this study as it allows for empirical examination by objectively measuring the relationships between auditor gender, gender diversity, and audit quality, ensuring statistical rigor and validity. Additionally, the use of statistical methods enhances the generalizability of findings across a broader population of audit engagements, thereby increasing the study's applicability beyond the specific sample.

Furthermore, as prior research on audit quality has predominantly employed quantitative methodologies, adopting this approach facilitates comparability and replication, enabling a more robust assessment of gender-related influences within the auditing profession. This methodology aligns with positivist research paradigms, which emphasize quantifiable observations and statistical analysis to test hypotheses.

3.2.3. Research Design and Data Collection Strategy

The study employs an archival research design, a widely recognized methodology in accounting and auditing research that utilizes historical financial and audit data to examine empirical relationships. This approach is particularly appropriate for this study due to several key advantages. First, it facilitates the use of actual audit engagement data, thereby enhancing the objectivity and reliability of findings compared to self-reported perceptions. Second, it provides valuable insights into real-world audit practices within Vietnam's unique regulatory and economic environment. Finally, it enables the examination of long-term trends in auditor gender and audit quality, contributing to a more comprehensive understanding of gender-related dynamics in the auditing profession.

Regarding the data collection strategy, given the absence of structured databases such as Datastream, Fiinpro-X, or Compustat, this study relies on hand-collected archival data from various unstructured sources, including audit reports, audited financial statements, annual reports, and audit firms' transparency reports, among others. The manual data collection process ensures the accurate recording of key variables, including the gender of co-signing auditors, audit firm characteristics, and audit quality measures. Bloomfield, Nelson, and Soltes (2016) emphasize the significance of hand-collected archival studies, asserting that such methods add substantial value by offering rich, detailed datasets that are often unavailable in standardized databases. This approach not only enhances data comprehensiveness but also strengthens the study's empirical validity by capturing context-specific audit engagement characteristics.

3.3. Sample and Data Collection

3.3.1. Sample selection

3.3.1.1. Research Scope and Sample Selection

This study investigates the relationships between individual auditor characteristics and audit quality within the context of Vietnam, focusing specifically on non-financial firms listed on the Ho Chi Minh Stock Exchange (HOSE) from 2010 to 2023. The selection of listed companies is due to mandatory disclosure requirements, which ensure the data availability of auditors, audit firms, audit opinions, restatements of financial statements after the audit, as well as client's Board of Directors (BOD), top management, and financial data. In contrast, unlisted firms are not required to disclose such information, making them unsuitable for inclusion in this study.

The decision to focus on HOSE rather than all Vietnamese stock markets is justified by its dominance in Vietnam's capital market. As of 2023, HOSE accounts for over 94% of the total market capitalization of listed stocks, equivalent to approximately 51.12% of Vietnam's GDP¹. This substantial market share ensures that findings derived from HOSE-listed firms are highly representative of Vietnam's corporate landscape.

The study covers the 2010–2023 period for several reasons. Firstly, 2010 represents a critical turning point in the evolution of Vietnam's stock market, witnessing a record-high 81 new listings, signifying a period of heightened market activity². Additionally, this year marks the conclusion of HOSE's rapid expansion phase, transitioning into a more stable and mature market environment. Moreover, the post-2010 stabilization of the stock market led to greater reliability in financial and audit-related data, thereby enhancing the credibility and accuracy of empirical analyses conducted in this study.

¹ <https://en.vietnamplus.vn/hose-capitalisation-in-march-rises-by-31-year-on-year-post284090.vnp>

² <https://kinhtevadubao.vn/hose-cong-bo-du-lieu-toan-thi-truong-tu-nam-2000-den-het-thang-7-2022-23493.html>

Extending the dataset to 2023 ensures the inclusion of recent market developments, thereby strengthening the study's relevance, robustness, and generalizability within the contemporary auditing landscape.

Finally, financial companies (e.g., banks, insurance firms, and investment funds) are excluded due to their distinctive regulatory framework, complex financial reporting requirements, different risk profiles, and industry-specific accounting standards (Francis, 2011; DeFond & Zhang, 2014). These factors create fundamental differences in how audit quality is measured, making comparisons with non-financial firms less meaningful. By removing financial firms, the study ensures that its findings remain valid and generalizable across industries where standardized audit quality measures apply.

3.3.1.2. Sample Selection Process

The initial sample comprises 303 firms listed on HOSE in 2010, resulting in a total of 4,242 firm-year observations over the fourteen-year research period (from 2010 to 2023). The final sample is determined through a structured selection process, as outlined below:

- Exclusion of financial firms: 34 firms were removed, accounting for 476 firm-year observations, due to industry-specific regulations and distinct financial reporting standards.
- Elimination of firm-years lacking individual auditor information: 39 firm-year observations were excluded to ensure the integrity of auditor-related data.
- Exclusion of firm-years with missing financial and governance data: 504 firm-year observations were removed to maintain data completeness and consistency.

Following the application of these selection criteria, the final sample comprises 232 non-financial firms, yielding 3,223 firm-year observations over the 2010–2023 period.

The detailed sample selection procedure is presented in Table 3.1, while the full list of firms included in the final sample is provided in Appendix 3.

Table 3.1: Data selection process

Data selection process	No of observations
Initial observations (firm-year) available from 2010 to 2023	4242
Less: financial companies	(476)
Less: observations missing data of individual auditors	(39)
Less: observations missing data of financial, governance data	(504)
Final sample of firm-year observations	3223

3.3.2. Data collection

This study relies on secondary data obtained from publicly available sources. The data collected include audit firm characteristics (firm name, Big 4 membership, audit firm rotation), and personal attributes of the two co-signing auditors (audit partner and auditor-in-charge), including their name, gender, CPA license ID number, year of certification, and annual audit workload. Information on the client firm’s CEO, Chief Accountant, and Chairperson—including their names and genders—as well as the size of the Board of Directors (BOD) and Board of Management (BOM), was also gathered. Financial indicators such as firm size, profitability, and leverage were collected, along with audit quality indicators, namely pre-issuance restatements and modified audit opinions.

The data sources include:

- Independent Auditor's Reports,
- Audited Financial Statements,
- Statements of the Board of Directors / Board of Management,
- Annual Reports,
- Explanation Letters submitted to HOSE (required under Circular 155/2015/TT-BTC when audit adjustments lead to profit changes of 5% and more),
- Transparency Reports of audit firms,
- Lists of Practicing Auditors published by the Ministry of Finance³ and Lists of New VACPA Members published by VACPA⁴, and
- Refinitiv Eikon database for client financials.

The identity of audit firms and the type of audit opinions are first obtained from the Independent Auditor's Reports. Auditor-specific information was manually extracted from the same reports, which disclose both the auditor's name and Vietnam CPA license ID. These identifiers are then cross-referenced with official auditor lists and transparency reports to determine gender and to calculate experience based on the year of CPA certification. Auditor workload was measured by identifying the number of audit engagements each auditor signed per year, using consistent name and ID matching across all sampled reports.

Client governance data (e.g., CEO/Chairperson duality, board size, gender) are manually compiled from Statements of the BOD/BOM and annual reports. Financial data including assets, liabilities, and income are retrieved from Refinitiv Eikon and used to compute size, leverage, profitability, and discretionary accruals (via the modified Jones model).

³ https://mof.gov.vn/webcenter/portal/btcvn/pages_r//tin-bo-tai-chinh?dDocName=MOFUCM316414

⁴ <https://vacpa.org.vn/vi/hoi-kiem-toan-vien-hanh-nghe-viet-nam--vacpa--chuc-mung-45-hoi-vien-moi-gia-nhap-hoi-3663.htm>

Pre-issuance restatements are identified from the Explanation Letters submitted to HOSE (a sample provided in Appendix 2). These letters disclose earnings adjustments proposed by auditors that result in significant profit differences ($\geq 5\%$) before and after the audit. This indicator is used to construct the Restate variable as a direct proxy for audit quality.

3.4. Measurements

3.4.1. Dependent variable: Audit Quality

Measuring audit quality is challenging because the level of assurance auditors provide cannot be directly observed. However, it can be inferred using two main approaches: output-based and input-based proxies (DeFond & Zhang, 2014). Input-based proxies, such as auditor size and audit fees, reflect observable client choices and are typically used in research on demand-side factors. In contrast, such as audit reports or restatements, better reflect the effectiveness of audit work and are more relevant for studies on supply-side factors, such as individual auditor characteristics—the focus of this research.

Among output-based proxies, DeFond and Zhang (2014) distinguish between direct measures (e.g., restatements, auditor opinions) and indirect measures (e.g., accruals-based earnings quality, market perceptions). Direct proxies are favored for their stronger conceptual alignment with DeAngelo (1981b)'s definition of audit quality and lower measurement error. Nevertheless, indirect measures—such as discretionary accruals (DA)—are widely used due to data availability (Francis, 2011; Gul et al., 2013; Garcia-Blandon et al., 2019). For example, the only prior study on auditor gender and audit quality in Vietnam (Nguyen Thi Ngoc Cam, 2019) also employs DA as a proxy of audit quality. However, DA primarily captures earnings management by clients and may not directly reflect auditor performance.

To address these limitations, this study adopts DeAngelo (1981b) widely accepted definition of audit quality—the joint probability that an auditor detects and reports material misstatements—and builds on two conventional direct proxies: restatements and modified audit opinions (MAOs). Based on this foundation, I develop two direct, output-based measures tailored to the Vietnamese context: *Restate* (pre-issuance restatements) and *AQuality* (a composite indicator combining pre-issuance restatements and MAOs).

3.4.1.1. Pre-issuance Restatements (Restate)

Restatements are widely regarded in the literature as one of the most reliable and direct measures of audit quality, as they capture instances where material misstatements were not identified and corrected by the auditor prior to the release of financial statements (DeFond & Zhang, 2014; Rajgopal, Srinivasan, & Zheng, 2021). In this study, such cases are referred to as post-issuance restatements. However, in Vietnam, post-issuance restatement data is not publicly available. Instead, a distinct form of restatement—pre-issuance restatements (*Restate*), as discussed in Section 2.2.2. Measurements of Audit Quality, in Chapter 2—can be observed.

Specifically, listed companies in Vietnam must first publish their fourth-quarter financial statements, including accumulated figures for the full year, before releasing their audited annual financial statements. If auditors identify misstatements during the audit and propose adjustments, companies would restate their financial statements, leading to changes in reported earnings. According to Circular 155/2015/TT-BTC, if the difference in earnings before and after the audit is 5% or more, companies must publicly disclose and explain these pre-issuance restatements in an Explanation Letter (see Appendix 2 for a sample). While in developed markets, post-issuance restatements are typically viewed as audit failures (Kinney Jr, Palmrose, & Scholz, 2004), these pre-issuance restatements (*Restate*) reflect the auditor's competence and independence,

aligning closely with DeAngelo (1981b)'s conceptualization and is therefore adopted in this research as a reliable proxy.

Restate is therefore defined as a binary variable, coded 1 if a client revises its reported earnings by 5% or more after the auditor's intervention, and 0 otherwise. It captures the auditor's success in detecting and prompting correction of material misstatements prior to public disclosure.

3.4.1.2. A Composite Measure of Audit Quality - AQuality

In the existing literature, restatements (post-issuance) and modified audit opinions (MAOs) are considered two of the most direct and powerful output-based proxies for audit quality (DeFond & Zhang, 2014; Rajgopal et al., 2021). While conceptually related—both capturing an auditor's failure or success in detecting and reporting material misstatements—these two proxies are typically employed separately in empirical research. To date, there has been no integrated measure that combines the detection aspect captured by restatements and the reporting aspect reflected in MAOs, leaving a gap in the comprehensive assessment of audit quality.

Building on this conceptual linkage, and adapting it to the Vietnamese context, this study introduces AQuality—a novel, composite audit quality measure that unifies pre-issuance restatements and modified audit opinions. In Vietnam, where post-issuance restatement data is unavailable, pre-issuance restatements (Restate) offer a meaningful proxy for the auditor's detection of material misstatements that are subsequently corrected by the client. Conversely, the issuance of an MAO captures instances where the auditor identifies but the client refuses to correct the misstatements, thereby reflecting the auditor's independence in reporting.

AQuality is designed to capture the complementary strengths of these two audit quality indicators – Pre-issuance Restatements (Restate) and Modified Audit Opinions (MAO).

Specifically, it accounts for instances where the auditor successfully detects and prompts the correction of material misstatements before issuance (via Restate), as well as situations where the auditor identifies uncorrected misstatements and fulfills their reporting obligation by issuing a modified audit opinion (via MAO). By integrating both outcomes into a single proxy, AQuality reflects the two fundamental dimensions of audit quality articulated by DeAngelo (1981b): the auditor's competence in detecting material misstatements and their independence in reporting them. This dual focus allows AQuality to provide a more comprehensive and theoretically grounded assessment of audit effectiveness than either measure could offer in isolation.

This measure is operationalized by assigning a value of 1 if either a pre-issuance restatement or a modified audit opinion is present, and 0 otherwise (see Table 3.2: Explanation of AQuality measure). By formally combining these two well-established proxies for the first time, AQuality advances the empirical measurement of audit quality.

Table 3.2: Explanation of AQuality measure

Restate	MAO	AQuality	Explanation
0	0	0	The auditor did not detect or report any material misstatements.
1	0	1	The auditor detected material misstatements, which were then appropriately adjusted by the client.
0	1	1	The auditor detected material misstatements, but the client did not adjust them. As a result, the auditor issued a modified audit opinion to report the material

			misstatements.
1	1	1	The auditor detected material misstatements, some of which were adjusted by the client, while others remained unadjusted. To report the unadjusted material misstatements, the auditor issued a modified audit opinion.

3.4.2. Variables of Interest: Gender and Gender Diversity

3.4.2.1. Auditor Gender (PGen and AGen)

Audit reports issued in Vietnam must be signed by two practicing auditors: one is the auditor in charge of the engagement (audit-in-charge), and the other is the legal representative of the audit firm (audit partner) (Law on Independent Audit, 2011). Audit partners and auditors-in-charge are the members of audit engagement teams who most significantly influence the quality of the audits provided. However, each contributes to the audit process differently. Auditors-in-charge are typically an audit director or manager who leads the audit process and works closely with the client. Audit partners, who also serve as the legal representatives of audit firms, are responsible for reviewing the work and making final decisions on audit adjustments and reports.

Therefore, I believe that the gender of audit partners and the auditors-in-charge affect audit quality differently and should be measured separately as audit partner gender (PGen) and auditor-in-charge gender (AGen). PGen and AGen are binary variables, taking the value of 1 if the audit partner or the auditor-in-charge is female, and 0 otherwise.

3.4.2.2. Auditor Gender Diversity (ADiver)

Based on the differences in gender and the idea that women and men may collaborate more effectively than in all-female or all-male teams, auditor gender diversity is the second variable of interest in my research. Following the study by Perry et al. (2023), auditor gender diversity (ADiver) is a dummy variable indicating gender diversity among co-signing auditors. ADiver takes the value of 1 if the two co-signing auditors are of different genders (male-female or female-male), and 0 otherwise (male-male or female-female).

3.4.3. Moderating variables: Auditor Workload and Auditor Experience

3.4.3.1. Auditor Workload (PWork and AWork) and Its Interaction with Auditor Gender (PWG and AWG)

Auditor workload refers to the volume and complexity of audit tasks or engagements an auditor is assigned (Sundgren & Svanström, 2014). High workload is often associated with time pressure, long working hours, and increased risk of errors in judgment, which can affect audit quality (J. Chen et al., 2020). Gender differences may cause female auditors to handle workload pressure better compared to their male counterparts. The moderating effect of gender on the relationship between audit partner workload and audit quality is supported by the study of (Mnif & Cherif, 2022). Specifically, the presence of a female partner mitigates the negative relationship between workload and audit quality. Following Mnif and Cherif (2022), auditors' workload serves as the moderating variable in my research model and is measured separately for audit partners (PWork) and auditors-in-charge (AWork).

In conjunction with Sundgren and Svanström (2014), and Mnif and Cherif (2022), I define the workload (PGen and AGen) as the number of audit engagement an audit partner or auditor-in-charge handles during the year. The interaction between auditor gender and workload is measured separately as PGen x PWork (PWG) for audit

partners and AGen x AWork (AWG) for auditors-in-charge. PWG and AWG are the two-way interaction terms between auditor gender and auditor workload.

3.4.3.2. Auditor Experience (PExper, AExper) and its Interaction with Auditor Gender (PEG and AEG)

Auditor experience refers to the knowledge, skills, and expertise that an auditor accumulates over time through professional practice. Following the work of Hardies et al. (2016), and Liu and Xu (2021), auditor experience is measured by the number of years auditors have held their Vietnam CPA license, which means they are legally authorized to sign audit reports. Gender differences may lead female auditors to develop knowledge, skills, and expertise over time in ways that differ from their male counterparts.

PExper and AExper represent the number of years that audit partners and auditors-in-charge have held the Certificate of Practicing Auditor Registration (Vietnam CPA license), respectively. The interaction between auditor gender and experience is measured separately as PGen x PExper (PEG) for audit partners and AGen x AExper (AEG) for auditors-in-charge. PEG and AEG are the two-way interaction terms between auditor gender and auditor experience.

3.4.3.3. The Combined Moderating Effect of Auditor Workload and Auditor Experience (PWE and AWE)

Knechel et al. (2013) in their seminal work emphasize that auditor experience plays a crucial role in ensuring audit quality when faced with tight deadlines and heavy workloads. In other words, experienced auditors can draw on their prior engagements and deep experience to handle pressure more effectively. Based on this notion, the interaction between auditors' workload and experience may affect the relationship between auditor gender and audit quality.

The combined moderating effect of auditor workload and experience on the association of auditor gender and audit quality is measured separately as PGen x PWork x PExper (PWEG) for audit partners and AGen x AWork x AExper (AWEG) for auditors-in-charge. PWEG and AWEG are the third-way interaction terms of auditor gender, workload, and experience.

3.4.4. Control variables

Building on prior studies on audit quality, as discussed in Chapter 2, Section 2.3 - Main Streams in Audit Quality Literature, auditor characteristics and client characteristics are included as control variables to assess the relationship between auditor gender, gender diversity, and audit quality. These control variables help mitigate potential confounding effects, ensuring that audit outcomes are not solely attributed to gender-related factors.

Regarding auditor firm characteristics, audit firm size and rotation are used to control for potential differences in audit quality that may arise due to the resources and expertise of larger audit firms compared to smaller ones, as well as the impact of auditor rotation on independence and familiarity (DeFond & Zhang, 2014). Larger firms, often Big N firms, may have greater resources and specialization, which can influence the quality and thoroughness of the audit. On the other hand, auditor rotation, whether mandatory or voluntary, is included to account for the possible effects of new auditor-client relationships, which can impact audit objectivity and the likelihood of detecting irregularities (Dayanandan & Kuntluru, 2023).

The control variables of client firm characteristics are categorized into three groups: corporate governance characteristics; size, profitability and leverage; and the gender of those charged with governance and management. Corporate governance, firm size, profitability and leverage are the most widely used control variables in research on audit quality (DeFond & Zhang, 2014). A strong corporate governance mechanisms

provides effective oversight of financial reporting (García-Meca & Sánchez-Ballesta, 2009), while profitability and leverage are strongly correlated with financial reporting quality (Dechow et al., 2010). Gender in governance and top management is also included as a control variable. Prior studies have shown the effect of gender from the client demand side on audit quality.

3.4.4.1. Auditor Characteristics (Big4 and AuditorRotation)

Auditor size, typically measured by Big N membership, may be employed as a measure for audit quality since larger audit firms are presumed to have stronger motivations and greater competence to deliver high-quality audits (DeAngelo, 1981b; DeFond & Zhang, 2014). However, a substantial body of literature utilizes this measure as independent variables to explore whether audit firm characteristics influence the provision of audit quality (DeFond & Zhang, 2014; Lennox & Wu, 2018). Therefore, audit firm size, proxied by Big4 membership (Big4), is used as a control variable. Big4 is a binary variable that equals 1 if the audit firm is Big 4, and 0 otherwise.

Auditor rotation influences auditor independence (DeAngelo, 1981a), audit knowledge, and client relationships (Kwon, Lim, & Simnett, 2014), which in turn affect the quality of audit engagements. By controlling for auditor rotation (AuditorRotation), studies can isolate its impact on audit quality, considering both the benefits of enhanced independence and the challenges of reduced client-specific knowledge. AuditorRotation is dummy variable that equals 1 if this year's audit firm is different from the prior year's audit firm due to auditor rotation, and 0 otherwise.

3.4.4.2. Client's Corporate Governance (Dual, BODsize and BOMsize)

Corporate governance serves as an effective monitoring mechanism to ensure the quality of financial reporting. Prior studies show that strong corporate governance, primarily measured by board characteristics, is linked to audit quality.

Specifically, companies with CEO duality and larger size of Board of Directors tend to have a higher likelihood of financial misreporting (restatement) (Abbott et al., 2004). Halebian and Finikelstein (1993) point out the positive relationship between the size of management team and firm performance. Therefore, board characteristics, including the duality of the CEO and Chairman, and the size of the Board of Directors (BOD) and Board of Management (BOM), are used to control for the effect of corporate governance on audit quality.

CEO duality (Dual) is a binary variable that equals 1 if the CEO also serves as the chairperson of the Board of Directors, and 0 otherwise. The size of Board of Directors (BODsize) refers to the number of BOD members, while the size of Board of Management (BOMsize) represents the number of top management team members or executives.

3.4.4.3. Client's Size, Profitability and Leverage (ClientSize, LOSS, ROA, and leverage)

DeFond and Zhang (2014), in their seminal review on audit quality, indicate that size, profitability, and leverage are the most commonly used control variables in studies on audit quality. The top four specific control variables, including client firm size (ClientSize), loss (LOSS), return on assets (ROA), and financial leverage (leverage), are used to account for potentially omitted factors that may be correlated with audit quality in the research.

ClientSize is the natural logarithm of client firms' total assets. LOSS takes the value of 1 if the client firm reports a loss, and 0 otherwise. ROA is the ratio of net income over total assets. Leverage is the ratio of total liabilities divided by total assets.

3.4.4.4. Client's Gender in Governance and Top Management (CEOGen, ChiefGen, ChairGen, FBOD, and FBOM)

Top management, accountable for the quality of financial statements, and those charged with governance, responsible for oversight, are expected to influence audit quality. Prior studies find an association between a client's female CEO and CFO and financial reporting quality (Ho, Li, Tam, & Zhang, 2015; Gupta, Mortal, Chakrabarty, Guo, & Turban, 2020). My research examines the association between auditor gender and audit quality. Consequently, the gender of top management and those charged with governance are included in the research model to control for potential correlations with audit quality. Specifically, the CEO gender (CEOGen), the chief accountant gender (ChiefGen), the chairperson gender (ChairGen), the number of females in Board of Directors (FBOD), and the number of females in board of management (FBOM) are used as control variables in the research.

CEOGen, ChiefGen, and ChairGen are binary variables, taking the value of 1 if the CEO, chief accountant, or Chairperson is female, and 0 otherwise. FBOD and FBOM are the number of women in Board of Directors, or Board of Management.

A summary of all variables, along with their definitions and measurements, is presented in Table 3.3.

Table 3.3: Summary of variables

Variable	Definition/Measure
1. Dependent variables	
Restate (Pre-issuance Restatements)	The propensity of auditors to detect and prompt the correction of material misstatements prior to the issuance of audited financial statements. It is coded as 1 if, following the audit, the client firm restates its financial statements and the adjustment results in a

	change in reported profit of 5% or more; otherwise, it is coded as 0.
AQuality	<p>The propensity of auditors to identify and report material misstatements, combining pre-issuance restatements (Restate) and modified audit opinions (MAO). It is coded as 1 if either MAO or Restate is present, and 0 otherwise.</p> <p>MAO is the propensity of issuing modified audit opinions that equals 1 if the client firm receives a modified audit opinion, 0 otherwise.</p>
2. Variables of interest	
PGen	A binary variable, taking the value of 1 if the audit partner is female, and 0 otherwise.
AGen	A binary variable, taking the value of 1 if the auditor-in-charge is female, and 0 otherwise.
ADiver	A dummy variable, taking the value of 1 if the two co-signing auditors are of different genders (male-female or female-male), and 0 otherwise (male-male or female-female).
3. Moderating variables	
PWork	The number of audit engagements an audit partner handles during the year.
AWork	The number of audit engagements an auditor-in-charge handles during the year.
PExper	The number of years that an audit partner has held the Certificate of Practicing Auditor Registration (Vietnam CPA license)
AExper	The number of years that an auditor-in-charge has held the Certificate of Practicing Auditor Registration (Vietnam CPA license).

PWG	The interaction term for gender and workload of audit partners (PWG = PGen x PWork).
AWG	The interaction term for gender and workload of auditors-in-charge (AWG = AGen x AWork).
PEG	The interaction term for gender and experience of audit partners (PEG = PGen x PExper).
AEG	The interaction term for gender and experience of auditors-in-charge (AEG = AGen x AExper).
PWEG	The interaction term for gender, workload, and experience of audit partners (PWEG = PGen x PWork x PExper).
AWEG	The interaction term for gender, workload, and experience of auditors-in-charge (AWEG = AGen x AWork x AExper).
4. Control variables	
Big4	A binary variable that equals 1 if the audit firm is Big 4, and 0 otherwise.
AuditorRotation	A dummy variable that equals 1 if this year's audit firm is different from the prior year's audit firm due to auditor rotation, and 0 otherwise.
Dual	A binary variable that equals 1 if the CEO also serves as the chairperson of the Board of Directors, and 0 otherwise.
BODsize	The number of Board of Directors (BOD) members.
BOMsize	The number of top management team members or executives
CEOGen	A binary variable, taking the value of 1 if the CEO is female, and 0 otherwise.
ChiefGen	A binary variable, taking the value of 1 if the chief accountant is female, and 0 otherwise.

ChairGen	A binary variable, taking the value of 1 if the chairperson is female, and 0 otherwise.
FBOD	The number of female Board of Directors (BOD) members.
FBOM	The number of female top management team members or executives
ClientSize	The natural logarithm of client firms' total assets.
LOSS	Taking the value of 1 if the client firm reports a loss, and 0 otherwise.
ROA	Return on Assets, that is the ratio of net income over total assets.
Leverage	The ratio of total liabilities divided by total assets.

3.5. Research Models

To test the hypotheses, this study utilizes multiple logistic regression analysis using Stata software. The multiple regression model is a statistical technique commonly employed to examine the relationship between one dependent variable and multiple independent variables (Hair Jr, Black, Babin, & Anderson, 2014). Therefore, it is appropriate for my research to investigate the relationships among the interest variables (auditor gender and gender diversity), the moderating variables (auditor workload and experience), and the dependent variable (audit quality). Furthermore, the dependent variable—audit quality—is measured using two proxies: pre-issuance restatements (Restate) and a composite measure (AQuality) that combines modified audit opinions and pre-issuance restatements. These measures are developed in Section 3.4.1. Since both measures of audit quality are binary variables, logistic regression is suitable for analyzing the discriminant between the two groups of interest (female and male auditors; gender diversity or non-diversity) (Hair Jr et al., 2014).

Equation 1 is formulated to test the first hypothesis (H1a and H1b), which investigates whether there is an association between female audit partners, female auditors-in-charge and audit quality.

$$Y_{it} = \alpha + \beta_1 * PGen_{it} + \beta_2 * AGen_{it} + \sum \beta * Controls_{it} + \varepsilon_{it} \quad (\text{Equation 1})$$

Where:

Y_{it} is audit quality for client firm i in year t , which is proxied by Restate and AQuality.

$PGen_{it}$ is the gender of the audit partner who audited the annual financial statements and signed the audit report for client firm i in year t .

$AGen_{it}$ is the gender of the auditor-in-charge who audited the annual financial statements and signed the audit report for client firm i in year t .

$Controls_{it}$ are control variables for client firm i in year t including audit firm size (Big4), audit firm rotation (AuditorRotation), CEO duality (Dual), Board of Directors size (BODsize), and Board of Management size (BOMsize), CEO gender (CEOGen), Chief Accountant's gender (ChiefGen), Chairperson's gender (ChairGen), the number of females on the Board of Directors (FBOD), the number of females on the Board of Management (FBOM), client firm size (ClientSize), loss (LOSS), Return on Assets (ROA), and financial leverage (Leverage), which are included in the models reduce potential bias in the estimation of the relationships being examined (Refer to Table 3.3 for the list of all variables, along with their definitions and measurements).

To examine the second hypothesis, which considers the association between auditor gender diversity and audit quality, I estimate the regression model as follows (Equation 2). It is expected that auditor gender diversity will be positively associated with audit quality.

$$Y_{it} = \alpha + \beta_1 * PGen_{it} + \beta_2 * AGen_{it} + \beta_3 * ADiver_{it} + \sum \beta * Controls_{it} + \varepsilon_{it} \quad (\text{Equation 2})$$

Where:

Y_{it} , $PGen_{it}$, $AGen_{it}$, $Controls_{it}$ are similar in Equation 1.

$ADiver_{it}$ is auditor gender diversity in the audit for client firm i in year t .

In Equation 2, both auditor gender and gender diversity variables are included to directly address the central research question, which also serves as the title of this study: “Do female auditors or gender-diverse teams improve audit quality?”

Equation 3 incorporates both two-way and three-way interaction terms to examine the moderating effects of auditor workload and experience on the relationship between auditor gender and audit quality. Specifically, the model captures both single moderation effects—where workload or experience individually moderate the focal relationship—and a moderated moderation effect, where experience influences the moderating role of workload. Therefore, Equation 3 is employed to test Hypotheses 3, 4, and 5.

$$\begin{aligned} Y_{it} = & \alpha + \beta_1 * PGen_{it} + \beta_2 * AGen_{it} + \beta_3 * ADiver_{it} \\ & + \beta_4 * PWork_{it} + \beta_5 * PExper_{it} + \beta_6 * AWork_{it} + \beta_7 * AExper_{it} \\ & + \beta_8 * PWG_{it} + \beta_9 * PEG_{it} + \beta_{10} * PWEG_{it} \\ & + \beta_{11} * AWG_{it} + \beta_{12} * AEG_{it} + \beta_{13} * AWEG_{it} \\ & + \sum \beta * Controls_{it} + \varepsilon_{it} \end{aligned} \quad (\text{Equation 3})$$

Where:

Y_{it} , $PGen_{it}$, $AGen_{it}$, $Controls_{it}$ and $ADiver_{it}$ are similar in Equation 1 and 2.

$PWork_{it}$ is the number of listed client firms the audit partner of client firm i handles during the year t .

$AWork_{it}$ is the number of listed client firms the auditor-in-charge of client firm i handles during the year t .

$PExper_{it}$ is the number of years that the audit partner of client firm i has held his/her Certificate of Practicing Auditor Registration (Vietnam CPA license) until year t .

$AExper_{it}$ is the number of years that the auditor-in-charge of client firm i has held his/her Certificate of Practicing Auditor Registration (Vietnam CPA license) until year t .

PWG_{it} is the 2-way interaction term for gender and workload of the audit partner for client firm i in year t ($PWG_{it} = PGen_{it} \times PWork_{it}$).

PEG_{it} is the 2-way interaction term for gender and experience of the audit partner for client firm i in year t ($PEG_{it} = PGen_{it} \times PExper_{it}$).

$PWEG_{it}$ is the 3-way interaction term for gender, workload, and experience of the audit partner for client firm i in year t ($PWEG_{it} = PGen_{it} \times PWork_{it} \times PExper_{it}$).

AWG_{it} is the 2-way interaction term for gender and workload of the auditor-in-charge for client firm i in year t ($AWG_{it} = AGen_{it} \times AWork_{it}$).

AEG_{it} is the 2-way interaction term for gender and experience of the auditor-in-charge for client firm i in year t ($AEG_{it} = AGen_{it} \times AExper_{it}$).

$AWEG_{it}$ is the 3-way interaction term for gender, workload, and experience of the auditor-in-charge for client firm i in year t ($AWEG_{it} = AGen_{it} \times AWork_{it} \times AExper_{it}$).

Equation 3 examines the moderating effects of auditor workload and experience on the relationship between auditor gender and audit quality, both individually and simultaneously.

The three equations above will be run in Stata software for the selected sample, respectively for the two audit quality proxies, Restate and AQuality, as discussed earlier.

3.6. Validity and Reliability

3.6.1. Goodness-of-Fit

In logistic regression, the Likelihood Ratio Chi-Square Test, the Hosmer-Lemeshow Test, and the Classification Matrix are widely used to evaluate the goodness-of-fit of estimated models. These tests help determine how well the model fits the observed data by comparing the predicted values to the actual outcomes. While the Likelihood Ratio Chi-Square Test assesses the overall significance of the model, the Hosmer-Lemeshow Test and the Classification Matrix evaluate its predictive accuracy.

3.6.1.1. Overall significance of the predictors

The Likelihood Ratio Chi-Square (LR χ^2) test is a crucial statistical measure used in logistic regression to evaluate the overall significance of the model and its predictors. It compares the goodness-of-fit of a logistic regression model with predictors to a baseline model, which typically has no predictors (the null model). The LR Chi-Square test statistic is calculated by taking the difference in the log-likelihoods between the full model and the null model, and then multiplying by -2. A significant LR χ^2 statistic ($p < 0.05$) indicates that the inclusion of predictors improves the model's fit, suggesting that the predictors collectively explain a significant portion of the variance in the outcome variable. The LR Chi-Square test is particularly useful for evaluating the overall fit of complex models, allowing researchers to assess whether the addition

of independent variables significantly improves the model's predictive power (Hosmer & Lemeshow, 2000).

3.6.1.2. Predictive Accuracy

The Hosmer-Lemeshow test is widely used in logistic regression as a method to assess the goodness-of-fit of the model. This test evaluates how well the logistic model predicts the observed outcomes by grouping predicted probabilities into deciles and comparing the observed and expected frequencies within each group (Hosmer & Lemeshow, 2000). Unlike the Likelihood Ratio Chi-Square test that assesses the overall significance of predictors, the Hosmer-Lemeshow test provides insight into how well the model fits the data at different probability levels.

A non-significant Hosmer-Lemeshow statistic ($p > 0.05$) indicates that the model's predictions align well with observed outcomes, suggesting an adequate fit. Conversely, a significant result implies poor fit, indicating substantial differences between observed and expected frequencies. This test is particularly valuable in large datasets, where it can detect minor discrepancies that may otherwise go unnoticed (Peng, Lee, & Ingersoll, 2002). By capturing the model's predictive alignment, the Hosmer-Lemeshow test serves as an essential tool in verifying the reliability of logistic regression results.

The Classification Matrix is a direct measure of the predictive accuracy of the logistic regression model by comparing the predicted classifications (typically 1 or 0) to the actual outcomes (Hosmer, 2013). The classification accuracy (the percentage of correct predictions) is often used to summarize how well the model is predicting the outcome. The Hosmer-Lemeshow test assesses the overall goodness-of-fit of the model, determining whether the predicted probabilities align with the observed outcomes. In contrast, the Classification Matrix evaluates the model's predictive accuracy at the individual outcome level, providing insight into how well the model classifies each

case. Together, these tools offer a comprehensive evaluation of the model's predictive accuracy.

In summary, the Likelihood Ratio (LR) chi-square test examines the overall significance of the predictors within the model. The Hosmer-Lemeshow test and Classification Matrix assess the predictive accuracy of the model across varying levels of predicted probabilities and offer insights into the calibration of the model. Reporting both tests together enables a more comprehensive evaluation of the model's fit.

3.6.2. Multicollinearity

Multicollinearity occurs when predictor variables are highly correlated, which can lead to unreliable estimates, inflated standard errors, and reduced statistical power in detecting significant predictors (Kutner, Nachtsheim, & Neter, 2004). The Correlation Matrix and Variance Inflation Factor (VIF) are key diagnostic measures used to assess multicollinearity in regression models, including logistic regression.

The correlation matrix is often employed as a preliminary diagnostic tool to assess multicollinearity among independent variables in regression models. A correlation matrix displays the pairwise Pearson correlation coefficients between all independent variables. These coefficients range from -1 to +1, where values close to +1 or -1 indicate a strong linear relationship, and values near 0 suggest little or no linear association. In the context of assessing multicollinearity, high absolute correlation coefficients (e.g., $|r| > 0.7$ or 0.8) between two variables are indicative of a potential collinear relationship, suggesting that one variable may be linearly dependent on the other (Gujarati & Porter, 2009).

The Variance Inflation Factor (VIF) is another common tool for checking multicollinearity in regression models. It quantifies how much the variance of a regression coefficient is inflated due to multicollinearity. A VIF value is calculated for

each predictor by regressing it on all other predictors in the model and then computing as follows:

$$VIF = \frac{1}{1-R^2}$$

Where R^2 is the coefficient of determination for this auxiliary regression (O'Brien, 2007). Generally, VIF values exceeding 5 or 10 indicate problematic multicollinearity that may affect the stability of the estimates (Mansfield & Helms, 1982).

3.7. Robustness Tests

In regression analysis, including logistic regression, robustness tests help verify that the results are not overly sensitive to particular methodological choices or assumptions. Financial reporting quality is a closely linked construct with audit quality. It is now used to control for the potential impact of financial reporting quality on audit quality and serves as an alternative measure of audit quality to test the robustness of my results.

3.7.1. Adding Control Variable

DeFond and Zhang (2014) highlights how poor financial reporting quality can strain auditor capacity in achieving high-quality audits. Similarly, Knechel et al. (2013) indicate that poor financial reporting quality increases audit effort but can also impair audit efficiency, especially in cases involving high levels of earnings management. Therefore, I re-estimate the baseline models with financial reporting quality included as an additional control variable. Discretionary accruals (DA) are widely used as a proxy for financial reporting quality. I use the performance-based model developed by Kothari, Leone, and Wasley (2005), which is considered a better measure of discretionary accruals and has been widely used in recent studies on earnings management.

The baseline models includes there equations; Equation 3 is selected to do robustness tests because it includes all variables of interest, including the moderating variables and their interaction terms.

The performance-matched model by Kothari et al. (2005) is specified as follows. First, I estimate total accruals (TA) and non-discretionary accruals (NDA). Next, I determine discretionary accruals (DA) by taking the difference between total accruals and non-discretionary accruals.

$$TA_{it} = \alpha_0 + \alpha_1(\Delta REV_{it} - \Delta AR_{it}) + \alpha_2 * PPE_{it} + \alpha_3 * ROA_{it} + \varepsilon_{it}$$

Where:

TA_{it} is total accruals for client firm i in year t , which is measured as the difference between net income before extraordinary items and cash flow from operations;

ΔREV_{it} is the change in revenues for client-firm i between year t and $t-1$;

ΔAR_{it} is the change in accounts receivable for client-firm i between year t and $t-1$;

PPE_{it} is the gross property, plant and equipment for client-firm i in year t ;

ROA_{it} is the return on assets for client-firm i in year t .

All these variables are scaled by the total assets from the previous period ($t-1$). The parameters to be estimated are denoted as α_0 , α_1 , α_2 , and α_3 , while ε represents the error term.

The estimated coefficients above ($\hat{\alpha}_0$, $\hat{\alpha}_1$, $\hat{\alpha}_2$ and $\hat{\alpha}_3$) are used to calculate the NDA for each client firm in the sample.

$$NDA_{it} = \hat{\alpha}_0 + \hat{\alpha}_1(\Delta REV_{it} - \Delta AR_{it}) + \hat{\alpha}_2 * PPE_{it} + \hat{\alpha}_3 * ROA_{it}$$

Discretionary accruals are the prediction error of accruals, calculated as the difference between total accruals (TA) and the estimated non-discretionary accruals (NDA).

$$DA_{it} = TA_{it} - NDA_{it}$$

3.7.2. Using Alternative Measure of Dependent Variable

In the baseline models, two measures of audit quality, Restate and AQuality, are used to test the consistency of the results. However, both of these are likely new measures of audit quality proposed in this study. To confirm the findings and test the validity and reliability of these two new measures, an alternative and widely-used measure of audit quality - discretionary accruals (DA) - is used as the dependent variable in Equation 3. The performance-matched model by Kothari et al. (2005) is again employed to measure discretionary accruals (DA). This followed the studies by Mnif and Cherif (2022) and Perry et al. (2023).

3.8. Conclusion

This methods chapter outlined the research design, data collection methods, and analytical procedures used to investigate the relationship between auditor gender, gender diversity, and audit quality, along with the moderating effects of auditors' workload and experience. The chapter began by detailing the research framework, sample selection, and data collection, establishing a solid foundation for empirical analysis. Key measurements were defined for each variable type, including dependent, interest, moderating, and control variables, to ensure comprehensive coverage of factors influencing audit quality.

Chapter 4: FINDINGS AND DISCUSSION

4.1. Introduction

In this chapter, I present and discuss the results of the empirical analysis conducted to examine the impact of auditor gender and gender diversity on audit quality with an emphasis in moderating effects of auditor workload and experience on these relationships. The analysis is structured into several key sections, each addressing specific aspects of the study findings.

We begin with Descriptive Statistics, providing an overview of the data distribution and key characteristics of the variables used in the analysis. The Correlation Matrix follows, offering insights into the relationships between the main variables and highlighting any potential concerns regarding multicollinearity.

Next, the chapter delves into the Multivariate Analysis, where we explore the relationships between auditor gender and audit quality, auditor gender diversity and audit quality, and the moderating effects of auditor workload and experience. This section investigates the core hypotheses of the study and their implications for audit quality.

To ensure the validation and reliability of the results, the chapter focuses on goodness-of-fit measures and multicollinearity diagnostics. The Robustness Tests section assesses the stability of the findings through alternative specifications, including adding control variables and using an alternative dependent variable, discretionary accruals (DA), to confirm the consistency of the results.

Throughout this chapter, we interpret the findings in the context of existing literature, discussing their significance, potential limitations, and implications for both theory and practice in the auditing field.

4.2. Descriptive Statistics

Table 4.1 reports the descriptive statistics for all the variables included in my baseline analysis with the sample size of 3,223 firm-year observations. The mean values of Restate and AQuality – two dependent variables representing audit quality – are 0.227 and 0.268, respectively. This indicates that, on average, around 22.7% of firms in the sample have experienced post-audit restatements, while approximately 26.8% of the audits in the sample are considered to exhibit high audit quality, where auditors identified and reported material misstatements. The standard deviations of 0.419 for Restate and 0.443 for AQuality suggest considerable variation in the occurrence of restatements and/or modified audit opinions across the sample, with some firms experiencing these issues more frequently than others.

In the sample, 22% of the client firms are audited by female partners, and approximately 42.4% are audited by female auditors-in-charge. These proportions of women in signing audit teams are quite similar to those in the study by Yang et al. (2018) in China, where the figures are 25% and 35%, respectively. However, they are higher than the percentage of female audit partners in studies conducted in the U.S. (Liu & Xu, 2021), Finland (Karjalainen et al., 2018), and Switzerland (Mnif & Cherif, 2022), where the data is only around 15%. Still, these proportions remain relatively low, highlighting the glass-ceiling issue in Vietnamese audit firms, where biases and prejudices against women hinder their advancement to leadership positions. Diverse-gender signing audit teams make up 41% of the sample, similar to the data in the study by Perry et al. (2023) in China, indicating some progress toward gender diversity in audit teams. However, the relatively low proportion of female partners suggests that further efforts are needed to address the barriers preventing women from advancing to leadership roles in the profession.

Table 4.1: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
<i>Dependent Variables</i>					
Restate	3,223	0.227	0.419	0	1
AQuality	3,223	0.268	0.443	0	1
<i>Variables of interest</i>					
PGen	3,223	0.220	0.415	0	1
AGen	3,223	0.424	0.494	0	1
ADiver	3,223	0.410	0.492	0	1
<i>Moderating variables</i>					
PWork	3,223	4.328	3.282	1	19
ASWork	3,223	2.482	1.580	1	10
PExper	3,223	13.875	4.784	1	25
AExper	3,223	8.182	4.695	1	25
<i>Control variables</i>					
Big4	3,223	0.345	0.475	0	1
AuditorRotation	3,223	0.164	0.371	0	1
Dual	3,223	0.250	0.433	0	1
BOMsize	3,223	4.092	2.100	1	21
BODsize	3,223	6.178	1.587	1	15
CEOGen	3,223	0.118	0.322	0	1
ChiefGen	3,223	0.485	0.500	0	1
ChairGen	3,223	0.113	0.316	0	1
FBOD	3,223	0.920	1.050	0	9
FBOM	3,223	0.604	0.944	0	9
ClientSize	3,223	28.035	1.358	24.278	33.183
LOSS	3,223	0.064	0.244	0	1
ROA	3,223	0.065	0.090	-1.587	0.784
Leverage	3,223	0.473	0.215	-0.289	1.295
Note: The variables are defines in Appendix 1.					

On average, audit partners manage more than 4.3 client firms per year, with a large range from 1 to 19 audit engagements. In contrast, auditors-in-charge oversee only 2.5 firms, with a smaller range from 1 to 10 engagements annually. This suggests that audit partners handle a significantly heavier workload compared to auditors-in-charge. Additionally, audit partners possess an average of 13.9 years of experience, while auditors-in-charge have only 8.2 years. This experience gap implies that partners bring more seasoned judgment to the audits.

Around 34.5% of the client firms in the sample are audited by Big 4 audit firms, indicating that just over one-third of the engagements involve top-tier auditing firms. In contrast, only 16.4% of the engagements involve auditor rotation, highlighting that clients typically retain the same auditor across multiple years, with few opting for a change.

Approximately 25% of firms have CEOs who also serve as Chairpersons, which may raise concerns about the concentration of power and potential conflicts of interest in corporate governance. The mean size of the Board of Management is around 4 members, ranging from 1 to 21, while the mean size of the Board of Directors is over 6 members, with a narrower range from 1 to 15. It shows that while a smaller BOD size might suggest a streamlined approach to governance, the variation in BOM size highlights potential differences in how firms manage their operations, which could impact both decision-making and the effectiveness of oversight.

The proportions of female CEOs, Chief Accountants, and Chairpersons are 11.8%, 48.5%, and 11.3%, respectively. Moreover, the average number of females on the Board of Directors and Board of Management is very low, less than one person. The data highlights gender disparities in executive leadership positions within firms, particularly at top management and governance levels, with a higher prevalence in accounting leadership roles.

Regarding the financial data of client firms, the client size is determined by the natural logarithm of client firms' total assets, which has helped reduce the differences in size between firms in the sample. A relatively small proportion of firms (6.4%) are reporting losses, which could suggest that most firms are performing well financially. However, the variability (Std. Dev. = 0.244) indicates that some firms more prone to losses than others. The average Return on Assets (ROA) is 6.5%, with a relatively high variability (Standard Deviation = 0.090). The minimum ROA is negative (-1.587), indicating that some firms have negative returns on assets, while the maximum ROA is 0.784 (78.4%). It indicates significant differences in financial performance across firms, with some firms facing financial struggles (negative ROA) and others achieving strong profitability. Finally, financial leverage has an average value of 0.473, with a standard deviation of 0.215. The significant variation in leverage suggests that some firms are under more financial stress than others, with higher levels of debt relative to their equity.

4.3. Correlation Matrix

Table 4.2 presents the pairwise correlation coefficients for all variables included in my baseline analysis. It should be noted that the variables are defined in Appendix 1, and *, **, *** indicate significance at the 0.10, 0.05 and 0.01 levels. The gender of audit partners is negatively correlated with the likelihood of pre-issuance restatements (Restate), but it is not correlated with the propensity to detect material misstatements (AQuality). In contrast, the gender of auditors-in-charge is positively associated with the propensity to detect material misstatements, but it is not associated with the likelihood of pre-issuance restatements. However, diverse audit teams are positively related to both the likelihood of pre-issuance restatements and the propensity to detect material misstatements. Only the workload and experience of partners is negatively correlated with Restate or AQuality.

Most control variables are associated with the dependent variables — Restate or AQuality. We can also observe a correlation between the independent variables and the control variables. However, the variance inflation factor (VIF) for all variables used in the models is below 5. This indicates that there are no significant issues with multicollinearity that could affect my multivariate logistic regression results.

Table 4.2: Correlation Matrix

	Restate	AQuality	PGen	AGen	ADiver	PWork	AWork	PExper	AExper	Big4	AuditorRo	Dual	BODsize	BOMsize	CEOGen	VIF
Restate	1															
AQuality	0.895***	1														
PGen	-0.028	-0.022	1													1.10
AGen	0.017	0.035**	0.117***	1												1.49
ADiver	0.028*	0.049***	0.063***	0.547***	1											1.46
PWork	-0.0315*	-0.005	-0.1764***	0.030*	0.041**	1										1.13
AWork	-0.005	-0.011	-0.090***	-0.086***	-0.0645***	0.230***	1									1.24
PExper	-0.0321*	-0.049***	0.125***	0.025	-0.004	0.006	-0.211***	1								1.16
AExper	0.024	0.027	-0.006	0.085***	-0.003	0.041**	-0.074***	0.2178***	1							1.08
Big4	-0.030*	-0.049***	-0.140***	-0.105***	0.006	-0.004	0.304***	-0.115***	-0.130***	1						1.56
AuditorRo	0.040**	0.049***	-0.058***	-0.038**	-0.056***	-0.075***	-0.003	0.012	-0.004	-0.028*	1					1.49
Dual	0.030*	0.012	-0.011	0.0171	0.0004	0.061***	0.051***	-0.117***	0.008	-0.087***	-0.0085	1				1.06
BODsize	0.0014	-0.0245	-0.060***	0.043***	0.0256	-0.002	0.035**	0.013	-0.005	0.186***	0.0041	-0.029*	1			1.26
BOMsize	-0.052***	-0.045***	-0.040**	0.0179	0.036**	-0.025	0.0456***	-0.025	-0.049***	0.219***	-0.009	0.029*	0.319***	1		1.66
CEOGen	-0.0114	-0.034**	-0.0221	-0.034**	-0.040**	-0.013	0.027	0.045***	0.022	0.069***	0.0122	0.065***	0.0107	0.047***	1	1.43
ChiefGen	0.0063	0.0122	0.0067	0.053***	0.030*	0.004	0.037**	-0.015	0.002	-0.053***	0.0148	0.105***	0.0172	-0.086***	0.035**	1.07
ChairGen	-0.034**	-0.034**	-0.050***	-0.0017	-0.0093	0.054***	0.047***	0.010	-0.018	0.082***	0.0167	0.044***	0.0114	0.0256	0.361***	1.35
FBOD	-0.0245	-0.043***	-0.055***	0.0269	0.0242	0.032*	-0.003	0.044***	0.010	0.089***	-0.029*	0.038**	0.271***	0.155***	0.385***	1.67
FBOM	0.0068	-0.0109	-0.0212	0.043**	0.0187	0.009	0.015	0.011	-0.016	0.099***	0.0239	0.034**	0.129***	0.422***	0.443***	1.67
ClientSize	-0.0051	-0.0237	-0.120***	-0.030*	0.0164	-0.001	0.071***	0.054***	-0.063***	0.468***	-0.053***	-0.081***	0.249***	0.445***	0.068***	1.81
LOSS	0.111***	0.109***	-0.0066	-0.0023	0.0234	-0.046***	-0.004	0.005	0.020	-0.031*	0.070***	-0.0065	0.0261	-0.012	0.0233	1.24
ROA	-0.153***	-0.162***	0.0016	-0.0102	-0.041**	0.0327*	0.019	-0.026	-0.004	0.040**	-0.0253	-0.047***	-0.0024	-0.056***	0.0047	1.50
Leverage	0.074***	0.078***	-0.034**	0.029*	0.066***	0.04**	-0.020	0.010	-0.030*	-0.029*	0.0043	0.072***	0.0007	0.194***	-0.0253	1.46

Notes: *, **, *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively. The variables are defines in Appendix 1.

4.4. Multivariate Analysis

Aligned with the panel structure of my dataset, I employ panel data techniques for all estimations. Table 4.3 presents the regression results for Equation 1, which analyzes the relationship between auditor gender and audit quality, testing hypotheses H1a and H1b for audit partners and auditors-in-charge, respectively. Table 4.4 shows the results of Equation 2, examining the effect of auditor gender diversity on audit quality to test hypothesis H2.

The 2-way and 3-way interactions of auditor workload and auditor experience with the relationships between auditor gender and audit quality are analyzed using Equation 3, with the results presented in Table 4.5. These results test hypotheses H3a and H3b, which explore the moderating effects of workload for audit partners and auditors-in-charge, respectively; H4a and H4b, which investigate the moderating effects of experience for audit partners and auditors-in-charge; and H5a and H5b, which examine the combined moderating effects of workload and experience for audit partners and auditors-in-charge.

Equations 1, 2, and 3 are run sequentially with the two dependent variables being Restate – representing the likelihood of pre-issuance restatements – and AQuality – indicating the propensity of auditors to identify and report material misstatements, respectively.

4.4.1. Auditor Gender and Audit Quality

Table 4.3 displays the regression outcomes for Equation 1, examining the association between auditor gender and audit quality while testing hypotheses H1a and H1b for audit partners and auditors-in-charge, respectively. In effect, the gender of audit partners (PGen) variable has a negative and significant coefficient ($\beta_1 = -0.193$, $p = 0.076$) when audit quality is proxied by Restate. Similarly, PGen also exhibits a negative and significant coefficient ($\beta_1 = -0.188$, $p = 0.065$) when audit quality is

measured by AQuality. It indicates that having a female audit partner is associated with a lower likelihood of pre-issuance restatements and a lower propensity of auditors to identify and report material misstatements. This finding is similar to the results of Hossain et al. (2018) in Australia, and Yang et al. (2018) in China. The result may be explained by role congruity theory (Karau & Eagly, 2002). This theory posits that women in top management positions, such as audit partners, encounter negative attitudes from others and experience significant challenges in their roles, which can prevent them from delivering high-quality audits.

In contrast, the gender of auditors-in-charge (AGen) variable has a positive and significant coefficient ($\beta_2 = 0.168$, $p = 0.044$) when audit quality is proxied by AQuality, but is insignificant when proxied by Restate. This suggests that AQuality may be a better measure of audit quality, as it is more likely to exhibit a significant association with the gender of auditors-in-charge. This finding implies that female auditors-in-charge demonstrate higher audit quality than their male counterparts, supporting similar evidence found in previous studies (Chin & Chi, 2008; Niskanen et al., 2011; Ittonen et al., 2013; Hardies et al., 2016; Karjalainen et al., 2018; Garcia-Blandon et al., 2019; Lee et al., 2019). The result is consistent with social role theory, which suggests that women are generally less risk-prone, more conservative, more compliant, and less overconfident, traits that can enhance audit quality (Eagly, 1987).

Table 4.3: Test for H1a and H1b – Associations between auditor gender and audit quality (n = 3,223)

Variable	Restate Coef.	AQuality Coef.
PGen	-0.193* (0.076)	-0.188* (0.065)
AGen	0.085 (0.332)	0.168** (0.044)
Big4	-0.064 (0.551)	-0.109 (0.283)
AuditorRotation	0.186* (0.097)	0.231** (0.029)
Dual	0.175* (0.077)	0.043 (0.647)
BODsize	0.049 (0.106)	0.001 (0.981)
BOMsize	-0.130*** (0)	-0.078*** (0.003)
CEOGen	-0.136 (0.399)	-0.252 (0.106)
ChiefGen	-0.083 (0.35)	-0.038 (0.647)
ChairGen	-0.164 (0.318)	-0.044 (0.777)
FBOD	-0.086* (0.103)	-0.087* (0.085)
FBOM	0.179*** (0.004)	0.115** (0.049)
ClientSize	0.026 (0.534)	-0.01 (0.803)
LOSS	0.221 (0.224)	0.179 (0.309)
ROA	-4.407*** (0)	-4.659*** (0)
Leverage	0.212 (0.383)	0.165 (0.472)
_cons	-1.621 (0.145)	-0.226 (0.831)
LR chi2(16)	124.03	132.93
Prob > chi2	0.000	0.000
<i>Hosmer-Lemeshow chi2(10)</i>	<i>4.000</i>	<i>14.280</i>
<i>Prob > chi2</i>	<i>0.857</i>	<i>0.075</i>
<i>Correctly classified (%)</i>	<i>77.07%</i>	<i>73.22%</i>

Notes: *, **, *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively. P-value in parentheses. The variables are defines in Appendix 1.

My findings seem to contradict the results of M. K. Nguyen et al. (2016) and Nguyen Thi Ngoc Cam (2019), two studies examining the relationship between auditor gender and audit quality, as measured by discretionary accruals, in Vietnam. These studies find

that female auditors are more likely to restrict discretionary accruals than their male counterparts, suggesting an improvement in audit quality. One primary reason for the conflicting findings is that their studies did not account for the different auditing environment in Vietnam, where two auditors are required to sign the audit report: the audit partner and the auditor-in-charge, not only one like in Spain, Sweden, Finland, Australia or the U.S. This discrepancy may also be explained by differences in the proxies for audit quality, the models employed, and variations in sample size and study period. Therefore, in the later section of this chapter, discretionary accruals will be used as an alternative proxy for audit quality to test the robustness of my findings.

Regarding the research models, M. K. Nguyen et al. (2016) include only three independent variables: the gender and years of experience of auditors, and the size of audit firms, without control variables. In contrast, Nguyen Thi Ngoc Cam (2019) controls for the examination of the impact of auditor gender on audit quality by including the size of audit firms and the financial data of client firms. In my study, three key attributes of auditors — gender, workload, and experience — along with their interactions and gender diversity, are included in the research models, which control for the size and rotation of audit firms, as well as the governance characteristics, financial size, profit, and leverage of client firms. Importantly, my study examines these auditor characteristics separately for audit partners and auditors-in-charge, whereas the two previous studies only considered auditor gender without differentiating between audit partners and auditors-in-charge.

Another difference is that the two prior studies have relatively smaller sample sizes — 315 observations in the study by M. K. Nguyen et al. (2016) and 760 observations in the study by Nguyen Thi Ngoc Cam (2019) — compared to my study, which includes 3,223 firm-year observations. Finally, my study uses data updated to the current stage — including the audits of the financial statements for 2023.

While the negative association between female audit partners and audit quality may appear counterintuitive, it should be interpreted with careful consideration of contextual and structural factors. Prior studies have noted that female auditors often face systemic challenges such as implicit gender bias, limited access to high-profile clients, and increased scrutiny in performance evaluations, which may influence their professional outcomes (Hardies et al., 2012; Ittonen & Peni, 2012). In emerging economies like Vietnam, where gender norms and workplace hierarchies remain traditionally male-dominated (Ngoc Hoang, 2025), these dynamics may be more pronounced. As noted by (Haynes, 2017), women in the accounting and auditing professions are frequently subject to gendered expectations and occupational pressures, which can impact both their decision-making autonomy and perceived effectiveness. Consequently, the observed negative relationship may reflect not a lack of competence, but the influence of structural disadvantages or heightened workloads disproportionately affecting women in senior audit roles.

In summary, the findings indicate that female audit partners are associated with lower audit quality, whereas female auditors-in-charge tend to be linked with higher audit quality relative to their male counterparts. These contrasting effects underscore the importance of role differentiation within audit teams and suggest that a gender-diverse composition—rather than uniform gender representation—among signing auditors may enhance audit quality. This proposition is further examined in the subsequent section using the models specified in Equation 2.

4.4.2. Auditor Gender Diversity and Audit Quality

Table 4.4 presents the regression results from Equation 2, which evaluates the effect of auditor gender diversity on audit quality in order to test Hypothesis H2. In this model, the gender diversity variable for signing auditors (ADiver) is introduced to the base

specification (Equation 1), as outlined in the Research Methodology chapter. The inclusion of ADiver allows for an assessment of whether the composition of gender within the audit team affects audit outcomes beyond individual gender effects.

Consistent with the findings from Equation 1, the gender of audit partners (PGen) remains negatively and significantly associated with audit quality, with coefficients of $\beta_1 = -0.192$ ($p = 0.076$) for Restate and $\beta_1 = -0.185$ ($p = 0.068$) for AQuality. These coefficients are nearly identical to those observed in Equation 1, differing only marginally (by 0.001 and 0.003, respectively), indicating that the negative relationship between audit partner gender and audit quality is robust and unaffected by the inclusion of the gender diversity variable. This reinforces the earlier conclusion that female audit partners, on average, are associated with lower measured audit quality—though, as previously discussed, this result may reflect contextual or structural disadvantages rather than individual capability.

In contrast, the gender of auditors-in-charge (AGen), which showed a significant effect in Equation 1, becomes statistically insignificant in Equation 2 across both audit quality proxies. This attenuation suggests that the previously observed relationship between AGen and audit quality may be mediated or absorbed by the team-level gender diversity measure. That is, once the diversity of the audit team is accounted for, the isolated effect of the auditor-in-charge's gender becomes less meaningful, highlighting the importance of team composition over individual characteristics.

Table 4.4: Test for H2 - Association between gender diversity and audit quality (n = 3,223)

Variable	Restate Coef.	AQuality Coef.
PGen	-0.192* (0.076)	-0.185* (0.068)
AGen	0.014 (0.893)	0.066 (0.513)
ADiver	0.122 (0.256)	0.178* (0.076)
Big4	-0.072 (0.499)	-0.122 (0.230)
AuditorRotation	0.192* (0.088)	0.24** (0.024)
Dual	0.176* (0.076)	0.045 (0.639)
BODsize	0.049 (0.101)	0.002 (0.956)
BOMsize	-0.130*** (0.000)	-0.078*** (0.002)
CEOGen	-0.132 (0.415)	-0.246 (0.116)
ChiefGen	-0.083 (0.351)	-0.038 (0.648)
ChairGen	-0.163 (0.321)	-0.042 (0.787)
FBOD	-0.088* (0.098)	-0.089* (0.078)
FBOM	0.179*** (0.004)	0.116** (0.047)
ClientSize	0.027 (0.516)	-0.008 (0.838)
LOSS	0.216 (0.234)	0.172 (0.329)
ROA	-4.398*** (0.000)	-4.652*** (0.000)
Leverage	0.200 (0.410)	0.146 (0.524)
_cons	-1.669 (0.134)	-0.297 (0.779)
<i>LR chi2(17)</i>	<i>125.32</i>	<i>136.07</i>
<i>Prob > chi2</i>	<i>0.000</i>	<i>0.000</i>
<i>Hosmer-Lemeshow chi2(10)</i>	<i>3.580</i>	<i>7.870</i>
<i>Prob > chi2</i>	<i>0.893</i>	<i>0.447</i>
<i>Correctly classified (%)</i>	<i>77.35%</i>	<i>73.60%</i>

Notes: *, **, *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively. P-value in parentheses. The variables are defines in Appendix 1.

Gender diversity (ADiver) is positively significant in relation to audit quality, as measured by AQuality ($\beta_3 = 0.178$, $p = 0.076$). This finding aligns with the core

theoretical argument of the information-processing and decision-making perspective (Knippenberg & Schippers, 2007), which posits that diversity within professional teams enhances performance by fostering cognitive variety, leveraging complementary skill sets, and incorporating broader perspectives in problem-solving and judgment processes. It also echoes prior empirical studies suggesting that gender-diverse audit teams can enhance audit quality (e. g., Cameran et al., 2018; Nekhili et al., 2018; He et al., 2021; Condie et al., 2023; Perry et al., 2023). The results from Equation 2 thus provide an empirical basis for Hypothesis H2 and address the second research question: "Do female auditors or gender-diverse teams improve audit quality?" The evidence suggests that gender diversity at the team level contributes positively to audit quality, more so than individual gender characteristics.

Furthermore, this result has practical implications for audit firm staffing and engagement planning in Vietnam. Given the requirement for co-signing by both the audit partner and the auditor-in-charge, audit firms may benefit from strategically forming mixed-gender signing teams to optimize audit outcomes. The Vietnamese audit context, with its dual-signature system, provides a distinctive institutional setting to realize the advantages of gender diversity in practice.

4.4.3. Moderating effects of Auditor Workload and Auditor Experience

Table 4.5 reports the results of Equation 3, which examines the moderating effects of auditor workload and experience on the relationship between auditor gender and audit quality. Specifically, the results test Hypotheses H3a and H3b, which investigate the moderating effect of auditor workload (a two-way interaction) for audit partners and auditors-in-charge, respectively; H4a and H4b, which assess the moderating effect of auditor experience (a two-way interaction); and H5a and H5b, which evaluate whether experience moderates the effect of workload on the relationship between auditor gender and audit quality (a moderated moderation or three-way interaction).

Table 4.5: Test for H3a, H3b, H4a, H4b, H5a and H5b - Moderating effects of auditor workload and auditor experience on the relationships of auditor gender and audit quality (n = 3,223)

Variable	Restate Coef.	AQuality Coef.
PGen	-1.336** (0.032)	-1.475*** (0.013)
AGen	-0.268 (0.376)	-0.218 (0.447)
ADiver	0.153 (0.160)	0.201** (0.049)
PWork	-0.028* (0.060)	-0.008 (0.562)
PExper	-0.023** (0.034)	-0.033*** (0.001)
Work	0.005 (0.885)	-0.018 (0.615)
AExper	0.005 (0.680)	0.006 (0.610)
PWG	0.330* (0.065)	0.42*** (0.010)
PEG	0.073* (0.069)	0.067* (0.079)
PWEG	-0.021* (0.066)	-0.021** (0.039)
AWG	0.035 (0.715)	0.026 (0.775)
AEG	0.027 (0.356)	0.026 (0.35)
AWEG	-0.003 (0.788)	-0.001 (0.896)
Big4	-0.096 (0.403)	-0.141 (0.197)
AuditorRotation	0.187* (0.098)	0.26** (0.015)
Dual	0.163 (0.106)	0.017 (0.859)
BODsize	0.053* (0.081)	0.005 (0.860)
BOMsize	-0.137*** (0.000)	-0.085*** (0.001)
CEOGen	-0.124 (0.448)	-0.215 (0.172)
ChiefGen	-0.097 (0.279)	-0.044 (0.599)
ChairGen	-0.149 (0.367)	-0.039 (0.802)
FBOD	-0.080 (0.134)	-0.083 (0.105)
FBOM	0.180*** (0.003)	0.113** (0.056)
ClientSize	0.041 (0.335)	0.013 (0.740)
LOSS	0.219 (0.229)	0.186 (0.292)
ROA	-4.260*** (0.000)	-4.625*** (0.000)
Leverage	0.241 (0.325)	0.138 (0.552)
_cons	-1.69 (0.136)	-0.422 (0.696)
<i>LR chi2(27)</i>	<i>140.36</i>	<i>158.99</i>
<i>Prob > chi2</i>	<i>0.000</i>	<i>0.000</i>
<i>Hosmer-Lemeshow chi2(10)</i>	<i>3.480</i>	<i>5.450</i>
<i>Prob > chi2</i>	<i>0.901</i>	<i>0.709</i>
<i>Correctly classified (%)</i>	<i>77.07%</i>	<i>73.57%</i>

Notes: *, **, *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively. P-value in parentheses. The variables are defined in Appendix 1.

In Equation 3, the moderating variables—comprising the workload of audit partners (PWork) and auditors-in-charge (AWork), as well as their respective experience levels (PExper and AExper)—are incorporated into the baseline model (Equation 2), along with their corresponding two-way and three-way interaction terms with auditor gender. Specifically, the two-way interaction terms include: the interaction between gender and workload for audit partners ($PWG = PGen \times PWork$) and auditors-in-charge ($AWG = AGen \times AWork$); and the interaction between gender and experience for audit partners ($PEG = PGen \times PExper$) and auditors-in-charge ($AEG = AGen \times AExper$). Additionally, the three-way interaction terms are defined as $PWEG = PGen \times PWork \times PExper$ for audit partners and $AWEG = AGen \times AWork \times AExper$ for auditors-in-charge.

The two-way interaction terms (PWG, AWG, PEG, and AEG) are employed to examine the independent moderating effects of workload and experience on the relationship between auditor gender and audit quality. In contrast, the three-way interaction terms (PWEG and AWEG) are used to assess the moderation of experience on the moderating effect of workload. Equation 3 is estimated separately using two proxies for audit quality: Restate and AQuality.

Consistent with the models estimated under Equation 2, the gender of audit partners (PGen) is found to be significantly and negatively associated with audit quality. This result is observed using both proxies—Restate and AQuality—with coefficients of $\beta_1 = -1.336$ ($p = 0.032$) and $\beta_1 = -1.475$ ($p = 0.013$), respectively. In contrast, gender diversity among auditors (ADiver) is positively associated with audit quality, with a significant coefficient ($\beta_3 = 0.201$, $p = 0.049$) when AQuality is used. The increased statistical significance of these results, with p-values improving from 10% to 5% and

even 1%, reflects the robustness and stability of these associations across multiple models. This consistency across Equations 1 to 3 indicates a stable empirical relationship between auditor gender attributes and audit quality.

The workload of audit partners (PWork) is negatively associated with audit quality. The coefficient is statistically significant when audit quality is proxied by Restate ($\beta_4 = -0.028$, $p = 0.060$), but not significant when proxied by AQuality. This finding suggests that overburdened audit partners may deliver lower-quality audits. It aligns with the Job Demands–Resources theory (Bakker & Demerouti, 2007), which posits that when job demands exceed an individual's available resources, job performance deteriorates. In this context, an audit partner under excessive workload may be more likely to overlook material misstatements or red flags, increasing the likelihood of subsequent restatements. This negative impact of auditor workload on audit quality is consistent with prior research by Sundgren and Svanström (2014), J. Chen et al. (2020), and Mnif and Cherif (2022).

A particularly interesting finding emerges regarding audit partner experience (PExper), which is negatively and significantly associated with audit quality ($\beta_5 = -0.023$, $p = 0.034$ for Restate; $\beta_5 = -0.033$, $p = 0.001$ for AQuality). While experience is commonly associated with increased competence, as posited by Expertise Theory (Chi et al., 1988), the observed finding aligns more closely with an alternative explanation grounded in Schein (1971)'s career development theory, which emphasizes motivational shifts across different career stages. As partners transition into mid- and late-career phases, intrinsic motivation and professional vigilance may decline. Given that audit partner experience in this study is proxied by the number of years holding a Vietnam CPA license—averaging 14 years—most partners likely fall into the mid- to late-career stages, possibly experiencing reduced motivation or professional disengagement. This interpretation is consistent with prior empirical findings by

Sundgren and Svanström (2014) and Hardies et al. (2016), who also report a negative relationship between extensive audit experience and audit quality.

Contrary to the findings for audit partners, the gender, workload, and experience of auditors-in-charge do not exhibit statistically significant associations with audit quality in the models estimated under Equation 3. This suggests that while auditors-in-charge play an important operational role, their influence on audit quality is more limited relative to audit partners, who bear ultimate decision-making responsibility. This asymmetry is particularly salient in the Vietnamese context, where audit partners must co-sign the audit report and are held publicly accountable alongside auditors-in-charge. In contrast, in many developed countries (e.g., the U.S., Sweden, Australia), only the lead partner is typically disclosed.

The moderating role of workload is examined through the two-way interaction term between audit partner gender and workload ($PWG = PGen \times PWork$). The coefficients are positive and statistically significant ($\beta_8 = 0.330$, $p = 0.065$ for Restate; $\beta_8 = 0.420$, $p = 0.010$ for AQuality), suggesting that workload attenuates the negative relationship between female audit partners and audit quality. This may indicate that under higher pressure, female partners demonstrate greater resilience or adaptability. Such results could be interpreted through the lens of Social Role Theory (Eagly, 1987) and cultural expectations in Vietnam, where women often manage multiple professional and personal roles, potentially equipping them with stronger multitasking and stress-handling capacities.

Similarly, the interaction between audit partner gender and experience ($PEG = PGen \times PExper$) is positive and statistically significant ($\beta_9 = 0.073$, $p = 0.069$ for Restate; $\beta_9 = 0.067$, $p = 0.079$ for AQuality), indicating that experience mitigates the negative relationship between female audit partners and audit quality. This suggests that as

female partners accumulate more experience, they are better able to overcome professional challenges and perform at par with or even exceed their male counterparts.

This finding is consistent with Expertise Theory (Chi et al., 1988), which posits that deep domain-specific knowledge and skill refinement—acquired through extensive experience—enhance professional judgment and performance, especially in complex and high-stakes tasks like auditing. In the context of gender, experience may serve to offset the disadvantages that women face due to role incongruity or unconscious bias, enabling them to demonstrate competence, build trust with clients, and lead audit engagements more effectively. Prior studies also suggest that experience can help reduce the performance gap linked to gender in auditing. For example, Hardies et al. (2016) found that the impact of gender on audit judgments diminishes as auditors gain seniority, while Cameran et al. (2018) emphasize the role of career progression in reducing client resistance to female auditors in leadership roles.

However, the three-way interaction between audit partner gender, workload, and experience ($PWEG = PGen \times PWork \times PExper$) is negative and statistically significant ($\beta_{10} = -0.021$, $p = 0.066$ for Restate; $\beta_{10} = -0.021$, $p = 0.039$ for AQuality). This finding suggests that although workload and experience individually moderate the negative impact of gender on audit quality in a positive direction, their combined presence may create a cumulative burden that ultimately diminishes audit effectiveness. In other words, auditor experience attenuates the moderating effect of workload on the relationship between auditor gender and audit quality. Specifically, when experience is high, the positive influence of workload in mitigating gender-related differences in audit quality becomes less pronounced.

This result can be interpreted through the lens of the Burnout theory (Maslach & Jackson, 1981; Maslach et al., 2001) and the Strain Accumulation Model (Karasek, 1990; Paul & Steve, 1998). Burnout theory posits that prolonged exposure to chronic

job stress—especially in high-demand, low-resource environments—can lead to emotional exhaustion, depersonalization (cynicism), and reduced personal accomplishment, ultimately diminishing job performance and well-being. The strain accumulation perspective further suggests that multiple concurrent stressors may interact and exceed an individual's coping capacity, especially in high-accountability roles like audit leadership.

In the context of female audit partners in Vietnam, this compounded effect may be even more pronounced. Given the additional societal and organizational expectations placed on women in leadership—such as the need to demonstrate both professional competence and gender-normative behavior—the simultaneous pressure of heavy workloads and long-term responsibilities may create conditions of role overload. This supports the idea that beyond a certain threshold, the combined demands of gendered expectations, workload intensity, and cumulative experience may interact to negatively affect audit performance.

For auditors-in-charge, neither the two-way interactions (AWG, AEG) nor the three-way interaction (AWEG) demonstrate significant associations with audit quality. These results further reinforce the earlier finding that audit partners hold more decisive influence over audit outcomes than their counterparts.

Unlike the two-way interaction, the three-way interaction among the gender, workload, and experience of audit partners ($PWEG = PGen \times PWork \times PExper$) has negative and significant coefficients ($\beta_{10} = -0.021, p = 0.066$; $\beta_{10} = -0.021, p = 0.039$) when audit quality is measured by Restate and AQuality. It suggests that the combined moderating effects of workload and experience strengthen the negative association of female audit partners and audit quality. In other words, although the two-way interactions (PWG and PEG) are positive, when combined in a three-way interaction (PWEG), the relationship shifts to negative. This might suggest that while female audit partners

benefit from higher workloads and more experience individually, the combination of these factors may lead to fatigue or stress, which negatively impacts audit quality. As the workload and experience grow simultaneously, the burden could exceed the partners' capacity to maintain quality, particularly for female audit partners who may face additional challenges related to gender discriminations or work-life balance.

Across all model specifications (Equations 1 to 3), the control variables yield consistent and interpretable patterns. Audit firm rotation (AuditorRotation) and the proportion of female members on the Board of Management (FBOM) exhibit positive and significant associations with audit quality. These results highlight the importance of auditor independence and gender diversity in governance structures. Conversely, the size of the Board of Management (BOMsize) and the client's return on total assets (ROA) are negatively associated with audit quality, suggesting that overly large boards may dilute oversight effectiveness and that higher firm profitability could potentially reduce the perceived need for rigorous audits.

4.5. Validation and Reliability

In logistic regression analysis, evaluating Goodness-of-Fit and testing for multicollinearity are crucial steps in ensuring the validity and reliability of the model. Goodness-of-Fit assesses how well the model fits the observed data, while testing for multicollinearity ensures that the model's coefficient estimates are accurate and unbiased, thereby enhancing the overall reliability and accuracy of the logistic regression model.

4.5.1. Goodness-of-Fit

Three common methods used for assessing Goodness-of-Fit of the estimated models in logistic regression are the Likelihood Ratio Chi-Square Test, the Hosmer-Lemeshow Test, and the Classification Matrix.

4.5.1.1. Likelihood Ratio Chi-Square Test

The Likelihood Ratio (LR) Chi-Square Test determines how well the model fits the observed data by comparing the predicted values to the actual outcomes (Hosmer, 2013). Tables 4.3, 4.4, and 4.5 present the results of the LR Chi-Square Test for the models represented by Equation 1, Equation 2, and Equation 3, run with Restate and AQuality, respectively. The p-values (Prob > chi2) are all 0.000, indicate that the logistic regression models (Equations 1, 2, and 3), with 16, 17, and 27 predictors, are statistically significant. The LR chi-square statistics for the models from Equation 1, Equation 2, and Equation 3, when audit quality is proxied by Restate, are 124.03, 125.32, and 140.36, respectively. The corresponding LR chi-square statistics, when audit quality is proxied by AQuality, are 132.93, 136.07, and 158.99. These LR Chi-square values for all equations are high, indicating that the predictors included in the models contribute significantly to explaining the variability in the outcome (audit quality). Furthermore, they show that the Equation 3 model, with 27 predictors and AQuality proxy (LR chi2(27) = 158.99, p = 0.000), provides the strongest explanatory power among all models.

4.5.1.2. Hosmer-Lemeshow Test

While the Likelihood Ratio Chi-Square Test assesses the overall significance of the model and its predictors, the Hosmer-Lemeshow Test evaluate the predictive accuracy of the model (Hair Jr et al., 2014). This test provides insight into how well the model fits the data at different probability levels, usually 10 groups. Tables 4.3, 4.4, and 4.5 also present the results of the Hosmer-Lemeshow (HL) Test for the models from Equation 1, Equation 2, and Equation 3, run with Restate and AQuality, respectively. The HL chi-square statistics are relatively low, and the corresponding p-values (Prob > chi2) are above common significance thresholds (0.05) for all equations. The p-values (e.g., 0.857, 0.893, 0.901) indicate a good fit for Equations 1, 2, and 3 with Restate proxy. However, the p-values with AQuality (e.g., 0.075, 0.447, 0.709) suggest a

slightly less robust fit compared to Restate, but they are still acceptable (none are below 0.05). Overall, the Hosmer-Lemeshow test results support that the models fit the data well, especially when Restate is used as the proxy for audit quality.

4.5.1.3. Classification Matrix

Like the Hosmer-Lemeshow test, the Classification Matrix is another common approach to measure the overall predictive accuracy of the model (Hair Jr et al., 2014). A classification matrix (also called a confusion matrix) provides a detailed breakdown of the model's classification performance by comparing predicted versus actual outcomes. As we can see in Table 4.3, 4.4, and 4.5, the correctly classified percentages are consistent across all equations for the Restate proxy (around 77%) but are slightly lower for the AQuality proxy (around 73%), indicating marginally lower predictive accuracy for the latter.

4.5.2. Multicollinearity

Multicollinearity arises in regression analysis when independent variables are highly correlated, leading to inflated standard errors, unstable coefficient estimates, and difficulty in determining the unique contribution of each variable to the dependent variable (Menard, 2002). To detect multicollinearity, a correlation matrix can serve as a preliminary tool by displaying the pairwise correlations among independent variables. Correlation coefficients above 0.7 or 0.8 often signal potential multicollinearity (Gujarati & Porter, 2009). As shown in Table 4.2 – the correlation matrix of all variables in the regression models – the pairwise correlation coefficients are all below 0.5. This suggests that the independent variables in the models are not highly correlated, and there are no notable multicollinearity concerns that could affect the results of my multivariate logistic regression analysis.

However, the correlation matrix focuses on bivariate relationships and may overlook multicollinearity involving multiple variables simultaneously. A more advanced

diagnostic measure is the Variance Inflation Factor (VIF), which quantifies how much the variance of a regression coefficient is inflated due to linear relationships with other predictors. VIF values greater than 5 (or, in some cases, 10) suggest significant multicollinearity that warrants further action, such as removing or combining variables (Kutner et al., 2004). The VIF values for all variables used in the models presented in Table 4.2 are below 2, indicating an absence of significant multicollinearity issues in my multivariate regression analysis.

Overall, the correlation matrix and VIF, two widely recommended tools for detecting and addressing multicollinearity in regression models, confirm that multicollinearity is not an issue in my research models.

4.6. Robustness Tests

Evaluating Goodness-of-Fit and testing for multicollinearity, as discussed above, are essential diagnostic steps in logistic regression to ensure the models' validity and reliability. These tests focus on the internal quality of the models. Now, we turn our attention to the robustness of the findings. Robustness refers to the ability of the model to produce consistent results under different assumptions, specifications, or variations in the data (Greene, 2012). Two widely used approaches for robustness testing are adding control variables and using alternative measure of dependent variables.

Adding control variables involves including additional factors that may influence the relationship between the independent and dependent variables, reducing the risk of omitted variable bias. This approach helps verify whether the primary results hold after accounting for potential confounding factors. Similarly, employing alternative dependent variables involves replacing the primary outcome variable with a closely related but distinct measure. This method evaluates whether the observed relationships are consistent across different operationalization of the outcome. Together, these

strategies enhance the credibility of empirical findings by demonstrating their stability under varying model assumptions and measurement approaches.

My study focuses on the impact of the co-signing auditor's attributes – gender, gender diversity, workload, and experience - on audit quality. Financial reporting quality is a closely linked construct with audit quality. Therefore, it is added to my models to control for the potential impact of financial reporting quality on audit quality. Additionally, it serves as an alternative measure of audit quality to test the robustness of the results.

4.6.1. Adding Control Variable

Financial reporting quality, proxied by discretionary accruals, is included in the models from Equation 3, which incorporate all variables of interest, moderating variables, and their interaction terms. Discretionary accruals (DA) are determined using the performance-based model developed by Kothari et al. (2005).

Table 4.6 presents the findings of the robustness test with the added control variable. The gender of audit partners (PGen) is significantly and negatively associated with audit quality, as measured by both the Restate and AQuality proxies ($\beta_1 = -1.331$, $p = 0.033$; $\beta_1 = -1.469$, $p = 0.013$). The gender mix of the two signing auditors (ADiver) is significantly and positively associated with audit quality, but only when measured by AQuality ($\beta_3 = 0.200$, $p = 0.050$). The workload of audit partners (PWork) is significantly and negatively associated with audit quality, but only when measured by Restate ($\beta_4 = -0.029$, $p = 0.055$). The experience of audit partners variable (PExper) shows negative and significant coefficients ($\beta_5 = -0.023$, $p = 0.038$; $\beta_5 = -0.033$, $p = 0.002$) when audit quality is measured by Restate and AQuality, respectively.

The interaction variables of workload and gender of audit partners ($PWG = PGen \times PWork$) have positive and significant coefficients ($\beta_8 = 0.329$, $p = 0.066$; $\beta_8 = 0.419$, p

= 0.010) when audit quality is measured by both Restate and AQuality proxies. Similar to workload, the interaction variables of experience and gender of audit partners (PEG = PGen x PExper) have positive and significant coefficients ($\beta_9 = 0.072$, $p = 0.071$; $\beta_9 = 0.067$, $p = 0.081$). However, the three-way interaction among the gender, workload, and experience of audit partners (PWEG = PGen x PWork x PExper) is significantly and negatively associated with audit quality, as measured by both proxies ($\beta_{10} = -0.020$, $p = 0.067$; $\beta_{10} = -0.021$, $p = 0.040$). These results confirm the findings of my study, which remain consistent even with the inclusion of additional control variables.

Table 4.6: Robustness test with the added control variable (DA)

Variable	Restate Coef.	AQuality Coef.
PGen	-1.331** (0.033)	-1.469** (0.013)
AGen	-0.268 (0.376)	-0.217 (0.449)
ADiver	0.152 (0.161)	0.200*** (0.05)
PWork	-0.029* (0.055)	-0.008 (0.557)
Work	0.008 (0.82)	-0.015 (0.667)
AExper	0.005 (0.725)	0.006 (0.65)
PExper	-0.023** (0.038)	-0.033*** (0.002)
PWG	0.329* (0.066)	0.419*** (0.01)
PEG	0.072* (0.071)	0.067* (0.081)
PWEG	-0.02* (0.067)	-0.021** (0.04)
AWG	0.033 (0.731)	0.024 (0.793)
AEG	0.027 (0.342)	0.026 (0.34)
AWEG	-0.003 (0.785)	-0.001 (0.895)
Big4	-0.098 (0.397)	-0.143 (0.193)
AuditorRotation	0.186* (0.100)	0.259** (0.016)
Dual	0.165 (0.102)	0.02 (0.837)
BODsize	0.052 (0.086)	0.004 (0.886)
BOMsize	-0.137*** (0.000)	-0.085*** (0.001)
CEOGen	-0.127 (0.435)	-0.219 (0.165)
ChiefGen	-0.092 (0.302)	-0.041 (0.631)
ChairGen	-0.152 (0.359)	-0.042 (0.786)
FBOD	-0.08 (0.136)	-0.082 (0.107)
FBOM	0.182*** (0.003)	0.115* (0.052)

ClientSize	0.044 (0.388)	0.016 (0.741)
LOSS	0.224 (0.219)	0.191 (0.279)
ROA	-4.209*** (0.000)	-4.57*** (0.000)
Leverage	0.25 (0.310)	0.147 (0.529)
DA	-0.005 (0.942)	-0.005 (0.933)
_cons	-1.767 (0.198)	-0.497 (0.705)
<i>LR chi2(28)</i>	<i>139.58</i>	<i>157.79</i>
<i>Prob > chi2</i>	<i>0.000</i>	<i>0.000</i>
<i>Hosmer-Lemeshow chi2(10)</i>	<i>2.090</i>	<i>6.490</i>
<i>Prob > chi2</i>	<i>0.978</i>	<i>0.593</i>
<i>Correctly classified (%)</i>	<i>77.05%</i>	<i>73.54%</i>

Notes: *, **, *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively. P-value in parentheses.

4.6.2. Using Alternative Measure of Dependent Variable

In my baseline models, two measures of audit quality, Restate and AQuality, are used to test the consistency of the results. However, both of these are relatively new measures of audit quality proposed in this study and serve as direct output-based proxies. As a result, a commonly used, traditional indirect proxy of audit quality - discretionary accruals (DA) - is employed as an alternative dependent variable to check the robustness of the findings. Equation 3 is re-estimated with audit quality proxied by discretionary accruals (DA) instead of Restate or AQuality.

Table 4.7 presents the results of FEM and REM estimations of Equation 3 with discretionary accruals (DA).

Table 4.7: Robustness test with the alternative dependent variable (DA)

Variable	FEM (DA) Coef.	REM (DA) Coef.
PGen	0.310** (0.015)	0.319** (0.012)
AGen	0.066 (0.317)	0.083 (0.204)
ADiver	-0.044* (0.054)	-0.045** (0.046)
PWork	0.002 (0.507)	0.001 (0.764)
ASWork	0.014* (0.076)	0.015* (0.059)
AExper	0.004 (0.142)	0.004 (0.160)
PExper	-0.004* (0.075)	-0.002 (0.437)
PWG	-0.135*** (0.000)	-0.141*** (0.000)
PEG	-0.010 (0.211)	-0.011 (0.187)
PWEG	0.006*** (0.009)	0.006*** (0.005)
AWG	-0.013 (0.544)	-0.012 (0.555)
AEG	-0.003 (0.621)	-0.003 (0.600)
AWEG	0.001 (0.708)	0.001 (0.754)
Big4	-0.182*** (0.000)	-0.15*** (0.000)
AuditorRotation	0.047* (0.063)	0.047* (0.063)
Dual	0.108*** (0.000)	0.074*** (0.005)
BODsize	-0.016* (0.051)	-0.012 (0.131)
BOMsize	0.009 (0.300)	0 (0.985)
CEOGen	0.135*** (0.005)	0.123*** (0.005)
ChiefGen	0.024 (0.404)	0.022 (0.401)
ChairGen	0.057 (0.219)	0.048 (0.267)
FBOD	-0.047*** (0.002)	-0.031** (0.029)
FBOM	-0.027 (0.143)	-0.034** (0.043)
ClientSize	0.555*** (0.000)	0.465*** (0.000)
LOSS	-0.036 (0.415)	-0.055 (0.210)
ROA	0.306* (0.054)	0.203 (0.179)
Leverage	0.052 (0.557)	0.188** (0.014)
_cons	-15.487*** (0.000)	-13.077*** (0.000)
<i>F(27,2957) / Wald chi2(27)</i>	<i>37.07</i>	<i>1312.81</i>
<i>Prob > F / Prob > chi2</i>	<i>0</i>	<i>0</i>
Notes: *, **, *** indicate significance at the 0.10, 0.05 and 0.01 levels, respectively. P-value in parentheses.		

Since DA is a continuous variable, a multivariate regression is run. Furthermore, in panel data analysis, the Fixed Effects Model (FEM) and Random Effects Model (REM)

are commonly used to estimate the relationships between variables when data involves multiple observations over time (Wooldridge, 2010).

The gender of audit partners (PGen) is significantly and positively associated with discretionary accruals in both the FEM and REM models ($\beta_1 = 0.310$, $p = 0.015$; $\beta_1 = 0.319$, $p = 0.012$), suggesting a negative relationship with audit quality. The gender mix of the two signing auditors (ADiver) is significantly and negatively associated with discretionary accruals in two models ($\beta_3 = -0.044$, $p = 0.054$; $\beta_3 = -0.045$, $p = 0.046$), indicating a positive relationship with audit quality.

The interaction variables of workload and gender of audit partners (PWG = PGen x PWork) have negative and significant coefficients ($\beta_8 = -0.135$, $p = 0.000$; $\beta_8 = -0.141$, $p = 0.000$) in the two FEM and REM models, suggesting a positive link with audit quality. The interaction variables of experience and gender of audit partners (PEG = PGen x PExper) also have negative but insignificant coefficients ($\beta_9 = -0.010$, $p = 0.211$; $\beta_9 = -0.011$, $p = 0.187$). The three-way interaction among the gender, workload, and experience of audit partners (PWE = PGen x PWork x PExper) is significantly and positively associated with discretionary accruals in both the FEM and REM models ($\beta_{10} = 0.006$, $p = 0.009$; $\beta_{10} = 0.006$, $p = 0.005$), implying a negative relationship with audit quality. These results further validate the key findings of my study. The findings remain robust and consistent, even when the dependent variable is replaced with an alternative measure, discretionary accruals (DA), which is widely used in the literature to measure audit quality.

4.7. Conclusion

In this chapter, I have thoroughly examined the impact of auditor gender and gender diversity on audit quality, while also considering the moderating effects of auditor workload and experience. Through a series of analyses, including descriptive statistics,

correlation assessments, multivariate analysis, and robustness tests, the results have provided valuable insights into the complex relationships between these factors.

Overall, the findings offer significant theoretical and practical contributions to the understanding of audit quality, particularly in relation to the gender dynamics within audit teams. However, as with any empirical study, there are limitations to the generalizability of these results, and future research could further explore these relationships in different contexts or with additional variables.

In the next chapter, the overall conclusions of the study will be drawn, summarizing the key findings and discussing their broader implications for the field of auditing, policy recommendations, and directions for future research.

Chapter 5: CONCLUSION

5.1. Introduction

The concluding chapter of this dissertation brings together the key findings, contributions, and implications of the research presented in the preceding chapters. The primary aim of this study was to investigate the influence of gender and gender diversity among co-signing auditors (the auditor-in-charge and the audit partner) on audit quality, as well as the moderating effects of auditor workload and experience, within the context of Vietnam, a developing economy. This research addresses a critical gap in the field of auditing. Through a systematic investigation using unstructured archival data, this research provides novel insights into the impact of gender differences on audit quality, considering the effects of workload pressure and levels of experience.

This chapter synthesizes the outcomes of the research, outlining how they contribute to the existing body of knowledge and addressing the research questions posed at the outset. In doing so, it highlights the significance of the findings, acknowledges the limitations of the study, and proposes avenues for future research. By reflecting on the broader implications, this chapter underscores the relevance and potential impact of this work within and beyond the field of auditing.

The remainder of the chapter is structured as follows: Section 2 summarizes the key findings and their contributions to the literature; Section 3 discusses the broader implications of the research; Section 4 outlines the limitations of the study; and Section 5 provides recommendations for future research. The chapter concludes with final reflections on the significance of the study and its potential to inspire further inquiry.

5.2. Summary of Key Findings

The objective of my research is to examine the effect of auditor gender and gender diversity on audit quality in Vietnam, with an emphasis on the moderating roles of auditor workload and experience. The study utilized unstructured archival data on auditors and audit quality, including auditor gender, the number of audit engagements an auditor handles annually, the number of years an auditor has held the Vietnam CPA license, audit opinions, and pre-issuance restatements of financial statements. Collecting this unstructured archival data was an exceptionally challenging task, requiring considerable time and effort. Due to the complexity and fragmented nature of the data, the process of gathering and organizing it demanded significant dedication and careful attention.

In this study, I leverage a unique aspect of Vietnam's disclosure framework to develop and employ two novel proxies for audit quality - Restate and AQuality - which directly capture audit outcomes. Restate measures the likelihood of pre-issuance restatements of financial statement, occurring when auditors detect material misstatements and prompt clients to adjust them. In contrast, AQuality provides a broader assessment of auditors' effectiveness in identifying and reporting material misstatements. It is a composite measure that integrates both modified audit opinions (MAO) and pre-issuance restatements (Restate), capturing instances where auditors detect misstatements and either prompt client adjustments or, if uncorrected, report them to third parties through a modified audit opinion.

To answer the five research questions and test the five hypotheses, the study employs multiple logistic regression analysis with three equations using Stata software. Equation 1 tests the first hypothesis, which examines whether there is a relationship between female auditors and audit quality. Equation 2 explores the association between auditor gender diversity and audit quality, addressing the second hypothesis. Equation

3 tests the remaining hypotheses, investigating the moderating effects of auditor workload and experience on the relationship between auditor gender and audit quality. These equations are estimated using *Restate* and *AQuality*, respectively.

To check the robustness of the findings, discretionary accruals (DA) – a widely used indirect proxy for audit quality – are added to the models to control for potential confounding factors, and are also used as an alternative dependent variable, replacing *Restate* and *AQuality*. The results of the robustness tests confirm the findings of the study.

Based on a sample of 3,223 firm-year observations from non-financial companies listed on the Ho Chi Minh Stock Exchange (HOSE) covering the period from 2010 to 2023, the study finds a negative relationship between female audit partners and audit quality, but a positive association between female auditors-in-charge and audit quality. The negative effect of female audit partners may be explained by role congruity theory (Karau & Eagly, 2002). It suggests that women in top management positions, such as audit partners, encounter negative attitudes from others and experience significant challenges in their roles, which can prevent them from delivering high-quality audits. The positive effect of female auditors-in-charge is underpinned by social role theory (Eagly, 1987). It implies that due to differences in risk preferences, ethical development, sensitivity, and overconfidence, female auditors are anticipated to deliver higher audit quality compared to their male counterparts.

Furthermore, a gender-diverse signing audit team enhances audit quality, being consistent with the information perspective (Knippenberg & Schippers, 2007). It proposes that by integrating diverse information and fostering creative thinking, gender-diverse teams are better equipped to meet the complexities of audits, ultimately contributing to higher audit quality. Therefore, the answer to my second research question, “Do female auditors or gender-diverse teams improve audit quality?” is that

gender-mixed audit teams are more effective, particularly those with a male audit partner and a female auditor-in-charge.

Regarding the moderating effects of auditor workload and experience, the study suggests that overloaded auditors may provide lower-quality audits. A high workload may distract an auditor from giving adequate attention to the audit, possibly causing them to take shortcuts instead of gathering sufficient and appropriate evidence (Lennox & Wu, 2018). Similar to workload, auditor experience also shows a negative association with audit quality. This can be explained by career development theory (Schein, 1971), which suggests that auditors in the mid- to late-career stages may experience a decrease in motivation, leading to a decline in audit quality. The negative relationships between auditor workload and experience and audit quality are significant only for audit partners, not for auditors-in-charge. The lack of statistical significance for the attributes of auditors-in-charge may be explained by the stronger influence of audit partners on audit quality. As the ultimate decision-makers, audit partners are likely to have a more substantial and consistent impact on audit quality compared to auditors-in-charge.

More interestingly, the workload and experience of audit partners respectively weaken the negative relationship between female audit partners and audit quality, turning it positive. These findings may support the argument that Vietnamese women, accustomed to balancing multiple roles and overcoming work-related challenges, may be better equipped to handle workload pressure. Additionally, increasing the experience of female audit partners could help reduce gender-based disparities in audit quality.

However, the combined moderating effect of workload and experience strengthens the negative association of female audit partners and audit quality. In other words, although the two-way interactions are positive, when combined in a three-way

interaction, the relationship shifts to negative. This implies that although female audit partners may individually gain from increased workloads and more experience, the interaction of these factors could cause fatigue or stress, ultimately reducing audit quality. As both workload and experience increase at the same time, the combined pressure may overwhelm the partners' ability to sustain high-quality work, especially for female audit partners who may encounter additional difficulties such as gender discrimination or challenges related to balancing work and personal life.

5.3. Implications of the Research

5.3.1. Theoretical Implications

This study contributes to the audit quality literature by extending established theories—such as role congruity theory, social role theory, information/decision-making perspective and the job demands–resources model—into the Vietnamese context. It highlights how auditor gender, diversity, workload, and experience interact to influence audit outcomes, offering new insights into the theoretical understanding of audit quality in emerging markets.

5.3.1.1. Introduction of Two Theory-Informed, Output-Based Measures of Audit Quality

This study makes a key methodological and theoretical contribution by introducing two novel, output-based measures of audit quality—Restate and AQuality—that directly capture audit effectiveness in detecting and addressing material misstatements. These measures are not only empirically grounded in Vietnam's regulatory disclosure practices but also theoretically aligned with the output-based conceptualization of audit quality (DeFond & Zhang, 2014), which views audit quality as the outcome of auditor performance rather than inferred from firm-level reporting characteristics.

Restate captures the auditor's success in detecting and prompting the correction of material misstatements prior to the public release of financial statements. This measure reflects both the auditor's technical competence in identifying material misstatements and their independence in requiring clients to correct them, aligning closely with DeAngelo's (1981b) conceptualization of audit quality as a function of both attributes.

Building on this foundation, AQuality offers a more comprehensive and integrated measure. It combines two key components: auditor-induced restatements (Restate) and modified audit opinions (MAO), which signal the auditor's willingness to report unresolved misstatements to external users. This dual recognition captures both outcomes of high-quality audits—successful resolution of misstatements and transparent reporting when such resolution is not achieved.

By formally integrating Restate and MAO into a single proxy, AQuality represents a novel contribution to the empirical measurement of audit quality. It not only operationalizes DeAngelo's (1981b) theoretical dimensions of competence and independence but also offers a contextually suitable tool for environments like Vietnam, where data on restatements may be available but underutilized. This composite measure enables a more complete and theoretically grounded assessment of audit effectiveness.

Furthermore, these two proxies – Restate and AQuality – are significant because they shift the focus from indirect measures—such as discretionary accruals or Big N affiliation, often used in Vietnamese studies (e.g., M. K. Nguyen et al., 2016; Q. K. Nguyen, 2024)—to direct, observable outputs of the audit process. By grounding these measures in the Vietnamese disclosure context, the study enhances the validity and contextual relevance of audit quality assessment in emerging markets.

5.3.1.2. Contextualizing Gender Effects in a Non-Western, Developing Economy

This study also expands theoretical discourse on audit quality by offering empirical evidence from Vietnam—a developing, non-Western context characterized by distinct regulatory structures and gender norms. The findings demonstrate divergent effects of audit partner and auditor-in-charge gender on audit quality, which may be interpreted through role congruity theory (Karau & Eagly, 2002). This theory suggests that women in leadership positions, such as audit partners, face greater scrutiny and structural bias, potentially undermining their effectiveness. In contrast, female auditors-in-charge, operating in supportive roles, may face fewer barriers, allowing their strengths—such as caution, ethical sensitivity, and attention to detail—to positively influence audit outcomes, as proposed by social role theory (Eagly, 1987).

Vietnam’s regulatory requirement to disclose both signing auditors’ names enables this distinction—rarely possible in Western settings—and reveals the nuanced ways in which gender interacts with professional hierarchy, contributing new evidence to the global literature on audit quality determinants.

5.3.1.3. Gender Diversity - Beyond the Presence of Women

This study also advances understanding of gender diversity in audit by moving beyond binary gender effects to examine team composition. Findings show that gender-diverse signing auditor teams outperform homogeneous ones, reinforcing the information/decision-making perspective (Knippenberg & Schippers, 2007). This theory argues that diverse teams benefit from broader cognitive resources, leading to more robust decision-making.

The results suggest that diversity—particularly a combination of male audit partners and female auditors-in-charge—enhances team effectiveness, highlighting that optimal team structure, rather than individual gender characteristics alone, is critical for audit

quality. These insights offer practical implications for audit firms seeking to balance technical expertise and team dynamics through intentional diversity in signing teams.

5.3.1.4. Advancing a Multi-Moderator Framework in Audit Research

The study further contributes to theory by introducing and empirically testing a multi-moderator framework that examines how workload and experience moderate the relationship between auditor gender and audit quality. This approach aligns with role theory (Biddle, 1979), which posits that individual behavior and performance are shaped by both personal characteristics and contextual role demands.

The findings suggest that while auditor experience and workload may each independently attenuate the negative impact of auditor gender on audit quality, their combined effect can generate cumulative strain, ultimately intensifying the negative relationship between gender and audit quality—particularly for female partners. More specifically, auditor experience weakens the moderating effect of workload on the relationship between auditor gender and audit quality, indicating that the benefits of workload management diminish when coupled with high levels of experience. This outcome is explained by Maslach's burnout theory (Maslach & Jackson, 1981; Maslach et al., 2001). It is suggested that female auditors' ability to manage workload pressures and maintain audit quality may depend on their level of experience. As female auditors gain more experience and advance to higher positions, they may also face increased exposure to gender-based discrimination. This accumulated pressure can erode their energy and resilience, making it more challenging to manage heavy workloads and heightening the risk of burnout.

Most prior audit studies consider moderators in isolation (two-way interaction). By modeling simultaneous interactions (three-way interaction), this research encourages scholars to adopt more complex, interactionist approaches to understanding audit

quality—accounting for the real-world interplay between auditor identity and work environment.

5.3.2. Managerial Implications

This study offers several managerial implications for audit firms in Vietnam, particularly those operating in small and mid-sized segments of the market. These implications are grounded in empirical findings and contextualized within theoretical frameworks such as role congruity theory, social role theory, the job demands–resources model, and career development theory. Each implication corresponds to specific findings and characteristics of the firms included in the research sample.

5.3.2.1. Addressing Structural Barriers Faced by Female Audit Partners

The finding that female audit partners are negatively associated with audit quality should not be interpreted as a lack of competence, but rather as a reflection of structural and cultural barriers. Drawing on Role Congruity Theory (Karau & Eagly, 2002) and supported by reports from UN Women (2021), this result points to potential bias and unequal opportunities for women in senior audit roles—particularly in developing, non-Western contexts like Vietnam.

Audit firms should take concrete steps to reduce these barriers by implementing diversity and inclusion training, offering gender-sensitive leadership pathways, and ensuring transparent promotion criteria. For small and mid-sized Vietnamese audit firms—which dominate the sample and may lack formal human resource policies—such changes are essential for improving both equity and audit outcomes.

5.3.2.2. Leveraging Gender-Diverse Signing Teams for Higher Audit Quality

The study finds that gender-diverse signing audit teams—especially those pairing a male audit partner with a female auditor-in-charge—deliver higher audit quality. This supports the information/decision-making perspective (Knippenberg & Schippers, 2007), which highlights the value of diversity in enhancing problem-solving and decision quality.

Audit firms should therefore consider intentionally composing mixed-gender signing teams, particularly for complex or high-risk engagements. This recommendation is especially relevant to the Vietnamese context, where the dual-signature requirement enables such combinations and where traditional gender roles may otherwise limit team diversity.

5.3.2.3. Managing Auditor Workload to Sustain Audit Quality

The study shows that excessive workload, particularly for audit partners, significantly reduces audit quality. Consistent with the Job Demands–Resources Theory (Bakker & Demerouti, 2007), high workloads without sufficient resources or support can lead to reduced professional vigilance and audit failures.

Audit firms—especially those in the sample (audit firms licensed to audit public companies) with high client volumes but limited staffing—should implement workload balancing mechanisms, such as hiring temporary staff during peak seasons, redistributing tasks across teams, or using audit automation tools for routine procedures. Clients should also be aware of these pressures when selecting audit firms and scheduling engagements.

5.3.2.4. Re-engaging Experienced Auditors in Later Career Stages

The negative association between audit partner experience and audit quality points to the risk of declining motivation or professional engagement in mid- to late-career stages. This is consistent with Schein's (1971) Career Development Theory, which suggests that auditors may experience stagnation or disengagement over time.

Audit firms should respond by offering incentives, training opportunities, or new responsibilities—such as mentoring or advisory roles—to maintain motivation. In the Vietnamese audit sector, where many professionals remain in the same firms for extended periods, these practices are especially critical for sustaining consistent audit quality.

5.3.2.5. Balancing Dual Demands on Female Audit Partners

The study finds that workload and experience, when considered separately, can moderate the negative relationship between female audit partners and audit quality in a positive direction. However, their combined effect is negative, likely due to strain accumulation and overburdening. According to the Strain Accumulation Model (Karasek, 1990), the convergence of multiple stressors can overwhelm even experienced professionals.

Thus, while female partners may thrive under pressure or with accumulated expertise, firms must be careful not to over-assign them to engagements, especially in later career stages. Tailored workload management strategies and ongoing support systems are essential to ensure sustained performance without risking burnout or disengagement.

5.4. Policy Implications

In addition to its theoretical and managerial relevance, this study provides important implications for policymakers and regulatory authorities seeking to enhance audit quality in Vietnam's capital market. Given the unique characteristics of Vietnam's auditing landscape—where audit firms must be formally approved to audit public interest entities (PIEs), including listed companies—policy-level interventions can play a pivotal role in reinforcing audit effectiveness, promoting gender equality, and managing human capital within the profession.

5.4.1.1. Promote Gender Equity in Audit Leadership

The finding that female audit partners are associated with lower audit quality may reflect systemic constraints rather than a lack of competence. Regulatory bodies such as the Ministry of Finance and VACPA should develop and implement policies to address structural gender barriers in the auditing profession. These may include gender-sensitive leadership development programs, incentive schemes for audit firms demonstrating progress in promoting women to partner roles, and periodic assessments of gender representation in senior auditing positions.

In parallel, the State Securities Commission (SSC) could require disclosure of gender composition in audit teams serving listed clients, thereby encouraging transparency and awareness.

5.4.1.2. Encourage Gender-Diverse Signing Teams

The empirical evidence supporting the benefits of gender-diverse signing teams—particularly those combining male audit partners and female auditors-in-charge—

suggests that regulators should promote diversity not only at the firm level but within engagement teams. Policy guidance could recommend that audit firms balance gender representation in signing roles, especially for engagements involving public companies. Such practices align with broader national efforts to meet Vietnam’s gender equality objectives under Resolution No. 28/NQ-CP on Vietnam’s National Strategy on Gender Equality for the 2021–2030 period.

5.4.1.3. Regulate Auditor Workload to Mitigate Quality Risks

Given the negative relationship between audit partner workload and audit quality, the Ministry of Finance could consider issuing guidelines or thresholds on the number of audit engagements assigned to each signing partner—particularly in approved audit firms serving PIEs. These regulations could be embedded in licensing or renewal conditions and aligned with existing international best practices. In addition, regulators might encourage or require disclosure of auditor workload metrics in annual transparency reports.

5.4.1.4. Address Quality Risks in Later Career Stages

The finding that more experienced auditors may show reduced audit quality suggests a need for continuous monitoring and professional development, particularly for senior audit partners. Regulatory bodies could collaborate with professional associations (e.g., VACPA) to mandate periodic training, refresher courses, or quality control assessments tailored to late-career professionals. This would ensure ongoing competence and engagement across the auditor lifecycle.

5.4.1.5. Institutionalize Composite Audit Quality Measures

This study introduces two output-based measures of audit quality—Restate and AQuality—grounded in Vietnam’s public disclosure framework. Policymakers should consider integrating these measures into regulatory audit quality monitoring systems, such as annual evaluations of approved audit firms, criteria for audit firm classification, or inputs into risk-based inspection planning by the SSC or MOF.

By adopting context-specific, auditor-focused metrics, regulators can better capture the substance of audit performance and drive targeted improvements.

5.5. Limitations of the Research

While this study provides valuable insights into the relationship between auditor gender, gender diversity, and audit quality, with an emphasis on the moderating effects of auditor workload and experience, several limitations must be acknowledged. First, the research is focused exclusively on the Vietnamese audit market. Although this context allows for a deeper understanding of how these factors interact in a non-Western, developing economy, the findings may not be fully generalizable to countries with different social, cultural, or economic environments, as well as varying regulatory characteristics. Therefore, it is crucial to take these differences into account when applying the findings of my research to other contexts.

The second limitation of this study is its focus on the gender and gender diversity of two co-signing auditors (the audit partner and the auditor-in-charge) rather than the entire engagement audit team. While the co-signing auditors play a critical role in the audit process, they represent only a portion of the broader audit team. This focus limits the generalizability of the findings to the broader team dynamics, which may involve diverse roles (e.g., audit managers, seniors, assistants, or specialists) whose interactions could also influence audit quality. By excluding other members of the engagement

team, the study overlooks how gender diversity within other team members might further impact audit outcomes, potentially limiting the full understanding of how gender influences audit quality across the entire team.

Due to the limited of time and resources to collect and analyze unstructured archival data, the sample of this study includes companies listed on the Ho Chi Minh Stock Exchange (HOSE). This could limit the generalization of my findings. By focusing solely on publicly listed firms on HOSE, the findings may not be fully representative of the broader population of companies in Vietnam. Publicly listed companies on the HOSE are subject to different regulatory requirements, financial reporting standards, and external pressures compared to private companies or those in smaller markets. Therefore, the findings of this study may be specific to the characteristics of listed firms, such as their size, complexity, or visibility, and may not generalize to privately held firms, state-owned enterprises, or firms listed on other exchanges.

Lastly, one limitation of this study relates to the operationalization of variables, specifically auditor workload and audit quality. The proxy for auditor workload is the number of audit engagements with listed companies that an auditor handles annually, excluding those with non-listed companies. Additionally, audit partners and auditors-in-charge are responsible for other duties, such as strategy development, client acquisition, non-audit services, staff training, and managerial tasks. However, such information was not available for collection. The two new measures of audit quality used in this study provide relatively strong evidence of good audit quality but weaker evidence of poor quality. If no material misstatements are detected and reported, it does not necessarily imply poor audit quality, as the financial statements prior to the audit may still be fairly presented.

5.6. Recommendations for Future Research

While this study offers valuable insights into the relationships between auditor gender, gender diversity, workload, experience, and audit quality, several avenues for further investigation remain that could deepen our understanding of these dynamics.

First, the findings of this study, conducted within the context of Vietnam, may not be universally applicable across different regions or countries. It would be valuable to explore how social, cultural, economic, and institutional differences affect the relationship between auditor gender, workload, experience, and audit quality. Comparative studies between developed and developing economies could provide insights into how local contexts influence audit practices and gender dynamics in the auditing profession.

Second, future research could expand the scope of this study by considering the gender diversity of the entire audit engagement team, including all roles involved in the audit process, rather than focusing solely on two co-signing auditors. This would include audit partners, audit directors, audit managers, senior auditors, junior auditors, and support staff. Understanding how gender diversity at different levels of an audit team affects audit quality could provide a more comprehensive view of the gender's role in the audit process.

On the other hand, future research could address the limitation on sample of this study by expanding the sample to include a broader range of companies, including privately held firms, state-owned enterprises, or firms listed on Hanoi Stock Exchange (HNX) and Unlisted Public Company Market (UPCOM). This would allow for a more comprehensive understanding of how gender diversity in audit teams influences audit quality across different organizational types and stock markets.

Next, future studies could expand the measurement of auditor workload by incorporating additional factors beyond the number of audit engagements with listed companies. This could include the number of audit engagements with listed and unlisted companies, complexity of engagements, the size of the client firms, or the scope of non-audit services provided by the auditor. Researchers could also explore how factors such as the auditor's involvement in firm management or strategic planning affect workload and audit quality. To address the limitations of the current measures of audit quality, future studies could explore alternative proxies for poor audit quality in Vietnam, such as audit failures, or adopt a multi-dimensional approach or a continuum proxy, as suggested by (DeFond & Zhang, 2014).

Finally, I highly recommend that future qualitative research could be conducted to explain the key findings of my study. Qualitative research could provide a deeper understanding of the mechanisms behind the moderating effects of auditor workload and experience on the relationship between auditor gender and audit quality. This approach could explore how female audit partners perceive and respond to the pressures of increased workload and experience, particularly in non-Western cultural contexts like Vietnam, where gender dynamics may differ from Western countries. In-depth interviews, case studies, or focus groups could be used to gather detailed insights into the personal, emotional, and professional challenges faced by female audit partners. Such research could explore how gender-related factors, such as discrimination or societal expectations, intersect with workload and experience to influence audit performance. Additionally, qualitative studies could investigate the coping strategies employed by female audit partners to manage stress, maintain work-life balance, and navigate career progression while facing these challenges.

5.7. Conclusion

This dissertation set out to examine the influence of auditor gender and gender diversity on audit quality in Vietnam, with particular attention to the moderating effects of auditor workload and experience. Drawing on a unique dataset manually constructed from audit reports of publicly listed firms and supported by Vietnam's distinct dual-signature disclosure regime, the study contributes both empirically and theoretically to the audit literature.

The findings reveal a nuanced and differentiated impact of auditor gender on audit quality. While female audit partners are associated with lower audit quality—possibly reflecting structural disadvantages or role incongruity—female auditors-in-charge appear to enhance audit outcomes. More importantly, gender-diverse signing teams, particularly those combining male audit partners and female auditors-in-charge, demonstrate higher audit quality, supporting the information/decision-making perspective on team composition. These results provide new insights into how gender interacts with professional hierarchy in a non-Western, emerging market context.

In addition, the study uncovers that audit partner workload and experience both independently and interactively moderate the relationship between gender and audit quality. While each factor individually helps mitigate the negative gender effect, their combination may result in excessive strain, ultimately reducing audit effectiveness. These findings are theoretically grounded in the Job Demands–Resources model, Career Development Theory, and the Strain Accumulation Model, which together offer a richer understanding of how personal and contextual stressors shape audit outcomes.

The study also introduces two novel, direct output-based audit quality measures—Restate and AQuality—which offer a more transparent and contextually appropriate way to assess audit effectiveness in Vietnam. These methodological contributions help

advance audit quality research in settings where conventional proxies may be less reliable or less relevant.

Overall, this dissertation contributes to the literature by offering new evidence on the role of gender, diversity, and workload in audit quality, rooted in theory and grounded in the Vietnamese institutional context. It also provides practical implications for audit firms, regulators, and policymakers seeking to enhance audit quality and promote gender equity in the profession.

THE AUTHOR'S LIST OF WORKS

Pham Thi Ngoc Bich, & Nguyen Phong Nguyen. (2024). Auditor Gender, Gender Diversity, and their Impact on Audit Quality: Empirical Evidence from Vietnam. Paper presented at the The 7th International Conference on Finance, Accounting and Auditing – ICFAA 2024, Hanoi, Vietnam.

Tran, T. T. G., Nguyen, T. T., Pham, B. T. N., & Tran, P. T. T. (2025). Audit partner tenure and earnings management: evidence from Vietnam. In *Journal of Financial Reporting and Accounting* (Vol. 23, pp. 330-349): Emerald Publishing Limited.

REFERENCES

- Abbott, L. J., Parker, S., & Peters, G. F. (2004). Audit committee characteristics and restatements. *Auditing: A Journal of Practice & Theory*, 23(1), 69-87. doi:10.2308/aud.2004.23.1.69
- Aiken, L. S. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, Calif.: Sage Publications.
- Aobdia, D., Lin, C.-J., & Petacchi, R. (2015). Capital market consequences of audit partner quality. *The Accounting Review*, 90(6), 2143-2176. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsjsr&AN=edsjsr.26550609&site=eds-live>
- Arens, A. A., Elder, R. J., Beasley, M. S., & Hogan, C. E. (2023). *Auditing and assurance services : an integrated approach* (18th ed., global ed. ed.): Pearson.
- Bakker, A. B., & Demerouti, E. (2007). The job demands-resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309-328. doi:10.1108/02683940710733115
- Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics*, 116(1), 261-292. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsjsr&AN=edsjsr.2696449&site=eds-live>
- Bernardi, R. A., & Arnold Sr, D. F. (1997). An examination of moral development within public accounting by gender, staff level, and firm. *Contemporary accounting research*, 14(4), 653-668. doi:10.1111/j.1911-3846.1997.tb00545.x
- Biddle, B. J. (1979). *Role theory: Expectations, identities, and behaviors*. New York: Academic Press.
- Bloomfield, R., Nelson, M. W., & Soltes, E. (2016). Gathering data for archival, field, survey, and experimental accounting research. *Journal of Accounting Research*, 54(2), 341-395. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsjsr&AN=edsjsr.24738203&site=eds-live>
- Byrnes, J. P., Miller, D. C., & Schafer, W. D. (1999). Gender differences in risk taking : A meta-analysis. *Psychological Bulletin*, 125(3), 367-383. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edscal&AN=edscal.1774948&site=eds-live>
- Cahan, S. F., & Sun, J. (2015). The effect of audit experience on audit fees and audit quality. *Journal of Accounting, Auditing & Finance*, 30(1), 78-100. doi:10.1177/0148558X14544503
- Cameran, M., Ditillo, A., & Pettinicchio, A. (2018). Audit team attributes matter: How diversity affects audit quality. *European Accounting Review*, 27(4), 595-621.
- Camfferman, K., & Wielhouwer, J. L. (2019). 21st century scandals: Towards a risk approach to financial reporting scandals. *Accounting and Business Research*, 49(5), 503-535. doi:10.1080/00014788.2019.1614267
- Carcello, J. V., Hermanson, R. H., & McGrath, N. T. (1992). Audit quality attributes: The perceptions of audit partners, preparers, and financial statement users. *Auditing: A Journal of Practice & Theory*, 11(1), 1-15. Retrieved from <https://research.ebsco.com/linkprocessor/plink?id=e31d27d4-cfee-3dc5-9bfa-f7e3ded8b902>

- Carey, P. J., Geiger, M. A., & O'Connell, B. T. (2008). Costs associated with going-concern-modified audit opinions: An analysis of the Australian audit market. *Abacus*, 44(1), 61-81. doi:10.1111/j.1467-6281.2007.00249.x
- Charness, G., & Gneezy, U. (2012). Strong evidence for gender differences in risk taking. *Journal of Economic Behavior and Organization*, 83(1), 50-58. doi:10.1016/j.jebo.2011.06.007
- Chatman, J. A., & Flynn, F. J. (2001). The influence of demographic heterogeneity on the emergence and consequences of cooperative norms in work teams. *Academy of Management Journal*, 44(5), 956-974. doi:10.5465/3069440
- Chen, C. J. P., Shimin, C., & Xijia, S. (2001). Is accounting information value-relevant in the emerging Chinese stock market? *Journal of International Accounting, Auditing & Taxation*, 10(1), 1. doi:10.1016/S1061-9518(01)00033-7
- Chen, J., Dong, W., Han, H., & Zhou, N. (2020). Does audit partner workload compression affect audit quality? *European Accounting Review*, 29(5), 1021-1053. doi:10.1080/09638180.2020.1726196
- Chen, K. Y., Lin, K., amp, hyphen, Lin, & Zhou, J. (2005). Audit quality and earnings management for Taiwan IPO firms. *Managerial Auditing Journal*, 20, 86-104. doi:10.1108/02686900510570722
- Chi, M. T. H., Glaser, R., & Farr, M. J. (1988). *The nature of expertise*. Hillsdale, NJ, US: Lawrence Erlbaum Associates, Inc.
- Chin, C. I., & Chi, H. Y. (2008). *Gender differences in audit quality*. Paper presented at the 2008 American Accounting Association annual meeting.
- Choi, J. H., Kim, C., Kim, J. B., & Zang, Y. (2010). Audit office size, audit quality, and audit pricing. *Auditing: A Journal of Practice & Theory*, 29(1), 73-97. doi:10.2308/aud.2010.29.1.73
- Cohen, J. R., Krishnamoorthy, G., & Wright, A. (2012). *The corporate governance mosaic and financial reporting quality*. SSRN. [S.I.]. Retrieved from <https://research.ebsco.com/linkprocessor/plink?id=13fd97ac-fa6a-3501-974e-e1ae3705619e>
- Condie, E. R., Lisic, L. L., Seidel, T. A., Truelson, J. M., & Zimmerman, A. B. (2023). Does gender and ethnic diversity among audit partners influence office-level audit personnel retention and audit quality? *Contemporary accounting research*, 40(4), 2477-2511. doi:10.1111/1911-3846.12882
- Connell, R. W. (2020). *Masculinities* (2nd ed.). Abingdon, Oxon: Routledge.
- Council, F. R. (2008). *The Audit Quality Framework*. Retrieved from https://media.frc.org.uk/documents/The_Audit_Quality_Framework_and_initial_feedback_-_February_2008.pdf
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approaches* (6th ed.). SAGE Publications, Inc.
- Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *Journal of Applied Psychology*, 91(4), 917-926. doi:10.1037/0021-9010.91.4.917
- Dayanandan, A., & Kuntluru, S. (2023). Mandatory auditor rotation and audit quality. *International Journal of Accounting & Information Management*, 31(4), 585-599. doi:10.1108/IJAIM-02-2023-0049
- DeAngelo, L. E. (1981a). Auditor independence, 'low balling', and disclosure regulation. *Journal of Accounting and Economics*, 3(2), 113-127. doi:[https://doi.org/10.1016/0165-4101\(81\)90009-4](https://doi.org/10.1016/0165-4101(81)90009-4)
- DeAngelo, L. E. (1981b). Auditor size and audit quality. *Journal of Accounting and Economics*, 3(3), 183-199. doi:[https://doi.org/10.1016/0165-4101\(81\)90002-1](https://doi.org/10.1016/0165-4101(81)90002-1)

- Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, 50(2), 344-401. doi:<https://doi.org/10.1016/j.jacceco.2010.09.001>
- DeFond, M., & Zhang, J. (2014). A review of archival auditing research. *Journal of Accounting and Economics*, 58(2-3), 275-326. doi:10.1016/j.jacceco.2014.09.002
- Eagly, A. H. (1987). *Sex differences in social behavior: A social-role interpretation*. Hillsdale, N.J.: L. Erlbaum Associates.
- Feroz, E. H., Kyungjoo, P., & Pastena, V. S. (1991). The financial and market effects of the SEC's accounting and auditing enforcement releases. *Journal of Accounting Research (Wiley-Blackwell)*, 29(3), 107-142. doi:10.2307/2491006
- Francis, J. R. (2004). What do we know about audit quality? *The British accounting review*, 36(4), 345-368. doi:10.1016/j.bar.2004.09.003
- Francis, J. R. (2011). A framework for understanding and researching audit quality. *Auditing: A Journal of Practice & Theory*, 30(2), 125-152. doi:10.2308/ajpt-50006
- Francis, J. R. (2024). What exactly do we mean by audit quality? *Accounting in Europe*, 21(2), 123-133. doi:10.1080/17449480.2023.2247410
- Francis, J. R., & Dechow, W. (2008). The joint effect of investor protection and Big 4 audits on earnings quality around the world. *Contemporary accounting research*, 25(1), 157-191. doi:10.1506/car.25.1.6
- Francis, J. R., & Yu, M. D. (2009). Big 4 office size and audit quality. *Accounting Review*, 84(5), 1521-1552. doi:10.2308/accr.2009.84.5.1521
- Frankel, R. M., Johnson, M. F., & Nelson, K. K. (2002). The relation between auditors' fees for nonaudit services and earnings management. *The Accounting Review*, 77, 71-105. Retrieved from <https://research.ebsco.com/linkprocessor/plink?id=07d95a1d-27ae-3097-aa81-8d55fa010c9a>
- García-Blandon, J., Argilés-Bosch, J. M., & Ravenda, D. (2019). Is there a gender effect on the quality of audit services? *Journal of business research*, 96, 238-249. doi:10.1016/j.jbusres.2018.11.024
- García-Meca, E., & Sánchez-Ballesta, J. P. (2009). Corporate governance and earnings management: A meta-analysis. *Corporate Governance: An International Review*, 17(5), 594-610. doi:10.1111/j.1467-8683.2009.00753.x
- Geiger, M. A., & Raghunandan, K. (2002). Auditor tenure and audit reporting failures. *Auditing: A Journal of Practice & Theory*, 21(1), 67. doi:10.2308/aud.2002.21.1.67
- Ghio, A., Occhipinti, Z., & Verona, R. (2024). The consideration of diversity in the accounting literature: A systematic literature review. *European Accounting Review*, 1-25. doi:10.1080/09638180.2024.2330089
- Goodwin, J., & Donghui, W. U. (2016). What is the Relationship Between Audit Partner Busyness and Audit Quality? *Contemporary accounting research*, 33(1), 341-377. doi:10.1111/1911-3846.12129
- Greene, W. H. (2012). *Econometric analysis* (7th ed.): Pearson.
- Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics* (5th ed.): McGraw-Hill.
- Gul, F. A., Wu, D., & Yang, Z. (2013). Do Individual Auditors Affect Audit Quality? Evidence from Archival Data. *The Accounting Review*, 88(6), 1993-2023. doi:10.2308/accr-50536

- Gupta, V. K., Mortal, S., Chakrabarty, B., Guo, X., & Turban, D. B. (2020). CFO gender and financial statement irregularities. *Academy of Management Journal*, 63(3), 802-831. doi:10.5465/amj.2017.0713
- Hai Lien. (2024). Focusing on enhancing the quality of independent audits. Retrieved from <https://baochinhphu.vn/tap-trung-nang-cao-chat-luong-kiem-toan-doc-lap-102240605151450306.htm>
- Hair Jr, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis* (7th ed.): Pearson.
- Haleblian, J., & Fininkelstein, S. (1993). Top management team size, CEO dominance, and firm performance: The moderating roles of environmental turbulence and discretion. *Academy of Management Journal*, 36(4), 844-863. doi:10.2307/256761
- Hardies, K., Breesch, D., & Branson, J. (2012). Male and female auditors' overconfidence. 0268-6902 ; *Managerial auditing journal*. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsbas&AN=edsbas.6C4331F3&site=eds-live>
- Hardies, K., Breesch, D., & Branson, J. (2015). The female audit fee premium. *Auditing: A Journal of Practice & Theory*, 34(4), 171-195. doi:10.2308/ajpt-51079
- Hardies, K., Breesch, D., & Branson, J. (2016). Do (fe)male auditors impair audit quality? Evidence from going-concern opinions. *European Accounting Review*, 25(1), 7-34. doi:10.1080/09638180.2014.921445
- Hay, D. C., Knechel, W. R., & Wong, N. (2006). Audit fees: A meta-analysis of the effect of supply and demand attributes. *Contemporary accounting research*, 23(1), 141-191. doi:10.1506/4XR4-KT5V-E8CN-91GX
- Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis a regression-based approach* (3rd ed.). New York: The Guilford Press.
- Haynes, K. (2017). Accounting as gendering and gendered: A review of 25 years of critical accounting research on gender. *Critical Perspectives on Accounting*, 43, 110-124. doi:<https://doi.org/10.1016/j.cpa.2016.06.004>
- He, C., Li, C. K., Monroe, G. S., & Si, Y. (2021). Diversity of signing auditors and audit quality. *Auditing: A Journal of Practice & Theory*, 40(3), 27-52. doi:10.2308/AJPT-19-068
- Hilary, G., Biddle, G. C., & Verdi, R. S. (2009). How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics*, 48, 112-131. doi:10.1016/j.jacceco.2009.09.001
- Ho, S. S. M., Li, A. Y., Tam, K., & Zhang, F. (2015). CEO gender, ethical leadership, and accounting conservatism. *Journal of Business Ethics*, 127(2), 351-370. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsjsr&AN=edsjsr.24702807&site=eds-live>
- Hoang, T. C., Abeysekera, I., & Ma, S. (2017). The effect of board diversity on earnings quality: An empirical study of listed firms in Vietnam. *Australian Accounting Review*, 27(2), 146-163. doi:10.1111/auar.12128
- Hoang Thi, V. H., Dang Ngoc, H., & Ngo Thanh, X. (2023). Corporate governance and the presence of female in the board of directors on audit quality in Vietnam. *Quality - Access to Success*, 24(193), 314-321. doi:10.47750/QAS/24.193.35
- Hohenfels, D., & Quick, R. (2020). Non-audit services and audit quality: Evidence from Germany. *Review of Managerial Science*, 14(5), 959-1007. doi:10.1007/s11846-018-0306-z

- Hosmer, D. W. (2013). *Applied logistic regression*.
- Hosmer, D. W., & Lemeshow, S. (2000). *Applied logistic regression* (2nd ed.). New York: Wiley.
- Hossain, S., Chapple, L., Monroe, G. S., & Smith, T. (2018). Does auditor gender affect issuing going-concern decisions for financially distressed clients? *Accounting & Finance*, 58(4), 1027-1061. doi:10.1111/acfi.12242
- IAASB. (2014). *A framework for audit quality: key elements that create an environment for audit quality*. Retrieved from <https://www.iaasb.org/publications/framework-audit-quality-key-elements-create-environment-audit-quality-3>
- Ittonen, K., & Peni, E. (2012). Auditor's gender and audit fees. *International Journal of Auditing*, 16(1), 1-18. doi:10.1111/j.1099-1123.2011.00438.x
- Ittonen, K., Vähämaa, E., & Vähämaa, S. (2013). Female auditors and accruals quality. *Accounting horizons*, 27(2), 205-228. doi:10.2308/acch-50400
- Ju, D., Qin, X., Xu, M., & DiRenzo, M. (2016). Boundary conditions of the emotional exhaustion-unsafe behavior link: The dark side of group norms and personal control. *Asia Pacific Journal of Management*, 33(1), 113-140. doi:10.1007/s10490-015-9455-7
- Karasek, R. (1990). *Healthy work: stress, productivity, and the reconstruction of working life*. New York: Basic Books.
- Karau, S. J., & Eagly, A. H. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Review*, 109, 573-598. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsair&AN=edsair.doi.dedup.....8fdb39e93c4c893ff673b1aff17f5c5&site=eds-live>
- Karjalainen, J., Niskanen, M., & Niskanen, J. (2018). The effect of audit partner gender on modified audit opinions. *International Journal of Auditing*, 22(3), 449-463. doi:10.1111/ijau.12130
- Khelif, H., & Achek, I. (2017). Gender in accounting research: a review. *Managerial Auditing Journal*, 32(6), 627-655. doi:10.1108/MAJ-02-2016-1319
- Kinney Jr, W. R., Palmrose, Z.-V., & Scholz, S. (2004). Auditor independence, non-audit services, and restatements: Was the U.S. Government right? *Journal of Accounting Research*, 42(3), 561-588. doi:10.1111/j.1475-679X.2004.t01-1-00141.x
- Kleinman, G., & Lin, B. (2017). Audit regulation in an international setting: Testing the impact of religion, culture, market factors, and legal code on national regulatory efforts. *International Journal of Disclosure & Governance*, 14(1), 62-94. doi:10.1057/s41310-016-0016-1
- Knechel, W. R., Krishnan, G. V., Pevzner, M., Shefchik, L. B., & Velury, U. K. (2013). Audit quality: Insights from the academic literature. *Auditing: A Journal of Practice & Theory*, 32, 385-421. doi:10.2308/ajpt-50350
- Knippenberg, D., & Schippers, M. (2007). Work group diversity. *Annual review of psychology*, 58, 515-541. doi:10.1146/annurev.psych.58.110405.085546
- Koh, K., Li, L., Liu, X., & Wang, C. (2023). The effect of audit partner diversity on audit quality: Evidence from China. *Abacus (Sydney)*, 59(1), 340-380. doi:10.1111/abac.12270
- Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163-197. doi:10.1016/j.jacceco.2004.11.002
- Kutner, M. H., Nachtsheim, C., & Neter, J. (2004). *Applied linear regression models* (4th ed.). Boston: McGraw-Hill/Irwin.

- Kwon, S. Y., Lim, Y., & Simnett, R. (2014). The effect of mandatory audit firm rotation on audit quality and audit fees: Empirical evidence from the Korean audit market. *Auditing: A Journal of Practice & Theory*, 33(4), 167-196. doi:10.2308/ajpt-50814
- Law on Independent Audit, No. 67/2011/QH12 C.F.R. (2011).
- Lawrence, A., Minutti-Meza, M., & Zhang, P. (2011). Can Big 4 versus non-Big 4 differences in audit-quality proxies Be attributed to client characteristics? *The Accounting Review*, 86(1), 259-286. doi:10.2308/accr.000000009
- Le, H. T. T., Tran, H. G., & Vo, X. V. (2021). Audit quality, accruals quality and the cost of equity in an emerging market: Evidence from Vietnam. *International Review of Financial Analysis*, 77, 101798. doi:<https://doi.org/10.1016/j.irfa.2021.101798>
- Lee, H. S., Nagy, A. L., & Zimmerman, A. B. (2019). Audit partner assignments and audit quality in the United States. *The Accounting Review*, 94(2), 297-323. doi:10.2308/accr-52218
- Lennox, C. S., & Wu, X. (2018). A review of the archival literature on audit partners. *Accounting horizons*, 32(2), 1-35. doi:10.2308/acch-51942
- Li, L., Qi, B., Tian, G., & Zhang, G. (2017). The contagion effect of low-quality audits at the level of individual auditors. *The Accounting Review*, 92(1), 137-163. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsjsr&AN=edsjsr.26550634&site=eds-live>
- Ling, C., Jie, D., & Ping, Z. (2018). Auditor tenure and quality of financial reporting. *Journal of Accounting, Auditing & Finance*, 33(4), 528-554. doi:10.1177/0148558X16665701
- Liu, C., & Xu, C. (2021). The effect of audit engagement partner professional experience on audit quality and audit fees: early evidence from Form AP disclosure. *Asian Review of Accounting*, 29(2), 128-149. doi:10.1108/ARA-08-2020-0121
- López, D. M., & Peters, G. F. (2012). The effect of workload compression on audit quality. *Auditing: A Journal of Practice & Theory*, 31(4), 139-165. doi:10.2308/ajpt-10305
- Luu, M. S. (2024). Independent auditing needs solutions to maintain public trust. *KinhTeSaigonOnline*. Retrieved from <https://thesaigontimes.vn/kiem-toan-doc-lap-can-giai-phap-de-giu-gin-niem-tin-cua-cong-chung/>
- Mai, D. N., Tran, T. G. T., Pham, Q. T., & Tran, T. T. P. (2023). How does firm tenure affect audit quality Evidence from Vietnam. *International Journal of Business Information Systems*. doi:10.1504/ijbis.2023.10062333
- Mansfield, E. R., & Helms, B. P. (1982). Detecting multicollinearity. *The American Statistician*, 36(3), 158-160. doi:10.2307/2683167
- Mansi, S. A., Maxwell, W. F., & Miller, D. P. (2004). Does auditor quality and tenure matter to investors? Evidence from the bond market. *Journal of Accounting Research*, 42(4), 755-793. doi:10.1111/j.1475-679X.2004.00156.x
- Mara, C., Annalisa, P., & Marco, T. (2014). Mandatory audit firm rotation and audit quality. *European Accounting Review*, 25, 35-58. doi:10.1080/09638180.2014.921446
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behaviour*, 2(2), 99-113. Retrieved from <https://research.ebsco.com/linkprocessor/plink?id=e1a81cc8-9245-368b-b9bc-49b2243dd3a5>
- Maslach, C., Schaufeli, W., & Leiter, M. (2001). Job burnout. *Annual review of psychology*, 52, 397-422. doi:10.1146/annurev.psych.52.1.397
- Mautz, R. K., & Sharaf, H. A. (1961). *The philosophy of auditing*: American Accounting Association.

- Menard, S. W. (2002). *Applied logistic regression analysis*. Thousand Oaks, Calif.: Sage Publications.
- Menon, K., & Williams, D. D. (2010). Investor Reaction to Going Concern Audit Reports. *The Accounting Review*, 85(6), 2075-2105. doi:10.2308/accr.2010.85.6.2075
- Mnif, Y., & Cherif, I. (2022). Audit partner workload, gender and audit quality. *Journal of Applied Accounting Research, ahead-of-print*(ahead-of-print). doi:10.1108/JAAR-08-2021-0219
- Morrison, A. M. (1992). *Breaking the glass ceiling: can women reach the top of America's largest corporations?* Reading, Mass.: Addison-Wesley
- Nasution, D., & Jonnergård, K. (2017). Do auditor and CEO gender matter do audit quality? : Evidence from Sweden. *Gender in management*, 32(5), 330. doi:10.1108/GM-06-2016-0125
- Nehme, R., Kozah, A. E., & Khalil, S. (2025). Dysfunctional audit behavior: exploring the impact of longitudinal work experience and gender. In *Journal of Accounting & Organizational Change* (Vol. 21, pp. 567-592): Emerald Publishing Limited.
- Nekhili, M., Javed, F., & Chtioui, T. (2018). Gender-diverse audit partners and audit fee premium: The case of mandatory joint audit. *International Journal of Auditing*, 22(3), 486-502. doi:10.1111/ijau.12133
- Nekhili, M., Javed, F., & Nagati, H. (2022). Audit partner gender, leadership and ethics: The case of earnings management. *Journal of Business Ethics*, 177(2), 233-260. doi:10.1007/s10551-021-04757-9
- Ngoc Hoang. (2025). Breaking barriers for women entrepreneurs in Vietnam [Press release]
- Nguyen Hanh. (2024). Multiple auditors in Vietnam have been suspended by the securities council. Retrieved from <https://vietnamnet.vn/en/multiple-auditors-in-vietnam-have-been-suspended-by-the-securities-council-2346017.html>
- Nguyen, L., Kend, M., & Luong, H. (2023). Audit quality and independence concerns after major audit reforms within a developing country: Stakeholder perceptions from Vietnam. doi:10.1108/MAJ-03-2022-3475
- Nguyen, M. K., Nguyen, K. N., Nguyen, T. H. N., & Nguyen, T. N. D. (2016). Effects of experience years, gender of auditors and audit firm size on firm' discretionary accrual management: Evidence from Vietnam. *Ho Chi Minh City Open University Journal of Science*, 6(2), 35-41.
- Nguyen, Q. K. (2024). Women in top executive positions, external audit quality and financial reporting quality: evidence from Vietnam. *Journal of Accounting in Emerging Economies*, 14, 993-1019. doi:10.1108/JAEE-03-2023-0059
- Nguyen Thi Ngoc Cam. (2019). *The impact of auditor gender on audit quality – An empirical study of listed companies on the Vietnamese stock market*. (Master). University of Economics Ho Chi Minh City, Vietnam.
- Nguyen, V. K. (2017). The effect of top executive gender on accrual earnings management: Sample analysis of Vietnam listed firms. In *VNU Journal of Science: Economics and Business* (Vol. 33): Vietnam National University Journal of Science.
- Nicolăescu, E. (2014). The effects of audit firm rotation on earnings quality. *Economics, Management & Financial Markets*, 9(1), 148-153. Retrieved from <https://research.ebsco.com/linkprocessor/plink?id=0b5e2ca7-7774-38a3-8c4c-39a76976c0b1>
- Niskanen, J., Karjalainen, J., Niskanen, M., & Karjalainen, J. (2011). Auditor gender and corporate earnings management behavior in private Finnish firms. *Managerial Auditing Journal*, 26(9), 778-793. doi:10.1108/02686901111171448

- O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality & quantity*, 41(5), 673-690. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsfra&AN=edsfra.19110840&site=eds-live>
- Paino, H., Ismail, Z., & Smith, M. (2010). Dysfunctional audit behaviour: an exploratory study in Malaysia. In *Asian Review of Accounting* (Vol. 18, pp. 162-173): Emerald Group Publishing Limited.
- Paul, E. S., & Steve, M. J. (1998). Development of four self-report measures of job stressors and strain: Interpersonal Conflict at Work Scale, Organizational Constraints Scale, Quantitative Workload Inventory, and Physical Symptoms Inventory. In *Journal of Occupational Health Psychology* (Vol. 3, pp. 356-367): American Psychological Association (APA).
- Peng, C.-Y. J., Lee, K. L., & Ingersoll, G. M. (2002). An introduction to logistic regression analysis and reporting. *The Journal of Educational Research*, 96(1), 3-14. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsjsr&AN=edsjsr.27542407&site=eds-live>
- Perry, Y. Z., Srinidhi, B., & Yang, Z. (2023). Gender diversity and audit quality: Evidence from the pairing of audit partners. *Auditing: A Journal of Practice & Theory*, 42(4), 81-104. doi:10.2308/AJPT-2021-031
- Pham, H. H. (2023). The influence of cultural, legal and institutional factors on auditors' roles, responsibilities and perceptions of audit quality. *European Journal of Theoretical and Applied Sciences*(1(5)), 1131-1145. doi:10.59324/ejtas.2023.1(5).99
- Pham, K. N., Duong, N. H., Pham, Q. T., & Ho, T. T. N. (2017). Audit firm size, audit fee, audit reputation and audit quality: The case of listed companies in Vietnam. *Asian Journal of Finance & Accounting*, 9(1). doi:<https://doi.org/10.5296/ajfa.v9i1.10074>
- Pham, Q. T., Tran, T. G. T., Pham, T. N. B., & Ta, L. (2022). Work pressure, job satisfaction and auditor turnover: Evidence from Vietnam. *Cogent Business & Management*, 9(1), 2110644. doi:10.1080/23311975.2022.2110644
- Pittman, J. A., & Fortin, S. (2004). Auditor choice and the cost of debt capital for newly public firms. *Journal of Accounting and Economics*, 37(1), 113-136. doi:10.1016/j.jacceco.2003.06.005
- Rajgopal, S., Srinivasan, S., & Zheng, X. (2021). Measuring audit quality. *Review of Accounting Studies*, 26(2), 559-619. doi:10.1007/s11142-020-09570-9
- Schein, E. H. (1971). The individual, the organization, and the career: A conceptual scheme. *Journal of Applied Behavioral Science*, 7, 401-426. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=eric&AN=EJ046734&site=eds-live>
- State Securities Commission. (2024). *Summary report on the results of the quality inspection of audit services for 2023*. Retrieved from Hanoi: https://ssc.gov.vn/webcenter/portal/ubck/pages_r/l/chitit?dDocName=APPSSCGOVVN1620142215
- Suhardianto, N., Leung, S. C. M., & Ntim, C. G. (2020). Workload stress and conservatism: An audit perspective. *Cogent Business & Management*, 7(1), 1-17. doi:10.1080/23311975.2020.1789423
- Sundgren, S., & Svanström, T. (2014). Auditor-in-charge characteristics and going-concern reporting. *Contemporary accounting research*, 31(2), 531-550. doi:10.1111/1911-3846.12035

- Tolbert, P. S. (2023). Claudia Goldin. career and family: women's century-long journey toward equity. *Administrative Science Quarterly*, 68(1), NP9-NP11. doi:10.1177/00018392221105201
- Tran, T. T. G., Nguyen, T. T., Pham, B. T. N., & Tran, P. T. T. (2023). Audit partner tenure and earnings management: evidence from Vietnam. *Journal of Financial Reporting and Accounting, ahead-of-print*(ahead-of-print). doi:10.1108/JFRA-07-2022-0258
- Tran, T. T. G., Nguyen, T. T., Pham, B. T. N., & Tran, P. T. T. (2025). Audit partner tenure and earnings management: Evidence from Vietnam. In *Journal of Financial Reporting and Accounting* (Vol. 23, pp. 330-349): Emerald Publishing Limited.
- UN Women. (2021). *Country gender equality profile: Vietnam 2021*. Retrieved from https://asiapacific.unwomen.org/sites/default/files/Field%20Office%20ESEA/Docs/Publications/2021/10/vn-CGEP_Full.pdf
- VACPA. (2022). *Summary report on activities for 2021–2022 and directions for independent audit activities in 2023*. Retrieved from Vietnam:
- Wallace, W. (1980). The economic role of the audit in free and regulated markets. *Open Education Resources*. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=edsbas&AN=edsbas.48EF403D&site=eds-live>
- Williams, K. Y., & O'Reilly, C. A. (1998). Demography and diversity in organizations: A review of 40 years of research. *Research in Organizational Behavior*, 20, 77. Retrieved from <https://search.ebscohost.com/login.aspx?direct=true&AuthType=ip,sso&db=bsu&AN=7576050&site=eds-live>
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data* (2nd ed.): The MIT Press.
- World Economic Forum. (2023). *Global gender gap report*. Retrieved from https://www3.weforum.org/docs/WEF_GGGR_2023.pdf
- Yang, S., Liu, Y., & Mai, Q. (2018). Is the quality of female auditors really better? Evidence based on the Chinese A-share market. *China Journal of Accounting Research*, 11(4), 325-350. doi:<https://doi.org/10.1016/j.cjar.2018.07.004>
- You, D., Maeda, Y., & Bebeau, M. (2011). Gender differences in moral sensitivity: A meta-analysis. *Ethics & Behavior*, 21(4), 263-282. doi:10.1080/10508422.2011.585591
- Zhaoyan, S., Hux, C. T., Chih-Chen, L., & Min, W. (2022). The effect of auditor busyness and audit report signing experience on constraining earnings management: Evidence from China. *Journal of Forensic & Investigative Accounting*, 14, 410-443. Retrieved from <https://research.ebsco.com/linkprocessor/plink?id=daa16c98-9a96-3311-8c9a-0e63e921e3c1>

APPENDIX 1: Definition of Variables

Variable	Definition/Measure
1. Dependence variables	
Restate (Pre-issuance Restatements)	The propensity of auditors to detect and prompt the correction of material misstatements prior to the issuance of audited financial statements. It is coded as 1 if, following the audit, the client firm restates its financial statements and the adjustment results in a change in reported profit of 5% or more; otherwise, it is coded as 0.
AQuality	<p>The propensity of auditors to identify and report material misstatements, combining pre-issuance restatements (Restate) and modified audit opinions (MAO). It is coded as 1 if either MAO or Restate is present, and 0 otherwise.</p> <p>MAO is the propensity of issuing modified audit opinions that equals 1 if the client firm receives a modified audit opinion, 0 otherwise.</p>
2. Interest variables	
PGen	A binary variable, taking the value of 1 if the audit partner is female, and 0 otherwise.
AGen	A binary variable, taking the value of 1 if the auditor-in-charge is female, and 0 otherwise.
ADiver	A dummy variable, taking the value of 1 if the two co-signing auditors are of different genders (male-female or female-male), and 0 otherwise (male-male or female-female).
3. Moderating variables	

PWork	The number of audit engagements an audit partner handles during the year.
Work	The number of audit engagements an auditor-in-charge handles during the year.
PExper	The number of years that an audit partner has held the Certificate of Practicing Auditor Registration (Vietnam CPA license)
AExper	The number of years that an auditor-in-charge has held the Certificate of Practicing Auditor Registration (Vietnam CPA license).
1. Moderating variables	
PWG	The interaction term for gender and workload of audit partners ($PWG = PGen \times PWork$).
AWG	The interaction term for gender and workload of auditors-in-charge ($AWG = AGen \times AWork$).
PEG	The interaction term for gender and experience of audit partners ($PEG = PGen \times PExper$).
AEG	The interaction term for gender and experience of auditors-in-charge ($AEG = AGen \times AExper$).
PWEG	The interaction term for gender, workload, and experience of audit partners ($PWEG = PGen \times PWork \times PExper$).
AWEG	The interaction term for gender, workload, and experience of auditors-in-charge ($AWEG = AGen \times AWork \times AExper$).
2. Control variables	
Big4	A binary variable that equals 1 if the audit firm is Big 4, and 0 otherwise.
AuditorRotation	A dummy variable that equals 1 if this year's audit firm is different

	from the prior year's audit firm due to auditor rotation, and 0 otherwise.
Dual	A binary variable that equals 1 if the CEO also serves as the chairperson of the Board of Directors, and 0 otherwise.
BODsize	The number of Board of Directors (BOD) members.
BOMsize	The number of top management team members or executives
CEOGen	A binary variable, taking the value of 1 if the CEO is female, and 0 otherwise.
ChiefGen	A binary variable, taking the value of 1 if the chief accountant is female, and 0 otherwise.
ChairGen	A binary variable, taking the value of 1 if the chairperson is female, and 0 otherwise.
FBOD	The number of female Board of Directors (BOD) members.
FBOM	The number of female top management team members or executives
ClientSize	The natural logarithm of client firms' total assets.
LOSS	Taking the value of 1 if the client firm reports a loss, and 0 otherwise.
ROA	Return on Assets, that is the ratio of net income over total assets.
Leverage	The ratio of total liabilities divided by total assets.
DA	Discretionary accruals using the performance-based model developed by Kothari et al. (2005).

APPENDIX 2: A Sample of the Explanation Letter

Explanation for the Difference in Profit Before and After the Audit for the Year 2022
of Hoa Binh Construction Group Joint Stock Company



CỘNG HÒA XÃ HỘI CHỦ NGHĨA VIỆT NAM
Độc lập – Tự do – Hạnh phúc

Số : 83/2023/CV-HIBC

TP. Hồ Chí Minh, ngày 30 tháng 06 năm 2023

V/v: *Giải trình chênh lệch lợi nhuận*

**KÍNH GỬI: ỦY BAN CHỨNG KHOÁN NHÀ NƯỚC
SỞ GIAO DỊCH CHỨNG KHOÁN TP. HCM**

Căn cứ Thông tư số 96/2020/TT-BTC ngày 16 tháng 11 năm 2020;

Căn cứ Báo cáo tài chính riêng và hợp nhất ngày 31 tháng 12 năm 2022.

Công ty Cổ Phần Tập Đoàn Xây Dựng Hòa Bình, mã chứng khoán HIBC, xin giải trình chênh lệch phần lợi nhuận sau thuế năm 2022 trước kiểm toán và sau kiểm toán báo cáo tài chính riêng, báo cáo tài chính hợp nhất như sau:

I. BÁO CÁO TÀI CHÍNH RIÊNG

CHỈ TIÊU	NĂM 2022 TRƯỚC KIỂM TOÁN	NĂM 2022 SAU KIỂM TOÁN	CHÊNH LỆCH
LỢI NHUẬN SAU THUẾ	(953.833.973.194)	(2.079.308.521.940)	(1.125.474.548.746)

Nguyên nhân:

- Kiểm toán điều chỉnh tăng chi phí quản lý doanh nghiệp từ các khoản trích lập dự phòng phải thu khách hàng làm lợi nhuận giảm (1.022.967.067.837) đồng;
- Tăng trích lập dự phòng các khoản đầu tư dài hạn và giảm doanh thu tài chính từ khoản trích lãi chậm thanh toán của khách hàng làm giảm lợi nhuận (286.979.777.272) đồng;
- Kiểm toán điều chỉnh giảm giá vốn hàng bán làm tăng lợi nhuận 185.972.296.363 đồng;
- Kiểm toán điều chỉnh giảm lợi nhuận khác làm giảm lợi nhuận (1.500.000.000) đồng.



HÒA BÌNH CHINH PHỤC ĐỈNH CAO
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II. BÁO CÁO TÀI CHÍNH HỢP NHẤT

CHỈ TIÊU	NĂM 2022 TRƯỚC KIỂM TOÁN	NĂM 2022 SAU KIỂM TOÁN	CHÊNH LỆCH
LỢI NHUẬN SAU THUẾ	(1.140.621.321.087)	(2.570.476.662.931)	(1.429.855.341.844)

Nguyên nhân:

- Kiểm toán điều chỉnh tăng chi phí trích lập dự phòng phải thu khó đòi, dự phòng khoản trả trước người bán, và dự phòng phải thu cho vay trong chi phí quản lý doanh nghiệp (chủ yếu từ Công ty mẹ HIBC), làm lợi nhuận điều chỉnh giảm (1.306.341.764.688) đồng;
- Kiểm toán điều chỉnh tăng thuế TNDN hoãn lại từ việc trích lập thêm chi phí dự phòng dài hạn làm cho lợi nhuận giảm (197.999.866.360) đồng;
- Kiểm toán điều chỉnh giảm doanh thu tài chính từ khoản trích lãi chậm thanh toán khách hàng, làm lợi nhuận điều chỉnh giảm (134.545.917.300) đồng;
- Kiểm toán điều chỉnh giảm lãi đầu tư vào công ty liên doanh liên kết (do Lợi nhuận của Công ty Cổ phần Kỹ thuật Jesco Hòa Bình điều chỉnh giảm so với trước kiểm toán), làm lợi nhuận giảm (2.017.908.494) đồng;
- Kiểm toán điều chỉnh tăng lợi nhuận gộp, đến từ việc điều chỉnh giảm giá vốn tại Công ty mẹ HIBC và điều chỉnh giảm chi phí bán hàng, chi phí tài chính làm lợi nhuận tăng 211.050.114.999 đồng.

Nơi gửi:

- Như trên;
- Lưu văn thư.

CÔNG TY CỔ PHẦN TẬP ĐOÀN XÂY DỰNG HÒA BÌNH
CHỦ TỊCH HĐQT



LÊ VIỆT HẢI



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APPENDIX 3: List of companies included in the sample

No	Stock ID	Company name	Company name
1	AAM	CTCP Thủy sản Mekong	Mekong Seafood Joint Stock Company
2	ABT	CTCP Xuất nhập khẩu thủy sản Bến Tre	Ben Tre Seafood Import Export Joint Stock Company
3	ACC	Công ty Cổ phần Đầu tư và Xây dựng Bình Dương ACC	Binh Duong ACC Investment and Construction Joint Stock Company
4	ACL	CTCP XNK Thủy sản Cửu Long An Giang	Cuu Long An Giang Seafood Import Export Joint Stock Company
5	AGM	CTCP Xuất Nhập Khẩu An Giang (Angimex)	An Giang Import Export Joint Stock Company (Angimex)
6	ANV	CTCP Nam Việt	Nam Viet Joint Stock Company
7	APC	Công Ty Cổ Phần Chiếu xạ An Phú	An Phu Irradiation Joint Stock Company
8	ASM	CTCP Tập Đoàn Sao Mai	Sao Mai Group Corporation
9	ASP	CT CP TẬP ĐOÀN DẦU KHÍ AN PHA	AN PHA PETROLEUM GROUP JOINT STOCK COMPANY
10	BBC	CÔNG TY CỔ PHẦN BIBICA	BIBICA JOINT STOCK COMPANY
11	BCE	CTCP Xây Dựng & Giao Thông Bình Dương	Binh Duong Construction & Transport Joint Stock Company
12	BMC	CTCP Khoáng sản Bình Định	Binh Dinh Minerals Joint Stock Company
13	BMP	CTCP Nhựa Bình Minh	Binh Minh Plastics Joint Stock Company
14	BRC	Công Ty Cổ Phần Cao su Bến Thành	Ben Thanh Rubber Joint Stock Company
15	BTP	CTCP Nhiệt điện Bà Rịa	Ba Ria Thermal Power Joint Stock Company
16	BTT	CTCP Thương mại - Dịch vụ Bến Thành	Ben Thanh Trading - Service Joint Stock Company
17	C32	CTCP CIC39	CIC39 JSC
18	C47	CTCP Xây dựng 47	Construction JSC 47
19	CAV	CTCP Dây Cáp điện Việt Nam	Vietnam Electric Cable

			Corporation
20	CCI	CTCP Đầu tư Phát triển Công nghiệp - Thương Mại Củ Chi	Cu Chi Industrial - Commercial Development Investment Joint Stock Company
21	CCL	CTCP Đầu tư và phát triển đô thị dầu khí Cửu Long	Cuu Long Petroleum Urban Development and Investment Joint Stock Company
22	CDC	Công ty Cổ Phần Chương Dương	Chuong Duong Joint Stock Company
23	CIG	CTCP COMA 18	COMA 18 JSC
24	CII	CTCP Đầu tư hạ tầng kỹ thuật TPHCM	Ho Chi Minh City Infrastructure Investment Joint Stock Company
25	CKG	Công ty Cổ phần Tập đoàn Tư vấn Đầu tư Xây dựng Kiên Giang	Kien Giang Construction Investment Consulting Group Joint Stock Company
26	CLC	Công ty cổ phần Cát Lợi	Cat Loi Joint Stock Company
27	CLL	Công ty Cổ phần Cảng Cát Lái	Cat Lai Port Joint Stock Company
28	CLW	CTCP Cấp nước chợ Lớn	Cho Lon Water Supply Joint Stock Company
29	CMG	CTCP Tập đoàn Công nghệ CMC	CMC Technology Group Corporation
30	CMV	CTCP Thương nghiệp Cà Mau	Ca Mau Trading Joint Stock Company
31	CMX	Công ty CP Camimex Group	Camimex Group Joint Stock Company
32	CNG	CTCP CNG Việt Nam	CNG Vietnam Joint Stock Company
33	COM	CTCP Vật tư - Xăng dầu (Comeco)	Petroleum Materials Joint Stock Company (Comeco)
34	CSM	Công Ty Cổ phần Công nghiệp Cao su Miền Nam	Southern Rubber Industry Joint Stock Company
35	CTD	CTCP Xây dựng Coteccons	Coteccons Construction JSC
36	CTI	CÔNG TY CỔ PHẦN ĐẦU TƯ PHÁT TRIỂN CUÔNG THUẬN IDICO	CUONG THUAN IDICO INVESTMENT AND DEVELOPMENT JOINT STOCK COMPANY
37	CVT	CTCP CMC	CMC Corporation
38	D2D	Công ty CP Phát triển Đô thị Công nghiệp Số 2	Industrial Urban Development Joint Stock Company No. 2

39	DAG	CTCP Tập đoàn Nhựa Đông Á	Dong A Plastic Group Corporation
40	DBC	CTCP Tập đoàn Dabaco Việt Nam	Dabaco Group Vietnam Joint Stock Company
41	DBT	CTCP Dược phẩm Bến Tre	Ben Tre Pharmaceutical Joint Stock Company
42	DC4	CTCP Xây dựng DIC Holdings	DIC Holdings Construction JSC
43	DCL	Công ty cổ phần Dược phẩm Cửu Long	Cuu Long Pharmaceutical Joint Stock Company
44	DHA	Công ty cổ phần Hóa An	Hoa An Joint Stock Company
45	DHC	Công ty Cổ phần Đông Hải Bến Tre	Dong Hai Ben Tre Joint Stock Company
46	DHG	CTCP Dược Hậu Giang	Hau Giang Pharmaceutical Joint Stock Company
47	DHM	Công ty cổ phần thương mại & khai thác khoáng sản Dương Hiếu	Duong Hieu Mineral Exploitation & Trading Joint Stock Company
48	DIG	Tổng CTCP Đầu tư phát triển xây dựng	Construction Development Investment Corporation
49	DLG	CTCP Tập đoàn Đức Long Gia Lai	Duc Long Gia Lai Group Joint Stock Company
50	DMC	CTCP Xuất Nhập Khẩu Y tế Domesco	Domesco Medical Import Export Joint Stock Company
51	DPG	CTCP Đạt Phương	Dat Phuong Joint Stock Company
52	DPM	Tổng CTCP Phân bón và Hóa chất Dầu khí	PetroVietnam Fertilizer and Chemicals Corporation
53	DPR	Công ty Cổ phần Cao su Đồng Phú	Dong Phu Rubber Joint Stock Company
54	DQC	Công ty Cổ Phần Bóng đèn Điện Quang	Dien Quang Lamp Joint Stock Company
55	DRC	CTCP Cao su Đà Nẵng	Danang Rubber Joint Stock Company
56	DRH	CTCP DRH HOLDINGS	DRH HOLDINGS JSC
57	DRL	CTCP Thủy điện - Điện lực 3	Hydropower - Power Joint Stock Company 3
58	DSN	CTCP Công viên nước Đầm Sen	Dam Sen Water Park JSC
59	DTA	CTCP Đệ Tam	Third Joint Stock Company
60	DTL	CTCP Đại Thiên Lộc	Dai Thien Loc Joint Stock Company

61	DTT	CÔNG TY CỔ PHẦN KỸ NGHỆ ĐÔ THÀNH	DO THANH TECHNOLOGY JOINT STOCK COMPANY
62	DVP	CTCP Đầu tư và Phát triển Cảng Đình Vũ	Dinh Vu Port Investment and Development Joint Stock Company
63	DXG	Công ty Cổ phần Tập đoàn Đất Xanh	Dat Xanh Group Joint Stock Company
64	DXV	CTCP Vicem Vật liệu xây dựng Đà Nẵng	Vicem Danang Construction Materials Joint Stock Company
65	ELC	Công ty Cổ phần công nghệ - viễn thông ELCOM	ELCOM Technology - Telecommunication Joint Stock Company
66	EMC	CTCP Cơ điện Thủ Đức	Thu Duc Electro Mechanical Joint Stock Company
67	EVE	CTCP Everpia	Everpia Joint Stock Company
68	FDC	CTCP Ngoại Thương và Phát triển Đầu tư TP.HCM	Ho Chi Minh City Foreign Trade and Investment Development Joint Stock Company
69	FLC	CTCP Tập đoàn FLC	FLC Group Corporation
70	FMC	CÔNG TY CỔ PHẦN THỰC PHẨM SAO TA	SAO TA FOODS JOINT STOCK COMPANY
71	FPT	Công ty Cổ phần FPT	FPT Joint Stock Company
72	GAS	Tổng công ty Khí Việt Nam - CTCP	PetroVietnam Gas Corporation - JSC
73	GDT	CTCP chế biến gỗ Đức Thành	Duc Thanh Wood Processing JSC
74	GIL	CTCP Sản xuất Kinh doanh và Xuất nhập khẩu Bình Thạnh	Binh Thanh Production, Trading and Import-Export Joint Stock Company
75	GMC	CTCP GARMEX SÀI GÒN	GARMEX SAIGON JOINT STOCK COMPANY
76	GMD	CTCP Gemadept	Gemadept Corporation
77	GSP	Công ty Cổ phần Vận tải Sản phẩm khí Quốc tế	International Gas Products Transportation Joint Stock Company
78	HAG	CTCP Hoàng Anh Gia Lai	Hoang Anh Gia Lai Joint Stock Company
79	HAI	CTCP Nông Dược HAI	HAI Agricultural Pharmaceutical Joint Stock Company
80	HAP	Công ty Cổ phần Tập đoàn	HAPACO Group Joint Stock

		HAPACO	Company
81	HAR	CTCP Đầu tư Thương mại Bất động sản An Dương Thảo Điền	An Duong Thao Dien Real Estate Investment and Trading Joint Stock Company
82	HAS	CTCP HACISCO	HACISCO JSC
83	HAX	CTCP Dịch vụ Ô tô Hàng Xanh	Hang Xanh Auto Service JSC
84	HBC	CÔNG TY CỔ PHẦN TẬP ĐOÀN XÂY DỰNG HÒA BÌNH	HOA BINH CONSTRUCTION GROUP JOINT STOCK COMPANY
85	HDC	CTCP Phát triển nhà Bà Rịa - Vũng Tàu	Ba Ria - Vung Tau Housing Development Joint Stock Company
86	HDG	CTCP Tập đoàn Hà Đô	Ha Do Group Corporation
87	HHS	CTCP Đầu tư Dịch vụ Hoàng Huy	Hoang Huy Service Investment Joint Stock Company
88	HOT	CTCP Du lịch - Dịch vụ Hội An	Hoi An Tourism - Service Joint Stock Company
89	HQC	CTCP TV-TM-DV Địa ốc Hoàng Quân	Hoang Quan Real Estate Consulting-Trading-Service JSC
90	HTI	CTCP Đầu tư Phát triển Hạ tầng IDICO	IDICO Infrastructure Development Investment Joint Stock Company
91	HTL	CÔNG TY CỔ PHẦN KỸ THUẬT VÀ Ô TÔ TRƯỜNG LONG	TRUONG LONG TECHNICAL AND AUTOMOTIVE JOINT STOCK COMPANY
92	HTV	CÔNG TY CỔ PHẦN LOGISTICS VICEM	VICEM LOGISTICS JOINT STOCK COMPANY
93	HU1	CTCP Đầu tư và Xây dựng HUD1	HUD1 Investment and Construction Joint Stock Company
94	HU3	CTCP Đầu tư và Xây dựng HUD3	HUD3 Investment and Construction JSC
95	HVN	Tổng Công ty Hàng không Việt Nam	Vietnam Airlines Corporation
96	IDI	CTCP Đầu tư và Phát triển Đa quốc gia I.D.I	IDI Multinational Investment and Development Corporation
97	IJC	CTCP Phát triển hạ tầng kỹ thuật	Technical Infrastructure Development JSC
98	IMP	Công ty CP Dược phẩm	Imexpharm Pharmaceutical Joint

		Imexpharm	Stock Company
99	ITA	CTCP Đầu tư và Công nghiệp Tân Tạo	Tan Tao Investment and Industry Joint Stock Company
100	ITC	CTCP Đầu tư - Kinh doanh Nhà	Housing Investment and Trading Joint Stock Company
101	ITD	CTCP Công nghệ Tiên Phong	Pioneer Technology Joint Stock Company
102	JVC	CTCP Đầu tư và Phát triển Y tế Việt Nhật	Vietnam Japan Medical Investment and Development Joint Stock Company
103	KBC	Tổng Công ty Phát triển Đô thị Kinh Bắc - CTCP	Kinh Bac Urban Development Corporation - JSC
104	KDC	CTCP TẬP ĐOÀN KIDO	KIDO GROUP CORPORATION
105	KDH	CTCP Đầu tư và Kinh doanh Nhà Khang Điền	Khang Dien House Investment and Trading Joint Stock Company
106	KHP	CTCP Điện lực Khánh Hòa	Khanh Hoa Electricity Joint Stock Company
107	KMR	CTCP Mirae	Mirae Joint Stock Company
108	LAF	CTCP Chế biến hàng xuất khẩu Long An	Long An Export Processing Joint Stock Company
109	LBM	CTY CỔ PHẦN KHOÁNG SẢN VÀ VẬT LIỆU XÂY DỰNG LÂM ĐỒNG	LAM DONG MINERALS AND CONSTRUCTION MATERIALS JOINT STOCK COMPANY
110	LCG	Công ty Cổ phần Lizen	Lizen Joint Stock Company
111	LEC	CTCP Bất động sản Điện lực miền Trung	Central Power Real Estate JSC
112	LGC	Công ty CP Đầu tư Cầu đường CII	CII Bridge and Road Investment Joint Stock Company
113	LGL	CTCP Đầu tư và Phát triển đô thị Long Giang	Long Giang Urban Development and Investment Joint Stock Company
114	LHG	CTCP Long Hậu	Long Hau Corporation
115	LIX	CTCP Bột giặt LIX	LIX Detergent Joint Stock Company
116	LM8	CTCP Lilama 18	Lilama 18 Joint Stock Company
117	LSS	CTCP Mía đường Lam Sơn	Lam Son Sugarcane Joint Stock Company
118	MCG	CTCP Năng lượng và Bất động sản MCG	MCG Energy and Real Estate JSC

119	MCP	CTCP In và Bao bì Mỹ Châu	My Chau Printing and Packaging JSC
120	MDG	CÔNG TY CỔ PHẦN MIỀN ĐÔNG	EASTERN JOINT STOCK COMPANY
121	MHC	CTCP MHC	MHC JSC
122	MSH	CTCP May Sông Hồng	Song Hong Garment Joint Stock Company
123	MSN	CTCP Tập đoàn Masan	Masan Group Corporation
124	MWG	CTCP Đầu tư thế giới di động	Mobile World Investment Corporation
125	NAV	CÔNG TY CỔ PHẦN NAM VIỆT	NAM VIET JOINT STOCK COMPANY
126	NBB	CTCP Đầu tư Năm Bảy Bảy	Five Seven Seven Investment Joint Stock Company
127	NCT	CTCP Dịch vụ hàng hóa Nội Bài	Noi Bai Cargo Services JSC
128	NHA	Tổng Công ty Đầu tư Phát triển Nhà và Đô thị Nam Hà Nội	Southern Hanoi Housing and Urban Development Investment Corporation
129	NKG	CTCP Thép Nam Kim	Nam Kim Steel Joint Stock Company
130	NLG	Công ty CP Đầu tư Nam Long	Nam Long Investment Joint Stock Company
131	NNC	CTCP Đá Núi Nhỏ	Nui Nho Stone JSC
132	NSC	Công ty cổ phần Tập đoàn giống cây trồng Việt Nam	Vietnam Seed Group Joint Stock Company
133	NT2	CTCP Điện Lực Dầu Khí Nhơn Trạch 2	Nhon Trach 2 Oil and Gas Power Joint Stock Company
134	NTL	CTCP Phát triển Đô thị Từ Liêm	Tu Liem Urban Development Joint Stock Company
135	NVL	CTCP Tập đoàn Đầu tư Địa ốc No Va	No Va Real Estate Investment Group Corporation
136	NVT	CTCP BĐS Du lịch Ninh Vân Bay	Ninh Van Bay Tourism Real Estate JSC
137	OPC	Công Ty Cổ Phần Dược Phẩm OPC	OPC Pharmaceutical Joint Stock Company
138	PAC	Công ty CP PinẮc quy Miền Nam	Southern Battery Joint Stock Company
139	PAN	CTCP Tập đoàn PAN	PAN Group Corporation
140	PDN	CTCP Cảng Đồng Nai	Dong Nai Port Joint Stock

			Company
141	PDR	CTCP Phát Triển BĐS Phát Đạt	Phat Dat Real Estate Development Corporation
142	PET	Tổng công ty CP Dịch vụ Tổng Hợp Dầu Khí	Oil and Gas General Services Corporation
143	PGC	Tổng Công ty Gas Petrolimex - CTCP	Petrolimex Gas Corporation - JSC
144	PGD	CTCP Phân phối Khí thấp áp Dầu khí Việt Nam	Vietnam Oil and Gas Low Pressure Gas Distribution Joint Stock Company
145	PHC	CTCP Xây dựng Phục Hưng Holdings	Phuc Hung Holdings Construction JSC
146	PHR	Công ty cổ phần cao su Phước Hòa	Phuoc Hoa Rubber Joint Stock Company
147	PIT	CTCP XNK Petrolimex	Petrolimex Import Export Joint Stock Company
148	PJT	CTCP Vận tải xăng dầu đường thủy Petrolimex	Petrolimex Waterway Petroleum Transport Joint Stock Company
149	PNC	CT CP Văn Hóa Phương Nam	Phuong Nam Culture Joint Stock Company
150	PNJ	CTCP Vàng bạc đá quý Phú Nhuận	Phu Nhuan Jewelry Joint Stock Company
151	POM	CTCP Thép Pomina	Pomina Steel Corporation
152	PPC	CTCP Nhiệt điện Phả Lại	Pha Lai Thermal Power Joint Stock Company
153	PTC	CTCP Đầu Tư Icapital	Icapital Investment JSC
154	PTL	CTCP Victory Capital (Tên cũ: CTCP Đầu tư Hạ tầng và Đô thị Dầu khí)	Victory Capital Joint Stock Company (Old name: Petroleum Infrastructure and Urban Investment Joint Stock Company)
155	PVD	CTCP Khoan và Dịch vụ Khoan Dầu khí (PV Drilling)	PetroVietnam Drilling and Services Joint Stock Company (PV Drilling)
156	PVT	Tổng Công ty cổ phần Vận tải dầu khí	Oil and Gas Transportation Corporation
157	QCG	CTCP Quốc Cường Gia Lai	Quoc Cuong Gia Lai Joint Stock Company
158	RAL	Công ty Cổ Phần Bóng đèn Phích nước Rạng Đông	Rang Dong Light Bulb and Vacuum Flask Joint Stock

			Company
159	RDP	Công Ty Cổ Phần Rạng Đông Holding	Rang Dong Holding Joint Stock Company
160	REE	CTCP Cơ điện lạnh	Refrigeration Electrical Engineering JSC
161	SAB	Tổng CTCP Bia - Rượu - nước giải khát Sài Gòn	Saigon Beer - Alcohol - Beverage Corporation
162	SAM	Công ty CP SAM Holdings	SAM Holdings Joint Stock Company
163	SAV	CTCP Hợp tác kinh tế và xuất nhập khẩu Savimex	Savimex Economic Cooperation and Import Export Joint Stock Company
164	SBA	CTCP Sông Ba	Song Ba Joint Stock Company
165	SBT	CÔNG TY CỔ PHẦN THÀNH THÀNH CÔNG - BIÊN HÒA	THANH THANH CONG JOINT STOCK COMPANY - BIEN HOA
166	SC5	CTCP Xây dựng số 5	Construction Joint Stock Company No. 5
167	SCD	CTCP Nước giải khát Chương Dương (CDBECO)	Chuong Duong Beverage Joint Stock Company (CDBECO)
168	SFC	CTCP Nhiên liệu Sài Gòn	Saigon Fuel Joint Stock Company
169	SFI	Công Ty Cổ Phần Đại Lý Vận Tải SAFI	SAFI Transport Agency Joint Stock Company
170	SGT	CTCP Công nghệ viễn thông Sài Gòn	Saigon Telecommunication Technology Joint Stock Company
171	SHA	CTCP Sơn Hà Sài Gòn	Son Ha Saigon Joint Stock Company
172	SHI	CTCP Quốc tế Sơn Hà	Son Ha International Corporation
173	SHP	Công ty Cổ phần Thủy điện Miền Nam	Southern Hydropower Joint Stock Company
174	SII	CTCP Hạ tầng nước Sài Gòn	Saigon Water Infrastructure JSC
175	SJD	CTCP Thủy điện Cần Đơn	Can Don Hydropower Joint Stock Company
176	SMA	CTCP Thiết bị phụ tùng Sài Gòn	Saigon Spare Parts Equipment JSC
177	SMB	CTCP Bia Sài Gòn - Miền Trung	Saigon - Central Beer Joint Stock Company
178	SMC	CTCP Đầu tư thương mại SMC	SMC Trading Investment JSC

179	SPM	Công Ty Cổ Phần S.P.M.	SPM Joint Stock Company
180	SRC	CTCP Cao su Sao Vàng	Sao Vàng Rubber Joint Stock Company
181	SRF	CTCP Kỹ Nghệ Lạnh (SEAREFICO)	Refrigeration Technology Joint Stock Company (SEAREFICO)
182	SSC	CÔNG TY CỔ PHẦN GIỐNG CÂY TRỒNG MIỀN NAM	SOUTHERN SEEDS JOINT STOCK COMPANY
183	STG	CTCP Kho vận miền Nam	Southern Logistics Corporation
184	SVC	CTCP Dịch vụ tổng hợp Sài Gòn	Saigon General Service Joint Stock Company
185	SVI	Công ty Cổ phần Bao Bì Biên Hòa	Bien Hoa Packaging Joint Stock Company
186	SVT	CTCP Công nghệ Sài gòn Viễn Đông	Saigon Far East Technology Joint Stock Company
187	SZC	CTCP Sonadezi Châu Đức	Sonadezi Chau Duc Joint Stock Company
188	TBC	CTCP Thủy điện Thác Bà	Thac Ba Hydropower Joint Stock Company
189	TCM	CTCP Dệt may đầu tư thương mại Thành Công	Thanh Cong Textile Garment Investment and Trading Joint Stock Company
190	TCR	CTCP Công nghiệp Gốm sứ Taicera	Taicera Ceramic Industry JSC
191	TCT	CTCP Cáp treo Núi Bà Tây Ninh	Tay Ninh Ba Mountain Cable Car Joint Stock Company
192	TDC	CTCP Kinh doanh và Phát triển Bình Dương	Binh Duong Trading and Development Joint Stock Company
193	TDW	CTCP Cấp Nước Thủ Đức	Thu Duc Water Supply Joint Stock Company
194	THI	CTCP Thiết bị Điện	Electronical Equipment Joint Stock Company
195	TIP	CTCP Phát triển khu công nghiệp Tín Nghĩa	Tin Nghia Industrial Park Development Joint Stock Company
196	TLH	CTCP Tập đoàn Thép Tiến Lên	Tien Len Steel Group Corporation
197	TMP	CTCP Thủy điện Thác Mơ	Thac Mo Hydropower Joint Stock Company
198	TMT	CTCP Ô tô TMT	TMT Motors Corporation

199	TNA	Công ty cổ phần TM-XNK Thiên Nam	Thien Nam Trading - Import Export Joint Stock Company
200	TNC	Công ty Cổ phần Cao su Thống Nhất	Thong Nhat Rubber Joint Stock Company
201	TNT	Công ty Cổ phần Tập đoàn TNT	TNT Group Corporation
202	TPC	CTCP Nhựa Tân Đại Hưng	Tan Dai Hung Plastic Joint Stock Company
203	TRA	CTCP Traphaco	Traphaco Joint Stock Company
204	TRC	CTCP Cao su Tây Ninh	Tay Ninh Rubber Joint Stock Company
205	TSC	CTCP Vật tư Kỹ thuật Nông nghiệp Cần Thơ	Can Tho Agricultural Technical Materials Joint Stock Company
206	TTF	Công ty Cổ phần Tập đoàn kỹ nghệ gỗ Trường Thành	Truong Thanh Wood Industry Group Joint Stock Company
207	TV2	Công ty Cổ phần Tư vấn Xây dựng Điện 2	Power Construction Consulting Joint Stock Company 2
208	TYA	CTCP Dây và Cáp điện Taya Việt Nam	Taya Vietnam Electric Wire and Cable Joint Stock Company
209	UDC	CTCP Xây dựng và phát triển Đô thị tỉnh Bà Rịa - Vũng Tàu	Ba Ria - Vung Tau Urban Development and Construction Joint Stock Company
210	UIC	CTCP Đầu tư phát triển nhà và đô thị IDICO	IDICO Housing and Urban Development Investment Joint Stock Company
211	VCA	CÔNG TY CỔ PHẦN THÉP VICASA - VNSTEEL	VICASA STEEL JOINT STOCK COMPANY - VNSTEEL
212	VCF	CTCP Vinacafe Biên Hòa	Vinacafe Bien Hoa Joint Stock Company
213	VCG	Tổng Công ty cổ phần Xuất nhập khẩu và Xây dựng Việt Nam	Vietnam Construction and Import-Export Joint Stock Corporation
214	VFG	CTCP Khử trùng Việt Nam	Vietnam Disinfection JSC
215	VHC	CTCP Vĩnh Hoàn	Vinh Hoan Joint Stock Company
216	VID	CTCP Đầu tư Phát triển Thương mại Viễn Đông	Far East Investment Development Trading Joint Stock Company
217	VIP	CTCP Vận tải xăng dầu VIPCO	VIPCO Petroleum Transport Joint Stock Company
218	VMD	Công ty cổ phần Y Dược phẩm Vimedimex	Vimedimex Pharmaceutical Joint Stock Company

219	VNE	Tổng CTCP Xây Dựng Điện Việt Nam	Vietnam Electricity Construction Corporation
220	VNG	Công ty Cổ phần Du lịch Thành Thành Công	Thanh Thanh Cong Tourism Joint Stock Company
221	VNL	CÔNG TY CP LOGISTICS VINALINK	VINALINK LOGISTICS JOINT STOCK COMPANY
222	VNM	CÔNG TY CỔ PHẦN SỮA VIỆT NAM	VIETNAM DAIRY PRODUCTS JOINT STOCK COMPANY
223	VNS	CTCP Ánh Dương Việt Nam	Vietnam Sun Corporation
224	VOS	CTCP Vận tải biển Việt Nam	Vietnam Maritime Transport Joint Stock Company
225	VPH	CTCP Vạn Phát Hưng	Van Phat Hung Joint Stock Company
226	VPS	CTCP Thuốc sát trùng Việt Nam	Vietnam Pesticides Joint Stock Company
227	VRC	Công Ty Cổ Phần Bất động sản và Đầu tư VRC	VRC Real Estate and Investment Joint Stock Company
228	VSC	CTCP Container Việt Nam	Vietnam Container Corporation
229	VSH	CTCP Thủy điện Vĩnh Sơn-Sông Hình	Vinh Son-Song Hinh Hydropower Joint Stock Company
230	VSI	CTCP Đầu tư và Xây dựng Cấp thoát nước	Water Supply and Drainage Investment and Construction Joint Stock Company
231	VTB	CÔNG TY CỔ PHẦN VIETTRONICS TÂN BÌNH	VIETTRONICS TAN BINH JOINT STOCK COMPANY
232	VTO	CTCP Vận tải xăng dầu VITACO	VITACO Petroleum Transport Joint Stock Company

APPENDIX 4: Outputs generated in Stata

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Restate	3,223	.2268073	.4188319	0	1
AQuality	3,223	.2680732	.4430247	0	1
PGen	3,223	.2202917	.4145076	0	1
AGen	3,223	.4238287	.4942406	0	1
ADiver	3,223	.4095563	.4918282	0	1
Big4	3,223	.3450202	.4754486	0	1
AuditorRot~n	3,223	.1644431	.3707347	0	1
Dual	3,223	.2497673	.4329454	0	1
BODsize	3,223	6.177785	1.587029	1	15
BOMsize	3,223	4.09153	2.099777	1	21
CEOGen	3,223	.1175923	.3221747	0	1
ChiefGen	3,223	.4852622	.4998603	0	1
ChairGen	3,223	.112628	.3161866	0	1
FBOD	3,223	.9202606	1.050333	0	9
FBOM	3,223	.6037853	.9436372	0	9
ClientSize	3,223	28.03468	1.358301	24.27831	33.18295
LOSS	3,223	.0636053	.2440864	0	1
ROA	3,223	.0650954	.0902814	-1.587402	.7836998
Leverage	3,223	.4729516	.2154264	-.288665	1.29499

	Restate	AQuality	PGen	AGen	ADiver	Big4	Audito~n
Restate	1.0000						
AQuality	0.8949	1.0000					
PGen	-0.0287	-0.0225	1.0000				
AGen	0.0168	0.0352	0.1168	1.0000			

xxx

		0.3414	0.0459	0.0000				
ADiver		0.0280	0.0486	0.0627	0.5472	1.0000		
		0.1114	0.0058	0.0004	0.0000			
Big4		-0.0299	-0.0488	-0.1401	-0.1047	0.0061	1.0000	
		0.0892	0.0056	0.0000	0.0000	0.7305		
AuditorRot~n		0.0396	0.0490	-0.0581	-0.0383	-0.0563	-0.0279	1.0000
		0.0247	0.0054	0.0010	0.0296	0.0014	0.1129	
Dual		0.0298	0.0117	-0.0110	0.0171	0.0004	-0.0871	-0.0085
		0.0906	0.5084	0.5341	0.3306	0.9797	0.0000	0.6310
BODsize		0.0014	-0.0245	-0.0600	0.0432	0.0256	0.1860	0.0041
		0.9358	0.1636	0.0007	0.0142	0.1466	0.0000	0.8160
BOMsize		-0.0522	-0.0451	-0.0399	0.0179	0.0358	0.2189	-0.0090
		0.0030	0.0105	0.0234	0.3087	0.0420	0.0000	0.6105
CEOGen		-0.0114	-0.0339	-0.0221	-0.0344	-0.0396	0.0694	0.0122
		0.5173	0.0542	0.2106	0.0511	0.0245	0.0001	0.4905
ChiefGen		0.0063	0.0122	0.0067	0.0529	0.0296	-0.0530	0.0148
		0.7192	0.4873	0.7043	0.0026	0.0928	0.0026	0.4023
ChairGen		-0.0336	-0.0339	-0.0496	-0.0017	-0.0093	0.0821	0.0167
		0.0566	0.0541	0.0048	0.9237	0.5969	0.0000	0.3433
FBOD		-0.0245	-0.0434	-0.0545	0.0269	0.0242	0.0887	-0.0293
		0.1645	0.0137	0.0020	0.1274	0.1698	0.0000	0.0965
FBOM		0.0068	-0.0109	-0.0212	0.0427	0.0187	0.0986	0.0239
		0.7004	0.5365	0.2294	0.0152	0.2879	0.0000	0.1741
ClientSize		-0.0051	-0.0237	-0.1202	-0.0303	0.0164	0.4675	-0.0533
		0.7732	0.1780	0.0000	0.0855	0.3532	0.0000	0.0025
LOSS		0.1108	0.1092	-0.0066	-0.0023	0.0234	-0.0314	0.0696
		0.0000	0.0000	0.7069	0.8972	0.1846	0.0750	0.0001
ROA		-0.1532	-0.1619	0.0016	-0.0102	-0.0405	0.0403	-0.0253

		0.0000	0.0000	0.9281	0.5641	0.0214	0.0223	0.1502
Leverage		0.0740	0.0775	-0.0344	0.0293	0.0656	-0.0292	0.0043
		0.0000	0.0000	0.0509	0.0967	0.0002	0.0972	0.8071
		Dual	BODsize	BOMsize	CEOGen	ChiefGen	ChairGen	FBOD

Dual		1.0000						
BODsize		-0.0290	1.0000					
		0.1002						
BOMsize		0.0288	0.3189	1.0000				
		0.1023	0.0000					
CEOGen		0.0653	0.0107	0.0469	1.0000			
		0.0002	0.5439	0.0077				
ChiefGen		0.1052	0.0172	-0.0855	0.0349	1.0000		
		0.0000	0.3292	0.0000	0.0479			
ChairGen		0.0438	0.0114	0.0256	0.3605	0.0370	1.0000	
		0.0128	0.5169	0.1461	0.0000	0.0356		
FBOD		0.0384	0.2707	0.1550	0.3845	0.0885	0.4392	1.0000
		0.0295	0.0000	0.0000	0.0000	0.0000	0.0000	
FBOM		0.0342	0.1287	0.4224	0.4432	0.0932	0.2755	0.4701
		0.0526	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
ClientSize		-0.0806	0.2485	0.4446	0.0681	-0.0905	0.0459	0.1676
		0.0000	0.0000	0.0000	0.0001	0.0000	0.0091	0.0000
LOSS		-0.0065	0.0261	-0.0120	0.0233	-0.0012	-0.0044	0.0125
		0.7136	0.1388	0.4970	0.1868	0.9449	0.8038	0.4772
ROA		-0.0466	-0.0024	-0.0555	0.0047	-0.0834	0.0658	-0.0095
		0.0081	0.8903	0.0016	0.7906	0.0000	0.0002	0.5887
Leverage		0.0715	0.0007	0.1938	-0.0253	-0.0513	-0.0494	-0.0101

		0.0000	0.9661	0.0000	0.1506	0.0036	0.0050	0.5648
		FBOM Client~e		LOSS	ROA Leverage			
-----+								
FBOM		1.0000						
ClientSize		0.2046	1.0000					
		0.0000						
LOSS		0.0273	-0.0211	1.0000				
		0.1219	0.2301					
ROA		-0.0291	-0.0976	-0.4198	1.0000			
		0.0989	0.0000	0.0000				
Leverage		0.0240	0.3204	0.1237	-0.4277	1.0000		
		0.1730	0.0000	0.0000	0.0000			

Correlation Matrix

		Restate	AQuality	PGen	AGen	ADiver	PWork	AWork
-----+								
Restate		1.0000						
AQuality		0.8950	1.0000					
		0.0000						
PGen		-0.0284	-0.0222	1.0000				
		0.1069	0.2069					
AGen		0.0168	0.0353	0.1168	1.0000			
		0.3388	0.0453	0.0000				
ADiver		0.0281	0.0487	0.0628	0.5476	1.0000		
		0.1105	0.0057	0.0004	0.0000			

PWork		-0.0315	-0.0047	-0.1764	0.0303	0.0405	1.0000	
		0.0738	0.7899	0.0000	0.0854	0.0215		
ASWork		-0.0045	-0.0109	-0.0898	-0.0856	-0.0645	0.2304	1.0000
		0.7967	0.5349	0.0000	0.0000	0.0002	0.0000	
AExper		0.0240	0.0267	-0.0059	0.0849	-0.0031	0.0406	-0.0742
		0.1730	0.1293	0.7371	0.0000	0.8589	0.0212	0.0000
PExper		-0.0321	-0.0490	0.1248	0.0249	-0.0039	0.0061	-0.2109
		0.0679	0.0054	0.0000	0.1571	0.8227	0.7283	0.0000
ADiver		0.0281	0.0487	0.0628	0.5476	1.0000	0.0405	-0.0645
		0.1105	0.0057	0.0004	0.0000	0.0000	0.0215	0.0002
Big4		-0.0296	-0.0483	-0.1397	-0.1045	0.0062	-0.0039	0.3043
		0.0932	0.0060	0.0000	0.0000	0.7261	0.8252	0.0000
AuditorRot~n		0.0376	0.0471	-0.0594	-0.0414	-0.0589	-0.0747	-0.0031
		0.0326	0.0074	0.0007	0.0189	0.0008	0.0000	0.8617
Dual		0.0293	0.0111	-0.0114	0.0160	-0.0007	0.0612	0.0511
		0.0962	0.5286	0.5168	0.3640	0.9700	0.0005	0.0037
BODsize		0.0020	-0.0239	-0.0594	0.0428	0.0252	-0.0017	0.0350
		0.9095	0.1753	0.0007	0.0150	0.1527	0.9214	0.0471
BOMsize		-0.0520	-0.0449	-0.0397	0.0179	0.0358	-0.0253	0.0456
		0.0031	0.0108	0.0240	0.3098	0.0423	0.1506	0.0095
CEOGen		-0.0112	-0.0337	-0.0219	-0.0343	-0.0395	-0.0133	0.0272
		0.5240	0.0556	0.2143	0.0515	0.0247	0.4491	0.1221
ChiefGen		0.0061	0.0120	0.0065	0.0520	0.0287	0.0044	0.0368
		0.7270	0.4947	0.7120	0.0031	0.1033	0.8034	0.0368
ChairGen		-0.0334	-0.0337	-0.0495	-0.0016	-0.0093	0.0537	0.0474
		0.0578	0.0555	0.0050	0.9264	0.5990	0.0023	0.0071
FBOD		-0.0245	-0.0434	-0.0545	0.0262	0.0236	0.0321	-0.0032
		0.1639	0.0136	0.0020	0.1364	0.1810	0.0685	0.8538

	FBOM	0.0067	-0.0109	-0.0212	0.0429	0.0189	0.0091	0.0152
		0.7018	0.5350	0.2286	0.0147	0.2824	0.6045	0.3895
ClientSize		-0.0045	-0.0231	-0.1195	-0.0303	0.0163	-0.0009	0.0710
		0.7967	0.1894	0.0000	0.0854	0.3552	0.9604	0.0001
LOSS		0.1109	0.1093	-0.0065	-0.0022	0.0234	-0.0458	-0.0037
		0.0000	0.0000	0.7123	0.8992	0.1839	0.0092	0.8327
ROA		-0.1537	-0.1624	0.0009	-0.0099	-0.0402	0.0327	0.0189
		0.0000	0.0000	0.9588	0.5730	0.0223	0.0636	0.2820
Leverage		0.0744	0.0780	-0.0339	0.0300	0.0662	0.0400	-0.0196
		0.0000	0.0000	0.0540	0.0889	0.0002	0.0230	0.2669
		AExper	PExper	ADiver	Big4	Auditor~n	Dual	BODsize

AExper		1.0000						
PExper		0.2178	1.0000					
		0.0000						
ADiver		-0.0031	-0.0039	1.0000				
		0.8589	0.8227					
Big4		-0.1296	-0.1152	0.0062	1.0000			
		0.0000	0.0000	0.7261				
AuditorRot~n		-0.0042	0.0115	-0.0589	-0.0247	1.0000		
		0.8119	0.5137	0.0008	0.1607			
Dual		0.0083	-0.1171	-0.0007	-0.0876	-0.0107	1.0000	
		0.6376	0.0000	0.9700	0.0000	0.5445		
BODsize		-0.0051	0.0134	0.0252	0.1866	0.0020	-0.0293	1.0000
		0.7705	0.4485	0.1527	0.0000	0.9115	0.0956	
BOMsize		-0.0486	-0.0247	0.0358	0.2191	-0.0081	0.0285	0.3191
		0.0058	0.1610	0.0423	0.0000	0.6457	0.1050	0.0000

	CEOGen		0.0221	0.0445	-0.0395	0.0696	0.0135
			0.2100	0.0115	0.0247	0.0001	0.4441
						0.0002	0.5293
	ChiefGen		0.0022	-0.0149	0.0287	-0.0532	0.0129
			0.9016	0.3972	0.1033	0.0025	0.4654
						0.0000	0.3259
	ChairGen		-0.0183	0.0100	-0.0093	0.0823	0.0181
			0.2992	0.5688	0.5990	0.0000	0.3043
						0.0135	0.5030
	FBOD		0.0100	0.0443	0.0236	0.0886	-0.0293
			0.5693	0.0118	0.1810	0.0000	0.0959
						0.0266	0.0000
	FBOM		-0.0163	0.0112	0.0189	0.0986	0.0259
			0.3533	0.5263	0.2824	0.0000	0.1420
						0.0541	0.0000
	ClientSize		-0.0627	0.0535	0.0163	0.4678	-0.0529
			0.0004	0.0024	0.3552	0.0000	0.0027
						0.0000	0.0000
	LOSS		0.0200	0.0050	0.0234	-0.0312	0.0685
			0.2552	0.7752	0.1839	0.0766	0.0001
						0.7039	0.1347
	ROA		-0.0041	-0.0260	-0.0402	0.0393	-0.0235
			0.8179	0.1404	0.0223	0.0257	0.1820
						0.0092	0.8118

Regression results for Equation 1 with Restate

Logistic regression	Number of obs	=	3,223
	LR chi2(16)	=	124.03
	Prob > chi2	=	0.0000
Log likelihood = -1663.5442	Pseudo R2	=	0.0359

Restate	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
PGen	-.192528	.1084831	-1.77	0.076	-.405151 .0200949
AGen	.0854428	.0881106	0.97	0.332	-.0872507 .2581364
Big4	-.0636193	.1066684	-0.60	0.551	-.2726856 .145447
AuditorRotation	.1862002	.1121157	1.66	0.097	-.0335424 .4059429
Dual	.1750132	.0991118	1.77	0.077	-.0192424 .3692687

BODsize		.0488814	.0301995	1.62	0.106	-.0103085	.1080713
BOMsize		-.1295087	.0279041	-4.64	0.000	-.1841998	-.0748176
CEOGen		-.1362872	.1616752	-0.84	0.399	-.4531646	.1805903
ChiefGen		-.0827468	.0885755	-0.93	0.350	-.2563516	.0908579
ChairGen		-.1644382	.1645095	-1.00	0.318	-.4868709	.1579944
FBOD		-.0863284	.0529804	-1.63	0.103	-.1901679	.0175112
FBOM		.178609	.061349	2.91	0.004	.0583671	.2988508
ClientSize		.026231	.04216	0.62	0.534	-.0564011	.108863
LOSS		.2205999	.1813735	1.22	0.224	-.1348857	.5760855
ROA		-4.406618	.7762268	-5.68	0.000	-5.927994	-2.885241
Leverage		.2116586	.2428332	0.87	0.383	-.2642858	.687603
_cons		-1.621008	1.112646	-1.46	0.145	-3.801753	.5597378

Regression results for Equation 1 with AQuality

Logistic regression	Number of obs	=	3,223
	LR chi2(16)	=	132.93
	Prob > chi2	=	0.0000
Log likelihood = -1806.1638	Pseudo R2	=	0.0355

AQuality		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
PGen		-.188091	.1017484	-1.85	0.065	-.3875142 .0113322
AGen		.167947	.0832316	2.02	0.044	.0048162 .3310779
Big4		-.1088039	.1012687	-1.07	0.283	-.3072869 .089679
AuditorRotation		.2311899	.1061881	2.18	0.029	.0230652 .4393147
Dual		.0434826	.0949602	0.46	0.647	-.1426359 .2296012
BODsize		.0007099	.0290636	0.02	0.981	-.0562537 .0576736
BOMsize		-.077618	.025856	-3.00	0.003	-.1282949 -.0269411
CEOGen		-.252337	.1561491	-1.62	0.106	-.5583837 .0537097
ChiefGen		-.0383276	.0837922	-0.46	0.647	-.2025573 .1259021
ChairGen		-.0435897	.15362	-0.28	0.777	-.3446793 .2575
FBOD		-.0872335	.0505869	-1.72	0.085	-.186382 .011915
FBOM		.1152193	.0585531	1.97	0.049	.0004573 .2299813
ClientSize		-.0099885	.0401294	-0.25	0.803	-.0886406 .0686636
LOSS		.1788898	.1757181	1.02	0.309	-.1655114 .523291
ROA		-4.659163	.7378421	-6.31	0.000	-6.105307 -3.213019
Leverage		.1650916	.2292874	0.72	0.472	-.2843035 .6144867
_cons		-.2259953	1.05923	-0.21	0.831	-2.302048 1.850057

Regression results for Equation 2 with Restate

Logistic regression	Number of obs	=	3,223
	LR chi2(17)	=	125.32
	Prob > chi2	=	0.0000
Log likelihood = -1662.8987	Pseudo R2	=	0.0363

Restate	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
PGen	-.1919313	.1082028	-1.77	0.076	-.4040048	.0201423
AGen	.0144924	.1078062	0.13	0.893	-.1968037	.2257886
ADiver	.1219244	.1072364	1.14	0.256	-.0882551	.3321039
Big4	-.0722925	.1069123	-0.68	0.499	-.2818367	.1372517
AuditorRotation	.1915605	.1122638	1.71	0.088	-.0284725	.4115935
Dual	.1759545	.0991662	1.77	0.076	-.0184076	.3703167
BODsize	.0494521	.0301906	1.64	0.101	-.0097203	.1086245
BOMsize	-.1299933	.0279225	-4.66	0.000	-.1847204	-.0752663
CEOGen	-.131949	.1619415	-0.81	0.415	-.4493485	.1854505
ChiefGen	-.0825613	.088597	-0.93	0.351	-.2562082	.0910855
ChairGen	-.1634498	.1646432	-0.99	0.321	-.4861445	.159245
FBOD	-.0875897	.0529937	-1.65	0.098	-.1914555	.0162761
FBOM	.1789594	.0613103	2.92	0.004	.0587935	.2991253
ClientSize	.0274118	.0421729	0.65	0.516	-.0552455	.1100692
LOSS	.2157958	.1814537	1.19	0.234	-.1398469	.5714385
ROA	-4.398478	.7763377	-5.67	0.000	-5.920072	-2.876884
Leverage	.2000995	.2430517	0.82	0.410	-.2762731	.6764721
_cons	-1.668937	1.113495	-1.50	0.134	-3.851346	.5134731

Regression results for Equation 2 with AQuality

Logistic regression	Number of obs	=	3,223
	LR chi2(17)	=	136.07
	Prob > chi2	=	0.0000
Log likelihood = -1804.597	Pseudo R2	=	0.0363

AQuality	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
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PGen		-.1853481	.1013805	-1.83	0.068	-.3840502	.0133541
AGen		.0659883	.1009816	0.65	0.513	-.131932	.2639086
ADiver		.1780928	.100511	1.77	0.076	-.0189052	.3750907
Big4		-.1219175	.1015293	-1.20	0.230	-.3209113	.0770763
AuditorRotation		.2396172	.1063868	2.25	0.024	.0311029	.4481315
Dual		.0445803	.0950571	0.47	0.639	-.1417282	.2308888
BODsize		.0015852	.029056	0.05	0.956	-.0553637	.058534
BOMsize		-.0783868	.0258839	-3.03	0.002	-.1291182	-.0276553
CEOGen		-.2462242	.1565052	-1.57	0.116	-.5529688	.0605204
ChiefGen		-.0383316	.0838376	-0.46	0.648	-.2026504	.1259871
ChairGen		-.0415341	.1537907	-0.27	0.787	-.3429584	.2598903
FBOD		-.089227	.0506128	-1.76	0.078	-.1884262	.0099722
FBOM		.1160708	.0585185	1.98	0.047	.0013767	.2307649
ClientSize		-.0082073	.0401509	-0.20	0.838	-.0869016	.0704871
LOSS		.1716209	.1758668	0.98	0.329	-.1730718	.5163136
ROA		-4.652482	.738418	-6.30	0.000	-6.099755	-3.20521
Leverage		.1463063	.2295815	0.64	0.524	-.3036651	.5962778
_cons		-.2974812	1.060301	-0.28	0.779	-2.375634	1.780671

Regression results for Equation 3 with Restate

Logistic regression	Number of obs	=	3,223
	LR chi2(27)	=	140.36
	Prob > chi2	=	0.0000
Log likelihood = -1655.3823	Pseudo R2	=	0.0407

-----+-----						
Restate		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
-----+-----						
PGen		-1.336303	.6248241	-2.14	0.032	-2.560936 -.1116707
AGen		-.2678663	.302453	-0.89	0.376	-.8606632 .3249307
ADiver		.1527024	.1087389	1.40	0.160	-.0604219 .3658267

PWork		-.0282519	.0150128	-1.88	0.060	-.0576765	.0011727
Work		.0052738	.0364586	0.14	0.885	-.0661836	.0767313
AExper		.0053664	.0130248	0.41	0.680	-.0201617	.0308945
PExper		-.0230297	.0108703	-2.12	0.034	-.044335	-.0017244
PWG		.3300545	.1786325	1.85	0.065	-.0200587	.6801678
PEG		.0727229	.0399562	1.82	0.069	-.0055899	.1510357
PWEG		-.0205225	.0111678	-1.84	0.066	-.0424109	.0013659
AWG		.0349743	.0956997	0.37	0.715	-.1525937	.2225422
AEG		.0265231	.0287132	0.92	0.356	-.0297539	.0828
AWEG		-.0025282	.009394	-0.27	0.788	-.0209401	.0158837
Big4		-.0962469	.1151713	-0.84	0.403	-.3219785	.1294846
AuditorRotation		.1874461	.1131712	1.66	0.098	-.0343654	.4092576
Dual		.1626887	.1005105	1.62	0.106	-.0343083	.3596857
BODsize		.0528921	.0303314	1.74	0.081	-.0065563	.1123405
BOMsize		-.1369487	.0281253	-4.87	0.000	-.1920732	-.0818242
CEOGen		-.123679	.1631237	-0.76	0.448	-.4433956	.1960376
ChiefGen		-.096546	.0891274	-1.08	0.279	-.2712325	.0781405
ChairGen		-.1492393	.1654652	-0.90	0.367	-.4735452	.1750666
FBOD		-.0797838	.0533036	-1.50	0.134	-.1842568	.0246893
FBOM		.1803688	.0616228	2.93	0.003	.0595903	.3011472
ClientSize		.0411319	.0426303	0.96	0.335	-.0424219	.1246857
LOSS		.219398	.1823666	1.20	0.229	-.1380339	.57683

ROA	-4.260059	.7783709	-5.47	0.000	-5.785638	-2.73448
Leverage	.2406943	.2443066	0.99	0.325	-.2381378	.7195264
_cons	-1.690258	1.133527	-1.49	0.136	-3.91193	.531413

Regression results for Equation 3 with AQuality

Logistic regression	Number of obs	=	3,223
	LR chi2(27)	=	158.99
	Prob > chi2	=	0.0000
Log likelihood = -1793.1378	Pseudo R2	=	0.0425

AQuality	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
PGen	-1.474595	.5909311	-2.50	0.013	-2.632799	-.3163914
AGen	-.2180736	.2869246	-0.76	0.447	-.7804355	.3442884
ADiver	.2008708	.1021073	1.97	0.049	.0007442	.4009974
PWork	-.0079646	.0137459	-0.58	0.562	-.034906	.0189768
ASWork	-.0176648	.0350769	-0.50	0.615	-.0864142	.0510847
AExper	.006354	.012467	0.51	0.610	-.0180809	.030789
PExper	-.0330793	.0103945	-3.18	0.001	-.053452	-.0127065
PWG	.4204494	.1623319	2.59	0.010	.1022846	.7386141
PEG	.0670646	.0381462	1.76	0.079	-.0077007	.1418298
PWEG	-.0210034	.0101882	-2.06	0.039	-.0409719	-.0010349
AWG	.026007	.0909205	0.29	0.775	-.1521938	.2042079
AEG	.0255495	.0273547	0.93	0.350	-.0280647	.0791637
AWEG	-.001173	.008954	-0.13	0.896	-.0187225	.0163766
Big4	-.1412185	.1094698	-1.29	0.197	-.3557753	.0733383
AuditorRotation	.2602556	.10745	2.42	0.015	.0496575	.4708537
Dual	.0170821	.096369	0.18	0.859	-.1717977	.2059618
BODsize	.0051594	.0292241	0.18	0.860	-.0521188	.0624376
BOMsize	-.0847173	.0260385	-3.25	0.001	-.1357519	-.0336828
CEOGen	-.2148786	.1574786	-1.36	0.172	-.523531	.0937738
ChiefGen	-.0444053	.08439	-0.53	0.599	-.2098066	.1209961
ChairGen	-.0388246	.1544343	-0.25	0.802	-.3415102	.263861
FBOD	-.0825016	.0509475	-1.62	0.105	-.1823568	.0173536
FBOM	.1126086	.0588845	1.91	0.056	-.0028028	.2280201
ClientSize	.0134779	.0406444	0.33	0.740	-.0661836	.0931393

LOSS	.1863452	.1768271	1.05	0.292	-.1602296	.53292
ROA	-4.624543	.7452063	-6.21	0.000	-6.085121	-3.163966
Leverage	.1375341	.2314715	0.59	0.552	-.3161416	.5912098
_cons	-.4223892	1.080707	-0.39	0.696	-2.540536	1.695758

Regression results with Restate as the dependent variable and DA included as an additional control variable

Iteration 0: log likelihood = -1722.5337
Iteration 1: log likelihood = -1655.4052
Iteration 2: log likelihood = -1652.7544
Iteration 3: log likelihood = -1652.7433
Iteration 4: log likelihood = -1652.7433

Logistic regression	Number of obs	=	3,216
	LR chi2(28)	=	139.58
	Prob > chi2	=	0.0000
Log likelihood = -1652.7433	Pseudo R2	=	0.0405

Restate	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
<hr/>					
DA	-.0050124	.0693501	-0.07	0.942	-.1409361 .1309114
PGen	-1.33114	.6252097	-2.13	0.033	-2.556529 -.1057516
AGen	-.2679603	.3026364	-0.89	0.376	-.8611167 .3251961
ADiver	.1524177	.1087921	1.40	0.161	-.060811 .3656464
PWork	-.0289958	.0151258	-1.92	0.055	-.0586419 .0006502
AWork	.0083261	.036517	0.23	0.820	-.063246 .0798981
AExper	.0045852	.0130494	0.35	0.725	-.0209911 .0301616
PExper	-.0225746	.0108747	-2.08	0.038	-.0438885 -.0012607
PWG	.329041	.1789603	1.84	0.066	-.0217147 .6797966
PEG	.0722082	.0399614	1.81	0.071	-.0061146 .150531
PWEG	-.0204515	.0111785	-1.83	0.067	-.0423609 .0014579
AWG	.0329168	.0957015	0.34	0.731	-.1546547 .2204883
AEG	.0272768	.0287253	0.95	0.342	-.0290238 .0835774
AWEG	-.002566	.0093944	-0.27	0.785	-.0209787 .0158466
Big4	-.0976717	.1153229	-0.85	0.397	-.3237004 .128357
AuditorRotation	.1862071	.113247	1.64	0.100	-.0357529 .4081671
Dual	.1646946	.1007129	1.64	0.102	-.0326992 .3620883

BODsize		.0521422	.0303655	1.72	0.086	-.0073732	.1116575
BOMsize		-.1373858	.0281537	-4.88	0.000	-.1925661	-.0822055
CEOGen		-.1274483	.1632261	-0.78	0.435	-.4473656	.1924689
ChiefGen		-.0921341	.0892019	-1.03	0.302	-.2669666	.0826984
ChairGen		-.151762	.1655024	-0.92	0.359	-.4761408	.1726168
FBOD		-.0795316	.0533286	-1.49	0.136	-.1840538	.0249906
FBOM		.1823533	.0617799	2.95	0.003	.0612669	.3034398
ClientSize		.0436208	.050494	0.86	0.388	-.0553456	.1425871
LOSS		.2242476	.1823429	1.23	0.219	-.1331379	.581633
ROA		-4.209111	.7780637	-5.41	0.000	-5.734088	-2.684135
Leverage		.2502602	.2464563	1.02	0.310	-.2327853	.7333058
_cons		-1.76744	1.373144	-1.29	0.198	-4.458754	.9238738

Regression results with AQuality as the dependent variable and DA included as an additional control variable

Iteration 0: log likelihood = -1869.4429
Iteration 1: log likelihood = -1793.1879
Iteration 2: log likelihood = -1790.5565
Iteration 3: log likelihood = -1790.5485
Iteration 4: log likelihood = -1790.5485

Logistic regression	Number of obs	=	3,216
	LR chi2(28)	=	157.79
	Prob > chi2	=	0.0000
Log likelihood = -1790.5485	Pseudo R2	=	0.0422

AQuality		Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
-----+-----						
DA		-.005451	.0653073	-0.08	0.933	-.1334511 .122549
PGen		-1.468703	.5912578	-2.48	0.013	-2.627547 -.3098588
AGen		-.2172056	.2870907	-0.76	0.449	-.7798931 .3454818
ADiver		.2002375	.1021524	1.96	0.050	.0000224 .4004525
PWork		-.0081255	.0138418	-0.59	0.557	-.0352549 .019004
ASWork		-.0151385	.0351342	-0.43	0.667	-.0840002 .0537232
AExper		.0056626	.0124866	0.45	0.650	-.0188107 .0301358
PExper		-.0327089	.0103967	-3.15	0.002	-.0530859 -.0123318
PWG		.418948	.162603	2.58	0.010	.100252 .7376439

	PEG		.066636	.0381486	1.75	0.081	-.008134	.1414059
	PWEG		-.0209363	.0101964	-2.05	0.040	-.0409208	-.0009518
	AWG		.0238742	.0909206	0.26	0.793	-.1543269	.2020753
	AEG		.0261072	.0273638	0.95	0.340	-.0275249	.0797392
	AWEG		-.001186	.0089541	-0.13	0.895	-.0187358	.0163637
	Big4		-.1426609	.1096097	-1.30	0.193	-.3574919	.0721701
AuditorRotation			.2588153	.107509	2.41	0.016	.0481016	.469529
	Dual		.0198809	.0965528	0.21	0.837	-.1693592	.2091209
	BODsize		.004212	.029258	0.14	0.886	-.0531327	.0615567
	BOMsize		-.0850387	.0260596	-3.26	0.001	-.1361146	-.0339628
	CEOGen		-.2185825	.1575682	-1.39	0.165	-.5274105	.0902456
	ChiefGen		-.0405829	.0844502	-0.48	0.631	-.2061022	.1249364
	ChairGen		-.0418583	.1544546	-0.27	0.786	-.3445837	.2608672
	FBOD		-.0822176	.0509657	-1.61	0.107	-.1821085	.0176734
	FBOM		.1145296	.05904	1.94	0.052	-.0011867	.230246
ClientSize			.0159128	.0482386	0.33	0.741	-.0786332	.1104587
	LOSS		.1913583	.1768082	1.08	0.279	-.1551793	.5378959
	ROA		-4.570187	.7450479	-6.13	0.000	-6.030454	-3.10992
	Leverage		.1469443	.2334959	0.63	0.529	-.3106992	.6045877
	cons		-.4972593	1.312012	-0.38	0.705	-3.068755	2.074237

Regression results with DA as the dependent variable (FEM)

Fixed-effects (within) regression	Number of obs	=	3,216
Group variable: Firm1	Number of groups	=	232

R-sq:		Obs per group:	
within	= 0.2529	min	= 8
between	= 0.5903	avg	= 13.9
overall	= 0.4303	max	= 14

	F(27,2957)	=	37.07
corr(u i, Xb) = -0.4498	Prob > F	=	0.0000

DA	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
PGen	.3100714	.1278565	2.43	0.015	.0593746	.5607682
AGen	.0658991	.0658526	1.00	0.317	-.0632224	.1950206

	ADiver		-.0437899	.0227104	-1.93	0.054	-.0883196	.0007399
	PWork		.0023065	.0034773	0.66	0.507	-.0045117	.0091247
	AWork		.014197	.0080045	1.77	0.076	-.001498	.0298919
	AExper		.0042595	.0029034	1.47	0.142	-.0014334	.0099524
	PExper		-.004495	.0025258	-1.78	0.075	-.0094475	.0004574
	PWG		-.1354928	.036136	-3.75	0.000	-.2063471	-.0646385
	PEG		-.0104285	.0083332	-1.25	0.211	-.0267679	.0059109
	PWEG		.0058476	.0022518	2.60	0.009	.0014323	.010263
	AWG		-.0127365	.0209686	-0.61	0.544	-.053851	.028378
	AEG		-.0032421	.0065539	-0.49	0.621	-.0160927	.0096084
	AWEG		.0008057	.0021479	0.38	0.708	-.0034059	.0050173
	Big4		-.1820158	.0384501	-4.73	0.000	-.2574074	-.1066242
AuditorRotation			.0469527	.0252394	1.86	0.063	-.0025358	.0964412
	Dual		.1082278	.0275826	3.92	0.000	.0541446	.1623109
	BODsize		-.016181	.0082772	-1.95	0.051	-.0324107	.0000486
	BOMsize		.008847	.0085371	1.04	0.300	-.0078922	.0255863
	CEOGen		.1346487	.0475051	2.83	0.005	.0415023	.2277951
	ChiefGen		.023523	.0281841	0.83	0.404	-.0317395	.0787855
	ChairGen		.0571329	.0464432	1.23	0.219	-.0339314	.1481973
	FBOD		-.0466399	.0149654	-3.12	0.002	-.0759835	-.0172963
	FBOM		-.0271326	.0185109	-1.47	0.143	-.0634281	.0091629
ClientSize			.5546738	.0202556	27.38	0.000	.5149572	.5943904
	LOSS		-.0360044	.0442005	-0.81	0.415	-.1226712	.0506625
	ROA		.3063864	.1590447	1.93	0.054	-.0054631	.6182359
	Leverage		.0518579	.0882763	0.59	0.557	-.1212313	.2249471
	_cons		-15.48661	.547839	-28.27	0.000	-16.56079	-14.41242

	sigma_u		.43032315					
	sigma_e		.4890663					
	rho		.43636613	(fraction of variance due to u i)				

F test that all u_i=0: F(231, 2957) = 7.45

Prob > F = 0.0000

Regression results with DA as the dependent variable (REM)

Random-effects GLS regression
Group variable: Firm1

Number of obs = 3,216
Number of groups = 232

R-sq:

within = 0.2502

Obs per group:

min = 8

between = 0.6048

avg = 13.9

overall = 0.4391

max = 14

Wald chi2(27) = 1312.81

corr(u_i, X) = 0 (assumed)

Prob > chi2 = 0.0000

DA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
PGen	.3193633	.1276739	2.50	0.012	.0691271	.5695996
AGen	.0832893	.0656182	1.27	0.204	-.04532	.2118987
ADiver	-.0453162	.0226856	-2.00	0.046	-.0897793	-.0008532
PWork	.0010161	.0033916	0.30	0.764	-.0056312	.0076635
Work	.0150024	.0079488	1.89	0.059	-.0005769	.0305818
AExper	.0040335	.0028691	1.41	0.160	-.0015898	.0096568
PExper	-.001919	.0024669	-0.78	0.437	-.0067541	.0029161
PWG	-.141041	.036013	-3.92	0.000	-.2116251	-.0704568
PEG	-.0109666	.0083094	-1.32	0.187	-.0272527	.0053195
PWEG	.0062556	.0022379	2.80	0.005	.0018694	.0106417
AWG	-.0123576	.0209462	-0.59	0.555	-.0534113	.0286961
AEG	-.0034138	.006513	-0.52	0.600	-.016179	.0093515
AWEG	.0006725	.002145	0.31	0.754	-.0035317	.0048766
Big4	-.1495723	.0344032	-4.35	0.000	-.2170014	-.0821432
AuditorRotation	.0468324	.0252	1.86	0.063	-.0025587	.0962235
Dual	.0744285	.0262636	2.83	0.005	.0229527	.1259042
BODsize	-.0119205	.0078969	-1.51	0.131	-.0273981	.0035571
BOMsize	-.0001496	.0077045	-0.02	0.985	-.0152502	.014951
CEOGen	.1232553	.0441216	2.79	0.005	.0367785	.2097321
ChiefGen	.0216242	.0257752	0.84	0.401	-.0288941	.0721426
ChairGen	.047887	.0431468	1.11	0.267	-.0366792	.1324532
FBOD	-.0307516	.0140714	-2.19	0.029	-.0583311	-.0031721
FBOM	-.0344948	.01707	-2.02	0.043	-.0679513	-.0010383
ClientSize	.465353	.0153532	30.31	0.000	.4352614	.4954447
LOSS	-.0547865	.043741	-1.25	0.210	-.1405174	.0309444
ROA	.2033642	.1513069	1.34	0.179	-.0931919	.4999203
Leverage	.1876742	.0765854	2.45	0.014	.0375696	.3377789
_cons	-13.07691	.4107275	-31.84	0.000	-13.88193	-12.2719
sigma_u	.32823872					
sigma_e	.4890663					
rho	.31055759	(fraction of variance due to u_i)				

