

Job Satisfaction and Investment Efficiency

Adetunji Bolorunduro

A thesis submitted for the degree of

Doctor of Philosophy in Finance

Essex Business School

University of Essex

March 2026

Abstract

This thesis examines three related empirical studies on the effect of employee job satisfaction on investment efficiency among the top 100 firms in the United States. The first study investigates the relationship between job satisfaction and firms' investment efficiency, and further evaluates whether job satisfaction is associated with patterns of over- or under-investment. The findings indicate that a one-percent increase in job satisfaction is associated with an average increase of 0.05 percent in investment efficiency. This suggests that improvements in employee satisfaction across leading U.S. firms translate into more efficient allocation of corporate investment resources. This result aligns with the conclusions of Benjamin et al. (2003), who maintain that positive employee attitudes enhance organizational performance.

With respect to mis investment behavior, the results show that job satisfaction does not exert a statistically significant influence on either under-investment or over-investment. This outcome is unsurprising, given that decision-making authority over major investment policies in large U.S. corporations is typically concentrated among senior executives, with limited input from the wider workforce. This interpretation is consistent with Hsueh et al. (2022), who similarly report that employees outside top management rarely influence firm-level investment decisions.

The second study examines the mediating role of institutional quality in the relationship between job satisfaction and investment efficiency. The findings indicate that higher levels of corruption control and government effectiveness significantly strengthen the positive association between job satisfaction and firms' investment efficiency. This implies that institutional environments characterized by lower corruption and more effective public administration amplify the beneficial

impact of job satisfaction on firms' investment decisions. Such institutional conditions create greater stability, transparency, and predictability, thereby enabling firms to translate internal employee-oriented advantages into more efficient investment outcomes. These observations are consistent with Zhao and Xu (2015) and Waheduzzaman and Khandaker (2022), who argue that strong institutional frameworks enhance firms' operational performance by reducing uncertainty and improving governance quality.

Conversely, the interaction effects of regulatory quality and political stability with job satisfaction are not statistically significant. This suggests that even when employees report high levels of job satisfaction, suboptimal regulatory environments—such as excessive bureaucratic constraints, inconsistent policy implementation, or restrictive compliance requirements—may offset potential gains in investment efficiency. In such contexts, firm-level improvements in employee satisfaction alone may be insufficient to overcome broader institutional barriers to efficient resource allocation.

The third study examines the relationship between the environmental and social (ES) engagement practices of U.S. firms and employee job satisfaction. In addition, the study evaluates whether firm size, financial leverage, and sales revenue moderate this relationship. The results show a positive and statistically significant association between ES practices and job satisfaction among the top 100 U.S. firms, indicating that stronger environmental and social commitments enhance employees' perceptions of their workplaces. This finding is consistent with theoretical expectations that socially responsible practices improve employee morale, organisational identification, and perceptions of corporate integrity, thereby contributing to higher levels of job satisfaction.

However, the moderating effects of firm size, financial leverage, and sales revenue are not statistically significant, suggesting that the positive influence of ES practices on job satisfaction

operates relatively independently of firm-level structural characteristics. In other words, improvements in ES performance benefit employees across firms regardless of organisational scale, capital structure, or sales volume. This result aligns conceptually with Hu et al. (2018), who reported beneficial effects of socially responsible business practices—specifically a positive relationship between social responsibility and product value in Chinese manufacturing. Although their focus was on product value rather than job satisfaction, both studies indicate that ES-oriented strategies generate favorable internal and external outcomes for firms.

Acknowledgements

I am very grateful to my supervisors and co-authors Dr Theodora Bermpei, Dr Emmanuoil Pyrgiotakis, and Dr Athanasios Triantafyllou for their support and guidance. Without their help, this thesis would have been mission impossible. I am eternally grateful to my wife, Mercy Olamide Bolorunduro and my Dad Wale Bolorunduro PhD, for their vast emotional support and contribution during the rigorous PhD program.

Disclaimer

I hereby declare that this thesis is an original artefact of my research and has not been submitted for any previous degree, another degree, or other professional qualification. I have also made appropriate referencing to acknowledge all supporting previous literature and resources adopted in the writing of this thesis. The thesis work is entirely my own, except for the collaborative contributions acknowledged throughout.

TABLE OF CONTENTS

Abstract.....	ii
Acknowledgements.....	iv
Disclaimer.....	v
TABLE OF CONTENTS	i
CHAPTER 1	1
INTRODUCTION	1
CHAPTER 2	9
JOB SATISFACTION AND INVESTMENT EFFICIENCY: EVIDENCE FROM TOP RANKED FIRMS IN THE US.....	9
2.1 Introduction and the Literature	9
2.2 Theories	16
2.3 Empirical Literature.....	21
2.4 Data and Methodology	38
2.5 Empirical Results.....	54
2.6 Conclusion	88
CHAPTER 3	97

MODERATING ROLE OF INSTITUTIONAL QUALITY ON THE NEXUS OF JOB SATISFACTION AND INVESTMENT EFFICIENCY.	97
3.1 Introduction	97
3.2 Empirical Literature.....	101
3.3 Data and Methodology.....	112
3.4 Empirical Results	115
3.5 Conclusion	130
CHAPTER 4	146
THE ROLE OF ESG ON JOB SATISFACTION IN FIRMS.....	146
4.1 Introduction.....	146
4.2 Reviewing the Literature	153
4.3 Methodology.....	170
4.4 Empirical Results.....	174
CHAPTER 5	193
CONCLUDING REMARKS.....	193
5.1 LIMITATIONS.....	194
5.2 AREAS FOR FURTHER RESEARCH	195
REFERENCES	197

CHAPTER 1

INTRODUCTION

Job satisfaction is widely recognized as a crucial determinant of organizational performance, influencing both employee productivity and firm-level financial outcomes (Judge, Zhang & Glerum, 2020). Recent scholarship has increasingly explored how job satisfaction interacts with broader strategic imperatives such as Environmental, Social, and Governance (ESG) practices and investment efficiency. Olivero (2024) notes that strong ESG engagement fosters a healthy work environment, promotes a sense of purpose, enhances equality of opportunity, supports work–life balance, and provides avenues for professional development and fair compensation. These conditions not only strengthen employees’ perceptions of organizational support but also elevate overall job satisfaction while reinforcing sustainable business practices.

Higher levels of job satisfaction are expected to cultivate a more motivated and engaged workforce that contributes to improved organizational performance, including more efficient utilization of resources (Lange, 2021; Bagajjo, 2021). However, the extent to which job satisfaction translates into investment efficiency may depend on institutional quality. Institutional factors such as governance effectiveness, regulatory frameworks, and corruption control can shape firms’ ability to align internal employee-related outcomes with external performance expectations. Thus, institutional quality may either amplify or constrain the influence of job satisfaction on investment efficiency.

Job satisfaction refers to the extent to which employees experience positive attitudes, fulfilment, and contentment with their work, compensation, work environment, and organizational practices.

It reflects an individual's overall evaluation of their job and workplace conditions and is commonly associated with employee motivation, commitment, information sharing, and reduced turnover (Locke, 1976; Judge et al., 2001; Judge, Zhang & Glerum, 2020). In the corporate context, higher job satisfaction has been linked to improved organizational functioning and performance through enhanced employee engagement and discretionary effort (Benjamin et al., 2003; Edmans, 2011).

Investment efficiency, on the other hand, describes the degree to which a firm allocates capital in a manner consistent with its underlying growth opportunities. A firm is considered investment-efficient when it undertakes value-enhancing investments while avoiding both excessive investment in low-return projects (over-investment) and insufficient investment in profitable opportunities (under-investment) (Richardson, 2006; Biddle et al., 2009; Rajkovic, 2020). Investment inefficiency therefore reflects a misallocation of resources rather than the absolute level of investment activity, and may arise from informational frictions, agency problems, or weak internal governance mechanisms.

The link between job satisfaction and investment efficiency arises from the role employees, particularly managers and senior staff, play in identifying, evaluating, and implementing investment decisions. Satisfied employees are more likely to exert discretionary effort, communicate firm-specific information effectively, and align their actions with organizational objectives (Judge et al., 2001; Edmans, 2012). These behaviors can reduce informational asymmetries and coordination failures within firms, thereby mitigating agency problems that often lead to inefficient investment decisions (Jensen & Meckling, 1976; Biddle et al., 2009).

By fostering trust, commitment, and improved decision-making processes, higher job satisfaction may enhance managerial judgment and improve the firm's ability to allocate capital in line with

its growth fundamentals. Consequently, job satisfaction can be viewed as an internal organizational mechanism through which firms improve investment efficiency, complementing external governance and financial controls (Benjamin et al., 2003; Rajkovic, 2020).

This chapter examines the complex relationships among job satisfaction, investment efficiency, and institutional quality. It begins by analyzing the influence of job satisfaction on corporate investment behavior and the extent to which institutional quality moderates this relationship. The chapter highlights that efficient resource allocation is essential for firms seeking to maximize returns and minimize investment-related risks. Within this context, job satisfaction is posited to enhance employee performance and reduce opportunistic behavior, thereby contributing to improved investment efficiency through lower agency costs.

Institutional quality, measured through government effectiveness, control of corruption, political stability, and regulatory quality, is theorized to influence how internal organizational dynamics translate into investment outcomes. Strong institutional environments are expected to reinforce the positive behavioral effects of job satisfaction by promoting transparency, predictability, and accountability at the macro level. To empirically assess these relationships, the study employs panel data from the top 100 U.S. firms and applies a range of robustness tests to validate the findings.

The empirical results indicate that the interaction between job satisfaction and control of corruption significantly enhances investment efficiency and reduces overinvestment. Government effectiveness exhibits a similar positive moderating effect, suggesting that institutional environments characterized by effective governance strengthen firms' ability to channel employee-driven performance improvements into more efficient investment decisions. These findings

support the view that strong institutional frameworks mitigate agency problems and allow firms to make more disciplined investment choices.

Conversely, political stability and regulatory quality do not significantly moderate the effect of job satisfaction on investment efficiency. Although these institutional dimensions are not directly associated with improved efficiency, the results suggest that they may contribute to a tendency toward overinvestment. This could occur if enhanced stability or less restrictive regulatory conditions encourage greater managerial confidence or reduced risk aversion, which may lead firms to pursue investment opportunities more aggressively.

Overall, the chapter concludes that institutional quality plays an important but differentiated moderating role. While control of corruption and government effectiveness strengthen the positive impact of job satisfaction on investment efficiency, political stability and regulatory quality do not contribute to improved efficiency and may instead increase overinvestment tendencies. These findings underscore the multifaceted nature of institutional influences on corporate decision-making and highlight the need to consider specific institutional dimensions rather than treating institutional quality as a uniform construct.

The second chapter investigates the relationship between job satisfaction and investment efficiency among top-ranked firms in the United States. The chapter seeks to address gaps in the literature by integrating insights from agency theory, the resource-based view (RBV), and systems theory. Agency theory suggests that satisfied employees are less likely to engage in opportunistic behavior, thereby reducing agency costs and improving firms' ability to allocate resources efficiently. From an RBV perspective, job satisfaction constitutes an intangible organizational resource that can enhance firm capabilities and operational effectiveness. Systems theory reinforces these

perspectives by emphasizing the interconnectedness of organizational subsystems, suggesting that improvements in employee satisfaction can influence broader organizational outcomes, including investment decision-making.

The chapter also situates these relationships within periods of macroeconomic uncertainty, such as the 2008 financial crisis and the COVID-19 pandemic, where employee satisfaction and firm investment behavior may be particularly sensitive to changing economic conditions. The empirical analysis draws on a dataset of 7,604 firm-year observations from 1984 to 2021, focusing on companies listed among the “100 Best Companies to Work for in America.” Job satisfaction is proxied using these rankings, while financial reporting variables are obtained from Compustat. Investment efficiency is estimated using the linear–linear model developed by Biddle et al. (2009) and later adapted by Rajkovic (2020), which assesses firms’ deviations from expected investment based on growth opportunities.

The results reveal a positive and statistically significant relationship between job satisfaction and investment efficiency. Specifically, a one-percent increase in job satisfaction is associated with a 0.05-percent improvement in investment efficiency. However, job satisfaction does not exert a significant effect on either underinvestment or overinvestment, suggesting that while employee satisfaction enhances overall investment performance, it does not meaningfully alter firms’ tendencies to invest below or above optimal levels. To account for heterogeneity across firms of different sizes and resource endowments, the study employs panel quantile regression, which confirms that the positive effect of job satisfaction on investment efficiency persists across the distribution of investment efficiency.

Overall, the findings underscore the importance of job satisfaction as a strategic organizational variable that contributes to more efficient investment practices in top-ranked U.S. firms. The study highlights the relevance of integrating multiple theoretical perspectives to understand the mechanisms underpinning this relationship. It also suggests that fostering job satisfaction may be particularly beneficial during periods of economic uncertainty, when firms must rely more heavily on internal organizational strengths to maintain efficient investment behavior.

The third chapter examines the growing strategic relevance of Environmental, Social, and Governance (ESG) practices and their implications for employee job satisfaction. The chapter highlights the increasing global attention to ESG performance, driven by stakeholders' expectations that firms demonstrate responsible behavior across environmental stewardship, social responsibility, and governance standards. Although ESG has often been discussed alongside Corporate Social Responsibility (CSR), ESG provides a more structured, measurable, and comprehensive framework for evaluating a firm's sustainability performance. Despite the expanding literature on ESG, limited empirical evidence exists regarding its effect on employee job satisfaction, particularly within U.S. firms. This study therefore seeks to address this gap by analysing the relationship between ES practices and job satisfaction.

The study adopts an ex-post facto research design and relies on secondary data sources. The dataset comprises panel data from 2010 to 2019, totaling 2,000 firm-year observations. ESG data were obtained from Refinitiv Workspace (formerly Refinitiv Eikon), a widely recognized platform for corporate sustainability metrics. Job satisfaction is proxied by the annual ranking of the "100 Best Companies to Work for in America," following the approach of Edmans (2010). Additional firm-level variables, chosen based on prior research by Biddle et al. (2009) and

Rajkovic (2020), were sourced from Compustat to account for financial structure and organizational characteristics. These include total assets, long-term debt, sales turnover, staff expenditure, operating expenditure, pension and retirement obligations, and firm status.

A panel least squares (PLS) regression model is employed to estimate the effect of ES practices on job satisfaction. Preliminary diagnostics reveal substantial variation in job satisfaction across firms, suggesting that organizational characteristics may shape the extent to which ES practices influence employee perceptions. The empirical results show that ES practices have a positive and statistically significant effect on job satisfaction once firm-specific attributes are considered. Firms with stronger ES performance tend to exhibit higher levels of employee satisfaction, particularly larger organizations that possess greater resources to implement comprehensive ESG initiatives. Without controlling for firm characteristics, however, ES practices alone do not display a significant association with job satisfaction, suggesting that organizational capacity and financial stability condition the extent to which ES initiatives translate into meaningful employee outcomes.

The chapter concludes that ES practices play an important role in shaping job satisfaction among U.S. firms, with the effects more pronounced in firms that have substantial resources and robust organizational structures. It recommends that companies leverage their financial capacity to develop and sustain ESG initiatives, maintain balanced debt-to-equity positions, and consistently prioritize environmentally and socially responsible practices to enhance employee satisfaction and organizational performance.

Across the three studies presented in this thesis, a consistent theme emerges: job satisfaction is a critical driver of investment efficiency and organizational performance. Its effects are influenced

by institutional quality, economic uncertainty, and firms' engagement in ES practices.

Collectively, the findings suggest that organizations seeking to enhance investment outcomes and employee well-being should prioritize job satisfaction and operate within supportive institutional and sustainability frameworks.

CHAPTER 2

JOB SATISFACTION AND INVESTMENT EFFICIENCY: EVIDENCE FROM TOP RANKED FIRMS IN THE US

2.1 Introduction and Literature

Research on job satisfaction and investment efficiency has employed a wide range of quantitative, qualitative, and empirical approaches to understand how organizational characteristics influence firm performance. The choice of variables used to measure job satisfaction and investment efficiency often varies across studies, depending on the specific research objectives and theoretical frameworks adopted. In most cases, variables may serve as dependent or independent factors depending on the problem being addressed and the causal relationships under investigation. Within the literature, investment efficiency is commonly assessed through firms' deviations from expected investment levels, while job satisfaction is measured using employee surveys, workplace evaluations, or ranking-based proxies.

A number of studies have relied on firm rankings as indicators of organizational quality, workplace environment, and employee satisfaction. Rankings such as the "100 Best Companies to Work for in America" have been widely used as proxies for job satisfaction because they incorporate employee perceptions of work culture, compensation, career development, and organizational support. Although other rankings—such as the Fortune 500, Forbes listings, and S&P 500—capture firm size, performance, or market valuation, they do not directly measure employee satisfaction and therefore serve different analytical purposes within the literature.

In the post–COVID-19 era, job satisfaction has gained renewed attention as organizations compete for highly skilled and adaptable talent. The pandemic reshaped employee expectations regarding job security, flexibility, purpose, and well-being, making job satisfaction a central concern for employers. The literature emphasizes that organizational growth and performance are shaped not only by high-quality financial reporting (Biddle, Hilary & Verdi, 2009) but also by employee satisfaction and engagement. Rehman, Khan, and Lashari (2010) argue that employees play a pivotal role in shaping investment decisions and driving overall investment efficiency. When employees are satisfied, they are more committed, productive, and aligned with organizational goals, thereby reducing agency costs and supporting more efficient allocation of financial resources.

Given these considerations, this study contributes to the literature by examining the relationship between job satisfaction and investment efficiency using firm rankings as a proxy for employee satisfaction. It further integrates additional organizational and financial variables to provide a more comprehensive understanding of how job satisfaction influences investment efficiency within top-ranked U.S. firms.

Edmans (2012) provides quantitative evidence that employee satisfaction, when captured through measures such as firm rankings, is associated with superior investment outcomes after adjusting for risk factors. His findings reinforce the notion that job satisfaction constitutes an intangible yet valuable organizational asset that can affect firm performance. Abel (1983) further argues that firms operate within systems inherently characterized by risk and uncertainty, which influence firm value and must therefore be incorporated into investment modelling. Uncertainty may arise from

diverse sources—financial crises, pandemics, geopolitical tensions—and each has implications for both optimal investment decisions and overall firm stability. Consistent with this view, Barry and Kimberly (2003) emphasize the significance of employee relations and performance as determinants of firm success, particularly under volatile conditions.

A central implication of these studies is that uncertainty can hinder investment efficiency by disrupting organizational processes and affecting employee well-being. Because job satisfaction and investment efficiency are interdependent components of the organizational environment, uncertainty in the external system can undermine both. The COVID-19 pandemic exemplifies such systemic disruption, as global economic activity contracted and firms experienced heightened operational challenges. Remote work arrangements, social distancing requirements, and shifts in organizational structure contributed to concerns regarding job satisfaction, financial reporting quality, and investment decisions. This period of heightened uncertainty called into question the resilience of firms and raised concerns about continuity, employee morale, and investment efficiency.

Within the broader finance and economics literature, a system is considered effective when it utilizes available resources to generate economic value (Smith, 1776; World Bank Group, 2021). Employees constitute a critical resource for achieving investment efficiency, and their job satisfaction is a key determinant of organizational performance. Prior research highlights that firm performance rankings often reflect the quality of organizational resources, including the reliability of financial reporting (Biddle et al., 2009), the contribution of employees, the accuracy of financial analysts' forecasts, and the effectiveness of risk management practices (Tao, Lingmin & Yuanyuan, 2017). Leadership decision-making also plays a crucial role in shaping investment outcomes

(Tijana, 2020), as does a firm's contribution to societal well-being, often evaluated through CSR or ESG practices (Edmans, 2012).

Employee performance is closely linked to job satisfaction, and high satisfaction levels are associated with improved financial reporting quality, enhanced forecasting outcomes, and stronger corporate governance (Biddle et al., 2009; Tao et al., 2017; Tijana, 2020). Because investment efficiency is an integral component of firm performance, organizations lacking the necessary resources or strategic capabilities may struggle to survive in environments dominated by uncertainty (Andrew, 1983). This underscores the importance of fostering job satisfaction and maintaining robust organizational structures to support investment efficiency, particularly during periods of heightened economic volatility.

McGregor (1960) emphasizes in the human resource management literature that talented employees constitute valuable organizational assets capable of generating economic value during both periods of stability and uncertainty. As a result, such employees are highly sought after and competitively compensated by top-performing firms, owing to their contributions to risk management, financial reporting quality, investment analysis, and adherence to principles of corporate governance and corporate social responsibility. A distinguishing characteristic of the top-ranked firms in the United States lies in their ability to attract and retain highly skilled employees who contribute to the development of effective investment strategies, robust portfolio risk models, and efficient resource allocation.

The relationship between employee talent, job satisfaction, and organizational performance is best understood as interdependent rather than independent. Job satisfaction enhances employees' commitment and productivity, while strong organizational performance reinforces employee

motivation and engagement. This mutually reinforcing relationship supports the view that job satisfaction and investment efficiency jointly contribute to sustained organizational success. Such a perspective is consistent with the Resource-Based View (RBV) theory proposed by Barney (1991), which argues that valuable, rare, inimitable, and non-substitutable organizational resources, both tangible and intangible, are sources of competitive advantage. Talented and satisfied employees therefore represent strategic assets that enable firms to achieve superior investment efficiency.

From a systems theory perspective, organizations operate as integrated systems in which individual components—including employee attitudes, corporate governance mechanisms, risk management practices, corporate social responsibility initiatives, and investment decisions—are interconnected and interdependent. In top-ranked U.S. firms, managerial practices often reflect this systems-oriented approach, with governance structures designed to coordinate organizational subsystems toward shared objectives. Job satisfaction and investment efficiency are thus embedded within a broader organizational framework that seeks coherence and alignment across functional areas.

Furthermore, firms benefit from actively exploring and deploying resources available within their external environment, particularly human capital. The active learning framework advanced by Ericson and Pakes (1995) suggests that firms enhance performance by continuously learning, adapting, and reallocating resources in response to changing conditions. By investing in employee development and fostering job satisfaction, top-ranked firms are better positioned to achieve sustained growth and improved investment outcomes.

Finally, insights from neoclassical economic theory underscore the role of human effort as a fundamental driver of organizational performance. Together, these theoretical perspectives

highlight the central role of talented and satisfied employees in shaping investment efficiency and reinforce the importance of strategic human resource management in achieving long-term organizational success.

This literature review integrates the influential contributions of Biddle et al. (2009), Tao et al. (2017), Edmans (2011, 2012), and Tijana (2020), which collectively examine the determinants of firm performance, investment efficiency, and organizational resilience under conditions of both systematic and idiosyncratic risk. These studies provide valuable insights into how top-ranked firms sustain superior performance despite periods of economic instability. However, while prior research has examined financial reporting quality, governance mechanisms, and managerial decision-making, limited attention has been paid to the role of employee job satisfaction as a central explanatory factor in investment efficiency, particularly among top-ranked firms operating in volatile environments.

Accordingly, this study seeks to extend the existing literature by examining the relationship between job satisfaction and investment efficiency among globally top-ranked firms, drawing on variables and modelling approaches adopted by Biddle et al. (2009), Tao et al. (2017), Edmans (2012), and Tijana (2020). In doing so, the study addresses an important gap by shifting the analytical focus from traditional financial and governance variables toward employee-centered organizational factors. Rather than directly testing employees' motivations for working in top-ranked firms, such as wage stability, compensation structures, or retirement benefits—this study evaluates how job satisfaction, as an outcome of such organizational attributes, translates into more efficient investment behavior, particularly during periods of economic uncertainty such as the COVID-19 pandemic.

Methodologically, the study adopts the investment efficiency framework developed by Biddle et al. (2009), in which investment efficiency is modelled as the dependent variable. Investment is decomposed into capital and non-capital expenditures, following Richardson's (2006) approach. Capital expenditures are measured by scaling capital outlays by lagged property, plant, and equipment, while non-capital investment is calculated as the sum of research and development and acquisition expenditures, scaled by lagged total assets. Although Biddle et al. (2009) employ financial reporting quality as the primary independent variable, the present study extends this framework by substituting job satisfaction as the key explanatory variable, thereby offering a novel employee-centered perspective on investment efficiency.

While a limited number of studies have qualitatively discussed the relationship between job satisfaction and organizational performance among top-ranked U.S. firms, empirical evidence using secondary data proxies for job satisfaction remains scarce. Moreover, there is little consensus regarding the simultaneous modelling of firm rankings, employee satisfaction, and investment outcomes within a unified multivariate framework. By addressing these gaps, this study contributes to the literature by providing empirical evidence on the role of job satisfaction in shaping investment efficiency, thereby enriching understanding of how top-ranked firms sustain performance in uncertain economic environments.

2.2 Theories

Agency theory, as articulated by Jensen and Meckling (1976), is rooted in economic theory and focuses on the principal–agent relationship within organizations. The theory posits that conflicts may arise when the interests of principals (shareholders) diverge from those of agents (managers), particularly in the presence of information asymmetry and differing risk preferences. In modern corporations, shareholders delegate decision-making authority to managers, who are responsible for allocating organizational resources, including investment decisions, on behalf of the owners.

Within this framework, managers may pursue objectives that enhance their own utility, such as job security, compensation, career advancement, and job satisfaction, which may not always align perfectly with shareholders' wealth maximization goals. However, agency theory also recognizes that alignment between managerial incentives and shareholder interests can mitigate agency conflicts. Edmans (2012) argues that employee satisfaction, particularly among managers and key decision-makers, can enhance firm value by improving productivity, commitment, and decision quality. In this sense, job satisfaction may serve as a mechanism through which agency costs are reduced and investment efficiency is improved.

The separation of ownership and control, a central tenet of agency theory, underscores the importance of governance structures that align the interests of managers and shareholders. Berle and Means (1968) highlight that as economies industrialize and capital markets develop, the distinction between ownership and managerial control becomes more pronounced, necessitating effective mechanisms to ensure that managerial decisions promote long-term organizational objectives. When managers' incentives are appropriately aligned, through compensation

structures, governance frameworks, and organizational culture, both shareholder wealth and employee job satisfaction can be jointly enhanced.

Deloitte (2016) further summarizes agency theory by emphasizing that organizational conflicts often stem from competing stakeholder interests. While employees and managers seek job satisfaction and favorable working conditions, shareholders seek efficient investment decisions that maximize returns. In high-performing firms where governance structures foster alignment between these interests, job satisfaction and investment efficiency are likely to be mutually reinforcing rather than conflicting. Salaries, performance-based incentives, and other forms of remuneration serve as important motivators that encourage employees and managers to support strategic investments, adhere to organizational goals, and contribute to value creation (Vo & Phan, 2013).

In the context of this study, agency theory provides a useful lens for examining how job satisfaction influences investment efficiency. By reducing agency conflicts and encouraging goal alignment between managers and shareholders, higher levels of job satisfaction may facilitate more disciplined investment decisions and improve overall organizational performance.

Barnea and Rubin (2010) extend agency theory by linking managerial opportunism to overinvestment behavior, arguing that managers may pursue sustainability initiatives or environmental and social engagements to enhance their personal reputation or private benefits rather than shareholder value. This perspective aligns with the managerial opportunism argument advanced by Cespa and Cestone (2007), which suggests that discretionary investments—such as those related to social or environmental initiatives—may be driven by managerial self-interest.

Within this context, the relationship between job satisfaction and investment efficiency raises an important question: whether managers who enjoy high levels of job satisfaction and favorable compensation structures are more likely to engage in efficient investment decisions or, alternatively, to overinvest or underinvest due to reduced monitoring or increased discretion.

From a shareholder perspective, the objective remains the pursuit of investment decisions that maximize firm value through efficient allocation of resources. Well-designed compensation and incentive schemes may therefore serve as mechanisms to align managerial job satisfaction with shareholder interests, reducing the likelihood of inefficient investment behavior. When managers are adequately rewarded and satisfied with their roles, they may have stronger incentives to avoid both overinvestment and underinvestment, thereby supporting long-term firm performance.

While agency theory provides valuable insights into these dynamics, its scope is limited by its narrow focus on the relationship between shareholders, managers, and boards of directors. This limitation motivates the consideration of stakeholder theory as a complementary framework. Stakeholder theory broadens the governance perspective by recognizing that firms operate within complex networks of relationships involving employees, customers, suppliers, communities, and regulators (Aguilera et al., 2008). Clarke (2004) argues that governance models based solely on agency relationships fail to capture the full breadth of interactions that shape organizational behavior and decision-making.

Under stakeholder theory, organizational governance extends beyond shareholder value maximization to include social obligations and the interests of multiple stakeholder groups. Christopher (2010) contends that corporate governance frameworks that ignore these broader claims risk undermining organizational legitimacy and long-term sustainability. This perspective

is particularly relevant when considering employees as key stakeholders whose job satisfaction influences productivity, commitment, and confidence in organizational decision-making.

The stakeholder-based risk mitigation perspective further suggests that investments in corporate social responsibility (CSR) and related initiatives generate moral capital that can protect firms during periods of uncertainty (Godfrey, 2005; Godfrey et al., 2009). Such moral capital functions as an intangible form of insurance, enhancing stakeholder goodwill and reducing downside risk (Luo & Bhattacharya, 2009; El Ghoul et al., 2017). In this sense, socially responsible practices may strengthen job satisfaction while simultaneously supporting investment efficiency by stabilizing stakeholder relationships.

Finally, decision-making under uncertainty underscores the importance of disciplined, data-driven investment processes. Bonabeau (2003) cautions against reliance on intuition alone, arguing that managerial decisions based solely on qualitative judgement may undermine business stability and investment outcomes. Given that managers act as agents of the organization and that their decisions shape both investment efficiency and employee confidence in the firm's future, investment decisions should be informed by rigorous data analysis rather than intuition alone. This reinforces the relevance of examining job satisfaction within a broader governance and stakeholder framework to understand its role in shaping efficient investment behavior.

The Efficient Market Hypothesis (EMH) posits that asset prices fully reflect all publicly available information, whether tangible or intangible (Fama, 1970). Such information includes firms' financial performance, investment efficiency, and other observable indicators that influence investors' expectations and, consequently, market valuation. While employee job satisfaction is not directly observable in financial markets, it may be indirectly reflected in asset prices through

its effects on firm performance, productivity, governance quality, and long-term value creation. To the extent that job satisfaction influences these outcomes, it becomes embedded in the information set that informs investment decisions.

The Resource-Based View (RBV) theory further explains how firms can achieve competitive advantage through the effective utilization of valuable organizational resources. According to this perspective, resources, both tangible and intangible, contribute to sustained competitive advantage when they are valuable, rare, inimitable, and non-substitutable (Barney, 1991). Employee talent and job satisfaction constitute critical intangible resources that shape organizational capabilities and operational efficiency. Firms that effectively nurture and deploy these resources are better positioned to achieve superior investment efficiency and outperform competitors within their industries.

Investment efficiency, which reflects a firm's ability to allocate resources optimally, is therefore closely linked to the quality of its organizational resources. Human resource management theories similarly emphasize that employees who derive satisfaction from their work exhibit higher levels of commitment, productivity, and innovation, all of which contribute to improved organizational outcomes. Top-ranked firms are often characterized by their ability to attract, retain, and motivate highly skilled employees, who serve as key drivers of value creation and long-term performance.

The sustainability and continued success of leading firms cannot be understood in isolation from their investment in human capital, particularly in an increasingly competitive and technology-driven business environment. By prioritizing employee welfare and job satisfaction, organizations strengthen their internal capabilities and enhance their resilience to external shocks. This study is therefore grounded in a multidisciplinary theoretical framework that integrates systems theory,

agency theory, the resource-based view, active learning theory, neoclassical economic theory, and the Efficient Market Hypothesis. Together, these perspectives provide a comprehensive foundation for examining how job satisfaction influences investment efficiency within contemporary organizations.

2.3 Empirical Literature

2.3.1 Investment Efficiency

Rajkovic (2020) examines the relationship between lead independent directors and investment efficiency, finding that governance structures can have heterogeneous effects on firm outcomes. Specifically, for firms characterized by low leverage and substantial cash holdings, the presence of lead independent directors is associated with lower investment efficiency, while in other contexts such governance arrangements are linked to improved future firm performance. These findings highlight the nuanced role of corporate governance mechanisms in shaping investment decisions and underscore that governance structures do not uniformly enhance efficiency across firms.

Relatedly, Benjamin, Hanges, Smith, and Salvaggio (2003) investigate the extent to which employee attitudes and satisfaction influence organizational performance. Using firm securities values and satisfaction with pay as indicators of employee attitudes, and return on assets (ROA) and earnings per share (EPS) as proxies for financial performance, they find that employee satisfaction and high-performance work practices are significant predictors of organizational outcomes. This evidence reinforces the view that employee-related factors constitute important

drivers of firm performance and may indirectly influence investment efficiency through their effects on productivity and decision quality.

Within the neoclassical framework, capital investment policy is traditionally guided by the marginal Q theory of investment (Hayashi, 1982; Abel, 1983). According to this framework, firms invest until the marginal benefit of capital equals its marginal cost, accounting for factors such as adjustment costs, the net present value of investment opportunities, prevailing interest rates, and the obligation to generate excess returns for investors. However, the literature recognizes that firms may deviate from this optimal investment level over time, resulting in either over-investment or under-investment.

A substantial body of research attributes such deviations to information asymmetries between managers and external capital providers, which give rise to agency-related frictions such as moral hazard and adverse selection (Berle & Means, 1932; Jensen & Meckling, 1976). Moral hazard models suggest that when managerial incentives are misaligned with shareholder interests, managers may undertake negative net present value projects or expand firm size beyond its optimal level, particularly when excess cash is available (Jensen, 1986). Empirical evidence supporting these predictions is provided by studies such as Blanchard et al. (1994). Conversely, capital providers may anticipate such behavior and respond by rationing capital, potentially leading to under-investment (Stiglitz & Weiss, 1981; Lambert et al., 2007).

Adverse selection models further propose that managers with superior information about firm prospects may attempt to time security issuances to exploit market mispricing, resulting in inefficient capital allocation (Myers & Majluf, 1984; Baker et al., 2003). Anticipating this possibility, investors may limit external financing, again increasing the likelihood of under-

investment. Collectively, these mechanisms demonstrate how information asymmetries can undermine investment efficiency by introducing frictions that distort capital allocation decisions.

Taken together, the preceding discussion suggests that both governance structures and employee-related factors interact with information asymmetries to shape investment outcomes. The next section therefore examines how improvements in financial reporting quality may mitigate these asymmetries and enhance investment efficiency by reducing uncertainty and aligning the interests of managers, employees, and capital providers.

Abel (1983) examines optimal investment behavior under conditions of uncertainty using a Cobb–Douglas production framework and demonstrates that uncertainty is an inherent feature of modern economic systems. In an increasingly globalized economy, firms operate within interconnected markets that transmit economic, political, and financial shocks across borders. Such uncertainty arises from a wide range of sources, including macroeconomic crises, political instability, and geopolitical tensions. Jiang et al. (2019) identify several global events that have contributed to heightened uncertainty, including the 2008 global financial crisis, the European sovereign debt crisis, Brexit, major political transitions in the United States, and ongoing trade conflicts between the United States and China. In developing regions, such as parts of Africa, persistent security challenges and insurgency have further undermined investment prospects and employment opportunities.

As global integration intensifies, the effective management of investment decisions and employee job satisfaction becomes increasingly important for sustained organizational development. Firms must navigate uncertain environments while maintaining employee morale and ensuring efficient allocation of resources. Empirical evidence on the relationship between job satisfaction and

investment outcomes, however, remains mixed. Filbeck and Preece (2003), analyzing thirteen years of data, find a positive association between job satisfaction and stock returns among firms listed in the 1998 Fortune rankings. In contrast, Fulmer, Gerhart, and Scott (2003) report that firms included in the same rankings did not consistently outperform their industry peers, suggesting that job satisfaction alone may not guarantee superior investment performance. These contrasting findings imply that firms operating within the same industry may experience similar investment returns despite differences in employee satisfaction, highlighting the importance of contextual and firm-specific factors.

Two central constructs underpin this analysis: job satisfaction and investment efficiency. Investment efficiency refers to a firm's ability to allocate resources optimally by undertaking projects with positive net present value (NPV) while avoiding value-destroying investments. Over-investment occurs when firms invest beyond the optimal level, often by pursuing negative-NPV projects, whereas under-investment arises when firms forgo profitable opportunities due to constraints such as financing frictions or uncertainty. Job satisfaction, as an intangible organizational resource, may influence investment efficiency by shaping employee productivity, managerial decision-making, and organizational resilience during periods of both economic stability and instability.

2.3.2 Job Satisfaction

Employment constitutes a central component of individuals' economic security, social identity, and overall well-being. As such, organizations increasingly recognize the importance of fostering job

satisfaction to sustain employee commitment and performance. Empirical evidence supports this view. Nguyen, Nguyen, and Le (2021) examine the relationship between job satisfaction and organizational commitment and report a positive and statistically significant association between the two constructs. Their findings further indicate that extrinsic job factors, including the nature of the work itself, supervisory support, working conditions, compensation, and reward and recognition systems, are positively related to job satisfaction.

Extending this line of inquiry to firm-level outcomes, Edmans (2012) investigates the relationship between job satisfaction and firm value using portfolio returns as the dependent variable and market and zero-investment portfolio returns as explanatory variables, while controlling for risk-sensitive factors. The study finds that job satisfaction positively affects firm value, a conclusion that is consistent with Edmans (2011), who documents a positive association between employee satisfaction and equity prices. These findings suggest that job satisfaction is not merely an internal organizational outcome but also an economically relevant factor that is reflected in market performance.

Alternative empirical approaches further reinforce the importance of job satisfaction. Calvin and Bongani (2017), using primary data obtained through questionnaire surveys of 279 academic staff in South Africa, examine the effect of employee compensation and benefits on job satisfaction. Their results indicate that compensation is a critical determinant of job satisfaction, highlighting the role of reward structures in shaping employee attitudes. Although this study focuses on the academic sector and employs survey-based data, its findings complement market-based evidence by underscoring the fundamental role of compensation and benefits in fostering job satisfaction.

More broadly, the literature recognizes job satisfaction as a key determinant of organizational productivity and success. Prior studies emphasize that organizational performance depends on the effective and efficient contribution of employees (Green, 2016; Shmailan, 2016), and that enhanced employee performance is closely linked to higher levels of job satisfaction (Singh & Jain, 2013). Researchers have further identified multiple dimensions of job satisfaction and examined their relative importance and association with performance and productivity. Together, these findings position job satisfaction as a critical organizational resource with implications for both employee outcomes and firm-level performance.

Job satisfaction is not uniform across sectors and is often shaped by the nature of work and employee characteristics. Aboramadan, Dahleez, and Hamad (2020) argue that job satisfaction varies across industries and that employees in knowledge-intensive sectors, particularly those with higher educational attainment—tend to exhibit greater satisfaction and organizational commitment than their less-educated counterparts. As competition for skilled labor intensifies, firms have increasingly reassessed their employee relations strategies to attract, motivate, and retain talent critical to organizational success (Gubman, 1998). One common approach involves benchmarking against organizations recognized for exemplary employee relations, such as those featured in Fortune magazine’s annual “100 Best Companies to Work for in America” rankings (Levering & Moskowitz, 1998).

The effectiveness of benchmarking against firms included in the 100 Best rankings rests on two key assumptions: first, that these firms genuinely maintain superior employee relations, and second, that strong employee relations translate into improved organizational performance. Evidence from mainstream media and selected empirical studies suggests that inclusion in the 100

Best list is associated with favorable financial and market outcomes (Branch, 1999; Filbeck & Preece, 2003; Grant, 1998; Gubman, 1998; Lau & May, 1998; Levering & Moskowitz, 2001; Watson, 2002). However, much of this literature is subject to important limitations. Many studies rely on descriptive or correlational analysis without systematically examining the underlying mechanisms through which employee relations contribute to superior performance. In addition, with the notable exception of Filbeck and Preece (2003), prior research has typically compared 100 Best firms to broad market indices such as the S&P 500 or Russell 3000, raising concerns that observed performance differences may reflect industry composition or other unobserved firm characteristics rather than employee relations alone. Moreover, relatively few studies have directly validated—using employee-level survey data—that employee relations in 100 Best firms are indeed superior.

Against this backdrop, the present study investigates whether strong employee relations, as reflected in job satisfaction, constitute a sustainable organizational resource associated with superior financial and market performance relative to other firms. In doing so, it builds on the limited empirical literature examining the relationship between employee attitudes and organizational outcomes and seeks to provide more rigorous evidence on the role of job satisfaction in firm performance.

The conceptualization of job satisfaction has evolved across the literature. Locke (1969) defines job satisfaction as a positive emotional state resulting from the appraisal of one's job or job experiences, while Locke (1976) later characterizes it as an outcome shaped by both job content and the work environment. Clifford (1985) suggests that compensation structures signal the level of job satisfaction within organizations, whereas Jessen (2011) argues that satisfied employees

tend to be more creative and proactive in contributing to organizational goals, using labor demand as a proxy for job satisfaction. Other studies emphasize the role of remuneration and promotion policies (Efraty & Sirgy, 1990), as well as work climate and organizational welfare, as key determinants of job satisfaction (Patah et al., 2009). Together, these perspectives highlight job satisfaction as a multidimensional construct shaped by economic, organizational, and psychological factors.

Job satisfaction has been conceptualized in the literature as a function of compensation structures, fringe benefits, and incentive schemes. Kuria (2011) argues that employees derive satisfaction from well-designed remuneration systems that provide financial security and reward performance. In addition, periods of economic stability and sustained productivity may enhance job satisfaction by creating opportunities for employees to contribute ideas, participate in decision-making, and engage meaningfully in organizational activities.

The growing importance of job satisfaction has also influenced managerial practices. Riketta (2002) notes that job satisfaction has become a central concern for managers acting as agents of the firm, prompting the adoption of modern human resource practices aimed at enhancing employee productivity. Empirical evidence on the relationship between compensation, productivity, and firm outcomes, however, remains mixed. Cappelli and Neumark (2001) use increases in labor costs and direct financial expenditures as proxies for employee compensation and find that higher labor costs are associated with improved productivity, suggesting that investment in employee remuneration may yield performance benefits. In contrast, Abowd (1989) reports that announcements of increased labor costs are negatively received by financial markets, resulting in a decline in firm valuation. These findings indicate a potential trade-off between short-

term market perceptions and longer-term productivity gains arising from enhanced employee compensation. Tsao (2003) further supports this view by identifying job satisfaction as an important component of firm expenditure decisions.

From an organizational perspective, sustaining employee job satisfaction and motivation is essential for long-term productivity and competitive positioning. Ludvine (2011) asserts that firms seeking industry leadership must prioritize job satisfaction to ensure sustained employee effort and commitment. Employees who are satisfied with their compensation and working conditions are more likely to exert greater effort and perform at higher levels. Accordingly, both financial and non-financial incentives play a critical role in shaping job satisfaction, with employees who receive adequate rewards and recognition typically exhibiting stronger motivation and improved performance.

Job satisfaction (JS) is not a directly observed continuous quantitative variable in this study. Instead, it is operationalized as an ordinal proxy based on the annual “*100 Best Companies to Work for in America*” ranking, following the approach of Edmans (2011, 2012). The ranking itself is derived from extensive employee survey data and workplace assessments, capturing multiple dimensions of employee satisfaction, including trust, compensation, work environment, and career development.

To incorporate this qualitative information into a panel regression framework, the ranking is transformed into a discrete numerical index. Firms that appear in the *100 Best* ranking in a given year are classified as high job satisfaction firms and assigned a higher value, while firms not appearing in the ranking are assigned a lower value. Consequently, JS should be interpreted as an ordinal indicator of relative job satisfaction status, rather than a precise cardinal measure. Changes

in JS therefore reflect transitions between satisfaction categories (e.g., from non-ranked to ranked status), rather than marginal changes in individual employee sentiment.

2.3.3 Corporate Social Responsibility and Risk

Matten and Moon (2004) conceptualize organizations as operating within broader social and institutional systems, arguing that firms are expected to contribute to these systems through corporate social responsibility (CSR). From this perspective, CSR reflects a firm's engagement with its social, environmental, and governance obligations and serves as an important mechanism through which organizations demonstrate accountability to stakeholders. Edmans (2012) empirically examines the relationship between job satisfaction, CSR-related practices, and firm value, demonstrating that firms characterized by high employee satisfaction generate superior long-term stock returns. Rather than treating job satisfaction as a financial proxy, Edmans (2012) uses employee satisfaction rankings and evaluates their association with abnormal returns after adjusting for risk factors.

The implication of this evidence is that CSR-related outcomes, such as employee well-being, governance quality, and social engagement, are reflected indirectly in firm valuation through their effects on productivity, reputation, and financial performance. Consequently, the use of CSR indicators to evaluate and rank firms depends not only on direct social contributions but also on accounting quality, investment performance, and long-term portfolio returns.

Corporate governance mechanisms further shape this relationship. Muth and Donaldson (1998) argue that an independent board of directors can enhance firm performance by providing effective

oversight and aligning managerial decisions with organizational objectives. However, when board independence is compromised, governance failures may emerge, resulting in suboptimal investment and operational outcomes. The board therefore plays a critical role in balancing investment efficiency with employee welfare, ensuring that organizational resources are allocated efficiently while maintaining job satisfaction.

These arguments align with multiple theoretical perspectives underpinning this study. Systems theory views the firm as embedded within a wider environment, while the resource-based view emphasizes that organizational resources, including human capital and employee satisfaction, are derived from and shaped by that environment. Agency theory complements these perspectives by explaining how governance mechanisms coordinate relationships between shareholders, managers, employees, and external stakeholders. Collectively, these theories suggest that firms perceived as accountable to employees, shareholders, and society are more likely to be positively evaluated by the public and capital markets.

Empirical evidence supports the association between CSR, employee outcomes, and organizational performance. Simon and DeVaro (2006) find that firms listed among the “Best Companies to Work For” exhibit higher levels of customer satisfaction, while Fulmer, Gerhart, and Scott (2003) report stronger employee loyalty within these organizations. Although these studies do not directly examine firm value, Kruse, Blasi, and Freeman (2012) provide further insight by demonstrating that group-based incentive mechanisms among “Best Companies” reduce voluntary turnover, increase employee retention intentions, and improve return on equity. Collectively, these findings reinforce the view that strong employee relations and CSR-oriented practices contribute

to favorable organizational outcomes and support the classification of the 100 Best firms as exemplary workplaces.

McNichols and Stubben (2008) examine firms' investment decisions by analyzing whether financial reporting manipulation is associated with internal decision-making distortions. Their study demonstrates that firms engaging in earnings manipulation exhibit abnormal investment behavior, suggesting that financial misreporting is linked to inefficient capital allocation rather than optimal investment outcomes. Specifically, manipulated financial reports may obscure true firm performance, leading to both over-investment and under-investment as managers respond to distorted information signals.

The authors further find that firms involved in earnings manipulation may exercise greater caution in subsequent investment decisions, particularly in periods following misreporting, in order to avoid heightened scrutiny or loss of credibility with external stakeholders. Nevertheless, irrespective of whether firms choose to manipulate earnings, such behavior is fundamentally rooted in agency problems and reflects weaknesses in corporate governance mechanisms. Inadequate monitoring and misaligned incentives between managers and shareholders increase the likelihood of both financial misreporting and inefficient investment decisions.

The broader literature on investment behavior under uncertainty reinforces these insights. Abel (1983) argues that firms' investment decisions are shaped by the economic environment in which they operate, particularly when uncertainty is present. Using a Cobb–Douglas production framework, Abel demonstrates that uncertainty regarding future returns can alter firms' optimal investment behavior, often leading to delayed or reduced investment. This line of inquiry builds on earlier theoretical contributions by Hartman (1972) and Pindyck (1982), who show that

increased uncertainty can either discourage or distort investment depending on firms' risk exposure and adjustment costs.

Collectively, these studies suggest that both informational distortions arising from financial misreporting and external uncertainty can undermine investment efficiency. When combined with agency conflicts and weak governance structures, these factors contribute to deviations from optimal investment behavior, reinforcing the importance of transparency, effective governance, and reliable information in promoting efficient capital allocation.

2.3.4 Gaps in the Literature

A critical assessment of the existing literature on job satisfaction and investment efficiency reveals several important gaps. First, although a substantial body of research examines job satisfaction and firm performance, there is limited empirical work directly linking job satisfaction to investment efficiency. Existing studies employ diverse and often inconsistent proxies for both job satisfaction and investment efficiency, resulting in mixed findings and limited comparability across studies. Many of these studies draw predominantly on theories from human resource management, particularly employee motivation theory, with relatively little integration of financial or economic theories.

Second, despite the centrality of agency problems in explaining inefficient investment behavior, relatively few studies explicitly link job satisfaction to investment efficiency through the lens of

agency theory. The potential role of job satisfaction in mitigating agency conflicts, by aligning employee and managerial incentives with shareholder interests, remains underexplored. This study addresses this theoretical gap by integrating agency theory with the Efficient Market Hypothesis, the Resource-Based View, systems theory, and related organizational theories to provide a more comprehensive framework for analyzing the relationship between job satisfaction and investment efficiency.

Third, there is a notable methodological gap in the measurement of job satisfaction. The majority of prior studies rely on primary data sources such as questionnaires and interviews, which are susceptible to response bias and limited generalizability. In contrast, this study adopts an alternative approach by employing secondary data sourced from Compustat and publicly available firm rankings, focusing on the 100 top-ranked firms in the United States. This approach enables a more objective, longitudinal, and market-relevant assessment of job satisfaction and its relationship with investment efficiency.

Finally, existing literature has paid insufficient attention to the role of economic uncertainty in shaping the relationship between job satisfaction and investment efficiency. Major periods of global disruption, such as the 2008 global financial crisis and the COVID-19 pandemic of 2019–2020, have fundamentally altered labor markets, organizational behavior, and investment decision-making. Yet, these periods are often overlooked or treated only peripherally in prior studies. By explicitly incorporating periods of heightened economic uncertainty into the analysis, this study extends the literature and provides insights into whether the relationship between job satisfaction and investment efficiency is stable across both normal and crisis periods.

Collectively, these gaps motivate the present study, which contributes to the literature by offering a theoretically integrated, methodologically robust, and contextually rich examination of the relationship between job satisfaction and investment efficiency among top-ranked U.S. firms.

2.3.5 Development of the Research Questions from the Gaps in the Literature

The research questions for this study are derived directly from the gaps identified in the extant literature on job satisfaction and investment efficiency. Prior studies have extensively examined investment efficiency using accounting- and market-based measures (e.g., Biddle et al., 2009; Tao et al., 2017), while others have explored governance mechanisms and investment behavior (Rajkovic, 2020). However, limited attention has been paid to job satisfaction as a determinant of investment efficiency within a unified theoretical framework that integrates financial, organizational, and institutional perspectives.

In particular, existing studies have largely relied on human resource management and motivation theories, with relatively little incorporation of agency theory, institutional quality, or ESG considerations. Moreover, the interaction between job satisfaction and investment inefficiency, manifested as over-investment and under-investment, remains underexplored, especially during periods of heightened economic uncertainty. These gaps motivate the formulation of research questions that examine whether job satisfaction contributes to efficient investment decisions, how institutional quality moderates this relationship, and whether job satisfaction is associated with firms' environmental and social engagement.

2.3.6 Research Objectives

The specific objectives of this study are to:

- i. Examine the relationship between job satisfaction and investment efficiency, including both over-investment and under-investment.
- ii. Investigate the moderating effect of institutional quality on the relationship between job satisfaction and investment efficiency
- iii. Examine the relationship between job satisfaction and firms' environmental and social (ESG) engagement.

2.3.7 Research Hypotheses

Although investment decisions such as R&D expenditure, capital upgrades, and workplace improvements may influence employee job satisfaction, the focus of this study is on the reverse and less explored channel: how job satisfaction influences the *efficiency* of firms' investment decisions. Investment efficiency reflects not the volume of investment, but the degree to which investment aligns with firms' underlying growth opportunities. Such alignment depends critically on internal organizational processes, including information sharing, monitoring quality, coordination among departments, and managerial judgment (Biddle et al., 2009; Rajkovic, 2020).

Job satisfaction can improve these processes by increasing employee motivation, reducing opportunistic behaviour, enhancing firm-specific information transmission, and strengthening alignment between employees' actions and organizational objectives (Benjamin et al., 2003; Edmans, 2011). In this sense, job satisfaction operates as an intangible organizational asset that affects *how* investment decisions are made rather than *how much* is invested. This

conceptualization is consistent with agency theory and the resource-based view, which emphasize the role of human capital in mitigating information asymmetries and improving decision quality (Jensen & Meckling, 1976; Barney, 1991).

The reverse relationship, whereby investment decisions affect employee job satisfaction through improved working conditions, training, or compensation, is also theoretically plausible and well documented in the human resource management literature (Locke, 1976; Green, 2016). However, examining this channel would require a different empirical framework that treats job satisfaction as the outcome variable. The objective of the present study is not to model the determinants of job satisfaction per se, but to examine whether job satisfaction serves as an internal organizational mechanism through which firms enhance the efficiency of their investment decisions. Accordingly, job satisfaction is treated as a conditioning organizational characteristic rather than as a dependent variable.

Drawing on agency theory, the resource-based view, and the investment efficiency literature, this study posits that job satisfaction functions as an intangible organizational resource that can mitigate agency conflicts and enhance the quality of investment decisions. Satisfied employees and managers are expected to exhibit higher commitment, lower opportunistic behavior, and improved decision-making, thereby reducing deviations from optimal investment levels.

Accordingly, the study tests the following hypotheses:

H_{1a}: Job satisfaction is positively associated with investment efficiency.

H_{1b}: Job satisfaction is negatively associated with investment inefficiency, as reflected in both over-investment and under-investment.

2.4 Data and Methodology

The final sample comprises 7,604 firm-year observations covering the period from 1984 to 2021. The sample period begins in 1984 because systematic data on employee job satisfaction, proxied by firms' inclusion in the "100 Best Companies to Work for in America" rankings, are available only from that year onward. Consistent with prior literature, job satisfaction is measured using these rankings, which have been widely adopted as a credible proxy for employee satisfaction in empirical research (Edmans, 2010).

Financial and accounting data are obtained from Compustat, following established methodologies in the investment efficiency and corporate governance literature (Biddle et al., 2009; Rajkovic, 2020). The integration of employee satisfaction rankings with firm-level financial data enables a longitudinal examination of the relationship between job satisfaction and investment efficiency across top-ranked U.S. firms.

Although the full merged dataset consists of 7,604 firm-year observations, the number of usable observations varies across variables due to missing data and variable construction requirements. Specifically, several variables are drawn from different data sources and require the use of lagged values, growth rates, or scaling by prior-period assets, which reduces the effective sample size. As a result, some firm-year observations are excluded from specific variable calculations, leading to fewer observations reported in the summary statistics table. This variation in observation counts

is common in panel data studies relying on multiple proxies and does not affect the integrity of the empirical analysis. All regression analyses are conducted using the maximum available observations for each model, and standard errors are adjusted accordingly.

Data Description and Variable Definitions

This study employs firm-level panel data drawn from multiple sources. Financial and accounting variables are obtained from Compustat, while job satisfaction is proxied using the annual “*100 Best Companies to Work for in America*” ranking. The final dataset consists of an unbalanced panel due to missing observations and the construction of lagged variables.

2.1 Dependent Variables

Investment efficiency (**INVEFF**) measures the extent to which firms allocate capital in line with their underlying growth opportunities. Following Richardson (2006), Biddle et al. (2009), and Rajkovic (2020), investment efficiency is constructed from the residuals of a firm-level investment model. Specifically, investment inefficiency is captured by deviations from expected investment, where positive residuals indicate over-investment (**OVINV**) and negative residuals indicate under-investment (**UDINV**). Investment efficiency is defined as the negative absolute value of these residuals, such that higher values correspond to greater efficiency.

2.2 Key Independent Variable

Job satisfaction (**JS**) is proxied using the “*100 Best Companies to Work for in America*” ranking, following Edmans (2011, 2012). Firms appearing in the ranking are classified as having high job

satisfaction. The variable is operationalized as an ordinal measure bounded between 0 and 2, where higher values indicate stronger employee satisfaction relative to peer firms. This proxy captures firm-level workplace quality based on extensive employee survey data and external evaluations.

2.3 Control Variables

Several firm-specific control variables are included to account for factors that may influence investment behavior.

Firm size (**SIZE**) is measured as the natural logarithm of total assets and controls for scale effects in investment decisions. Leverage (**LEV**) is defined as the ratio of total debt to total assets and captures the extent of financial constraints faced by firms. Cash holdings (**CASH**) are measured as cash and cash equivalents scaled by total assets, reflecting internal liquidity available for investment.

Market-to-book ratio (**MB**) serves as an additional proxy for growth opportunities. Asset tangibility (**TANG**) is measured as the ratio of tangible assets to total assets and reflects collateral availability. Financial slack (**SLACK**) captures excess resources available for discretionary investment. The operating cycle (**OPCYCLE**) measures the length of time required to convert operational inputs into cash flows and proxies for firm expansion and contraction dynamics. Financial stability is captured using the Z-score (**ZSCORE**), which reflects bankruptcy risk.

All variables are winsorized at conventional levels to mitigate the influence of extreme values, and detailed summary statistics for each variable are reported in Table 1.

The sample period employed in this study spans from 1984 to 2021, a timeframe during which the composition of the ‘100 Best Companies to Work for in America’ and the broader nature of work have evolved substantially. Firms included in the ranking in the earlier part of the sample are more likely to operate in traditional manufacturing and industrial sectors, whereas later years increasingly feature service-oriented and technology-driven firms. Similarly, working conditions, employment contracts, and employee expectations have undergone considerable transformation over time.

To account for these structural changes, the empirical analysis relies on panel estimation techniques with firm and year fixed effects, which absorb time-invariant firm characteristics and common macroeconomic shocks. This approach mitigates concerns that the results are driven by broad temporal trends or shifts in industry composition rather than by within-firm variation in job satisfaction and investment behavior.

Nevertheless, it is plausible that the meaning and relevance of job satisfaction differ across generational cohorts. For instance, employee perceptions of satisfaction in the 1980s may have been more closely tied to job security and compensation, whereas contemporary perceptions may place greater emphasis on flexibility, workplace culture, and non-pecuniary benefits. Future research could explore these dynamics by splitting the sample into distinct sub-periods or generational cohorts to examine whether the relationship between job satisfaction and investment efficiency varies across different work regimes.

Measurement of Job Satisfaction

Job satisfaction (JS) is proxied using the annual ranking of the “*100 Best Companies to Work for in America*”, following the approach of Edmans (2011, 2012). This ranking is based on extensive employee surveys and workplace assessments that capture employee perceptions of trust, compensation, career development, work-life balance, and organizational culture. As such, it provides a validated and widely used firm-level proxy for employee job satisfaction.

To operationalize this ranking in a panel data framework, a categorical job satisfaction index is constructed. Firms appearing in the annual *100 Best* ranking are assigned a value of 2, reflecting high job satisfaction. Firms that do not appear in the ranking but are present in the broader Compustat universe are assigned a value of 1, representing moderate or baseline job satisfaction. Firms with missing or insufficient employee-related information are assigned a value of 0. This transformation yields a job satisfaction variable bounded between 0 and 2, consistent with prior empirical studies that discretize qualitative workplace rankings into ordinal measures.

Under this construction, higher values of JS indicate stronger employee satisfaction relative to peer firms. A value of 2 reflects firms consistently recognized for superior employee relations, while values of 1 and 0 represent progressively lower levels of inferred job satisfaction. The summary statistics show that the mean value of JS is approximately 1.83, indicating that a large proportion of the sample consists of firms with high employee satisfaction.

Importantly, while the distribution is skewed toward higher values, sufficient time-series and cross-sectional variation exists due to firms entering and exiting the *100 Best* ranking over time.

This variation enables meaningful identification of the relationship between job satisfaction and investment outcomes. Nevertheless, the concentration of observations at the upper end of the distribution is acknowledged as a limitation, and results are interpreted accordingly.

This proxy offers several advantages. First, it relies on externally validated employee survey data rather than self-reported firm disclosures, reducing measurement bias. Second, it enables consistent longitudinal tracking of job satisfaction across firms and years. However, the measure is inherently coarse and ordinal, capturing relative rather than absolute differences in employee satisfaction. Consequently, the estimated effects should be interpreted as associations between relative job satisfaction status and investment efficiency rather than precise marginal changes in employee sentiment.

Given that job satisfaction is measured using a ranking-based indicator derived from the ‘100 Best Companies to Work for in America’, it is important to assess whether the observed statistical relationships are driven by meaningful variation or by a small number of extreme observations. Although firms in the sample are, by construction, among the highest-ranked employers in the United States, the descriptive statistics reveal substantial cross-sectional and intertemporal variation in job satisfaction. Specifically, job satisfaction varies not only across firms within the Top 100 ranking but also within firms over time, as firms enter, exit, and change positions in the ranking across years.

Moreover, the distribution of job satisfaction is not concentrated solely at the upper bound of the scale. While the mean value indicates generally high satisfaction, the dispersion measures and quantile estimates demonstrate that a non-trivial proportion of firm-year observations lie away

from the extremes. This variation provides sufficient identifying power to detect economically meaningful associations between job satisfaction and investment efficiency. Importantly, the panel quantile regression results further confirm that the relationship between job satisfaction and investment efficiency is not driven by a small number of extreme observations, as statistically significant effects are observed across multiple quantiles of the conditional distribution.

Taken together, these findings suggest that the estimated relationship between job satisfaction and investment efficiency reflects systematic differences across firms and over time, rather than being mechanically driven by a handful of extreme values

2.4.1 Model Specifications

Methodology

Definition and Interpretation of Investment Efficiency

Investment efficiency in this study is measured following the residual-based approach developed by Richardson (2006) and subsequently applied by Biddle et al. (2009) and Rajkovic (2020). This approach estimates expected investment as a function of firm growth opportunities and interprets deviations from this benchmark as investment inefficiency. The primary advantage of this method lies in its ability to distinguish between over-investment and under-investment while relying on observable firm fundamentals rather than market-based expectations. As such, it is well suited for examining internal firm characteristics, such as job satisfaction, that may influence managerial investment behaviour.

However, this approach is not without limitations. First, it assumes that sales growth adequately captures firms' investment opportunities, which may not fully reflect forward-looking expectations or intangible growth options. Second, the residual-based measure is inherently backward-looking and may classify firms with temporarily constrained investment as inefficient, even when such behaviour is optimal in anticipation of future conditions. Third, the approach abstracts from adjustment costs and dynamic investment responses that may unfold over multiple periods.

Alternative approaches have been proposed in the literature to address some of these limitations. For example, Boubaker et al. (2018) employ a stochastic frontier analysis to estimate investment efficiency, which allows for a separation between random shocks and systematic inefficiency. While this method offers advantages in explicitly modelling inefficiency distributions, it requires stronger distributional assumptions and is less transparent in decomposing over- and under-investment. Given the objectives of the present study, namely, to distinguish directional misinvestment and align with prior work on investment efficiency, the residual-based framework remains appropriate and widely accepted in the literature.

In the first step, expected investment is estimated as a function of firm growth opportunities:

$$INV_{i,t} = \alpha_0 + \alpha_1 SALES_{i,t-1} + \mu_{i,t} \quad (1)$$

In Equation (1), INV represents total investment scaled by lagged total assets, $SALES$ represents lagged sales growth as a proxy for growth opportunities, and, $\mu_{i,t}$ captures deviations from expected investment. The estimated residuals $\mu_{i,t}$ are interpreted as investment inefficiency. Positive residuals indicate over-investment, while negative residuals indicate under-investment.

Following Rajkovic (2020), investment efficiency is defined as the negative absolute value of these residuals:

$$INVEFF_{i,t} = -|\mu_{i,t}|$$

This transformation ensures that higher values of INVEFF correspond to lower deviations from expected investment, and therefore higher investment efficiency. A value closer to zero indicates that a firm's realized investment is closely aligned with the level predicted by its growth fundamentals.

Investment Efficiency (INVEFF)

Investment efficiency, defined as the negative absolute value of investment residuals, has a mean close to zero (-1.44×10^{-8}) and a median near zero, reflecting the construction of the measure. However, the distribution is strongly right-skewed (skewness = 2.75) with extremely high kurtosis (24.22), highlighting the prevalence of extreme deviations from optimal investment. The rejection of normality is unequivocal (KS p-value = 0.000).

Implications for Empirical Strategy

The strong skewness, excess kurtosis, and rejection of normality across all three dependent variables indicate that investment inefficiency is not symmetrically distributed and is driven by extreme observations. This validates the use of panel quantile regression in addition to mean-based estimators, as quantile methods allow the analysis to capture heterogeneous effects of job satisfaction across different points of the investment inefficiency distribution.

Expected investment reflects the level of capital expenditure a firm should undertake given its underlying growth opportunities. In the investment efficiency literature, sales growth (SALESG) is widely employed as a proxy for these opportunities because it captures realized demand conditions and firm-specific expansion needs (Richardson, 2006; Biddle, Hilary & Verdi, 2009). Firms experiencing higher sales growth typically face increased capacity constraints and production requirements, which create stronger incentives to invest in physical capital, research and development, and acquisitions in order to sustain future growth (Chen et al., 2011; Rajkovic, 2020).

Unlike market-based measures such as Tobin's Q or the market-to-book ratio, sales growth relies on accounting-based information and is therefore less sensitive to stock market mispricing, speculative expectations, or short-term investor sentiment (Biddle et al., 2009; Chen et al., 2011). As a result, it provides a more direct and internally generated signal of investment demand that aligns closely with managerial decision-making. For these reasons, prior studies consistently employ sales growth to model expected investment behaviour, allowing deviations from predicted investment levels to be interpreted as over-investment or under-investment relative to firm fundamentals (Richardson, 2006; Biddle et al., 2009; Rajkovic, 2020).

A potential source of confusion arises in cases where firms experience strong sales growth but exhibit limited or zero investment. In such situations, the model may classify the firm as under-investing, generating a negative residual with a large absolute value and, consequently, a lower INVEFF score. This does not imply that zero investment is efficient per se; rather, it indicates a divergence between observed investment and the level implied by contemporaneous growth opportunities.

Importantly, the residual-based measure evaluates efficiency **relative to expected investment**, not absolute investment activity. A firm that systematically fails to invest despite strong growth prospects is therefore identified as inefficient under this framework.

The investment efficiency measure employed in this study is inherently backward-looking, as it evaluates whether firms invest in line with **existing growth signals** rather than future realized outcomes. This is a well-recognized feature of the investment efficiency literature. Biddle et al. (2009) and Rajkovic (2020) argue that efficient investment reflects managerial responsiveness to available information at the time decisions are made, rather than ex post realizations of firm performance.

While alternative approaches could examine how over- or under-investment affects future sales or firm value, such extensions would shift the focus from investment efficiency to investment consequences. The current framework is therefore appropriate for assessing whether firms allocate capital efficiently given contemporaneous growth opportunities, consistent with prior empirical research.

The concern that residual-based measures may classify some firms as inefficient despite conservative investment behavior has been acknowledged in the literature. Nevertheless, the approach remains widely adopted due to its transparency, empirical tractability, and ability to distinguish between over- and under-investment in a unified framework. Consequently, this study adopts the established methodology while acknowledging its limitations.

A further implication of the residual-based investment efficiency measure is that firms with minimal growth opportunities and correspondingly low investment levels may exhibit high

measured investment efficiency. Specifically, when sales growth is approximately zero and observed investment aligns closely with the model intercept (α_0), the resulting residual approaches zero, yielding a high investment efficiency score.

This outcome is consistent with the economic intuition underlying the model. Investment efficiency does not reward high levels of investment per se; rather, it reflects the degree to which firms align their investment decisions with prevailing growth fundamentals. For firms facing limited expansion opportunities, restrained investment represents efficient capital allocation rather than underperformance. Consequently, high investment efficiency in this context should be interpreted as an absence of misallocation, not as an indicator of superior growth or profitability.

Following Rajkovic (2020), total investment (INV) is measured as the sum of capital expenditures, research and development expenditure, and acquisition expenditure, minus cash receipts from the sale of property, plant, and equipment, scaled by lagged total assets. This definition captures net investment activity and ensures consistency with prior studies on investment efficiency.

Subsequently, the baseline relationship between investment efficiency (inefficiency) and job satisfaction is specified as follows:

$$Y_{i,t} = \beta_0 + \beta_1 JS_{i,t-1} + \beta_p X_{i,t-1} + \mu_{i,t} \quad (2)$$

In Equation (2), denotes a vector of dependent variables comprising over-investment (OVINV), under-investment (UDINV), and investment efficiency (INVEFF) for firm i in period t . Job satisfaction (JS) is measured using firms' inclusion in the "100 Best Companies to Work for in America" rankings, consistent with Edmans (2012). The error term is denoted by ϵ_{it} .

To mitigate omitted variable bias and reduce the likelihood of spurious inference, the model incorporates a set of control variables represented by X_{it} , following prior studies (Biddle et al., 2009; O'Toole et al., 2016; Fonseka et al., 2021). In particular, Biddle et al. (2009) and Rajkovic (2020) argue that firms' investment behavior varies across different stages of the business life cycle, with accruals and investment decisions differing depending on whether firms are growing, mature, or declining. Accordingly, this study controls for the operating cycle of each firm.

In addition, consistent with Chen et al. (2011) and Wu et al. (2022), leverage is included as a control variable. Firms with higher leverage are generally less inclined to pursue additional debt financing due to interest payment obligations, whereas firms with lower leverage are more prone to over-investment. Controlling for leverage therefore helps to isolate the effect of job satisfaction on investment outcomes.

Finally, following established literature (Biddle & Hilary, 2006; Biddle et al., 2009; O'Toole et al., 2016; Rajkovic, 2020; Lin et al., 2021), the model further controls for asset tangibility, firm size, the ratio of operating cash flow to sales, and the market-to-book ratio. These variables capture differences in firms' financing capacity, growth opportunities, and asset structure that may systematically influence investment efficiency.

To account for potential heterogeneity across firms and to examine how the relationship between job satisfaction and investment outcomes varies across the conditional distribution of the dependent variables, Equation (2) is further extended using panel quantile regression. This approach accommodates non-additive fixed effects and corrects for unobserved individual heterogeneity (Powell, 2022). The panel quantile regression specification is expressed as follows:

The panel quantile regression employed in this study extends Equation (2) by incorporating non-additive fixed effects and explicitly accounting for unobserved individual heterogeneity, consistent with the framework proposed by Powell (2022). This approach enables the estimation of the effects of the regressors across different points of the conditional distribution of the dependent variables, rather than focusing solely on the conditional mean. The general specification of the panel quantile regression model is expressed as follows:

$$Y_i = X_i' \omega_\theta + \mu_{\theta i}; \quad 0 < \theta < 1 \quad (3)$$

$$Quant_\theta(Y_i|X_i) = X_i' \omega_\theta \quad (4)$$

where the dependent variables are represented by Y_i , and a vector of all the independent variables, including job satisfaction, is denoted by X_i . The regression parameter which occurs at the θ^{th} quantile, the random error component, and the random error component in the θ^{th} distribution location of Y are respectively captured by ω_θ , $\mu_{\theta i}$ and $Quant_\theta(Y_i|X_i)$.

The purpose of Models (3) and (4) is to examine whether the effect of job satisfaction on investment efficiency varies across the conditional distribution of investment outcomes, rather than being confined to the conditional mean. While mean regression estimates capture the average relationship between job satisfaction and investment efficiency, they may obscure important heterogeneity, particularly among firms experiencing extreme levels of investment inefficiency. Panel quantile regression allows the impact of job satisfaction to differ across quantiles, thereby enabling an assessment of whether job satisfaction plays a more pronounced role in mitigating severe under-investment or constraining excessive over-investment. This approach is especially relevant in the context of investment efficiency, where agency problems and resource

misallocation tend to be concentrated in the tails of the distribution rather than around the mean. Consequently, Models (3)–(4) provide a more nuanced understanding of how job satisfaction influences investment efficiency across firms with differing degrees of investment misalignment. Quantile regression is not naturally estimated via maximum likelihood, as it does not rely on a fully specified likelihood function or distributional assumptions regarding the error term (Koenker & Bassett, 1978). While maximum likelihood estimation can be applied under specific parametric assumptions, such approaches require imposing restrictive distributional forms that are inconsistent with the objectives of quantile regression, particularly in the presence of skewed and heavy-tailed distributions.

In a panel setting with firm fixed effects, classical quantile regression estimators face additional challenges, including the incidental parameter problem and difficulty accommodating non-additive unobserved heterogeneity. To address these issues, this study employs a simulation-based estimation approach using Markov Chain Monte Carlo (MCMC) techniques, which allow for flexible modeling of latent firm effects and robust inference across the conditional distribution of the dependent variables (Chernozhukov & Hong, 2003; Powell, 2022).

The use of MCMC is particularly suitable in this context because it avoids restrictive distributional assumptions, accommodates asymmetric error structures, and enables estimation of quantile-specific effects in the presence of unobserved heterogeneity. This approach has been widely adopted in recent econometric literature for complex quantile regression models where analytical solutions are infeasible or biased under classical estimation frameworks. Maximum likelihood estimation is not employed because it would require strong parametric assumptions regarding the

distribution of the error term and fixed effects, which would undermine the distribution-free nature and robustness advantages of quantile regression.

Although the *100 Best Companies to Work for in America* ranking forms the basis for measuring job satisfaction, the empirical identification does not rely solely on comparisons among firms within the ranking. Instead, the study exploits variation between firms that appear in the *100 Best* list and firms that do not, as well as time-series variation arising from firms entering and exiting the ranking over the sample period.

Firms that do not appear in the ranking serve as a natural control group, representing average or non-top-performing workplaces in terms of employee satisfaction. This design allows the analysis to compare investment outcomes between high-satisfaction firms and otherwise comparable firms that are not recognized for exceptional employee relations. Consequently, identification is not driven by differences between the highest- and lowest-ranked firms within the *100 Best* list, but by broader contrasts in employee satisfaction status across the firm population.

Moreover, firms frequently move in and out of the ranking across years, generating within-firm variation in job satisfaction status. This dynamic structure strengthens identification by allowing the analysis to observe how changes in a firm's job satisfaction classification relate to changes in investment efficiency over time.

It is important to note that the study does not assume that the firm ranked first is fundamentally different from the firm ranked one hundredth. Rather, inclusion in the *100 Best* ranking signals a threshold level of superior employee satisfaction relative to the broader firm population. The

ordinal rank within the list is therefore not interpreted as a continuous measure of job satisfaction intensity, but as an indicator of high employee satisfaction status.

While this approach provides a meaningful control group, it is acknowledged that the ranking does not capture fine-grained differences in employee satisfaction among top firms. Accordingly, the estimated effects should be interpreted as the impact of being classified as a high job satisfaction firm relative to average firms, rather than marginal differences between ranks within the *100 Best* list.

2.4 Empirical Results

This section presents and discusses the empirical findings of the study. The analysis is structured into two main parts. First, the preliminary results are reported, comprising descriptive statistics and correlation analyses that provide an initial overview of the data and relationships among the key variables. Second, the main results are presented, focusing on the effect of job satisfaction on investment outcomes.

Consistent with the methodology outlined in the preceding section, the main analysis examines the relationship between job satisfaction and overall investment efficiency, as well as its association with investment inefficiency in the form of under-investment and over-investment. These results provide evidence on the causal links between job satisfaction and firms' investment behavior and form the basis for evaluating the study's research hypotheses.

2.5.1 Descriptive statistics and Correlational Analysis

This subsection presents descriptive statistics and pairwise correlations for the variables employed in the analysis. These results are descriptive in nature and are not intended to provide causal inference or formal hypothesis testing. Instead, they serve to summarize the distributional properties of the data, assess variability across firms and time, and provide initial insights into the direction and magnitude of associations among key variables. The main empirical conclusions of the study are drawn from the regression and panel quantile regression analyses presented in subsequent sections.

Table 1: Estimation Results for Expected Investment Model (Equation 1)

Variable	Value
Slope (α_1)	0.1479
Intercept (α_0)	-6.032×10^{-9}
Standard error	0.01
T statistics	188.240
R²	0.11
Number of Observations	7604

Table 1 reports the estimation results of the expected investment model specified in Equation (1), which follows the standard investment efficiency framework developed by Richardson (2006) and extended by Biddle et al. (2009) and Rajkovic (2020). In this model, firm investment is regressed

on contemporaneous sales growth in order to capture the level of investment justified by underlying growth opportunities.

The estimated slope coefficient α_1 is 0.1479, positive and highly statistically significant (t-statistic = 188.24). This indicates a strong positive association between sales growth and firm investment. Economically, the result suggests that firms with higher realized sales growth tend to increase investment expenditure, consistent with the notion that expanding demand and growth opportunities drive capital allocation decisions. This finding aligns with prior literature which uses sales growth as a proxy for investment demand and growth fundamentals (Richardson, 2006; Biddle et al., 2009; Chen et al., 2011).

The estimated intercept α_0 is effectively zero (-6.032×10^{-9}), indicating that in the absence of sales growth, predicted investment is negligible. This is consistent with the theoretical expectation that firms without growth opportunities should not undertake substantial new investment. Importantly, the near-zero intercept reduces concerns that the model mechanically assigns high investment efficiency to firms with zero growth and zero investment, an issue raised in the literature regarding misinterpretation of residual-based efficiency measures.

The model explains approximately 11% of the variation in investment ($R^2 = 0.11$), which is comparable to prior studies estimating expected investment using firm-level fundamentals. Given the parsimonious nature of Equation (1), this explanatory power is reasonable and consistent with the view that investment decisions are influenced by both observable growth opportunities and unobservable firm-specific factors such as managerial discretion, financing frictions, and agency considerations.

Table 2: Summary Statistics and Distributional Properties of Investment Efficiency Measures

	ONINV	UNINV	INVEFF
Mean	1.027×10^{-1}	-1.89×10^{-2}	-1.44×10^{-8}
Median	0.074640	-0.000018	-0.000018
Variance	0.010026	0.001409	0.004694
Standard deviation	0.100130	0.037538	0.068514
Minimum	0.000014	-0.555968	-0.555968
Maximum	1.19	-3.45×10^{-7}	1.19
Skewness	2.627789	-2.264624	2.750543
Kurtosis	15.311787	8.841023	24.224150
KS-statistics	0.152420	0.423675	0.344576
KS-p value	1.76×10^{-24}	0.00000	0.00000

Table 2 presents the descriptive statistics for the three dependent variables used in the analysis: overinvestment (OVINV), underinvestment (UNINV), and investment efficiency (INVEFF), all derived from the residuals of the expected investment model.

Overinvestment (OVINV)

OVINV has a mean value of 0.103, indicating that, on average, overinvestment episodes among the sample firms are modest in magnitude. However, the distribution is highly right-skewed (skewness = 2.63) with extremely high kurtosis (15.31), suggesting the presence of infrequent but severe overinvestment episodes. The minimum value is close to zero, while the maximum exceeds 1.19, indicating that when overinvestment occurs, it can be economically substantial. The Kolmogorov–Smirnov (KS) test strongly rejects normality ($p < 0.01$).

Underinvestment (UNINV)

UNINV exhibits a negative mean (-0.0189) and a median close to zero, implying that most firms cluster near optimal investment but occasionally exhibit sizable underinvestment. The distribution is left-skewed (skewness = -2.26) and leptokurtic (kurtosis = 8.84), again indicating heavy tails. The minimum value (-0.556) suggests that some firms substantially underinvest relative to expected levels. Normality is decisively rejected by the KS test.

Table 3 presents the descriptive statistics for all variables employed in the analysis. The results indicate that, on average, firms in the sample allocate approximately 2.5% of total assets to new investment activities. The corresponding standard deviation of 0.8 suggests relatively low dispersion, indicating that capital expenditures, research and development expenses, and

acquisition investments are fairly consistent across the top 100 U.S. firms. This reflects a stable investment pattern among leading firms.

Job satisfaction is measured as a binary variable taking values of 1 or 2, following Edmans (2012). The descriptive statistics show that approximately 83% of firm-year observations are classified as high job satisfaction, indicating that employees in the top 100 U.S. firms generally report favorable job satisfaction outcomes.

The average leverage ratio of 0.25 and an average cash-to-total-assets ratio of 0.06 suggest that these firms maintain moderate debt levels while holding relatively low cash reserves. This financial structure indicates that top U.S. firms prioritize profitability and investment activities over excess liquidity. Furthermore, the average operating cycle of 1.74 implies that the sampled firms are predominantly in an expansionary phase of their business life cycle, consistent with prior evidence (Biddle et al., 2009; Rajkovic, 2020).

Additional firm characteristics, including market-to-book ratio, firm size, asset tangibility, financial slack, and Z-score, collectively suggest strong financial performance and sound financial health among the sampled firms.

The distributional properties reveal that most variables exhibit noticeable skewness. Specifically, log investment (LINV), job satisfaction (JS), and firm size (SIZE) display left-skewed distributions, whereas the remaining variables are right-skewed. Kurtosis values are relatively high across variables, indicating the presence of fat tails and extreme observations over the sample period. The skewness and kurtosis statistics indicate that several variables exhibit asymmetric distributions and fat tails, which is a common feature of firm-level financial data (Cont, 2001;

Fama, 1965). This observation is further supported by the Jarque–Bera test, which rejects the null hypothesis of normality for several variables, even at the 10% significance level. The divergence between mean and median values for some variables also suggests departures from symmetry. However, the presence of non-normality does not pose a concern for the empirical analysis, as the regression techniques employed in this study do not rely on the assumption of normally distributed regressors or error terms (Wooldridge, 2010). Moreover, given the relatively large sample size, the asymptotic properties of the estimators mitigate concerns regarding distributional deviations (Greene, 2018).

The use of panel quantile regression is particularly appropriate in this context, as it explicitly accommodates skewed distributions, heterogeneous effects, and non-normal error structures across different points of the conditional distribution of the dependent variables (Koenker & Bassett, 1978; Powell, 2022).

Table 3: Descriptive Statistics

Variables	Mean	Median	Maximum	Minimum	Std. Dev.	Observations
LINV	2.492	2.627	4.247	0	0.816	6771
JS	1.654	1.785	2.004	0	0.408	1102
LEVERAGE	0.251	0.217	1.748	0	0.247	6698
CASH	0.069	0.046	0.535	-0.007	0.074	6698
MB	0.767	0.388	6.559	0	1.102	6698

OPCYCLE	1.737	1.697	3.618	0.161	0.505	6581
SIZE	3.637	3.654	5.947	1.390	0.825	6694
SLACK	0.404	0	5.149	-3.954	0.838	6771
TANG	0.011	0.003	0.251	0	0.031	6698
Z_SCORE	3.836	3.335	16.035	0.211	2.367	6698

Note: LINV is investment which is a sum of capital, R&D, and acquisition expenditure, JS is job satisfaction, CASH is the ratio of cash to total asset, OPCYCLE is operating circle, TANG is tangibility, SIZE is firm size, MB is market-to-book, and LEVERAGE is the ratio of long-term debt to asset. Sum implies the total addition of the series and Std. Dev is standard deviation.

Table 4 presents the pairwise correlation coefficients among the variables used in the analysis. The results indicate a positive correlation between log investment (LINV) and job satisfaction (JS), suggesting that higher levels of job satisfaction are associated with increased investment activity. While correlation analysis does not establish causality, this positive association provides preliminary evidence of co-movement between the study's key variables.

The correlation matrix further reveals that leverage is negatively associated with job satisfaction but positively related to investment. This pattern suggests that more highly leveraged firms tend to report lower levels of job satisfaction while engaging in higher levels of investment. In contrast, cash holdings (CASH) exhibit a positive association with investment but a negative relationship with job satisfaction, indicating that firms holding more liquid assets may invest more while exhibiting relatively lower employee satisfaction.

Similar patterns are observed for other firm characteristics. The market-to-book ratio (MB) and financial slack (SLACK) are both positively correlated with investment but negatively correlated with job satisfaction. Conversely, the operating cycle (OPCYCLE) is negatively associated with investment and positively associated with job satisfaction, implying that firms at different stages of operational maturity exhibit distinct investment and employee satisfaction profiles. Firm size (SIZE) is positively correlated with both investment and job satisfaction, consistent with the notion that larger firms possess greater investment capacity and resources to support employee welfare. Asset tangibility (TANG) shows a positive but weak association with both variables. Finally, the Z-score is negatively correlated with investment and positively correlated with job satisfaction, suggesting that financially stable firms tend to invest more cautiously while maintaining higher employee satisfaction.

Overall, the correlation results indicate meaningful associations among the variables that are broadly consistent with the study's theoretical expectations. Although these correlations do not imply causal relationships, they provide useful preliminary insights and motivate the multivariate regression analyses that follow.

While informative, these descriptive and correlation results do not account for firm-level heterogeneity, time effects, or endogeneity concerns; therefore, they should be interpreted as contextual evidence rather than final empirical findings.

Table 4: Correlation Result

Variables	LINV	JS	LEVERAGE	CASH	MB	OPCYCLE	SIZE	SLACK	TANG	Z_SCORE
LINV	1									
JS	0.025	1								
LEVERAGE	0.033	-0.002	1							
CASH	0.061	-0.059	-0.131	1						
MB	0.194	-0.011	-0.168	0.349	1					
OPCYCLE	-0.220	0.042	-0.149	-0.076	-0.119	1				
SIZE	0.459	0.070	0.002	-0.233	-0.018	0.284	1			
SLACK	0.109	-0.017	0.129	0.055	-0.073	0.007	0.089	1		
TANG	0.066	0.012	0.092	-0.081	-0.084	-0.054	-0.050	-0.121	1	
Z_SCORE	-0.052	0.099	-0.026	-0.021	-0.003	-0.426	-0.361	0.035	0.102	1

Note: LINV is investment which is a sum of capital, R&D, and acquisition expenditure, JS is job satisfaction, CASH is the ratio of cash to total asset, OPCYCLE is operating circle, TANG is tangibility, SIZE is firm size, MB is market-to-book, and LEVERAGE is the ratio of long-term debt to asset. The observation of each variable remains the same as that of Table 1.

2.5.2 Main Result

This subsection is divided into two parts. The first set of results reports the effect of job satisfaction and the control variables on investment efficiency, under-investment, and over-investment. In these analyses, control variables are introduced sequentially to assess their incremental contribution and statistical significance within the model. Both fixed-effects and random-effects estimations are initially conducted, with the preferred specification selected based on the Hausman test. In addition, firm-level fixed effects are incorporated to control for unobserved time-invariant heterogeneity, consistent with prior studies (Biddle et al., 2009; Rajkovic, 2020).

The second part of the analysis presents the panel quantile regression results, which examine how the relationship between job satisfaction and investment outcomes varies across different points of the conditional distribution of the dependent variables.

Investment Efficiency (Inefficiency) and Job Satisfaction

Table 5 reports regression results based on a balanced panel of the top 100 firms, where each firm is observed over multiple years. The reported observation count reflects the number of firms included in the analysis rather than the total number of firm-year observations. All regressions are estimated using firm fixed effects, ensuring that the results exploit time-series variation within firms while controlling for unobserved, time-invariant firm characteristics. Consequently, the effective sample size for estimation remains the full set of firm-year observations, despite the presentation of results at the firm level. The results indicate that job satisfaction is positively and statistically significantly associated with investment efficiency. Specifically, a one-percent increase in job satisfaction is associated with an average increase of approximately 0.05 percent in

investment efficiency. This finding suggests that higher employee satisfaction is associated with more efficient investment decisions and is consistent with prior evidence that employee attitudes and satisfaction contribute positively to organizational performance (Benjamin et al., 2003).

While prior studies such as Benjamin et al. (2003) document that employee attitudes and satisfaction improve overall organizational performance, investment efficiency represents a conceptually distinct outcome that warrants separate analysis. Traditional performance measures capture realized outcomes resulting from a wide array of operational, market, and strategic factors, making it difficult to isolate the specific decision-making channels through which employee satisfaction exerts its influence.

“Investment efficiency, by contrast, focuses explicitly on the quality of firms’ capital allocation decisions relative to their growth opportunities. It captures whether firms invest too much or too little, rather than whether they perform well on average. As such, investment efficiency provides a more direct lens through which to examine how internal organizational characteristics, such as job satisfaction, affect managerial judgment, information processing, and agency-related frictions.”

In this sense, modelling investment efficiency differs fundamentally from modelling general performance outcomes. Job satisfaction may improve productivity and morale broadly, but its relevance for investment efficiency lies in its potential to enhance communication, reduce opportunistic behavior, and align incentives in contexts where decisions are forward-looking, irreversible, and subject to substantial uncertainty. This distinction justifies the separate

examination of investment efficiency as an outcome variable, rather than treating it as a redundant proxy for firm performance.

The relatively low R^2 in the baseline specification does not imply that job satisfaction is unimportant. Investment efficiency is influenced by a wide range of financial, operational, and macroeconomic factors, many of which are unrelated to employee satisfaction. As an intangible organizational attribute, job satisfaction is expected to explain only a modest share of the total variation in investment efficiency. This interpretation is consistent with prior studies examining the role of governance and organizational characteristics in investment outcomes (Biddle et al., 2009; Rajkovic, 2020).

To account for these factors, additional control variables are sequentially introduced in Panels 2 through 9 of Table 5. The inclusion of these controls leads to a substantial increase in the adjusted R^2 , indicating improved explanatory power. In the fully specified model reported in Panel 9, job satisfaction remains positively and statistically significant, although with a reduced magnitude. Specifically, a one-percent increase in job satisfaction is associated with an average increase of approximately 0.02 percent in investment efficiency. This suggests that while job satisfaction plays an independent role, its effect on investment efficiency is more pronounced when considered alongside other organizational and financial characteristics.

The estimated coefficients on the control variables are consistent with prior studies (Biddle et al., 2009; Rajkovic, 2020) and align with economic intuition. In particular, leverage exhibits a statistically significant negative association with investment efficiency, indicating that higher debt burdens constrain firms' ability to allocate capital efficiently. Similarly, the operating cycle

(OPCYCLE) is negatively related to investment efficiency, suggesting that inefficiencies increase as firms move away from expansionary phases toward periods of contraction or liquidation. Overall, these results imply that job satisfaction enhances investment efficiency most effectively when supported by prudent financial structure and operational discipline.

The estimated coefficient on job satisfaction allows for an economic interpretation of the magnitude of the relationship between employee satisfaction and investment efficiency. Specifically, the coefficient implies that a one percent increase in job satisfaction is associated with an approximate 0.5 percent improvement in investment efficiency. This interpretation follows from the scaling of the dependent variable and reflects proportional changes rather than absolute shifts.

Importantly, this magnitude should be interpreted as an average marginal effect, capturing incremental improvements in the alignment between firms' investment levels and their growth opportunities. Given that investment efficiency reflects deviations from optimal investment rather than investment volume itself, even modest percentage improvements can translate into meaningful reductions in capital misallocation.

From an economic perspective, the magnitude of the estimated effect is non-trivial. Investment efficiency is widely recognized as a relatively persistent firm characteristic, shaped by governance structures, information asymmetries, and financing conditions. Consequently, an improvement of 0.5 percent attributable to job satisfaction represents a meaningful shift in firms' internal capital allocation processes, particularly when compounded over time.

Moreover, the effect size is comparable to, and in some cases larger than, the impact attributed to traditional firm-level determinants of investment efficiency documented in the literature, such as financial reporting quality and board characteristics (Biddle et al., 2009; Rajkovic, 2020). This comparison underscores that employee-related factors, though often treated as intangible, can exert economically relevant influence on firms' investment behavior.

Relative to prior studies, the estimated economic effect of job satisfaction on investment efficiency is well within the range of magnitudes reported for other internal governance and informational mechanisms. For example, Biddle et al. (2009) and Rajkovic (2020) document economically modest but statistically meaningful effects of financial reporting quality and board structure on investment efficiency. In this context, the magnitude associated with job satisfaction is comparable, suggesting that employee satisfaction represents a quantitatively relevant, albeit incremental, determinant of efficient investment decisions.

Taken together, these findings indicate that the economic relevance of job satisfaction lies not in generating large discrete shifts in investment behavior, but in consistently improving the quality of capital allocation at the margin.

Tables 6 and 7 report the regression results for under-investment and over-investment, respectively. In the baseline specifications (Panel 1 of both tables), job satisfaction does not exhibit a statistically significant association with either under-investment or over-investment. This finding is consistent with expectations, as investment decisions, particularly those involving capital misallocation, are typically driven by senior management and strategic leadership rather than the broader employee base.

This interpretation is supported by prior research, such as Hsueh et al. (2022), which documents that employees without direct ownership or family ties to controlling shareholders have limited influence over strategic investment decisions, even when such decisions may conflict with firm value maximization. Consequently, the absence of a strong baseline relationship between job satisfaction and investment inefficiency is not unexpected.

However, the results become more nuanced once additional control variables are introduced (Panels 2–9 of Tables 6 and 7). In the fully specified models, job satisfaction is found to be significantly associated with under-investment but remains insignificantly related to over-investment. Specifically, Panel 9 of Table 4 shows that a one-percent increase in job satisfaction is associated with an average 0.08 percent reduction in the magnitude of under-investment. This result aligns with prior evidence (Biddle et al., 2009; Chen et al., 2017; Rajkovic, 2020) and suggests that improved job satisfaction helps firms move closer to optimal investment levels by reducing negative deviations from expected investment.

Importantly, this improvement in investment efficiency appears conditional on complementary organizational factors. The reduction in under-investment is observed primarily when firms simultaneously maintain lower leverage, avoid excessive expansion, and improve asset tangibility and operating cash flow.

In contrast, job satisfaction remains statistically insignificant in explaining over-investment. This asymmetry may reflect the agency-driven nature of over-investment, which is often associated with managerial self-interest and empire-building behavior rather than broad employee engagement. Over-investment decisions may therefore occur independently of employee

satisfaction, particularly when they involve discretionary projects that do not require workforce participation. These findings reinforce the view that job satisfaction is more effective in mitigating investment shortfalls than in constraining excess investment arising from agency conflicts.

2.5.3 Quantile Result

Following the baseline regression analysis, this study employs panel quantile regression to examine whether the effect of job satisfaction on investment efficiency and investment inefficiency varies across different points of the conditional distribution. This approach is particularly relevant given the substantial heterogeneity in firm size and financial capacity among the top 100 U.S. firms. Differences in financial strength and operational scale may lead firms to respond differently to job satisfaction when making investment decisions, an effect that cannot be fully captured by mean-based estimators.

While the baseline mean regression results indicate that job satisfaction does not significantly affect overinvestment, the panel quantile regression reveals a more nuanced and economically meaningful pattern. Quantile regression allows the impact of job satisfaction to vary across the conditional distribution of investment efficiency, rather than assuming a uniform effect across firms (Koenker & Bassett, 1978; Koenker, 2005). The results demonstrate that job satisfaction significantly improves investment efficiency and mitigates sub-optimal investment primarily at the lower and upper tails of the distribution, where investment inefficiencies are most pronounced.

This finding suggests that job satisfaction plays a corrective rather than a uniform role in firms' investment behaviour. For firms exhibiting extreme underinvestment, higher job satisfaction enhances information sharing, coordination, and discretionary effort, thereby enabling firms to

better exploit available growth opportunities and reduce investment inefficiency (Biddle et al., 2009). Conversely, for firms prone to excessive investment, higher job satisfaction appears to constrain agency-driven overinvestment by strengthening internal monitoring and alignment between managerial actions and organizational objectives (Jensen, 1986; Rajkovic, 2020).

The negative association between job satisfaction and overinvestment at the upper quantiles indicates that satisfied employees, particularly those in senior and managerial positions, may contribute to restraining inefficient expansion and self-serving investment behaviour. These heterogeneous effects are not captured by mean-based estimations, underscoring the importance of quantile regression in uncovering distributional heterogeneity in investment efficiency. Overall, the findings indicate that job satisfaction is most influential precisely where it matters most: in correcting extreme investment inefficiencies rather than marginal deviations around the mean.

The panel quantile regression results for investment efficiency, over-investment, and under-investment are reported in Tables 8, 9, and 10, respectively. For each specification, estimates are presented at the 25th (0.25), 50th (0.50), and 75th (0.75) quantiles.

Table 6 indicates that job satisfaction is positively associated with investment efficiency across all reported quantiles, suggesting that higher levels of employee satisfaction contribute to more efficient investment behavior among the top 100 U.S. firms. In addition, the results reported in Tables 7 and 8 show that job satisfaction is associated with a reduction in investment inefficiency, as it mitigates under-investment and reduces over-investment. With the exception of the 0.25 quantile for over-investment, the estimated coefficients are statistically significant across all quantiles. This finding suggests that higher job satisfaction contributes to improved investment outcomes across firms with varying degrees of financial strength and investment intensity.

Two notable patterns emerge from the quantile regression results. First, the estimated coefficients for job satisfaction at the median quantile (0.50) are largest for both investment efficiency and under-investment. Specifically, a one-percent increase in job satisfaction is associated with a 0.10 percent increase in investment efficiency at the median quantile, compared with 0.07 percent and 0.04 percent at the lower (0.25) and upper (0.75) quantiles, respectively. Similarly, the mitigating effect of job satisfaction on under-investment is strongest at the median quantile, with a coefficient of 0.14 percent, relative to 0.05 percent at the lower quantile and 0.09 percent at the upper quantile. These results suggest that job satisfaction plays a particularly important role in improving investment efficiency and correcting sub-optimal investment among firms operating at moderate levels of investment expenditure.

Second, the effect of job satisfaction on over-investment is more pronounced at the upper quantile of the investment distribution. At the 0.75 quantile, job satisfaction reduces over-investment by approximately 0.08 percent, compared with a smaller effect of 0.03 percent at the median quantile and an insignificant effect at the lower quantile. This pattern indicates that job satisfaction is more effective in curbing excessive investment among firms with relatively high levels of investment activity, where agency-related over-investment problems are more likely to arise.

Overall, the quantile regression results highlight the heterogeneous role of job satisfaction in shaping firms' investment behavior. While job satisfaction most strongly enhances investment efficiency and alleviates under-investment among firms with moderate investment intensity, it serves as a more potent mechanism for restraining over-investment among firms operating at the upper end of the investment distribution.

Second, the effect of job satisfaction on under-investment at the median and upper quantiles is more pronounced than its corresponding effect on over-investment. This pattern suggests that investment inefficiency is more effectively reduced when job satisfaction improves firms' ability to correct sub-optimal investment decisions, particularly those related to missed growth opportunities. In this context, greater job satisfaction, especially among senior and managerial employees, may enhance information sharing, initiative, and discretionary effort, thereby facilitating investment decisions that move firms closer to their optimal investment levels.

By contrast, the relatively weaker impact of job satisfaction on over-investment indicates that excessive investment is more closely associated with agency-related concerns, such as managerial empire-building or self-serving project selection, which are less responsive to improvements in employee satisfaction. Overall, these findings imply that job satisfaction plays a stronger role in alleviating under-investment than in constraining over-investment, reflecting the greater influence of agency problems in driving excessive investment behavior.

The finding that job satisfaction does not exhibit a statistically significant association with over-investment or under-investment in the baseline regressions warrants careful interpretation. This result does not imply that job satisfaction is irrelevant for firms' investment behavior; rather, it reflects the organizational structure through which investment decisions are made. Capital allocation decisions, particularly those leading to over-investment or severe under-investment, are typically undertaken by senior executives and boards, rather than by the broader employee base whose satisfaction is captured by the job satisfaction measure.

Consequently, while higher job satisfaction may enhance overall organizational functioning, information flow, and coordination, it may not directly influence extreme deviations from optimal

investment at the aggregate level. This interpretation is consistent with agency theory, which emphasizes that mis investment often arises from managerial discretion and incentive misalignment at the upper echelons of the firm, rather than from firm-wide employee sentiment.

Importantly, this interpretation aligns with the subsequent quantile regression results, which reveal that job satisfaction becomes statistically significant in explaining investment inefficiency at specific points of the conditional distribution. This suggests that the influence of job satisfaction is heterogeneous and more pronounced in contexts where managerial discretion and agency frictions are elevated, thereby reconciling the baseline and quantile findings.

The baseline panel regression results indicate that the relationship between job satisfaction and investment efficiency is statistically significant predominantly at the 10 percent level. While this level of significance may appear modest, it is important to interpret these findings in the context of firm-level heterogeneity. Mean-based estimators capture the average effect across firms, potentially masking stronger relationships that exist within specific segments of the conditional distribution.

In contrast, the panel quantile regression results exhibit substantially stronger statistical significance, often at the 1 percent level. This divergence suggests that the impact of job satisfaction on investment outcomes is not uniform across firms, but instead varies systematically depending on firms' position within the investment efficiency distribution. By estimating effects at different quantiles, the quantile regression framework uncovers relationships that are attenuated in mean regressions due to aggregation.

The stronger significance observed in the quantile regressions therefore reflects genuine heterogeneity in the job satisfaction–investment efficiency relationship, rather than model instability. This finding reinforces the appropriateness of the quantile approach and indicates that job satisfaction plays a more pronounced role for firms exhibiting moderate to high levels of investment inefficiency, where managerial discretion and agency frictions are likely to be more salient.

Table 5: Investment Efficiency Result

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
JS	0.0475* (0.0243)	0.0458* (0.0244)	0.0481** (0.0244)	0.0425* (0.0246)	0.0444* (0.0246)	0.0445* (0.0247)	0.0457* (0.0245)	0.0764* (0.0445)	0.0203* (0.0429)
Leverage		-0.0941 (0.0999)	-0.1115 (0.1005)	-0.1395 (0.1019)	-0.1277 (0.1019)	-0.1296 (0.1026)	-0.1522 (0.1022)	-0.2500 (0.1549)	-0.0575* (0.0194)
Tang			2.8314* (1.5245)	2.6875* (1.5259)	2.9373* (1.5277)	2.9463* (1.5222)	2.8996* (1.5137)	0.4763 (1.3330)	0.4143 (1.0624)
Cash				-0.3193 (0.1994)	-0.4144** (0.2039)	-0.4912** (0.2122)	-0.5099** (0.2110)	-0.4787 (0.5914)	0.1269 (0.1991)
MB					0.0235** (0.0109)	0.0255** (0.0111)	0.0270** (0.0111)	0.0112 (0.0429)	0.0115* (0.0062)

OPCycle						-0.0180 (0.3606)	-0.0834** (0.0404)	-0.2581*** (0.0899)	-0.2914*** (0.0604)
Z-score							-0.0329*** (0.0093)	-0.0086 (0.0203)	-0.0236** (0.0115)
Slack								-0.0005*** (0.0001)	-0.0238 (0.0226)
Size									0.5544 (0.2582)
Constant	-1.0432 (0.0943)	-1.0103*** (0.0963)	-1.0234*** (0.0965)	-0.9623*** (0.1037)	-0.9973*** (0.1048)	-0.9570*** (0.1301)	-0.7319*** (0.1442)	-0.4536* (0.2381)	-0.5425** (0.2134)
Hausman Test	0.45 ^r	0.33 ^r	0.55 ^r	0.47 ^r	0.53 ^r	1.72 ^r	2.63 ^r	9.86* ^f	18.88 ^r

FE	No	Yes	No						
Adj-R ²	0.0178	0.0977	0.1228	0.1482	0.1839	0.2551	0.2348	0.1908	0.1968
Observation	1,037	1,024	1,024	1,024	1,003	1,003	1,003	1,003	1,003

Note: Equation (1) to (9) accounts for the effect of job satisfaction (JS) and other control variable on investment efficiency. Only the best model between fixed effect (f) and random effect (r) is presented after the Hausman test has been performed to evaluate the models. Values in () are the standard errors of each coefficients. *, **, and *** denotes 10%, 5%, and 1% level of significance, respectively.

Table 6: Underinvestment Result

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
JS	0.0226 (0.0422)	0.0437 (0.0404)	0.0163 (0.0417)	0.0328 (0.0404)	0.0311 (0.0406)	0.0508 (0.0401)	0.0405 (0.0404)	0.0820 (0.0536)	0.0821** (0.0501)
Leverage		0.1138	0.0909	0.2070	0.2106	-0.0141	0.0078	-0.3978***	-0.3190***

		(0.1523)	(0.1556)	(0.1516)	(0.1520)	(0.1521)	(0.1522)	(0.1127)	(0.1062)
Tang			6.7838*** (2.3105)	7.0785*** (2.2315)	7.1006*** (2.2342)	5.6840*** (2.1784)	5.3310** (2.1816)	2.1489* (1.1625)	3.5943** (1.4452)
Cash				1.7262*** (0.2910)	1.6776*** (0.3160)	1.4660*** (0.3217)	1.5103*** (0.3218)	0.8519 (0.5743)	0.4847* (0.2706)
MB					0.0053 (0.0134)	-0.0004 (0.0131)	-0.0011 (0.0130)	0.0639 (0.0388)	0.0035 (0.0079)
OPCycle						-0.3434*** (0.0557)	-0.2940*** (0.0619)	-0.4994*** (0.0959)	-0.5214*** (0.0798)
Z-score							0.0224* (0.0123)	-0.0766*** (0.0256)	-0.0196 (0.0135)
Slack								-0.0002***	0.0610

								(0.0001)	(0.0397)
Size									2.7498*** (0.3607)
Constant	-1.1058*** (0.1617)	-1.1747*** (0.1564)	-1.0849*** (0.1616)	-1.3466*** (0.1622)	-1.3433*** (0.1627)	-0.6722*** (0.1948)	-0.8100*** (0.2086)	0.2828 (0.2506)	-0.9809*** (0.2706)
Hausman Test	5.87** ^f	4.56 ^r	14.57*** ^f	12.87** ^f	13.12** ^f	11.76* ^f	19.31*** ^f	6.32 ^r	6.93 ^r
FE	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No
Adj-R ²	0.0030	0.0035	0.0155	0.0829	0.0832	0.1626	0.1686	0.2337	0.2286
Observation	525	512	512	512	512	496	496	496	496

Note: Equation (1) to (9) accounts for the effect of job satisfaction (JS) and other control variable on underinvestment. Only the best model between fixed effect (f) and random effect (r) is presented after the Hausman test has been performed to evaluate the models. Values in () are the standard errors of each coefficients.

*, **, and *** denotes 10%, 5%, and 1% level of significance, respectively.

Table 7: Overinvestment Result

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
JS	-0.0307 (0.0242)	-0.0268 (0.0246)	-0.0304 (0.0241)	-0.0304 (0.0236)	-0.0300 (0.0239)	0.0304 (0.0240)	-0.0123 (0.0234)	0.0172 (0.0351)	-0.0390 (0.0343)
Leverage		-0.1615 (0.1420)	-0.2435* (0.1403)	-0.3965*** (0.1420)	0.0411 (0.1388)	0.0665 (0.1424)	-0.4626*** (0.1492)	0.3114 (0.2741)	0.1419 (0.1077)
Tang			7.0347*** (1.5430)	6.4174*** (1.5207)	5.5710*** (1.5392)	5.4171*** (1.5532)	6.5523*** (1.5006)	4.8524*** (1.5097)	1.7948* (0.9887)
Cash				-1.0111*** (0.2311)	-0.7643*** (0.2434)	-0.7804*** (0.2457)	-1.0951*** (0.2434)	0.1081 (0.5403)	0.0323 (0.1833)

MB					0.0201** (0.0094)	0.0222** (0.0096)	0.0045 (0.0104)	0.0042 (0.0344)	-0.0023 (0.0064)
OPCycle						0.0494 (0.0458)	-0.1244** (0.0508)	0.0019 (0.0892)	-0.2667*** (0.0561)
Z-score							-0.0644*** (0.0126)	-0.0668** (0.0231)	-0.0374*** (0.0123)
Slack								0.0043 (0.0210)	-0.0045 (0.0166)
Size									5.8256*** (0.3257)
Constant	0.8140 (0.0954)	0.8387*** (0.1012)	0.8480*** (0.0992)	0.9752*** (0.1015)	0.8231*** (0.1042)	0.7284*** (0.1358)	1.3119*** (0.1513)	0.7203*** (0.2753)	-2.1991*** (0.2365)

Hausman Test	1.50 ^r	38.06*** ^f	27.45*** ^f	19.26*** ^f	7.41 ^r	7.84 ^r	91.91*** ^f	11.75 ^r	21.06 ^r
FE	No	Yes	Yes	Yes	No	No	Yes	No	No
Adj-R ²	0.0033	0.0051	0.0249	0.0343	0.0511	0.0534	0.1366	0.1874	0.5372
Observation	512	512	512	512	512	507	507	507	507

Note: Equation (1) to (9) accounts for the effect of job satisfaction (JS) and other control variable on overinvestment. Only the best model between fixed effect (f) and random effect (r) is presented after the Hausman test has been performed to evaluate the models. Values in () are the standard errors of each coefficients. *, **, and *** denotes 10%, 5%, and 1% level of significance, respectively.

Table 8: Panel Quantile Result for Investment Efficiency

Variable	0.25	0.50	0.75
JS	0.0688*** (0.0264)	0.1008*** (0.0274)	0.0413*** (0.0145)
Leverage	-0.5707*** (0.0725)	-0.4901*** (0.1810)	-0.6216*** (0.0348)
Tang	-4.1893*** (0.3209)	-0.5456 (1.9737)	0.8237 (0.6670)
Cash	0.5572 (0.3651)	1.4612* (0.8151)	0.3007* (0.1630)
MB	0.0016 (0.0171)	0.0411*** (0.0118)	0.0128 (0.0097)
OPcycle	-0.3459** (0.1360)	0.0352 (0.1683)	-0.1511*** (0.0197)
Z-score	-0.0589*** (0.0148)	-0.0336* (0.0195)	-0.0110*** (0.0023)
Slack	0.00001* (0.000001)	0.000004 (0.000001)	0.000009** (0.000001)

	(0.000006)	(0.000006)	(0.000006)
Size	-0.2603*** (0.0293)	-0.3330*** (0.1030)	-0.0857*** (0.0151)
MAR	0.238	0.284	0.370
Observation	1,003	1,003	1,003

Note: The adaptive Markov chain Monte Carlo (MCMC) optimization is used to derive all estimates, and it also computes the mean acceptance rate (MAR) upon which each estimate is based. *, **, and *** denotes 10%, 5%, and 1% level of significance, respectively

Table 9: Panel Quantile Result for Underinvestment

Variable	0.25	0.50	0.75
JS	0.0506*** (0.0194)	0.1444*** (0.0028)	0.0894*** (0.0128)
Leverage	-0.5495*** (0.0472)	-0.3653*** (0.0099)	-0.2924*** (0.0426)
Tang	3.8918*** (1.0222)	2.1377*** (0.1162)	2.2278*** (0.3375)
Cash	0.3943*	0.9232***	-0.0197

	(0.2110)	(0.0258)	(0.1229)
MB	0.0478*** (0.0099)	0.0078*** (0.0022)	0.0203*** (0.0063)
OPcycle	-0.3593*** (0.0566)	-0.4080*** (0.0095)	-0.3483*** (0.0130)
Z-score	-0.0499*** (0.0065)	-0.0362*** (0.0020)	-0.0501*** (0.0059)
Slack	-0.0003*** (0.00001)	-0.0001*** (0.000003)	-0.0001*** (0.00002)
Size	-0.2408*** (0.0255)	0.3365*** (0.0084)	0.2645*** (0.0139)
MAR	0.250	0.080	0.128
Observation	496	496	496

Note: The adaptive Markov chain Monte Carlo (MCMC) optimization is used to derive all estimates, and it also computes the mean acceptance rate (MAR) upon which each estimate is based. *, **, and *** denotes 10%, 5%, and 1% level of significance, respectively

Table 10: Panel Quantile Result for Overinvestment

Variable	0.25	0.50	0.75
JS	0.0072 (0.0067)	-0.0346* (0.0188)	-0.0774*** (0.0191)
Leverage	0.0183 (0.0838)	-0.5205*** (0.1269)	-1.2284*** (0.3506)
Tang	4.4250*** (1.2413)	7.5492*** (1.3268)	8.9297*** (1.0253)
Cash	-0.2648 (0.1756)	0.0815 (0.4082)	-0.3383 (0.5222)
MB	0.0450*** (0.0122)	0.0160 (0.0300)	0.0125 (0.0186)
OPcycle	-0.2197*** (0.0232)	-0.3737*** (0.0697)	-0.5568*** (0.0733)
Z-score	-0.0778*** (0.0045)	-0.0809*** (0.0074)	-0.1509*** (0.0213)
Slack	-0.000007***	-0.00002***	-0.000002***

	(0.000001)	(0.000003)	(0.000006)
Size	0.4304*** (0.0136)	0.7874*** (0.0316)	0.7803*** (0.0443)
MAR	0.304	0.308	0.284
Observation	507	507	507

Note: The adaptive Markov chain Monte Carlo (MCMC) optimization is used to derive all estimates, and it also computes the mean acceptance rate (MAR) upon which each estimate is based. *, **, and *** denotes 10%, 5%, and 1% level of significance, respectively

2

2.5 Conclusion

Reducing waste and enhancing shareholder value are central objectives of contemporary business organizations, and consequently, the issue of investment inefficiency has received increasing attention in the finance literature. Against this backdrop, this study examines the role of job satisfaction in shaping investment efficiency among the top 100 U.S. firms. The empirical results indicate that job satisfaction is positively associated with investment efficiency and under-investment, while no statistically significant relationship is observed between job satisfaction and over-investment in the baseline models. However, the panel quantile regression results provide additional insights, revealing that job satisfaction is positively related to investment efficiency and the correction of under-investment, and negatively related to over-investment at higher points of the investment distribution.

The findings suggest several important implications regarding how job satisfaction contributes to investment efficiency. First, improvements in job satisfaction are most effective when implemented alongside other organizational and financial metrics, indicating that job satisfaction alone is insufficient to drive substantial reductions in sub-optimal investment. Second, accounting for heterogeneity in investment behavior is essential, as the influence of job satisfaction varies across firms with different levels of investment activity. In particular, examining over-investment across higher quantiles highlights the conditions under which job satisfaction can meaningfully mitigate excessive investment. Third, among firms with relatively low investment activity, improvements in investment efficiency primarily occur through the reduction of under-investment rather than the containment of over-investment. Finally, firms operating at moderate levels of investment intensity experience the strongest gains in investment efficiency from improved job satisfaction, relative to firms at the lower or upper ends of the investment distribution.

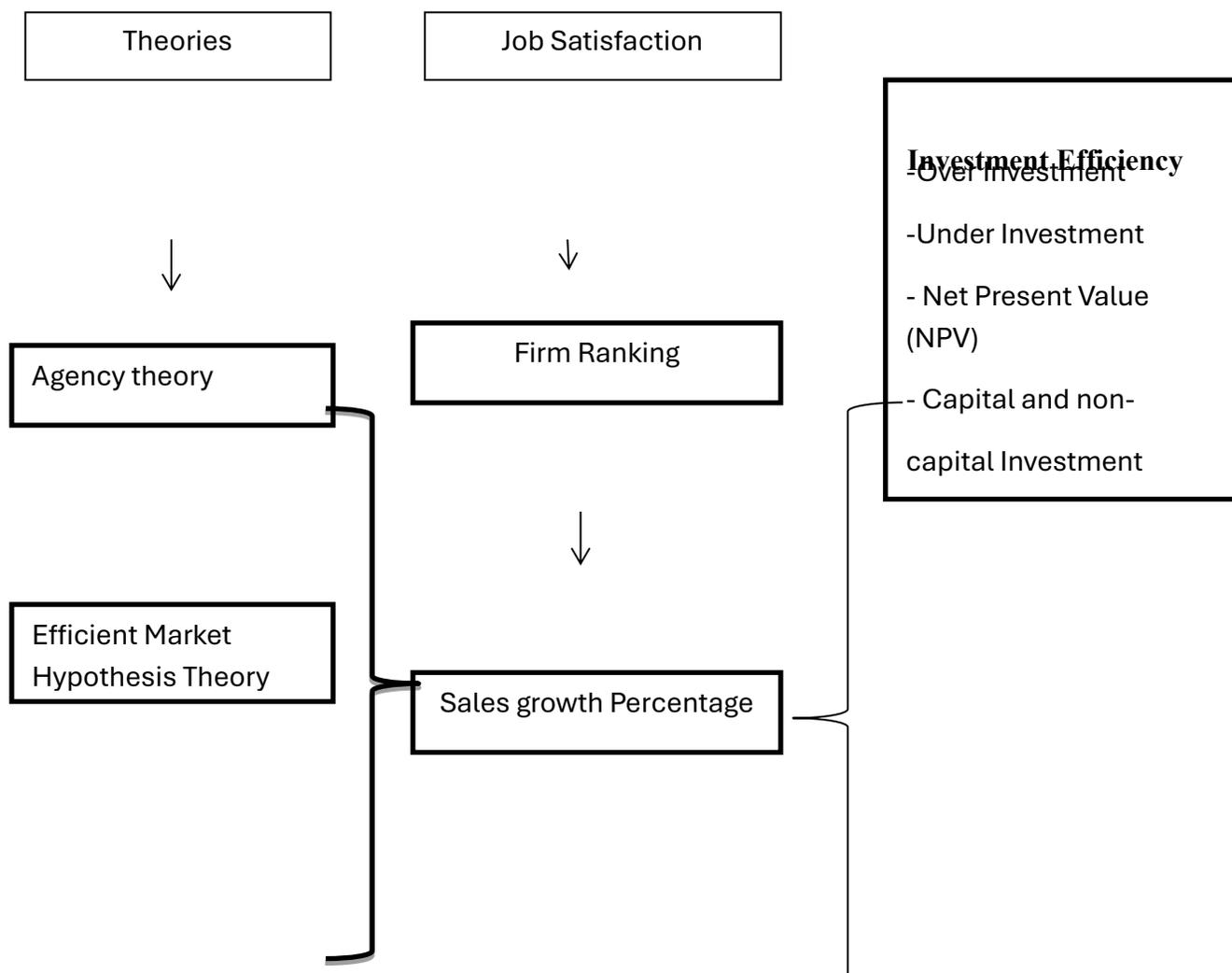
Overall, these results underscore the importance of job satisfaction as a complementary mechanism, rather than a standalone solution, for enhancing investment efficiency, particularly in environments characterized by heterogeneous investment behavior and varying degrees of agency-related inefficiencies.

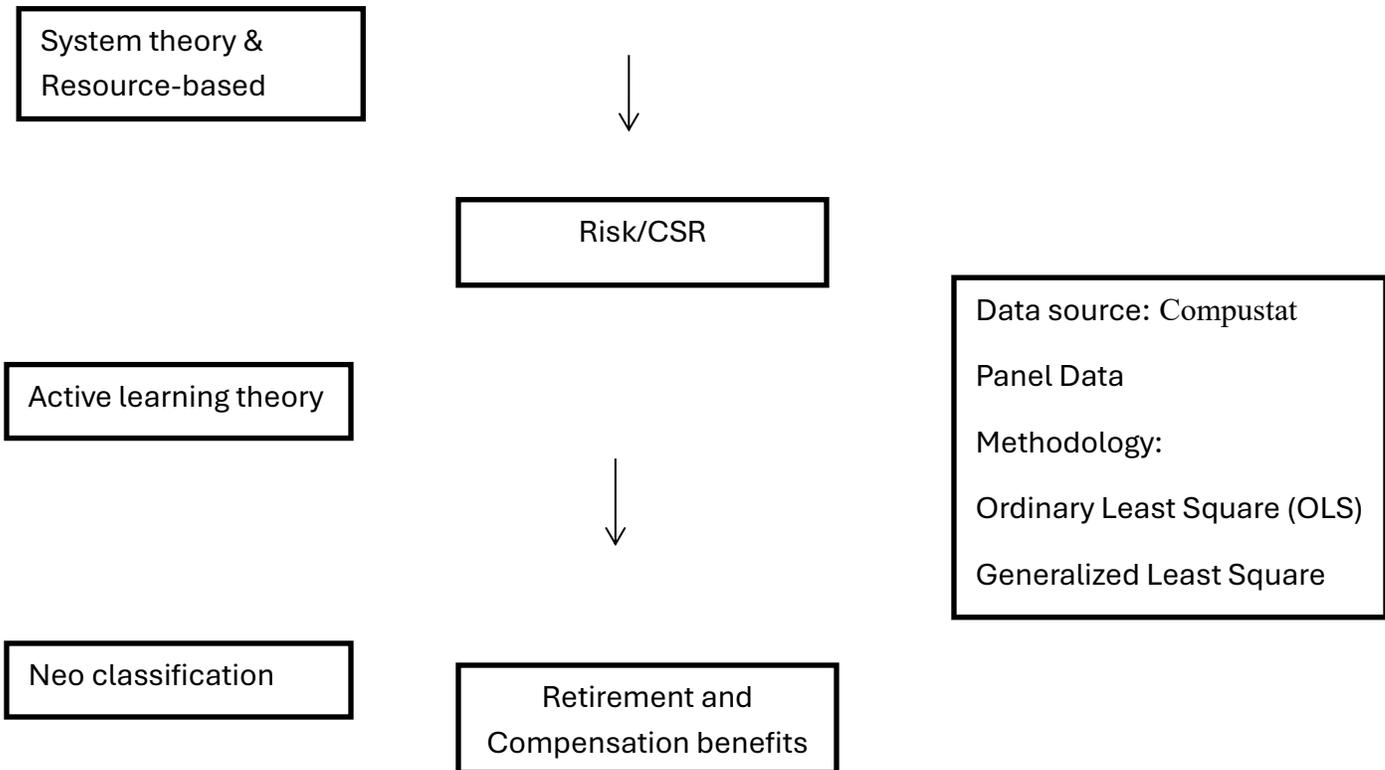
Future research may explore the bidirectional relationship between job satisfaction and investment outcomes by modelling job satisfaction as an endogenous outcome of firms' investment policies. Such an extension would allow for a more comprehensive assessment of feedback effects between human capital and capital allocation decisions.

Description of variables.

Variables	Definition
Investment	The total of each firm's capital, R&D, plant and equipment, and acquisition expenditures.
Job Satisfaction	Proxy by the ranking of the "100 Best Companies to Work for in America." as adopted by Alex Edmans (2010). Published yearly by The Work Institute
Investment efficiency (INVEFF)	Investment efficiency (INVEFF), adopting Rajkovic's (2020) procedure, is calculated as the absolute value of the residuals multiplied by a negative one
Over investment + (OVINV)	Positive residual values are overinvestment (OVINV) (Biddle et al., 2009; Chen et al., 2011; Chen et al., 2017).
Under investment -(UDINV)	Negative values are underinvestment (UDINV) (Biddle et al., 2009; Chen et al., 2011; Chen et al., 2017).
Slack	The ratio of cash to PPE
Leverage	LEVERAGE is the ratio of long-term debt to asset

Opcycle	Operating cycle= The log of receivables to sales plus inventory to COGS multiplied by 360
Tang	Tangibility = The ratio of Property, Plant and Equipment (PPE) to total assets.
Cash	The ratio of cash to total assets.
MB	Mkt-to-Book = The ratio of the market value of total assets to book value of total assets.
Size	Firm size





Source: Researcher

Fig 1. Graphical framework illustrating the relationship between job satisfaction and investment efficiency with theories and methodology.

References

- Abel, A., (1983). Optimal Investment under Uncertainty. *American Economic Review* 73, 228–233.
- Aboramadan, M., Dahleez, K., & Hamad, M. H. (2020). Servant leadership and academics outcomes in higher education: The role of job satisfaction. *International Journal of Organizational Analysis*, 29(3), 562–584. <https://doi.org/10.1108/IJOA-11-2019-1923>.
- Baker, M., Stein, J. & Wurgler, J., (2003). When does the market matter? Stock prices and the investment of equity-dependent firms. *Q. J. Econ.* 118 (3), 969–1005. <https://doi.org/10.1162/00335530360698478>.
- Barney JB. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17,99-120.
- Berle, A. & Means, G., (1932). *The Moder Corporation and Private Property*. Macmillan, New York.
- Biddle, G.C., Hilary, G. & Verdi, R., (2009). How does financial reporting quality relate to investment efficiency? *Journal Account and Economics* 48 (2–3): 112–131. <https://doi.org/10.1016/j.jacceco.2009.09.001>.
- Blanchard, O.J., Lopez-de-Silanes, F. & Shleifer, A., (1994). What do firms do with cash windfalls? *J. Financ. Econ.* 36, 337–360.
- Branch S. (1999). The 100 best companies to work for in America. *Fortune*, 118-144.

- Cont, R. (2001). Empirical properties of asset returns: Stylized facts and statistical issues. *Quantitative Finance*, 1(2), 223–236.
- Edmans A. (2012). The Link Between Job Satisfaction and Firm Value, With Implications for Corporate Social Responsibility. *Academic of Management Perspective*. 1-19.
- Fama, E. F. (1965). The behavior of stock-market prices. *Journal of Business*, 38(1), 34–105.
- Filbeck G, & Preece D. (2003). Fortune’s 100 best companies to work for in America: Do they work for shareholders? *Journal of Business Finance and Accounting* 30(5/6), 771-797.
- Gerhart B. & Scott K. (2003). Are The 100 Best Better? An Empirical Investigation Of The Relationship Between Being A “Great Place To Work” And Firm Performance. *Journal of Personnel Psychology*. 56: 965-993.
- Grant L. (1998). Happy workers, high returns. *Fortune*, 81.
- Greene, W. H. (2018). *Econometric Analysis* (8th ed.). Pearson Education.
- Gubman E. (1998). *The talent solution*. New York McGraw Hill.
- Hayashi, F., (1982). Tobin’s marginal Q and average Q: a Neoclassical interpretation. *Econometrica*. 50 (1), 213–224. <https://www.jstor.org/stable/1912538>.
- Hsueh, J. W. J., Campopiano, G., Tetzlaff, E., & Jaskiewicz, P. (2022). Managing non-family employees’ emotional connection with the family firms via shifting, compensating, and leveraging approaches. *Long Range Planning*, 102274.

- Jensen, M., & Meckling, W. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3, 305–360.
- Jensen, M.C., (1986). Agency costs and free cash flow, corporate finance and takeovers. *Am. Econ. Rev.* 76(2), 323–329. <https://www.jstor.org/stable/1818789>.
- Koenker, R., & Bassett, G. (1978). Regression quantiles. *Econometrica*, 46(1), 33–50.
- Lambert, R., Leuz, C. & Verrecchia, R., (2007). Accounting information, disclosure, and the cost of capital. *Journal of Accounting Research* 45, 385–420.
- Lau RSM, & May B. (1998). A win-win paradigm for quality for work life and business performance. *Human Resource Development Quarter& Fall*, 211-226.
- Levering R, & Moskowitz M. (1998). The 100 best companies to work for in America. *Forrune*, 84-95.
- McGregor, D. M. (1960). *The human side of enterprise*. New York: McGraw-Hill.
- Nguyen, P. Nguyen L. & Le, D.N. (2021). The Impact of Extrinsic Work Factors on Job Satisfaction and Organizational Commitment at Higher Education Institutions in Vietnam. *Journal of Asian Finance, Economics and Business*. 8(8): 259-270.
- Powell, D. (2022). Quantile regression with nonadditive fixed effects. *Quantitative Economics*, 13(3), 1007–1038.
- Rehman M. Z., Khan, M. R., & Lashari, Z. A. (2010), Effect Of Job Rewards On Job Satisfaction, Moderating role Of Age Differences: An Empirical Evidence From. *African Journal of Business Management*, 4(6): 1131-1139.

- Richardson, S., (2006). Over-investment of free cash flow. *Review of Accounting Studies* 11, 159–189.
- Smith, F. J. (1977). Work attitudes as predictors of attendance on a specific day. *Journal of Applied Psychology*, 62, 16–19.
- Stiglitz, J., Weiss, A.,(1981). Credit rationing in markets with imperfect information. *American Economic Review* 71, 393–410.
- Tao, C. Limgmin, X. & Yuanyuan Z. (2017). How does analysts' forecast quality relate to corporate investment efficiency? *Journal of Corporate Finance*. 43: 217-240.
- Tijana R. (2020). Lead independent directors and investment efficiency. *Journal of Corporate Finance*. 64: 1-16.
- Watson N. (2002). Happy companies make good investments. *Fortune*, 162.
- Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data* (2nd ed.). MIT Press.

CHAPTER 3

THE MODERATING ROLE OF INSTITUTIONAL QUALITY ON THE NEXUS OF JOB SATISFACTION AND INVESTMENT EFFICIENCY.

3.1 Introduction

Amidst limited resources, effective and efficient resource allocation is critical in achieving organizational goals, as it helps reduce waste and respond to profitable opportunities. Hence, organizations must prioritize their corporate investment culture in a way that generates higher returns and reduces the risk of investment failure (Bartra and Verma, 2017; Rajkovic, 2020). Accordingly, practitioners and researchers alike have taken a keen interest in firms' investment culture, especially as it could potentially lead to an agency problem (Bebchuk et al., 2017; Naeem et al., 2019; Zhang et al., 2022).

On the other hand, several studies have established a positive relationship between job satisfaction and employee performance, which in turn contributes to improved investment returns (Eliyana & Ma'arif, 2019; Ninaus et al., 2021; Farmaki et al., 2022). Specifically, firms with higher job satisfaction of employees have greater investment returns because the work environment, including job autonomy, job security, decent pay, and work-life balance, reduces absenteeism and lower turnover rates but improves employee behavior and productivity (Huang et al., 2015; Uchida and Kino, 2021). Consequently, providing a work environment that reflects a certain level of satisfaction for employees is a conduit for reducing agency problems, thus, mitigating adverse behavior.

Furthermore, firms prioritizing employee job satisfaction can gain in various ways. Firstly, decision-makers in these firms are more likely to be intrinsically motivated, making them less inclined to act opportunistically (Arvidsson et al., 2022). Additionally, according to various organizational studies, high job satisfaction fosters a productive work environment among groups or teams, promoting more cohesion, helpful behavior, and a stronger moral compass (Kidwell and Valentine, 2009; Arvidsson et al., 2022). Hence, job satisfaction in a group setting may serve as a form of discipline, taking the place of external supervision and boosting investment efficiency by reducing the problem of moral hazard.

In specific terms and with regard to corporate investment, most markets in the real world are imperfect, militating against optimal investment levels (Biddle et al., 2009; Elaoud and Jarboui, 2017; Rajkovic, 2020). As a result, investment inefficiency, resulting from agency issues and asymmetric information of this imperfect market, causes overinvestment and underinvestment. Overinvestment, for instance, may stem from managerial self-interest, manifesting in egotistical pursuits such as empire-building or value-destroying diversification through acquisitions (Biddle et al., 2009; O'Toole et al., 2016; Chen et al., 2017). According to Hope and Thomas (2008), the term "empire-building" refers to a company's growth lacking an economic foundation and is instead motivated by the opportunistic goals of the management, such as pay and prestige. However, job satisfaction, measured through various metrics, including decent pay to employees and management, is expected to reduce managerial moral hazard problems, limiting overinvestment difficulties.

On the other hand, underinvestment may arise through insufficient capital to pursue profitable investment with positive net present value (Arvidsson et al., 2022) or through tight oversight

functions of the firm's board (Rajkovic, 2020). Consequently, managers who are satisfied with their job tend to be less prone to moral hazard problems and opportunistic managing behavior by allocating financial resources efficiently, cutting wastage, and acting objectively to profitable opportunities to the firms rather than their pocket. This could therefore result in less underinvestment. Moreover, Ward et al. (2020) emphasized that satisfied managers may be more willing to seek out and pursue profitable investment projects and are less likely to forgo such projects due to concerns over the potential damage to their reputation or job security, particularly in the uncommon scenario that a project does not generate anticipated profits.

However, the crux of this study is to examine the moderating role of institutional quality between job satisfaction and investment efficiency. The following reasons underpin this line of inquiry in this study. One, asymmetric information, agency problem, adverse selection, and moral hazard thrive in environments with low institutional quality (Leonard et al., 2013; Abdul-Rahman et al., 2014; Zhang et al., 2022). Asymmetric information, for instance, is a major problem between firms and external capital providers (Arvidsson et al., 2022). As a result, adverse selection issues during borrowing transactions may arise on the part of the firm. On the other end, external capital providers might increase financing costs and curtail their capital supply, anticipating a moral hazard problem from the firm.

Meanwhile, studies have shown that a lack of proper disclosure between two parties of a transaction increases the likelihood of investment inefficiency, causing underinvestment or overinvestment (Cheng et al., 2013; Dutta and Nezlobin, 2017; Chen et al., 2020; Liu and Tian, 2021; Sualihu et al., 2021). Nevertheless, leveraging institutional quality through the effectiveness and regulatory prowess of institutions saddled with such responsible can potentially reduce agency

problems from both the firm and external capital providers, consequently reducing investment inefficiency. Also, instituting the proper legal system and year-on-year political stability can further decimate investment inefficiency and necessitate employees to act objectively, restraining them from empire-building projects. This forms the basis of this study's first hypothesis.

Two, institutions enact and execute laws and policies across socioeconomic interactions of humans, and employee well-being is no exception. Employee job satisfaction can be increased by a supportive institutional environment that offers them possibilities for career advancement, fair pay, and job stability. For instance, workers may feel more secure in their jobs in nations with a robust rule of law system because they are more likely to believe that their employers will abide by labor regulations (van Essen et al., 2015; Chesney et al., 2019). Similarly, employees are more likely to experience fair pay, benefits, and working conditions in nations with robust labor rights and regulations, which can increase their job satisfaction (Kerwin, 2013; Van Aerden et al., 2016).

Furthermore, a strong institutional quality environment can encourage a work environment with a culture of justice, openness, and responsibility, enhancing employee well-being and workplace relationships. Additionally, a supportive institutional framework may give employees access to social protection plans like health insurance, pensions, and unemployment insurance, which can lessen financial strain and improve general well-being. Meanwhile, studies have established that job satisfaction, in all its ramifications, reduces the chances of adverse behavior and moral hazard, making employees act in the firms' best interest (Flamming and Luo, 2017; Arvidsson et al., 2022). Specifically, Ji et al. (2017) posit that firms whose employees are highly satisfied with their job roles are less prone to participate in financial corruption. Thus, the moral hazard issue should be less severe because satisfied employees are less inclined to exploit information asymmetries.

Nonetheless, leveraging regulatory quality environment, political stability, control of corruption, and political effectiveness of a country could further induce job satisfaction of employees and managers by significantly eliminating bureaucratic practices related to agency issues. This potentially increases transparency and trust, therefore reducing overinvestment and underinvestment. Accordingly, upon this basis rest the second hypothesis of this study.

3.2 Empirical Literature

The current literature has extensively examined the connection between job satisfaction and investment efficiency in various institutional frameworks. As a result, multiple theoretical propositions, empirical findings, and conclusions have emerged. With this background information in mind, the following subheadings systematically evaluate pertinent studies on the interplay between institutional quality and the relationship between job satisfaction and investment efficiency in US firms.

3.2.1 Conceptualizing Institutional Quality

Various attempts by prior studies at conceptualizing institutional quality have resulted in conflicting conclusions. This can be explained by the ever-increasing determinants of institutional quality over time, as revealed by empirical studies.

Most of the early research on institutional quality can be credited to Douglass North's works (1981, 1990). Institutions were conceptualized deductively as constraints that humans devised and implemented to control and shape the dynamics of human interaction. Accordingly, institutional quality can be used to restrict the executive branch's independence (Odle, 2022). These restrictions

may be in the form of formal laws or unspoken guidelines, and the ability to be enforced determines how strong they are. Executive authority restrictions reduce the likelihood that a country's leaders may declare themselves above the law. Furthermore, that ensures that the law will safeguard individuals, businesses, and other critics of the current economic system in their endeavors, investments in human and physical capital, and cutting-edge technical projects (Sharma, Sousa, and Woodward, 2022). High-quality institutions are necessary to guarantee that the incumbent and challengers are treated equally following the nation's established laws.

The assessment of institutional quality goes beyond North's perspective. Acemoglu et al. (2001, 2002, 2005) integrated de facto and de jure power in their institutional quality model to differentiate between formal and informal authority and political and economic power. Additionally, the perceived expropriation risk was identified as a significant indicator of institutional quality by Acemoglu et al. (2001). Although this may seem insignificant compared to North's de jure executive power when economic power is concentrated among certain groups, it is still critical.

Moreover, Easterly (2013) strongly emphasizes individual rights and opportunities as the cornerstone of economic institution quality. Protecting these rights will stimulate investment and promote innovation in new markets and technologies. Conversely, if these rights are expected to be violated, investment and progress will be hindered. Furthermore, Easterly (2013) expands the scope of institutional quality indicators to include providing adequate public services. Legal and political rights are ineffective without efficient public services, especially in developing nations. For example, the lack of investment and maintenance of power infrastructure can result in power

outages and malfunctioning equipment, leading to adverse economic consequences (Giordano et al., 2015).

A relatively broadly accepted construct of institutional quality is advocated based on the aforementioned narrative and in conjunction with the submissions of Easterly and Levine (2003), IMF (2003), Kuncic (2013), Fabro and Aixelá (2013), and more recently Salman et al. (2019), Zalle (2019), Hassan and Meyer (2021), Liu et al. (2022), among many others. Hence, institutional quality can be said to consist of the following key dimensions;

Absence of violence and political stability

The assessment gauges the possibility of political turmoil and/or violent acts driven by political motives, such as terrorism. The probability of political instability and/or politically motivated violence is negatively associated with the willingness of citizens in a country to invest in their prosperous future (Castellacci, Oguguo, and Freitas, 2022; Modugu and Dempere, 2020).

Voice and accountability

It represents perspectives on matters such as the extent to which the citizens of a nation can elect their government and issues like freedom of expression, association, and the media. In other words, it measures a country's people's ability to choose and dismiss their leaders, limiting the exercise of executive power (Malanski and Póvoa, 2021).

Government effectiveness

This metric assesses the effectiveness of public services, the efficiency and impartiality of the civil service, the efficacy of policy formulation and implementation, and the credibility of the government's commitment to its declared policies (Duho, Amankwa, and Musah-Surugu, 2020).

Regulatory quality

The capacity of the government to create and execute rational legislation and regulations that encourage and advance the growth of the private sector, thereby establishing equitable standards of economic participation (Wang et al., 2019).

Rule of Law

The political principle of the rule of law mandates that all individuals and entities within a country, state, or community must abide by the same legal framework, including elected officials (Tamanaha, 2004). It encompasses vital aspects such as contract enforcement, safeguarding property rights, the efficacy of law enforcement and the judicial system, and preserving social conventions.

Control of corruption

The Control of Corruption indicator evaluates the extent to which power is perceived to be used for personal benefit, including minor and major corrupt activities and the "capture" of the state by elites and private interests (Kunawotor, Bokpin, and Barnor, 2020). Economic success increasingly relies on skill and competence rather than influence and bribery, and corruption is more effectively managed as efficiency increases.

Ease of doing business

This encompasses a wide range of factors that determine how conducive the regulatory environment is to business operations (Zalle, 2019)

3.2.2 Job Satisfaction

The origin of job satisfaction can be traced back to the human resource movement of the 1930s, which emerged in response to worker dissatisfaction and performance concerns brought on by implementing Taylorist work organization techniques (Taylor, 1977). Although first introduced in industrial psychology and management (Saari and Judge, 2004), the degree of job satisfaction an individual experiences has become vital to understanding how much they enjoy their work. This encompasses various factors, including the holistic assessment of their employment situation (Aziri, 2011). However, one criticism of research in this field is that it has primarily focused on empirical evaluations of the relationship between job satisfaction and job attributes or worker characteristics, neglecting the theoretical foundations or implications of such analyses. The research on job satisfaction is mostly quantitative, and the central debate remains on whether to use generic or more specialized measures to assess employee satisfaction.

Assessing job satisfaction requires considering a range of responsibilities that employees may not necessarily enjoy (Ali & Anwar, 2021). Using a single measure versus multiple metrics can be debated, as a single measure can provide an overall evaluation of a job based on an employee's individual preferences. However, a single measure may obscure the crucial aspects of employees' perceptions of their jobs. This can lead to decreased index variability and difficulty in interpreting the results due to uncertainty regarding the respondent's frame of reference, mainly when using single-item measures (Munoz de Bustillo & Fernandez-Mac'as, 2005; Ali & Anwar, 2021). In addition, most surveys on job satisfaction indicate that few workers report dissatisfaction, which

may help explain the limited correlation between job satisfaction and social and economic indices (de Bustillo & Fernandez-Mac, 2005).

3.2.3 Conceptualizing Investment efficiency

Investment efficiency, defined as the optimal balance between overinvestment and underinvestment, is a critical concept in financial management. Zhang et al. (2016) describe investment efficiency as a reduction in the relative extent of both overinvestment and underinvestment over time. This concept has been extensively explored across various domains, including financial reporting (Biddle et al., 2009; Chen et al., 2011a; Gomariz & Ballesta, 2014) and corporate social responsibility (Cook et al., 2019; Samet & Jarboui, 2017; Shahzad et al., 2018). Notably, investment efficiency also plays a significant role in shaping a firm's risk profile (Duho, 2021).

Making investment decisions is a critical responsibility of finance managers, alongside capital structure and working capital decisions (Ekpo, Etukafia, and Udofot, 2017). These decisions are crucial for achieving the organization's full potential, and careful coordination is required (Gao et al., 2021). Shareholders expect management to accept projects with a positive net present value (NPV) and reject those with a negative NPV to make profitable investments (Modigliani & Miller, 1958). However, this task is challenging, and poor appraisals by managers may lead to overinvestment or underinvestment. This can harm the company's ability to meet its financial obligations. The optimal time for investing is when the marginal gain equals the marginal expense, and a company that operates at maximum efficiency is considered investment-efficient. Nevertheless, market friction can cause companies to deviate from this optimal level, resulting in overinvestment or underinvestment (Chen et al., 2017).

A company is considered investment-efficient if its management makes decisions with a positive NPV without agency costs or adverse selection (Biddle et al., 2009). A company underinvests when the manager rejects investment opportunities with a positive net present value, assuming no market frictions such as agency costs and adverse selection. However, the company overinvests when the manager approves projects with a negative net present value. Overinvestment is common in cash-rich and unlevered companies where managers choose unsuitable ventures to use the company's free cash flow. In contrast, companies with low cash flows and high debt levels tend to underinvest (Rojkovic, 2020).

3.2.4 Job satisfaction & Investment efficiency

The concept that employee satisfaction is linked to a firm's performance is not a novel idea, and research has shown that treating employees well can enhance investment efficiency. While prior studies have examined aspects of employee satisfaction and corporate investment outcomes, the specific relationship between job satisfaction and *investment efficiency*, particularly the distinction between over-investment and under-investment, remains underexplored. Arvidsson, Eierle, and Hartlieb (2022) examine employee-related factors and investment outcomes within a sustainability-oriented framework. However, their analysis does not explicitly model investment efficiency or distinguish between over- and under-investment, nor does it explore heterogeneous effects across the investment distribution. The present study extends this line of research by focusing directly on investment efficiency and by employing a quantile-based approach. In contrast, this chapter contributes to the literature by examining how job satisfaction affects the *efficiency* of investment decisions across the conditional distribution of investment outcomes, thereby capturing heterogeneous effects that are not observable in average-effect models. Their

findings revealed that high job satisfaction reduces moral hazard and adverse selection due to knowledge asymmetries, leading to better investment decisions. Zingale (2000) and Edmans, Li, and Zhang (2014) also supported the notion that improving employee happiness is essential for enhancing staff recruitment, retention, and motivation, all of which contribute to an organization's investment strategies.

Edmans (2012) examined the link between a company's future stock returns and employee satisfaction. By analyzing the "100 Best Companies to Work For in America" list, his research found that employee satisfaction increases a company's long-term value, and corporate social responsibility (CSR) improves stock returns. Furthermore, Edmans (2011) has reaffirmed that employee satisfaction is positively linked to shareholder returns and does not necessarily indicate managerial laxity. This finding is consistent with business models that focus on human capital. Previous research suggests that treating employees well can help attract skilled human resources, leading to better labor turnover, employee retention, and performance, ultimately contributing to an organization's investment efficiency (Cao and Rees, 2020).

However, agency theory, proposed by Jensen and Meckling (1976), argues that employee-friendly practices can exacerbate the conflict between managerial and shareholder goals. Moral hazards, including self-interested managers and divergent principle-agent incentives, can result in either overinvestment or underinvestment. Some studies have also shown the adverse effects of employee satisfaction on labor investment efficiency. Such findings illustrate that interested managers may use employee-friendly policies to over-hire employees to enhance their workforce or under-fire employees to maintain good employee relations and gain personal rewards (Atanassov and Kim, 2009).

3.2.5 Institutional quality and investment efficiency

The link between the legal system, the law, and organizational performance has been extensively studied (Baumöhl, Iwasaki, and Koenda, 2019; Faruq and Weidner, 2018; Ghoul, Guedhami, and Kim, 2017, among others), although empirical research along this axis is scarce. The literature is replete with reports on the connection between institutional quality, company performance, and investment efficiency. Allocative inefficiency can be reduced, and company productivity can be increased with an enhanced institutional framework, increasing investment. According to Dal Bó and Rossi (2007) and Fisman and Svensson (2007), bribery and corruption hinder business development and reduce the likelihood of making the best investment decisions. Jibir et al. (2019) examine how institutions affect corporate success in 23 Sub-Saharan African (SSA) countries using labor productivity as a proxy for company performance. The study discovered a connection between institutional excellence and total commercial performance. The study's empirical results show that reducing corruption, boosting the rule of law, and enhancing the efficiency of the government all boost business performance.

According to Shirokova et al. (2021), a less stable and unstable legal climate may expose businesses to higher uncertainty over intellectual property theft, unfair competition, and the possibility that customers and suppliers will not uphold contracts. Under such situations, it would be harder for businesses to predict and manage their costs, which might significantly impact their investment choices. According to Dao et al. (2020), private sector firms choose PPPs in economies with high institutional quality to address the investment inefficiency of overinvestment. In contrast, those in economies with low institutional quality choose PPPs to address capital constraints attributable to underinvestment. They carried out this study using a sample of 625

private companies participating in public-private partnerships (PPPs) from nine economies between 1980 and 2015, all with different levels of economic development and PPP market maturity. Long-term, economies with high institutional quality will benefit more from PPP projects' lowered capital restrictions. Chang (2023) examined 16,523 companies across 41 countries to determine whether improved institutional quality may boost corporate value, performance, and investment effectiveness. The report recommended improving the economy's investment climate through institutional frameworks to boost corporate productivity through improved investment efficiency.

3.2.6 Appraisal of the Literature

Examining the relationship between job satisfaction and investment efficiency has received significant scholarly attention, with research expanding in this area. Similarly, the impact of institutional quality on corporate investment efficiency has been a subject of interest, with studies often including multinational organizations to provide diverse empirical findings. Previous research has explored the links between institutional quality and investment efficiency, as well as job satisfaction and investment efficiency. However, to the best of my knowledge, only Waheduzzaman and Khandaker (2022) explicitly examine the role of institutional quality in shaping the relationship between employee-related outcomes and firm-level efficiency, though their focus is not on investment efficiency per se. Unlike Waheduzzaman and Khandaker (2022), the present study focuses directly on investment efficiency and formally tests the mediating role of institutional quality using firm-level investment deviations, thereby extending the literature along both conceptual and methodological dimensions.

The anticipated interaction between institutional framework quality and the investment efficiency-job satisfaction relationship is expected to yield interesting results since institutional frameworks shape the legal and social context in which corporate investment decisions are made. These frameworks also facilitate the coordination of employer-employee relations within firms and, by extension, the broader economy. This study seeks to address this gap in the literature, focusing specifically on firms in the United States due to the distinctive nature of the institutional structure in this country (Wacquant, 2003; Doh and Guay, 2006). Moreover, this research aims to diverge from prior studies that have examined a broad range of companies across multiple countries.

3.2.7 Research Questions

Given the identified gap and the conceptual clarification, the following questions are developed to guide the direction of this study:

- i. How does regulatory quality moderate the relationship between job satisfaction and investment efficiency across top-ranked United States firms?
- ii. To what extent has control of corruption and government effectiveness mitigated against investment inefficiency of overinvestment and underinvestment in these firms?
- iii. How has transparency through the rule of law affected the relationship between job satisfaction and investment efficiency (inefficiency)?

This chapter contributes to the literature in several important ways. First, it shifts the focus from firm value and investment volume to investment efficiency, distinguishing explicitly between overinvestment and under-investment. Second, it employs a long panel of U.S. firms spanning multiple economic cycles, allowing for a more comprehensive assessment of the job satisfaction–

investment efficiency relationship. Third, by applying panel quantile regression, the analysis reveals heterogeneous effects across firms with differing levels of investment inefficiency. Finally, the chapter situates job satisfaction within an agency-efficiency framework, highlighting its role as an internal organizational mechanism that improves capital allocation rather than merely an outcome of corporate performance.

3.3 Data and Methodology

Our main sample consists of firm-year observations from 1984 to 2021. We start in 1984 because the variables for job satisfaction which is proxy by the ranking of top 100 American firms is only available from the year 1984. The primary source of data for this study is the ranking of the "100 Best Companies to Work for in America." as adopted by Alex Edmans (2010). Following the studies of Biddle et al., 2009; Rajkovic, 2020, we collect financial reporting data from Compustat. The data for institutional quality is sourced from Word Governance Indicator, World Bank data bank.

Although the firms examined in this study operate within the same national institutional framework, institutional quality is not entirely homogeneous. First, institutional indicators vary over time, reflecting changes in regulatory enforcement, governance effectiveness, and political conditions at the national level. Such temporal variation has been widely exploited in single-country studies to identify institutional effects (Acemoglu et al., 2001; Rajan & Zingales, 1998).

Second, U.S. firms are headquartered across different states, which differ meaningfully in regulatory stringency, enforcement quality, corruption exposure, and political governance. Prior research documents substantial sub-national institutional heterogeneity within the United States that can influence firm behaviour and economic outcomes (Glaeser & Saks, 2006; Fan et al., 2012).

While the present study does not explicitly model state-level institutional indicators, the interaction between job satisfaction and institutional quality captures how changes in the broader governance environment condition firm-level investment efficiency over time.

3.3.1 Model specifications

Methodology

Prior literature has affirmed that a firm's investment decision depends mainly on its growth opportunity or expansion plan (see Biddle et al., 2009; Rajkovic, 2020; Wu et al., 2022; Liu et al., 2022). Accordingly, this relationship is depicted as follows:

$$INV_{i,t} = \alpha_0 + \alpha_1 SG_{i,t-1} + \mu_{i,t} \quad (1)$$

INV represents investments, defined as the sum of a firm's capital, research and development, plant and equipment, and acquisition expenditures. Conversely, SG implies the sales growth potential of each firm. i indicates the cross-sectional dimension of the variables, primarily including all the US top 100 firms, while t denotes the time-series dimension of the identified variables. Following studies like Biddle et al. (2009), Chen et al. (2011), and Chen et al. (2017), this study generates investment inefficiency by utilising residuals in equation 1, which represent the difference between the anticipated and actual investments. Hence, positive residual values denote overinvestment (OVINV), while negative values signify underinvestment (UDINV). The procedure introduced by Rajkovic (2020) is employed to assess investment efficiency (INVEFF). This measure is obtained by taking the residuals' absolute value and multiplying it by a negative one.

The generated investment efficiency and inefficiency series is now regressed on job satisfaction and other variables in the following equation:

$$Y_{i,t} = \beta_0 + \beta_1 JS_{i,t-1} + \beta_p X_{i,t-1} + \mu_{i,t} \quad (2)$$

$Y_{i,t}$ in equation 2 is a $1 \times n$ matrix containing investment efficiency (INVEFF), underinvestment (UDINV), and overinvestment (OVINV). JS is job satisfaction and is evaluated by ranking the top 100 firms (Edmans, 2012). X is a $1 \times n$ matrix containing control variables like the operating circle of the firms and its size (Biddle et al., 2009; Rajkovic, 2020), leverage (Chen et al., 2011; Wu et al., 2022), tangibility (Biddle et al., 2009), and market-to-book-ratio (O'Toole et al., 2016).

Equation 2 is further modified to accommodate the objective of this study. Initially, this study hypothesised that strong institutional quality could mitigate agency problems that lead to inefficiency of overinvestment and underinvestment. However, this study strongly emphasised that the role of institutional quality is indirect and often related to human management; hence, this study hypothesises that job satisfaction is a link through which institutional quality relates to investment efficiency and inefficiencies. Accordingly, Equation 3 captures this fundamental, and it is specified as follows:

$$Y_{i,t} = \beta_0 + \beta_1 (JS_{i,t-1} * K_t) + \beta_p X_{i,t-1} + \mu_{i,t} \quad (3)$$

K in Equation 3 is a $1 \times n$ matrix comprising institutional quality indicators such as control of corruption, political stability, government effectiveness, and regulatory quality. All other variables remain as earlier defined and $(JS_{i,t-1} * K_t)$ represents the interaction between institutional quality and job satisfaction and K_t represents country-level institutional quality indicators.

The interaction term ($JS_{i,t-1} * K_t$) is introduced to examine the moderating role of institutional quality in the relationship between job satisfaction and investment efficiency. This interaction-based approach is well established in the literature for testing whether country-level institutions condition the impact of firm-level characteristics on corporate outcomes (Acemoglu et al., 2001; Fan et al., 2012; Boubakri et al., 2013).

Institutional quality variables are systematic at the country-year level and therefore common to all firms operating within the same institutional environment. As a result, their direct inclusion as firm-level regressors would be absorbed by time fixed effects and would not be separately identifiable. However, interacting institutional quality with firm-level job satisfaction introduces cross-sectional variation, allowing the moderating effect of institutions on the job satisfaction–investment efficiency relationship to be identified.

Consequently, institutional quality variables are not included in the vector of firm-level controls $X_{i,t-1}$, but instead enter the model exclusively through interaction terms. This specification is consistent with institutional and governance theories, which emphasize that institutions shape incentives and behavioral responses rather than directly determining firm-level investment decisions (North, 1990).

3.4 Empirical Results

3.4.1 Preliminary Findings

Conventional panel series that are not reverting to their mean (non-stationary) or that has unit root are prone to generating spurious results (Luitel and Mahar, 2016; Roza et al., 2022). Hence, all variables in this study are subjected to panel unit root tests to ascertain their stationarity status. This study uses four different first-generation panel unit roots for this purpose, and the result is reported in Table 1. The tests reveal homogeneity in the stationarity status of all variables aside from political stability (PS) and regulatory quality (RE). Specifically, all tests show that series of job satisfaction (JS), control of corruption (CC), government effectiveness (GE), leverage, tangibility (TANG), cash-to-asset ratio (CASH), market-to-book (MB), firm size (SIZE), operating cycle (OPCYCLE), Slack, and ZSCORE is stationary at levels. Hence, the null hypothesis of unit root is rejected for the alternative.

Conversely, the results presented in Table 1 reveal discrepancies in the unit root tests for political stability (PS) and regulatory quality (RE). For instance, while the Levin, Lin & Chu test, Im, Pesaran and Shin test, and the ADF-Fisher Chi-square test reveals that PS mean-revert at levels, the PP-Fisher Chi-square test shows no significance of mean-reversion property of PS series. Also, while the Im, Pesaran and Shin test and the ADF-Fisher Chi-square test report stationarity at levels in the series of regulatory quality, Levin, Lin & Chu test and PP-Fisher Chi-square test reveal that the series is non-stationary at levels. However, an earlier study by Österholm (2004) opined that the Im, Pesaran and Shin test results should be prioritised when the first-generation panel unit roots report heterogeneity in stationarity status. This is because Im, Pesaran and Shin's test account for cross-sectional dependence and overcome small T (time-series) dimension bias. Accordingly, this study affirms that the PS and RQ series are stationary at levels following the Im, Pesaran and Shin test.

Table 1: Panel Unit Roots Result

Variables/Test	Levin, Lin & Chu	Im, Pesaran and Shin	ADF-Fisher Chi-square	PP-Fisher Chi- square
JS	-37.9949***	-8.5715***	250.713***	291.886***
CC	-14.3364***	-3.3489***	508.848***	686.641***
GE	-15.8642***	-8.3727***	570.248***	510.259***
PS	-4.4271***	-4.0855***	454.836***	259.624
RQ	2.5231	-4.9663***	422.738**	276.953
Leverage	-12.6603***	-8.0890***	798.575***	838.366***
Tang	-522.274***	-93.2405***	2728.96***	2978.67***
Cash	-149.827***	-26.3132***	1268.62***	1294.29***
Mb	-6.7014***	-6.9429***	759.901***	770.634***
Size	-31.5091***	-15.1398***	1451.61***	1643.96***
Opcycle	-16.7556***	-14.7777***	1114.51***	1134.44***
Zscore	-17.8119***	-16.4215***	1062.63***	1134.33***
Slack	-20.5447***	-20.5930***	1145.06***	1308.83***

Note: *** and ** represent 1% and 5% significant levels, respectively.

This study also reports the correlation between job satisfaction and measures of institutional quality in Table 2. This is necessary because the author intends to show a relationship between job satisfaction and measures of institutional quality, statistically proving that the variables can moderate or interact together. The result, presented in Table 2, shows that job satisfaction (JS) and measures of institutional quality (control of corruption (CC), government effectiveness (GE), political stability (PS), and regulatory quality (RQ) are negatively related. However, the relationship between control of corruption and job satisfaction is stronger (-0.1246), unlike other measures of institutional quality, whose relationship with job satisfaction is relatively weaker. Ultimately, though a causal relationship cannot be established, co-movement tendencies between job satisfaction and measures of institutional quality can be inferred.

Table 2: Correlation Analysis

Variables	JS	CC	GE	PS	RQ
JS	1				
CC	-0.1246	1			
GE	-0.0801	0.7465	1		
PS	-0.0068	-0.0206	0.2871	1	
RQ	-0.0457	0.6030	0.7627	0.1671	1

3.4.2 Main Result

Presentation of Result

This section reports the study's findings in tandem with the objectives. However, each factor indicating institutional quality interacted with job satisfaction to avoid endogeneity in the results. In Table 3, the result shows that an intense increase in the interaction of job satisfaction and control of corruption increases investment efficiency by 0.0178% on average and significantly reduces overinvestment by 0.0302% on average. However, the result shows no significant impact of the interaction between job satisfaction and control of corruption on underinvestment. Table 4 illustrates that investment efficiency and underinvestment do not significantly respond to job satisfaction and regulatory quality interaction. Nonetheless, as the interaction between job satisfaction and regulatory quality intensifies, overinvestment significantly increases by 0.029% on average.

The findings in Table 5 demonstrate that investment efficiency and underinvestment increase by 0.0269% and 0.0331%, respectively, as government effectiveness and job satisfaction interaction increase. Furthermore, the interaction between job satisfaction and government effectiveness significantly reduces overinvestment by 0.0212% on average. Table 6 presents the estimates of the interaction between job satisfaction and political stability, showing that heightened interaction between both variables does not significantly affect investment efficiency and underinvestment on average. Nevertheless, the result indicates that as political stability status interacts with job satisfaction, overinvestment increases significantly by 0.0363% on average.

The control variables estimates were also reported in Tables 3, 4, 5, and 6. The leverage and operating circle coefficients (OPCYCLE) show a negative relationship between the variables and investment efficiency, underinvestment, and overinvestment across the tables. On the other hand,

the cash-to-asset ratio (CASH) positively affects investment efficiency, underinvestment, and overinvestment across the tables. Also, while variables, such as Zscore and Slack, increase investment efficiency and underinvestment, they significantly reduce overinvestment across the tables. In addition, firm size reduces investment efficiency, but itself and market-to-book (MB) increase underinvestment and overinvestment across the tables. Contrarily, the tangibility (TANG) of the firms reduces investment efficiency and increases overinvestment across the tables.

Table 3: Interaction of Control of Corruption

Variables	Investment Efficiency	Underinvestment	Overinvestment
Jcc	0.0178** (0.0088)	-0.0081 (0.0135)	-0.0302*** (0.0076)
Leverage	-0.0759* (0.0420)	-0.2538*** (0.0575)	-0.1603*** (0.0417)
Tang	-0.8791* (0.4560)	0.014 (0.7684)	2.6313*** (0.3646)
Cash	0.1709*** (0.0780)	0.5523*** (0.1111)	0.3339*** (0.0732)
Mb	0.004 (0.0031)	0.0103** (0.0042)	0.0093*** (0.0032)

Size	-0.1295*** (0.0092)	0.1456*** (0.0165)	0.6532*** (0.0103)
Opcycle	-0.2377*** (0.0152)	-0.5389*** (0.0239)	-0.2663*** (0.0152)
Zscore	0.0172*** (0.004)	0.022*** (0.0057)	-0.0385*** (0.0038)
Slack	0.0461*** (0.0086)	0.0647*** (0.0140)	-0.0306*** (0.0070)
Constant	0.0354 (0.0548)	-0.3458*** (0.0764)	-1.3185*** (0.0555)
R-Squared	0.1469	0.2626	0.5607
F-test	121.2967***	112.5763***	493.8548***

Note: JCC indicates the interaction of control of corruption and job satisfaction. Values in () are standard errors. ***, **, and * represents 1%, 5%, and 10% significant level.

Table 4: Interaction of Regulatory Quality

Variables	Investment Efficiency	Underinvestment	Overinvestment
-----------	-----------------------	-----------------	----------------

JRQ	0.0107 (0.0140)	0.0199 (0.0255)	0.029** (0.0114)
Leverage	-0.0709* (0.0419)	-0.2565*** (0.0574)	-0.1741*** (0.0417)
Tang	-0.8824* (0.4561)	0.0163 (0.7683)	2.6729*** (0.3650)
Cash	0.1862** (0.0776)	0.5368*** (0.1106)	0.2944*** (0.0728)
Mb	0.0048 (0.0031)	0.0094** (0.0042)	0.0063** (0.0032)
Size	-0.1266*** (0.0091)	0.141*** (0.0161)	0.6461*** (0.0102)
Opcycle	-0.239*** (0.0152)	-0.5364*** (0.0238)	-0.2636*** (0.0152)
Zscore	0.0168*** (0.0040)	0.0223*** (0.0057)	-0.0376*** (0.0038)
Slack	0.0467***	0.0638***	-0.0327***

	(0.0086)	(0.0140)	(0.0070)
Constant	0.0395 (0.0548)	-0.3496*** (0.0764)	-1.3331*** (0.0555)
R-Squared	0.1465	0.2627	0.5595
F-test	120.8466***	112.6405***	491.5324***

Note: JCC indicates the interaction of control of corruption and job satisfaction. Values in () are standard errors. ***, **, and * represents 1%, 5%, and 10% significant level.

Table 5: Interaction of Government Effectiveness

Variables	Investment Efficiency	Underinvestment	Overinvestment
JGE	0.0269*** (0.0066)	0.0331*** (0.0102)	-0.0212*** (0.0056)
Leverage	-0.0827** (0.0419)	-0.2683*** (0.0575)	-0.1598*** (0.0417)
Tang	-0.8743* (0.4555)	-0.0409 (0.7669)	2.643*** (0.3646)
Cash	0.142* (0.0783)	0.49*** (0.1113)	0.343*** (0.0735)

Mb	0.0028 (0.0031)	0.0075* (0.0042)	0.0092*** (0.0032)
Size	-0.1358*** (0.0093)	0.1273*** (0.0166)	0.6555*** (0.0104)
Opcycle	-0.235*** (0.0152)	-0.5295*** (0.0239)	-0.2675*** (0.0152)
Zscore	0.0176*** (0.0040)	0.0232*** (0.0057)	-0.0382*** (0.0038)
Slack	0.0439*** (0.0086)	0.0598*** (0.0140)	-0.0302*** (0.0070)
Constant	0.0384 (0.0547)	-0.3479*** (0.0762)	-1.3282*** (0.0554)
R-Squared	0.1486	0.2652	0.5605
F-test	122.9378***	114.1093***	493.5427***

Note: JCC indicates the interaction of control of corruption and job satisfaction. Values in () are standard errors.

***, **, and * represents 1%, 5%, and 10% significant level.

Table 6: Interaction of Political Stability

Variables	Investment Efficiency	Underinvestment	Overinvestment
JPS	0.0078 (0.0144)	0.0193 (0.0232)	0.0363*** (0.0117)
Leverage	-0.0707* (0.0419)	-0.2564*** (0.0574)	-0.1749*** (0.0416)
Tang	-0.8835* (0.4562)	0.0158 (0.7683)	2.6778*** (0.3649)
Cash	0.1871** (0.0776)	0.5371*** (0.1106)	0.2929*** (0.0728)
Mb	0.0049 (0.0031)	0.0094** (0.0042)	0.0062* (0.0032)
Size	-0.1263*** (0.0091)	0.1412*** (0.0161)	0.6458*** (0.0102)
Opcycle	-0.2391*** (0.0152)	-0.5364*** (0.0238)	-0.2636*** (0.0152)
Zscore	0.0168*** (0.0040)	0.0223*** (0.0057)	-0.0376*** (0.0038)

Slack	0.0468*** (0.0086)	0.0639*** (0.0140)	-0.0327*** (0.0070)
Constant	0.0398 (0.0548)	-0.3495*** (0.0764)	-1.3343*** (0.0555)
R-Squared	0.1464	0.2627	0.5599
F-test	120.8077***	112.6272***	492.3204***

Note: JCC indicates the interaction of control of corruption and job satisfaction. Values in () are standard errors.

***, **, and * represents 1%, 5%, and 10% significant level.

Discussion of Findings

The results presented above show some salient issues regarding the role of institutional quality in moderating the nexus between job satisfaction and efficiency of investment among the top 100 firms in the US. For instance, the findings show that heightened corruption control and government effectiveness significantly increase these firms' investment efficiency by interacting with job satisfaction. These results suggest that corruption control, denoted by the degree of corruption minimization within a country's institutions and government effectiveness, depicting the efficiency and quality of public administration, foster job satisfaction by establishing an ambience of trust, transparency, and predictability for these enterprises. This is consistent with the opinion of Zhao and Xu (2015) and Waheduzzaman and Khandaker (2022) that trust and transparency can be

induced by controlling corruption and using E-governance effectiveness within work environments.

This, in turn, results in greater investment efficiency as firms can confidently function knowing that corruption risks are low and government policies and regulations are effectively and efficiently executed. Consequently, satisfied employees are more likely to be productive and innovative, avoiding the likelihood of corrupt practices, favouritism, and misallocation of resources. This culminates in better organisational performance and investment outcomes. Moreover, satisfied employees are more likely to interact with public institutions where the leadership is competent. This may lead to favourable outcomes due to accelerated processes, prompt decisions, and trustworthy help (Veronika et al., 2019). This partnership can promote investment initiatives and improve overall resource distribution efficiency.

On the other hand, the results reveal that the interaction of regulatory quality and political stability with job satisfaction does not affect investment efficiency significantly. This could arise because, for instance, even if employees are satisfied with their jobs, inefficient or burdensome regulations can hinder investment efficiency by creating unnecessary bureaucratic hurdles or stifling innovation. Therefore, the interaction between job satisfaction and regulatory quality may not strongly affect investment efficiency since it primarily depends on the quality of the regulatory framework rather than employee satisfaction. Also, the firm size of these top US enterprises may dilute the impact of the interaction between job satisfaction and political stability on their investment efficiency status, especially because they have access to substantial resources that can make them adapt and navigate through political uncertainties to mitigate potential risks associated with political instability.

Regarding the result of the inefficiencies, underinvestment tends to only respond to the interaction of job satisfaction and government effectiveness significantly, neglecting other indicators of institutional quality. This result could stem from two fundamental facts. One, the US business environment is distinguished by firmly established legal frameworks, resilient regulatory systems, and predominantly stable political conditions (Bologna, 2017; Khan et al., 2019; Adusei and Sarpong-Danquah, 2021). As a result, the impact of job satisfaction, moderated by these factors, may be relatively subdued, given that the baseline conditions for investment decisions are already favourable. In this context, the potential effects of job satisfaction interacting with control of corruption, regulatory quality, and political stability on underinvestment may be limited because they may not directly address the specific constraints that lead to underinvestment.

Two, when government effectiveness is compromised, it results in regulatory uncertainty, bureaucratic obstacles, delays in decision-making processes, and other challenges that impede business operations and investments (Zambrano-Gutiérrez and Avellaneda, 2022). In such circumstances, job satisfaction becomes crucial as dissatisfied employees may be more prone to perceive and respond negatively to these government-related hurdles, further discouraging the impetus to pursue profitable investment opportunities. Therefore, the moderating role of government effectiveness intensified underinvestment, especially when employees are dissatisfied, haven perceive compromise in the government policy implementation process.

The heterogeneity arising from the interacting role of various institutional quality measures and job satisfaction on overinvestment is also explained from two viewpoints. Firstly, controlling corruption implies a transparent and accountable governance structure (Kunawotor et al., 2020). Such systems promote a fair and equitable business environment by discouraging the exploitation

of unfair advantages that could exacerbate agency problems. As a result, employees satisfied with their jobs are more likely to exhibit responsible decision-making and uphold ethical standards, aligning their investment behaviour with transparency and accountability. Moreover, government institutions that function effectively can monitor market activities, thereby preventing excessive investments resulting from market distortions, asymmetric information, and negative externalities (Rentschler et al., 2018; Zatshosova, 2019). Accordingly, high levels of job satisfaction combined with effective government policies act as a deterrent against excessive risk-taking behaviour. This is because when employees are satisfied and motivated, they may be more cautious and prudent in their investment decisions, avoiding excessive and unjustified investments that could result in overexpansion or unproductive asset allocation. Ultimately, the interplay between job satisfaction, control of corruption, and government effectiveness mitigates the tendencies towards overinvestment in top-tier US firms.

However, the result shows that improving regulatory quality can modulate job satisfaction to increase overinvestment among these top US firms. This is because there is always a time lag between the pronouncement of regulations and their enforcement (Philips, 2023). Hence, satisfied employees, especially at the management level, may take advantage of the gap in the pronouncement and implementation of regulations to embark on investment decisions in the short term, even if they are not optimal or adequately justified. Similarly, the intensified overinvestment reported due to the interaction of job satisfaction and political stability is often born out of comfort and security among employees as it reduces the risk aversion status of employees (Suzuki et al., 2018; van Huizen and Alessie, 2019). This prompts them to take more risks and advocate for aggressive investment strategies. Also, highly satisfied employees who perceive their workplace

as politically stable may develop inflated confidence in the firm's prospects and abilities. This overconfidence can lead to overestimating the potential returns from investments and, consequently, overinvesting.

While Edmans (2011, 2012) documents a positive association between employee job satisfaction and firm value using stock returns and market-based measures, the present study differs in both focus and contribution. Rather than examining market valuation outcomes, this study concentrates on internal capital allocation decisions and investigates whether job satisfaction improves firms' investment efficiency.

In this sense, the current analysis complements the findings of Edmans by shedding light on a potential mechanism through which employee satisfaction may translate into higher firm value. Specifically, by enhancing coordination, information sharing, and managerial alignment, higher job satisfaction may enable firms to allocate capital more efficiently in line with growth opportunities. Improved investment efficiency, in turn, represents a plausible channel through which employee satisfaction ultimately contributes to superior firm performance and valuation.

By focusing on investment efficiency rather than market outcomes, this study extends the literature beyond reduced-form valuation effects and provides micro-level evidence on how job satisfaction influences firm behavior.

3.5 Conclusion

This study validates that while institutional quality plays an integral role in moderating the relationship between job satisfaction and investment efficiency (inefficiency), the outcome may vary in terms of significance and direction due to various measures of institutional quality. Precisely, there is evidence suggesting that among the top 100 US firms, control of corruption and government effectiveness significantly modulate job satisfaction to enhance their investment efficiency. This is because control of corruption and government effectiveness fosters an environment of trust, transparency, and predictability while mitigating agency problem that arises through favouritism and misallocation of resources.

Also, these factors discourage unfair advantages, promote responsible decision-making among satisfied employees, and monitor market activities to prevent excessive investments resulting from market distortions and negative externalities, consequently reducing overinvestment in these firms. But underinvestment only persists among these companies when the government's effectiveness is jeopardised, and disgruntled workers react badly to government-related obstacles, deterring them from pursuing profitable investment prospects.

Contrarily, the interaction of job satisfaction with regulatory quality and political stability does not significantly affect investment efficiency and the inefficiency accompanying underinvestment. Instead, overinvestment is more inefficient because of the delays in the regulatory announcement and enforcement and the constant sense of security that highly satisfied workers in politically stable workplaces experience. These factors frequently reduce employees' risk appetite and raise overconfidence in their investment decisions.

While this chapter focuses on formal institutional quality, such as government effectiveness, control of corruption, regulatory quality, and political stability, as moderating factors in the

relationship between job satisfaction and investment efficiency, future research may extend this framework by examining the role of informal institutions. Informal institutions, including social norms, workplace culture, trust, and shared values, shape economic behavior beyond formal rules and may exert a complementary or substitutive influence on firm-level outcomes.

In particular, informal institutions may condition how employees perceive fairness, autonomy, and organizational legitimacy, thereby influencing the extent to which job satisfaction translates into improved investment behavior. For example, strong norms of trust and collaboration may enhance the effectiveness of job satisfaction even in environments with weaker formal institutions, whereas rigid cultural hierarchies may constrain its impact despite strong formal governance structures.

Future studies could explore these channels by incorporating measures of social capital, organizational culture, or regional trust indices, potentially allowing for a richer understanding of how institutional environments interact with employee satisfaction to shape firms' investment efficiency.

Description of variables.

Variables	Definition
Investment	This is the total of each firm's capital, R&D, plant and equipment, and acquisition expenditures.
Job Satisfaction	Proxy by the ranking of the "100 Best Companies to Work for in America." as adopted by Alex Edmans (2010). Published yearly by The Work Institute

Control of corruption (CC)	<p>From World Governance Indicators (WGI).</p> <p>Measures of institutional quality.</p> <p>Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.</p>
Government effectiveness (GE)	<p>From World Governance Indicators (WGI)</p> <p>Government effectiveness captures perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies.</p>
Political stability (PS)	<p>From World Governance Indicators (WGI)</p> <p>Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism.</p>
Regulatory quality (RQ)	<p>From World Governance Indicators (WGI)</p> <p>Regulatory quality captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development</p>
Slack	The ratio of cash to PPE

Leverage	LEVERAGE is the ratio of long-term debt to asset
Opcycle	Operating cycle= The log of receivables to sales plus inventory to COGS multiplied by 360.
Tang	Tangibility = The ratio of Property, Plant and Equipment (PPE) to total assets.
Cash	The ratio of cash to total assets.
MB	Mkt-to-Book = The ratio of the market value of total assets to book value of total assets.
Size	Firm size

References

- Abdul-Rahman, A., Latif, R.A., Muda, R. and Abdullah, M.A., 2014. Failure and potential of profit-loss sharing contracts: A perspective of New Institutional, Economic (NIE) Theory. *Pacific-Basin Finance Journal*, 28, pp.136-151.
- Acemoglu, D., Johnson, S. and Robinson, J.A., 2001. The colonial origins of comparative development: An empirical investigation. *American economic review*, 91(5), pp.1369-1401.
- Acemoglu, D., Johnson, S. and Robinson, J.A., 2002. Reversal of fortune: Geography and institutions in the making of the modern world income distribution. *The Quarterly journal of economics*, 117(4), pp.1231-1294.

- Acemoglu, D., Johnson, S. and Robinson, J.A., 2005. Institutions as a fundamental cause of long-run growth. *Handbook of economic growth, 1*, pp.385-472.
- Ali, B.J. and Anwar, G., 2021. An empirical study of employees' motivation and its influence job satisfaction. *Ali, BJ, & Anwar, G.(2021). An Empirical Study of Employees' Motivation and its Influence Job Satisfaction. International Journal of Engineering, Business and Management, 5(2), pp.21-30.*
- Arvidsson, S., Eierle, B. and Hartlieb, S., 2022. Job satisfaction and investment efficiency—Evidence from crowdsourced employer reviews. *European Management Journal*.
<https://doi.org/10.1016/j.emj.2022.10.007>
- Atanassov, J. and Kim, E.H., 2009. Labor and corporate governance: International evidence from restructuring decisions. *The Journal of Finance, 64(1)*, pp.341-374.
- Aziri, B., 2011. Job satisfaction: A literature review. *Management research & practice, 3(4)*.
- Batra, R. and Verma, S., 2017. Capital budgeting practices in Indian companies. *IIMB Management Review, 29(1)*, pp.29-44.
- Baumöhl, E., Iwasaki, I. and Kočenda, E., 2019. Institutions and determinants of firm survival in European emerging markets. *Journal of Corporate Finance, 58*, pp.431-453.
- Bebchuk, L.A., Cohen, A. and Hirst, S., 2017. The agency problems of institutional investors. *Journal of Economic Perspectives, 31(3)*, pp.89-112.
- Ben-Nasr, H. and Ghouma, H., 2018. Employee welfare and stock price crash risk. *Journal of Corporate Finance, 48*, pp.700-725.

- Biddle, G.C., G. Hilary and R.S. Verdi. 2009. "How does financial reporting quality relate to investment efficiency?" *Journal of Accounting and Economics*, 48(2-3): 112–31.
- Boubakri, S., Cosset, J.-C., & Saffar, W. (2013). The role of state and foreign owners in corporate risk-taking. *Journal of Financial Economics*, 108(3), 641–658.
- Cao, Z. and Rees, W., 2020. Do employee-friendly firms invest more efficiently? Evidence from labor investment efficiency. *Journal of Corporate Finance*, 65, p.101744.
- Castellacci, F., Oguguo, P.C. and Freitas, I.M.B., 2022. Quality of pro-market national institutions and firms' decision to invest in R&D: evidence from developing and transition economies. *Eurasian Business Review*, 12(1), pp.35-57.
- Chang, C.C., 2023. The impact of quality of institutions on firm performance: A global analysis. *International Review of Economics & Finance*, 83, pp.694-716.
- Chen, C., Chen, Y., Hsu, P.H. and Podolski, E.J., 2016. Be nice to your innovators: Employee treatment and corporate innovation performance. *Journal of corporate finance*, 39, pp.78-98.
- Chen, F., O.-K. Hope, Q. Li and X. Wang. 2011a. "Financial reporting quality and investment efficiency of private firms in emerging markets". *The accounting review*, 86(4): 1255–88
- Chen, R., S. El Ghoul, O. Guedhami and H. Wang. 2017. "Do state and foreign ownership affect investment efficiency? Evidence from privatizations". *Journal of Corporate Finance*, 42: 408–21.

- Cheng, M., Dhaliwal, D. and Zhang, Y., 2013. Does investment efficiency improve after the disclosure of material weaknesses in internal control over financial reporting?. *Journal of accounting and economics*, 56(1), pp.1-18.
- Chesney, T., Evans, K., Gold, S. and Trautrim, A., 2019. Understanding labour exploitation in the Spanish agricultural sector using an agent based approach. *Journal of Cleaner Production*, 214, pp.696-704.
- Cook, K.A., A.M. Romi, D. Sánchez and J.M. Sánchez. 2019. “The influence of corporate social responsibility on investment efficiency and innovation”. *Journal of Business Finance & Accounting*, 46(3-4): 494–537.
- Dal Bó, E. and Rossi, M.A., 2007. Corruption and inefficiency: Theory and evidence from electric utilities. *Journal of Public Economics*, 91(5-6), pp.939-962.
- Dao, N.H., Marisetty, V.B., Shi, J. and Tan, M., 2020. Institutional quality, investment efficiency, and the choice of public–private partnerships. *Accounting & Finance*, 60(2), pp.1801-1834.
- Doh, J.P. and Guay, T.R., 2006. Corporate social responsibility, public policy, and NGO activism in Europe and the United States: An institutional-stakeholder perspective. *Journal of Management studies*, 43(1), pp.47-73.
- Duho, K.C., Amankwa, M.O. and Musah-Surugu, J.I., 2020. Determinants and convergence of government effectiveness in Africa and Asia. *Public Administration and Policy*, 23(2), pp.199-215.

- Dutta, S. and Nezlobin, A., 2017. Dynamic effects of information disclosure on investment efficiency. *Journal of Accounting Research*, 55(2), pp.329-369.
- Easterly, W. (2013), *The Tyranny of Experts: Economists, Dictators, and the Forgotten Rights of the Poor*, Basic Books, New York.
- Easterly, W. and R. Levine (2003), 'Tropics, Germs, and Crops: How Endowments Influence Economic Development,' *Journal of Monetary Economics* 50(1), 3–39.
- Edmans, A., 2011. Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial economics*, 101(3), pp.621-640.
- Edmans, A., 2012. The link between job satisfaction and firm value, with implications for corporate social responsibility. *Academy of Management Perspectives*, 26(4), pp.1-19.
- Edmans, A., Li, L. and Zhang, C., 2014. *Employee satisfaction, labor market flexibility, and stock returns around the world* (No. w20300). National Bureau of Economic Research.
- Ekpo, N.B., Etukafia, N. and Udofot, P.O., 2017. Finance manager and the finance function in business sustainability. *International Journal of Business, Marketing and Management*, 2(1), pp.31-38.
- Elaoud, A. and Jarboui, A., 2017. Auditor specialization, accounting information quality and investment efficiency. *Research in International Business and Finance*, 42, pp.616-629.
- Eliyana, A. and Ma'arif, S., 2019. Job satisfaction and organizational commitment effect in the transformational leadership towards employee performance. *European Research on Management and Business Economics*, 25(3), pp.144-150.

- Fabro, G. and Aixala, J., 2013. Do the models of institutional quality differ according to the income level of the countries? The case of the low-income countries. *Hacienda Pública Española/Review of Public Economics*, 206(3), pp.11-26.
- Fan, J. P. H., Titman, S., & Twite, G. (2012). An international comparison of capital structure and debt maturity choices. *Journal of Financial and Quantitative Analysis*, 47(1), 23–56.
- Farmaki, A., Pappas, N., Kvasova, O. and Stergiou, D.P., 2022. Hotel CSR and job satisfaction: A chaordic perspective. *Tourism Management*, 91, p.104526.
- Faruq, H.A. and Weidner, M.L., 2018. Culture, institutions, and firm performance. *Eastern Economic Journal*, 44, pp.519-534.
- Fauver, L., McDonald, M.B. and Taboada, A.G., 2018. Does it pay to treat employees well? International evidence on the value of employee-friendly culture. *Journal of Corporate Finance*, 50, pp.84-108.
- Fisman, R. and Svensson, J., 2007. Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of development economics*, 83(1), pp.63-75.
- Flammer, C. and Luo, J., 2017. Corporate social responsibility as an employee governance tool: Evidence from a quasi-experiment. *Strategic Management Journal*, 38(2), pp.163-183.
- Ghoul, S.E., Guedhami, O. and Kim, Y., 2017. Country-level institutions, firm value, and the role of corporate social responsibility initiatives. *Journal of International Business Studies*, 48, pp.360-385.

- Gomariz, M.F.C. and J.P.S. Ballesta. 2014. “Financial reporting quality, debt maturity and investment efficiency”. *Journal of banking & finance*, 40: 494–506.
- Hassan, A.S. and Meyer, D.F., 2021. Moderating effect of institutional quality on the external debt-economic growth nexus: Insights from highly indebted poor countries (HIPC). *African Journal of Business and Economic Research*, 16(2), p.7.
- Hope, O.K. and Thomas, W.B., 2008. Managerial empire building and firm disclosure. *Journal of Accounting Research*, 46(3), pp.591-626.
- Huang, M., Li, P., Meschke, F. and Guthrie, J.P., 2015. Family firms, employee satisfaction, and corporate performance. *Journal of corporate finance*, 34, pp.108-127.
- IMF, 2003. *World Economic Outlook: Growth and Institutions*, Washington: International Monetary Fund.
- Jensen, M.C. and Meckling, W.H., 2019. Theory of the firm: Managerial behavior, agency costs and ownership structure. In *Corporate Governance* (pp. 77-132). Gower.
- Ji, Y., Rozenbaum, O. and Welch, K., 2017. Corporate culture and financial reporting risk: Looking through the glassdoor. Available at SSRN 2945745.
- Jibir, A., Abdu, M., Bello, F. and Garba, I., 2019. Do Institutions Promote Firm Performance? Evidence from Sub-Saharan Africa. *Review of Market Integration*, 11(3), pp.111-137.
- Kerwin, D., 2013. The US labor standards enforcement system and low-wage immigrants: recommendations for legislative and administrative reform. *Journal on Migration and Human Security*, 1(1), pp 32-57.

- Kidwell, R. E. and Valentine, S. R., 2009. Positive group context, work attitudes, and organizational misbehavior: The case of withholding job effort. *Journal of Business Ethics*, 86, pp 15-28
- Kunawotor, M.E., Bokpin, G.A. and Barnor, C., 2020. Drivers of income inequality in Africa: Does institutional quality matter?. *African Development Review*, 32(4), pp.718-729.
- Kuncic, A. (2014), 'Institutional Quality Dataset,' *Journal of Institutional Economics* 10(1), 135–161.
- Lambert, R., Leuz, C. and Verrecchia, R.E., 2007. Accounting information, disclosure, and the cost of capital. *Journal of accounting research*, 45(2), pp.385-420.
- Leonard, D.K., Bloom, G., Hanson, K., O'Farrell, J. and Spicer, N., 2013. Institutional solutions to the asymmetric information problem in health and development services for the poor. *World Development*, 48, pp.71-87.
- Liu, H., Anwar, A., Razzaq, A. and Yang, L., 2022. The key role of renewable energy consumption, technological innovation and institutional quality in formulating the SDG policies for emerging economies: Evidence from quantile regression. *Energy Reports*, 8, pp.11810-11824.
- Liu, L. and Tian, G.G., 2021. Mandatory CSR disclosure, monitoring and investment efficiency: evidence from China. *Accounting & Finance*, 61(1), pp.595-644.
- Malanski, L.K. and Póvoa, A.C.S., 2021. Economic growth and corruption in emerging markets: does economic freedom matter? *International Economics*, 166, pp.58-70.

- Modigliani, F. and M.H. Miller. 1958. "The cost of capital, corporation finance and the theory of investment". *The American Economic Review*, 48(3): 261–97.
- Modugu, K.P. and Dempere, J., 2020. Country-level governance quality and stock market performance of GCC countries. *Modugu, Kennedy P. and Dempere, Juan M.(2020). "Country-Level Governance Quality and Stock Market Performance of GCC Countries." Journal of Asian Finance, Economics, and Business*, 7(8), pp.185-195.
- Naeem, K. and Li, M.C., 2019. Corporate investment efficiency: The role of financial development in firms with financing constraints and agency issues in OECD non-financial firms. *International Review of Financial Analysis*, 62, pp.53-68.
- Ninaus, K., Diehl, S. and Terlutter, R., 2021. Employee perceptions of information and communication technologies in work life, perceived burnout, job satisfaction and the role of work-family balance. *Journal of Business Research*, 136, pp.652-666.
- North, D. C. (1981), *Structure and Change in Economic History*, W. W. Norton & Co, New York.
- North, D. C. (1990), *Institutions, Institutional Change, and Economic Performance*, Cambridge University Press, New York
- Odle, T.K., 2022. Free to spend? Institutional autonomy and expenditures on executive compensation, faculty salaries, and research activities. *Research in Higher Education*, 63(1), pp.1-32.

- O'Toole, C.M., Morgenroth, E.L. and Ha, T.T., 2016. Investment efficiency, state-owned enterprises and privatisation: Evidence from Viet Nam in Transition. *Journal of Corporate Finance*, 37, pp.93-108.
- Pagano, M. and Volpin, P.F., 2005. Managers, workers, and corporate control. *The journal of finance*, 60(2), pp.841-868.
- Rajkovic, T., 2020. Lead independent directors and investment efficiency. *Journal of Corporate Finance*, 64, p.101690.
- Saari, L.M. and Judge, T.A., 2004. Employee attitudes and job satisfaction. *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human Resources Management*, 43(4), pp.395-407
- Salman, M., Long, X., Dauda, L. and Mensah, C.N., 2019. The impact of institutional quality on economic growth and carbon emissions: Evidence from Indonesia, South Korea and Thailand. *Journal of Cleaner Production*, 241, p.118331.
- Samet, M. and A. Jarboui. 2017. "How does corporate social responsibility contribute to investment efficiency?" *Journal of multinational financial management*, 40: 33–46.
- Shahzad, F., I.U. Rehman, F. Nawaz and N. Nawab. 2018. "Does family control explain why corporate social responsibility affects investment efficiency?" *Corporate Social Responsibility and Environmental Management*, 25(5): 880–88.

- Sharma, A., Sousa, C. and Woodward, R., 2022. Determinants of innovation outcomes: The role of institutional quality. *Technovation*, 118, p.102562.
- Shirokova, G., Morris, M.H., Laskovaia, A. and Micelotta, E., 2021. Effectuation and causation, firm performance, and the impact of institutions: A multi-country moderation analysis. *Journal of Business Research*, 129, pp.169-182.
- Sualihu, M.A., Yawson, A. and Yusoff, I., 2021. Do analysts' forecast properties deter suboptimal labor investment decisions? Evidence from Regulation Fair Disclosure. *Journal of Corporate Finance*, 69, p.101995.
- Tamanaha, B.Z., 2004. *On the rule of law: History, politics, theory*. Cambridge University Press.
- Taylor, J.C., 1977. Job satisfaction and quality of working life: A reassessment. *Journal of Occupational Psychology*, 50(4), pp.243-252.
- Uchida, E. and Kino, Y., 2021. Study on the Relationship Between Employee Satisfaction and Corporate Performance in Japan via Text Mining. *Procedia Computer Science*, 192, pp.1730-1739.
- Van Aerden, K., Puig-Barrachina, V., Bosmans, K. and Vanroelen, C., 2016. How does employment quality relate to health and job satisfaction in Europe? A typological approach. *Social Science & Medicine*, 158, pp.132-140.
- van Essen, M., Strike, V.M., Carney, M. and Sapp, S., 2015. The resilient family firm: Stakeholder outcomes and institutional effects. *Corporate Governance: An International Review*, 23(3), pp.167-183.

- Wacquant, L., 2003. America's New Peculiar Institution. *Punishment and social control*, p.471.
- Waheduzzaman, W., & Khandaker, S. (2022). Governance, institutional quality, and employee outcomes: Evidence from firm-level performance channels. *Corporate Governance: An International Review*, 30(4), 497–515.
- Wang, H., Liu, Y., Xiong, W. and Song, J., 2019. The moderating role of governance environment on the relationship between risk allocation and private investment in PPP markets: Evidence from developing countries. *International Journal of Project Management*, 37(1), pp.117-130.
- Ward, C., Yin, C. and Zeng, Y., 2020. Motivated monitoring by institutional investors and firm investment efficiency. *European Financial Management*, 26(2), pp.348-385.
- Zallé, O., 2019. Natural resources and economic growth in Africa: The role of institutional quality and human capital. *Resources Policy*, 62, pp.616-624.
- Zhang, M., W. Zhang and S. Zhang. 2016. “National culture and firm investment efficiency: International evidence”. *Asia-Pacific Journal of Accounting & Economics*, 23(1): 1–21.
- Zhang, J., Chen, H., Zhang, P. and Jiang, M., 2022. Product market competition and the value of corporate cash: An agency theory explanation. *International Review of Financial Analysis*, 84, p.102422.
- Zhang, S., Zhang, M.A., Qiao, Y., Li, X. and Li, S., 2022. Does improvement of environmental information transparency boost firms' green innovation? Evidence from the air quality monitoring and disclosure program in China. *Journal of Cleaner Production*, 357, p.131921.

Zingales, L., 2000. In search of new foundations. *The journal of Finance*, 55(4), pp.1623-1653.

CHAPTER 4

THE ROLE OF ESG ON JOB SATISFACTION IN FIRMS

4.1 Introduction

In recent times, the issue of sustainability has received global attention due to widespread interest from policymakers, investors, consumers and other concerned stakeholders who are increasingly demanding for better social, governance and environmental corporate performance from contemporary businesses (Huang and Qiu, 2023). Contextually, it is particularly against the background of the growing importance of corporate social responsibility (CSR) and climate change problems that the concept of ESG has received global attention. Being a complex concept that consist of social, governance and environmental elements, the ESG concept has been widely implemented in important areas like corporate governance, financial investment and information disclosure (Zhang, Zhang and Tu, 2024).

Primarily, the ESG conceptually represent not just an assessment criterion for assessing corporate sustainable development performance (Hřebíček, Soukopová and Trenz, 2014), but also a realistic tactic that can be used to guide the incorporation of sustainable initiatives and practices in corporate investment decisions (Skroupa, 2018). Particularly, the “E” in the concept underlines the commercial practices that are connected to resource usage and climate change extenuation, the “S”

in the concept underlines the connections with social impacts and stakeholders, while the “G” in the concept underlines the stable and thorough management initiatives and governance practices and structures that aligns with the best interest of a business entity (Huang, 2019). Right from its official proposal by the UN in 2004, the ESG concept has transformed into a critical element of contemporary corporate strategy (Tsang, Fan and Feng, 2023). Contrasting the concept of CSR that primarily help a business to create a positive and favourable brand image (Hsu, 2012), conceptually, ESG tend to concentrate on internal corporate governance, as a strong internal control system can efficiently incorporate ESG issues, thereby generating value for businesses (Harasheh and Provasi, 2023) with employees actively participating in ESG decision makings.

Considering the fact that environmental, social and economic factors embedded within the ESG concept are equally linked, any risk or problem within any of the factor will expectedly affect the effort of businesses to attain sustainable performance (Hassan and Mahrous, 2019). Specifically, non-financial factors such as social impact, governance practices, and environmental sustainability have been increasingly incorporated into investment decisions since 2006, thereby amplifying global interest in Environmental, Social, and Governance (ESG) considerations. (Galbreath, 2013). Additionally, the occurrence of the catastrophic COVID-19 pandemic, together with the continuously increasing concerns about climate change can be seen as critical social problems and international crises that has made the concept of ESG spread swiftly, as the need for new corporate management values has become largely necessary. As asserted by Cornell and Shapiro (2021), the concept of ESG is often utilised by different stakeholders such as consumers, communities, shareholders and consumers as a vital factor for constructing reliability as well as evaluating corporate value of corporate entities.

According to the Global Market Report (Korea Trade-Investment Promotion Agency, 2021), global ESG investments reached approximately USD 35 trillion in 2020, marking a 15% increase from 2018. Notably, in major developed capital markets, socially responsible investment; particularly in environmentally sustainable and ethically aligned businesses, has experienced renewed momentum. ESG practices and initiatives are increasingly being employed as critical indicators in guiding investment decisions. Subsequently, many businesses are actively strengthening corporate ESG practices and initiatives, and a good example of this can be seen in the effort and participation of global businesses like Apple, Google, Walmart, etc. in the 'Renewable Energy 100', where these businesses' efforts are geared towards achieving 100% of the power demand for their operational activities being generated through renewable energy sources like wind and solar power by 2050 (Hansen et al., 2019). Similarly, Samsung Electronics is also reconfiguring its supply chain to be responsible and environment-friendly (Sachin and Rajesh, 2022).

Although ESG have always been seen as an important factor that institutional investors need to consider before making investment decisions, the domain of ESG have been expanded in recent times to include corporate management practices and goals. Across the prevailing literature on ESG, it is obvious that several studies have investigated ESG largely from the financial perspective due to the believe that ESG practices are closely connected to a business's leadership and market, as well as risks, performance, value and business' owners' characteristics (Gillan et al., 2021). Authors, such as Greening and Turban (2000), Kassinis and Soteriou (2003), Kiernan (2007), Kim Sang (2021), Dou Junhong (2017) and Eccles, Ioannou, and Serafeim (2011) have all explored the

impact of ESG indicators on firm performance, including employee performance, and they all reported significance connection between ESG and firm performance.

The dominance of ESG within prevailing organization studies is mostly credited to the growing impact of non-financial risks on business value (Choi, Wang, Kim, Lee and Kang, 2024). In contrast to financial data, the information that concerns non-financial factors like ESG is often obtained through the disclosure practices of a company (Choi et al., 2024). Importantly, the ESG-focused evaluations often play a key role by providing dynamic data to individuals and formal investors, thereby empowering these individuals and formal investors to make well-informed long-termed investments in business entities that are socially responsible (Escrig-Olmedo, Fernández-Izquierdo, Ferrero-Ferrero, Rivera-Lirio and Muñoz-Torres, 2019). Nevertheless, considering the fact that ESG factors are interconnected, endangering even one factor can endanger the entire sustainable operations of a business entity (Hassan and Mahrous, 2019).

Prevailing empirical evidence shows that ESG greatly influence corporate value and sustainability, with ESG investments wielding substantial impact on corporate value through complex mediums (Aouadi and Marsat, 2018; Sassen, Hinze and Hardeck, 2016; Leins, 2020). However, as business entities develop their ESG management initiatives and practices, evolving changes within organizational processes, roles and culture will expectedly follow, and this will in turn precipitate modifications in job awareness, behaviours, as well as roles among staff and internal management (Nekhili, Boukadhaba, Nagati and Chtioui, 2021). While widespread macro-level studies have investigated the impacts of ESG practices on both financial and non-financial outcomes, there exists a shortage of micro-level studies that has explored the impact of ESG practices on employees (Rupp and Mallory, 2015; Jeong, Kang and Choi, 2022). Therefore, there exist a growing emphasis

on the need for studies that will focus on organizational alterations that arises as a result of ESG management and practices (Huang, 2021; Parfitt, 2020; Jeong, Choi and Kang, 2022).

In the prevailing contemporary economic era we are in today, where human capital is continuously becoming a strategic resource for business entities companies to attain continuous competitive edge, and also, with corporate governance purposes transforming from “shareholder primacy” to “stakeholderism”, the position of employees as essential stakeholders of a business entity is currently garnering continuously increasing attention (Zhang et al., 2024). Businesses are now accepting the fact that employees do not just play an important role in their daily operational activities but also the fact that employees are the generator and recipients of corporate interests and culture. Considering this, the psychological wellbeing as well as satisfaction of employees is now considered paramount by business entities.

Particularly, job satisfaction entails the combination of physiological, environmental as well as psychological circumstances that forms the basis of an individual being honestly fulfilled and satisfied with their job role (Hoppock, 1936). Similarly, as noted by Locke (1976) job satisfaction entails an enjoyable or favourable emotive state that results from the assessment of one’s job role or experience. Individuals are usually influenced to put much hard work in their job role when they have a job pride feeling, when their job role is meaningful and fascinating, and when they are well-acknowledged for job well done (Reichheld, 1996). Job satisfaction entails what an employee feels and observes about their job role, which can either be pessimistic or pragmatic (Kim, Leong and Lee, 2005; Willem, Buelens and Jonghe, 2007). Conceptually, job satisfaction entails one of the most regularly investigated areas in organizational behaviour studies, and it is also a fundamental

variable in the practice, theory and research of organizational experience encompassing job design and supervision (Hong, While and Bariball, 2005).

Due to unmet expectations concerning exciting and well-paying jobs and prospects for career progression, many employees are currently not satisfied with their job and job roles (Zhang, Kaiser, Nie and Sousa-Poza, 2019). At the same time, the extended and continuous existence of gender partiality against female employees, as well as inadequate procedural justice has exacerbated this situation for many employees (Ngo, Foley, Ji and Loi, 2014). Considering the fact that the job satisfaction of an employee does not just directly relates with the employee's sense of individual fulfilment and contentment, but also impacts organizational behavior, employee performance as well as the general productivity of a business entity, it has been noted that low job satisfaction can substantially hinders employee performance, resulting in increase in employees' turnover intention (Coomber and Barriball, 2007), and possible or eventual turnover.

To ensure employees attain a desirable job satisfaction level, many business entities are actively supporting the participation of employees in the supervision, management and making of organizational decisions (Zhu, Xie, Warner and Guo, 2015), thus, extending mediums for employees to have their say in organizational matters (Nawakitphaitoon and Zhang, 2021) in order to substantially and positively impact their job satisfaction level. Particularly, in recent times, the studies on job satisfaction have largely concerned the connection between employee satisfaction and corporate performance as well as employee performance (Judge, Thoresen, Bono and Patton, 2001; Bakoti'c, 2016), and it has been reported that higher levels of job satisfaction tend to play a productive role in enhancing not just employee performance but also corporate performance (Zhang et al., 2024).

More specifically, the adoption and implementation of ESG principles and practices is a viable approach that many business entities are using to ensure employee satisfaction. Since ESG principles are largely focused on holistically positive and socially sentient results, they often encourage suitable business behavior, simultaneously addressing social, governance and environmental issues within a business immediate and larger environment. Nevertheless, even though there exists a swift and substantial progression in ESG-related research, the comprehension of the connection between corporate ESG practices or initiatives and employee attitudes or behaviours is not necessarily clear (Zhang et al., 2024), and this is largely due to the fact that the prevailing literature has not really recognise the impact of ESG practices on employee satisfaction.

It is important to note that even though there is limited recognition of the impact of ESG practices on employee satisfaction, the prevailing research has widely studied the connection between Corporate Social Responsibility (CSR) and employee satisfaction (Rahman, Haski-Leventhal and Pournader, 2016; Closon, Leys and Hellemans, 2015). Although both concepts accentuate the favourable externalities that non-financial contributions bring to the society (Chouaibi and Chouaibi, 2021), the two concepts are essentially distinct. Contrasting CSR, ESG is considered a more complete assessment of business entities' sustainable performance (Li, Wang, Sueyoshi and Wang, 2021), integrating not just the social impact of the business entities, but also, measured assessment of environmental impacts, as well as effectiveness and transparency in corporate governance. Consequently, the possible mechanisms that underlies the connection between ESG practices and employee satisfaction are often more complex (Zhang et al., 2024).

In this study, the CSR is being substituted for ESG as an independent research variable, thereby making this study hold both practical and theoretical import. As noted by Zhang et al (2024), it is

necessary that further exploration is done to comprehend the connection between ESG and job satisfaction through the foundation already available on CSR in order to align with the transforming concepts of organizational sustainable governance, thereby augmenting the fringe contribution of ESG research (Zhang et al., 2024). Employees satisfaction with their job role is quite crucial as it is expected to not just affect employee performance but also organizational performance. Considering this, this study specifically aims to empirically assess the impact of ESG on job satisfaction using some selected US Firms.

The human capital available to business entities usually encompass both ordinary low-level employees and senior management employees, as they all jointly influence the comprehension and efficiency of corporate ESG strategies. As mentioned earlier, the available literature on the impact of ESG on job satisfaction is largely limited (Bauman and Skitka, 2012), although many studies have been done to investigate the impact of CSR on employee satisfaction (Singhapakdi, Lee, Sirgy, Roh, Senasu and Yu, 2019). Interestingly, this study will be enriching the prevailing literature by not just investigating the relationship between ESG and job satisfaction, but by also identifying how firm size, financial leverage and sales turnover moderates the relationship between ESG and job satisfaction. This current study breaks away from the regular ESG-related research that is usually focus on firm performance, as it provides useful insights for business entities that seeks to improve their employee satisfaction through the implementation of ESG principles and strategies.

4.2 Reviewing the Literature

4.2.1 ESG and its Corporate Relevance

Basically, ESG represent the Environment, Society and Governance, as it encompasses the environmental, social and governance factors that may impact the capacity of business entity to adequately execute organizational strategy as well improve corporate value (Jebe, 2019). The comprehensive implementation of ESG principles and practices began fully after the UN Environmental Program Finance Initiative (UNET) and the UN Global Compact (UNGC) were respectively publicised in 2005 and 2006 (Ortas et al. 2015). The UN Principles for Responsible Investment 2006 report presented ESG as an essential factor that investors now need to consider when making investments, as it encompasses non-financial elements that can potentially impact a business entities financial worth (Jin and Bo-Young, 2022).

ESG has become vital to the competitive strategies of several organizations (Escrig-Olmedo et al., 2019). Particularly, the environment dimension of ESG focuses on the sustainable measures a business entity has to take to not just protect and preserve their immediate environment for future generations (Rahman and Alsayegh, 2021; Li et al., 2022), but also to address issues and concerns about natural resource preservation, energy efficiency, climate change as well as waste and pollution (Ruan and Liu, 2021; Ting et al., 2019). Business entities often address these environmental concerns through the implementation of policies that would continuously ensure the mitigation of environmental risks that is connected to their operational activities (Lisin et al., 2022). This is particularly necessary because many stakeholders, including employees, are growingly interested in environmentally sustainable initiatives of business entities (Huang, 2021; Meng et al., 2023), making the adoption of such initiatives critical for business entities to not only attract but also retain needed talents.

The social dimension of ESG is largely connected to the relationships business entities have with different stakeholders that are relevant to their existence. These stakeholders usually include supply chain partners, host communities, employees, shareholders as well as consumers, all which are often affected directly or indirectly by the operational activities of business entities (Li et al., 2022; Sodhi and Tang, 2018). To address this dimension, business entities often engaged in practices like community donations, maintaining ethical and safe workplace conditions, encouragement of social entrepreneurship as well as the maintenance of high supply chain standards for ethical operational activities, among others (Kennett-Hensel and Payne, 2018; Ruan and Liu, 2021; Ting et al., 2019). All these practices are usually implemented to ensure business entities attain continuous attraction of investors as well as long-term positive brand value.

The corporate governance dimension is largely concerned with the examination of the effect of management-level policies and principles on operational activities of a business entity (Hsueh, 2019; Li et al., 2022). This dimension incorporates the internal control processes, the various stakeholders' rights, leadership structure, auditing as well as the different plans for executive compensation (Rahman and Alsayegh, 2021). As suggested by Grove and Clouse (2018) positive G-ESG principles and practices enables a business entity to demonstrate strong values connected to transparency, employee relations, diversity and integrity, as the implementation of such initiatives often result in the mitigation of discriminatory, corrupt, deceptive and other labour practices and issues.

The concept of ESG is considered paramount for contemporary business entities, as the consideration of environmental, social and governance needs are expected to enable business entities conduct sustainable management (Lewry et al., 2018). Rezaee and Tuo (2017) further

noted that business entities can achieve their corporate goals through non-financial factors, as encompassed by ESG, enabling them to make the most of their corporate value. Zumente and Bistрова (2021) also noted that ESG promotes the fact that business entities can ensure sustainability through the promotion of non-financial factors such as provision of viable solution to social problems, enhancing corporate governance as well as ensuring environmental protection. Consequently, the implementation of ESG principles and policies by business entities can be seen as management activities that substantially impact the business's long-term brand values and sustainability, as ESG often minimise the disadvantage that arises from the society, environment and corporate governance (Lokuwaduge et al. 2017).

In their study, Sassen et al. (2016) noted that the implementation of ESG principles and policies positively impacts long-term corporate performance, as well as the satisfaction of stakeholders. Similarly, Husted and de Sousa-Filho (2019) noted that the implementation of ESG practices have the potential to increase a business's premium value, thereby reducing the business's equity capital cost. Kim and Li (2021) also reported a significant relationship between ESG and corporate performance, while Shakil (2020) reported that having a high ESG score substantially impacts a business entity's ability to improve profits.

Underpinned by the stakeholder theory that was promoted by Moskowitz (1972), the ESG concept was initially promoted to explain how corporate value is usually impacted by investors and not just shareholders (Barnett and Salomon, 2003). Essentially, the concept of ESG garnered attention due to the believe that socially responsible investment can potentially exert better performance than conventional investment that only emphasize management performance, and because of this, many ESG-related studies have largely focused on only the investor-linked earnings aspect

performance, as ESG has been majorly identified as a factor that is only considered by institutional investors (Cannas et al., 2022).

In recent years, a growing body of literature has explored the impact of ESG on non-financial dimensions of corporate performance. Several studies have examined how the brand strength and image of ESG-active firms influence market competitiveness and consumer purchasing intentions (Zhou et al., 2022; Park and Jang, 2021). Importantly, as businesses continue to consolidate their operational activities to integrate ESG principles and policies, it is expected that changes will arise in their organizational and operational activities, and considering this, more recent ESG-related studies have investigated the impact of ESG on organizational culture, employees' ESG-recognition and employees' attitudes towards ESG (Bean, 2013; Al-Batah, 2019). Ultimately, as asserted by Gillan et al. (2021), ESG has evolved into a comprehensive framework that equips business entities with holistic management principles, encompassing not only social responsibility but also environmental stewardship and corporate governance obligations.

4.2.2 Job Satisfaction and its corporate significance

In the contemporary period of knowledge economy that is currently prevalent across the globe, the growing importance of human capital in the creation of corporate value has garnered significant interest from both industrial professionals and academic researchers (Zhang et al., 2024). Consequently, the issue of employee satisfaction has become a global concern. Regarded as the most critical and regularly investigated work attitude in organizational behavior research area (Zhang et al., 2024), employee satisfaction entails a pleasant or positive emotive condition or state that an employee experiences due to the evaluation of their work experiences or roles (Locke, 1976). This feeling of satisfaction as a result of their work experience often covers both psychological

and physiological features (Hoppock, 1935). Job or employee satisfaction do not only demonstrate the degree to which an employee's authentic experiences meet their anticipations with regard to their employer (Collins, Raju and Edwards, 2000), but also have negative connection with the employee's turnover intention (Yurchisin, Park and Brien, 2010).

When an employee is not satisfied with their work, he/she might demonstrate a strong desire to leave such job role or organization (Cotton and Tuttle, 1986), while, conversely, an employee that is satisfied with their work and the opportunities provided for by his/her employer, the employee will be overly loyal, engaged and committed to his/her employer, thereby reducing the desire of the employee to leave such job role or organization (Porter, Steers, Mowday and Boulian, 1974). A satisfied employee is at all times essential to a business entity as such employees always aim to deliver their best.

Considering the fact that every employee usually anticipates a better work life balance and robust career growth at their workplace, when employers meet the expectations of employees, employees are usually moved to give their best in achieving organizational goals and objectives (Obialor et al, 2022). Consequently, the importance of job satisfaction can be observed from both the employer and employee perspectives. For employers, employees' satisfaction is an essential way to exploit employees' potentials, as a satisfied employee will continuously make significant contributions towards the growth of the employer. For employees, job satisfaction usually stems from the ability to have a steady career progression, job stability, continuously enjoy novel work opportunities, earn necessary and relevant recognition, reward and training as well as earn a good salary.

Generally, the favourable impacts of job satisfaction to employers includes greater employees' efficiency, more engaged and loyal workforce, greater employee retention as well as better

profitability status (Ottoh et al., 2023). Job satisfaction usually mean different things to different employees as it is largely connected to an employee's psychology (Simon and Zhuo, 2018). This is to say that a specific job role or position can be satisfying to a particular employee due to its associated salary, perks, job level, responsibilities, location, workplace setting or organizational culture, while another employee will find the same job position or role unsatisfactory due to same reasons or others (Kumarasinghe, 2018).

essentially, a happy and contented employee is often inspired to contribute more towards organizational growth, while, conversely, an unhappy employee that is not contented with their job position often perform organizational activities uninspiringly, making mistakes that eventually make them become a burden to an organization (Adeniji, 2023). Although compensation and workplace benefits and perks are considered among the biggest factors that influence employee satisfaction (Akpan, Ayandele and Obialor, 2022) as an employee with a good salary package, bonuses, healthcare packages and incentives is expected to be satisfied and happy with their job when compared to an employee that does not enjoy same benefits, the existence of stability and viability within a workplace environment (Obialor, Harrison, Ette and Uwakwe, 2023), as well as the sustainability practices of an organization is also expected to add value an employee thereby impacting their job satisfaction level.

The current debates and discourse on employee satisfaction is majorly focused on the factors that influence job or employee satisfaction. Prevailing research has explored the factors like compensation, connections with colleagues, job role or nature and promotion prospects that impacts employees' work attitudes. From the outcomes reported in the prevailing research, it can be seen that the factors influencing employee motivation is largely categorise into hygiene and

motivator factors. While motivator factors are connected to a job's role or nature, hygiene factor are related to external environment and working conditions (Zhang et al., 2024). The presence of motivator factors often enables employees to feel more satisfied and intrinsically inspired to contribute more, thereby improving their job performance, while, even though the presence of hygiene factors does not necessarily improve the job satisfaction level of employees, their absence can lead to employee dissatisfaction, as they are connected to the working settings and conditions that affect employees (Herzberg, Bernard and Narnara, 1959).

Overall, the prevailing research extensively supports the stance that favourable employee emotional state and higher job satisfaction level can constructively play a vital role in improving corporate performance. Cao and Rees (2020) noted that organizations that are employee-friendly are often linked with greater labour productivity effectiveness, as they often incentivize invention through the creation of viable and sustainable welfare benefits (Chen, Chen, Hsu and Podolski, 2016) that leads to enhanced business results and organizational effectiveness (Ahmad and Raja, 2021). Furthermore, it has been reported that differences in job satisfaction level can affect an organization's investment effectiveness, as higher employee satisfaction level can efficiently alleviate ethical risks and adversative selection problems that arises from information asymmetry, thereby improving investment effectiveness (Arvidsson, Eierle and Hartlieb, n.d.). Outwardly, a higher employee satisfaction level favourably contributes to shareholder and long-term stock returns of an organization (Kessler, Lucianetti, Pindek, Zhu and Spector, 2020), as it also improves the organization's external financing circumstances as well as reducing the organization's cost of financing debt (Chi and Chen, 2021).

4.2.3 ESG and Jos Satisfaction

As a novel corporate development concept that covers the critical aspects of society, corporate governance and environment, ESG promotes a change in corporate objectives from maximisation of just economic value to the consideration of environmental, social and economic values (Zhang et al., 2024). As mentioned in the introduction of this paper, the prevailing research on ESG is majorly focused on the examination of the connection between ESG and financial performance of business entities. The outcome of most the study that have investigated the impact of ESG on corporate performance show that ESG has a positive connection to financial performance improvement (Friede, Busch and Bassen, 2015).

Particularly, in relation to corporate financing activities, a proactive ESG behavior often aid the conveyance of positive indicators to the market in regard to an organization's commitment to sustainable development and management (Ashwin Kumar, Smith, Badis, Wang, Ambrosy and Tavares, 2016), thereby enabling the organization to gain financial support and recognition from investors and an extensive array of wide of stakeholders, as well as alleviate corporate financing limitations (Raimo, Caragnano, Zito, Vitolla and Mariani, 2021). Also the implementation of ESG principles and practices usually contribute to the shaping of a strong internal control environment that efficiently addresses compliance, operational and information risks prevalent in an organization's day-to-day operational processes and activities (McAfee and Brynjolfsson, 2008) and the transformation risks that an organization might be exposed to during the sustainable development process, thereby ensuring organizational transformation and better corporate performance (Zhou, Liu and Luo, 2022).

The implementation of ESG has also been reported to positively affect organizational activities, especially in terms of improving production effectiveness and innovation levels (Sun, Bai, Fan and

Liu, 2024), as well as improving an organization's relationship with different stakeholders, enabling the organization to access different external financial support, knowledge and information that promotes industrial innovation (Lin, Fu and Fu, 2021), thereby efficiently snowballing the organization's overall factor efficiency (Deng, Li and Ren, 2023). Also, considering the fact that at the corporate investment level, ESG entails an investment idea that reflects non-financial elements like society, corporate governance and the environment together with conventional financial performance, the implementation of ESG has the potential to lessen agency complications, decrease executive unprincipled behavior, as well as lessen unproductive investments (Samet and Jarboui, 2017).

Contextually, in light of the sustainable transformation within social and economic development, as many organizations continuously implement ESG principles and practices, the need to comprehend the possible effect that ESG have on job satisfaction is garnering increasing attention. Already, from an environmental and social viewpoint, it has been reported that CSR practices can bring about favourable results for employees (Chatzopoulou, Manolopoulos and Agapitou, 2021). In the area of corporate governance, implementation of ESG principles does not only concentrate compliance but also encompasses the integration of ESG principles into prevailing organizational governance structure. Primarily, the implementation of ESG principles in corporate governance often demonstrates enhancements in the transparency and diversification of governance structure, and it expectedly ensure effective reduction in employee discrimination issues (Grove and Clouse, 2018), thereby enabling organizations to provide fair compensatory benefits, create positive working conditions, foster favourable connections between colleagues, demonstrate commitment towards better employee welfare, as well as ultimately improving employee satisfaction.

4.2.4 Theoretical Underpinnings

To further understand the relationship between ESG and employee satisfaction, this study is theoretically underpinned by the Social Identity Theory (SIT) and the Job Embeddedness Theory (JE).

Social Identity Theory (SIT)

Referring to the self-image contentment that individuals tend to get from the social categories or groups that they perceive to belong to (Turner and Oakes, 1986), the Social Identity Theory originated from studies that investigated the “minimal group paradigm” during the 1970s (Tajfel, Billig, Bundy and Flament, 1971). This theory adequately demonstrates individuals seemingly intrinsic craving to differentiate themselves from others due to group affiliations, as well as their inclination to sacrifice total levels of rewards to uphold comparative dominance over members of other affiliations (Harwood, 2020). The theory also promotes the fact that the classification of our social world is a natural and unavoidable social predisposition that only serve to streamline our environment, thereby instigating social identification that often prompt us to pursue ways to attain positive feelings from the group affiliation we belong to (Harwood, 2020).

The inspirational root of social identity theory in a longing for optimistic self-concept (Abrams and Hogg, 1988) has been complemented in recent time as the social identity theory defines how individual identity processes envisage both personal and shared responses to social-level group status (Tajfel and Turner, 1986). Therefore, when people recognize their affiliation with a certain social group and comprehend the values and feelings connected with belonging to such social group (Tajfel, 1972), they are inclined to select and approve the activities, practices and principles

that are consistent with their social identity in organizational behavior (Mael and Ashforth, 1992). This social identity usually corresponds to employees' favourable assessment and identification with an organization's practices (Ashforth and Mael, 1989). Thus, as organizational identification increases, employees are more inclined to approve the practices, principles and values of an organization, resulting in intensified job satisfaction and devotion. Consequently, employees who support the implementation of ESG principles and practices will probably identify and approve corporate ESG behavior, nurturing favourable social identity with their organization (Zhang et al., 2024). This favourable social identity will in turn enable employees to enthusiastically support organizational values and standards as well as foster their sense of belonging and satisfaction.

Job Embeddedness Theory

Promoted by Mitchell, Holtom, Lee Sablinski and Erez (2001), the Job Embeddedness theory propose that individuals can be engaged, committed or stuck in their job due to different societal, economic, psychological and organizational factors. Providing a viable theoretical viewpoint for comprehending the connection between the implementation of ESG principles and employee satisfaction, the job embeddedness theory adequately defines the collective factors that keeps an employee at an organization (Yao et al., 2004). This theory analyzes both the internal and external factors that impacts an employee's decision to stay on their job, as it entails a novel perspective to understand the reasons why individuals are satisfied with their job role or position (Yang, Ma and Hu, 2011). It incorporates an extensive collection of factors that influences employee retention, as employees' decision to leave their job role or position within any given organization is usually shaped by their immediate environment (Yang et al., 2011) as well as employees' compatibility and connection with an organization links (Yang et al., 2011).

The Job embeddedness theory postulate that when employees have many connections with other individuals within an organization, observe that they have a good fit with the organization, and grasp the reality that leaving such organization can lead to substantial loss for them, their engagement, commitment as well as sense of belonging to the organization is usually strong (Chan, Ho, Sambasivan and Ng, 2019). Considering this postulation, when organizations make viable opportunities to engage in ESG activities available to employees, employees do not just feel fulfilled and contented with the prospect of making significant contributions towards social, communal and environmental development, but also appreciate the opportunity to establish deeper connections and greater compatibility with the organization, their immediate environment and the larger society (Ghosh and Gurunathan, 2014). Essentially, the JE theory demonstrates that as long as an organization's values correspond with an employee's personal values, the employee satisfaction and job compatibility will be greatly enhanced (Villanova, Bernardin, Johnson, Dahmus, 1994).

Considering the fact that prevailing research shows that stakeholders, including employees, have intensified their interest in the sustainable social and environmental practices of their organizations or employers (Meng, Zhou, Li, Peng and Qiu, 2023), the degree to which individuals are connected to other individuals or activities, the degree to which employees' jobs and organizations aligns with other aspects of employees' life, as well as how easy employees can alter their lifestyle if they should leave a job position (Morganson, Major, Streets, Litano, and Myers, 2015; Takawira, Coetzee and Schreuder, 2014; Zhang, 2013) are all factors that influence an employee satisfaction with corporate ESG activities and practices. Furthermore, the implementation of ESG principles tend to improve an organization's reputation, and it also represent a noble undertaking that can

inspire employees, as well as foster a heightened sense of pride among employees, promote greater organizational identification (Jones, 2010), thereby making employees feel more satisfied with their job role or position within an organization (Zhang et al., 2024).

4.2.5 Gaps in Literature

Although existing literature have extensively talked about the relationship between ESG practices and financial performance. Most of the studies usually place their emphasis on how ESG policies enhance corporate profitability, brand image, or investor appeal (Friede, Busch, and Bassen, 2015; Kim and Li, 2021). Despite growing interest in ESG, relatively few studies have directly examined the impact of ESG practices on job satisfaction. Notably, a significant research gap remains in understanding the mechanisms through which ESG initiatives influence employee morale, engagement, and overall satisfaction. Even among the limited studies that explore this relationship, there is a lack of comprehensive research assessing the moderating factors that shape the link between ESG practices and job satisfaction. Establishing a meaningful relationship between ESG and job satisfaction requires an exploration of the underlying mechanisms and contextual variables that facilitate or hinder this connection. Some of these mechanisms include firm size, financial leverage, revenue, company status, firm age, among others. The extent of these mechanisms is capable of determining the level of job satisfactions among employees when ESG practices are implemented. For instance, bigger firms will have more resources to invest in ESG. This can make the employees of these firms to be more satisfied than employees of smaller firms.

4.2.6 Research Questions

The research objectives are to:

- i. examine the relationship between environmental and social (ES) engagements/practices of U.S. firms and employee job satisfaction.
- ii. assess the moderating effect of corporate attributes on the relationship between ES engagements/practices of U.S. firms and employee job satisfaction.

4.2.7 Hypothesis Formulation

The influence of contemporary economic activities on the quality of life has instigated increasing public apprehensions over social and environmental problems (Raelin and Bondy, 2013). These apprehensions have elevated anticipations of organizations' stakeholders about organizational transparency and accountability. Similarly, social advances in humanity (for instance: gender and race equality, human right) has also raised the expectations of the society about the role and responsibility of organizations in addressing social problems. In the same vein, the occurrence of a wave of corporate scandals (good instances includes Enron, Worldcom, Parmalat) in the early 2000s has weakened public trust in capital markets, prompting the demand for the provision of relevant information on control, governance and capital structures and better transparency to effectively re-establish public trust in capital markets (Vander Bauwhede and Willekens, 2008). All these factors combined together gave rise to the implementation of ES principles by many commercial organizations in recent times.

Largely, the implementation of ES principles have led to organizations striving towards taking viable social actions to engage in community development practices and activities, divulge relevant corporate governance information such as bribery, corruption and shareholder protection, as well as protect the benefits and rights of their employees, ultimately enabling them to appear transparent and responsible to all stakeholders. Particularly, ES factors have extended the scope of

stakeholder, as the rise in the implementation of ES principles have made organizations to prioritize not just investors and shareholders, but other important stakeholders like the society, environment and employees. By focusing on ES principles, organizations can obtain better long-term advantages, and as revealed in Adhi and Cahyonowati (2023), sustainability disclosure has the potential to create stronger stakeholders' support and satisfaction, including that of employees. Considering this, the first null hypothesis for this study is formulated as;

H_{A1}: There is a positive significant relationship between ES engagements/practices of US firms and employee's job satisfaction.

The prevailing literature has noted that the size of an organization can substantially impact their implementation and disclosure of ES principles, especially for large organizations that are usually the major focus of the society (Suprianto and Gunarsih, 2024). Often, large organizations readily react to public demands that concerns sustainability making them to implement extensive ES principles and practices due to their access to needed financial resources. Consequently, this readily signal their devotion to ES principles, reflecting their capacity to fiscally support sustainable solutions and practices. Besides, large organizations are also inclined to have more capability, competence and resources to incorporate sustainable initiatives and principles that would not just enhance their corporate values, but also possibly affect their employees' level of job satisfaction. Firm size has been reported to be significant moderating variable that affect the impact of ES on corporate value (Prayogo et al., 2023), thus, considering this, the second null hypothesis for this study is formulated as;

Also, within an environment of information transparency, an organization's efforts towards the implementation of ES principles is easily noticed by the public, thus, consequently, an organization

with good ES performance can readily improve its credibility and brand image, thereby ensuring adequate reduction of financing costs as well as efficiently regulating its financial leverage (Chen, 2024). Moreover, the rise in the implementation of ES principles has led to organizations readily divulging more information, thereby reducing the information asymmetry between organizations and their shareholders/investors. Ultimately, this ES-induced transparency readily enables investors and shareholders to effectively evaluate an organization's likely risks and real value, fostering speedy modifications of the organization's capital structure (Chen, 2024) and financial leverage. Considering the connection between financial leverage and ES, it is possible that financial leverage will moderate the relationship between ES and employee satisfaction, thus the third null hypothesis for the study is formulated as;

Furthermore, sales revenue often plays a critical role in any kind of commercial activity. Increased sales revenue is usually important for commercial firms as it often provide substantial profit and viable prospects to extend commercial operations (Zhou, 2023). Contrastingly, decreased sales revenue can trigger corporate crisis, loss of reputation and market share as well as corporate bankruptcy in extreme cases. Across the prevailing literature, it has been reported that both financial and non-financial impacts sales revenue (Zhou, 2023), specifically, considering the fact that ES encompasses social, governance and environmental perspective of an organization, it is expected that a high ES index or performance can enable an organization to attain high sales revenue that would impact the stability and satisfaction of employees. Considering this, the fourth null hypothesis for this study is formulated as;

***H₀₂:** Corporate attributes significantly moderate the relationship between ES engagements/practices of US firms and employee's job satisfaction.*

4.3 Methodology

Research Design

An *ex-post facto* research design is adopted for this study. This is, otherwise, known as a retrospective or causal-comparative design. This design is chosen because it allows researchers to examine naturally occurring relationships without direct intervention (Saunders et al., 2019), making it ethically and practically feasible to assess the historical effects of ESG practices on job satisfaction over time. This approach leverages observational data to uncover patterns and potential causal relationships. With this, there is the provision of valuable insights into how ESG strategies contribute to workforce satisfaction within corporate settings. The *ex-post facto* design is particularly beneficial in this context as it enables the study of variables that cannot be manipulated for experimental purposes (Saunders et al., 2019). It offers a retrospective view that informs strategic decisions and future research directions in corporate sustainability and human resource management.

While the primary analysis in this chapter examines how Environmental and Social (ES) practices influence job satisfaction *within* the group of top-ranked employers, this approach does not assess whether ES practices increase the likelihood that a firm is ranked among the “100 Best Companies to Work For.” To address this broader question, an extended empirical framework can be considered in which ES practices first explain selection into the Top 100 group, followed by an analysis of variation in job satisfaction conditional on inclusion.

Specifically, a binary response model can be employed to estimate the probability that a firm belongs to the Top 100 list as a function of its ES performance and firm-level controls. This approach is consistent with prior studies that model reputational or ranking-based outcomes using discrete choice techniques (Edmans, 2011; Ferrell, Liang, & Renneboog, 2016). Such a framework allows for a clearer separation between the *extensive margin* (becoming a Top 100 employer) and the *intensive margin* (variation in job satisfaction among top employers).

Probit model specification

$$P(\text{Top100}_{i,t} = 1) = \Phi(\alpha_0 + \alpha_1 \text{ES}_{i,t} + Z_{i,t} \delta)$$

$\text{Top100}_{i,t} = 1$ if firm i is ranked in the Top 100 in year t , 0 otherwise

$\text{ES}_{i,t}$ = Environmental & Social score

$Z_{i,t}$ = firm – level controls (size, leverage, profitability, industry)

Φ = standard normal CDF

Conditional on selection into the Top 100 group, the second-stage analysis examines how ES practices affect job satisfaction rankings among top employers.

Nature and Sources of Data

For this study, secondary data sources were utilized to explore the relationship between ES practices of U.S. companies and employee job satisfaction. The dataset consists of panel data which covers 2020 to 2019 and consists of 2000 firm-year observations.

The selection criteria ensured inclusion of companies with publicly available ES data spanning from 2000 to 2019, sourced from reputable platform which is Refinitiv Workspace (also known as Refinitiv Eikon). Additionally, the primary source of data for employee job satisfaction is the ranking of the "100 Best Companies to Work for in America." published annually by the Work Institute as adopted by Alex Edmans (2010). Control variables, following the studies of Biddle et al., 2009; Rajkovic, 2020, drawn from Compustat, were also incorporated to enhance the study's robustness.

Measurement and Operationalization of Variables

Dependent Variable

- **Job Satisfaction (JS):** The primary source of data for this study is the ranking of the "100 Best Companies to Work for in America." as adopted by Alex Edmans (2010).

Independent Variable

- **ES engagements/practices (ES):** In this study, we used ES engagement/practices pillar scores instead of overall ESG score engagement among leading U.S. corporations instead of overall ESG score. Individual pillar scores for each component that is social pillar score

and environmental pillar score from 2000 to 2019 were utilized. The scores were averaged for each firm year.

Moderating Variables

- **Total Assets (TA):** This is the total value of the assets of selected firms.
- **Long-Term Debt (LTD):** This is the amount of outstanding debt obligations that are due beyond one year.
- **Sales Turnover (ST):** This is the revenue generated by the firm from sales activities.
- **Staff Expenses (SE):** This is the total costs associated with employee compensation
- **Operating Expenses (OE):** This is the sum of all expenses related to the daily operations of the business.
- **Pension and Retirement Expenses (PRE):** This is the total amount allocated for pension and retirement benefits for employees.
- **Company Status (CS):** This is a binary variable that indicates the operational state of the firm: 0 represent inactive firm and 1 represent active firm.

4.3.1 Model Specifications

Method of Analysis

The gathered data underwent analysis utilizing both descriptive and inferential statistical techniques. STATA 13 served as the platform for the analysis. Diagnostic tests, such as correlation, normality, heteroscedasticity, and serial correlation tests were conducted to ensure the data meets the assumptions required for employing a panel least squares (PLS) regression model. Once the

assumptions for the PLS regression model were confirmed, hypotheses were subjected to testing, and predictive models were constructed using the PLS regression method.

4.4 Empirical Results

Regression models

To investigate the relationship between job satisfaction (JS) and ES engagement practices (ES), as well as the moderating role of various organizational factors, this study employs a panel data regression approach. The analysis begins with a base model to assess the direct effects of the independent variable (ES) and moderating variables on job satisfaction. Following this, an interaction model is developed to examine the potential moderating effects of firm-specific variables on the relationship between ES and job satisfaction.

Base Model Equation

The base model in equation 1 below captures the direct impact of ES engagement practices, alongside other organizational characteristics, on job satisfaction. The equation is specified as follows:

$$JS_{it} = \beta_0 + \beta_1 ES_{it} + \beta_2 TA_{it} + \beta_3 LTD_{it} + \beta_4 ST_{it} + \beta_5 SE_{it} + \beta_6 OE_{it} + \beta_7 PRE_{it} + \beta_8 CS_{it} + \varepsilon_{it} \dots (1)$$

In this model, JS_{it} represents job satisfaction for firm i at time t , while ES_{it} denotes the ES engagement practices score for the same firm-year. The variables TA_{it} , LTD_{it} , ST_{it} , SE_{it} , OE_{it} , PRE_{it} and CS_{it} are firm-level moderators, representing total assets, long-term debt, sales turnover, staff expenses, operating expenses, pension and retirement expenses, and company status, respectively. The error term ε_{it} accounts for unobserved factors affecting job satisfaction. This specification

allows us to quantify the main effects of ES engagement practices and organizational characteristics on job satisfaction (Wooldridge, 2010).

Interaction Model Equation

Building on the base model, the interaction model shown in equation 2 below introduces interaction terms to explore how organizational characteristics moderate the relationship between ES engagement practices and job satisfaction. The interaction model equation is expressed as:

$$\begin{aligned}
 JS_{it} = & \beta_0 + \beta_1 ES_{it} + \beta_2 TA_{it} + \beta_3 LTD_{it} + \beta_4 ST_{it} + \beta_5 SE_{it} + \beta_6 OE_{it} + \beta_7 PRE_{it} + \beta_8 CS_{it} \\
 & + \gamma_1 (ES_{it}TA_{it}) + \gamma_2 (ES_{it}LTD_{it}) + \gamma_3 (ES_{it}ST_{it}) + \gamma_4 (ES_{it}SE_{it}) + \gamma_5 (ES_{it}OE_{it}) \\
 & + \gamma_6 (ES_{it}PRE_{it}) + \gamma_7 (ES_{it}CS_{it}) \dots \dots \dots (2)
 \end{aligned}$$

In this extended model, interaction terms such as (ES_{it}, TA_{it}) and (ES_{it}, LTD_{it}) are included to capture the conditional effects of firm-specific characteristics on the relationship between ES engagement practices and job satisfaction. For instance, γ_1 quantifies how total assets (TA) influence the strength of the association between ES and JS. By introducing these interaction terms, the model allows for a more nuanced understanding of how different firm attributes shape the impact of ES engagement practices on job satisfaction (Greene, 2012).

This two-step approach, employing both base and interaction models, ensures that the analysis captures both the direct effects of the independent and moderating variables, as well as the conditional effects that may arise due to interactions. The models are estimated using panel regression techniques to account for the longitudinal nature of the dataset, enabling us to control for unobserved heterogeneity across firms and over time (Baltagi, 2008).

4.4.1 Preliminary findings

Table 1: Summary Statistics of Environmental, Social, Job Satisfaction, and Control Variables

Variable	Obs	Mean	Std. Dev.	Median	Skewness	Kurtosis
ES score	2000	37.56	31.86	37.01	0.12	-1.46
TA	2000	55,900.37	222,144.24	6,432.31	8.16	77.67
LTD	2000	9,545.58	34,515.15	1,166.87	6.33	43.63
ST	2000	18,014.60	40,907.97	4,788.71	5.28	36.02
JS	2000	12.19	26.26	0	2.03	2.72
SE	2000	228.97	1,394.01	0	7.35	58.01
OE	2000	7,001.69	26,098.50	0	7.98	80.20
PRE	2000	70.70	309.23	0	8.64	95.20
CS	2000	0.40	0.49	0	0.41	-1.83

Notes: ES Score captures environmental and social engagement (Refinitiv). Job Satisfaction (JS) is derived from the *100 Best Companies to Work for in America* ranking following Edmans (2011, 2012). All monetary values are expressed in millions. Variables exhibit non-normality, consistent with firm-level panel data.

Table 1 presents the summary statistics for the key variables employed in the analysis. The Environmental and Social (ES) Score exhibits a mean value of 37.56 with a standard deviation of 31.86, indicating substantial heterogeneity in environmental and social engagement across firms. This dispersion suggests that, even among firms observed in the sample period, ES practices vary considerably, supporting their suitability for econometric analysis rather than reflecting uniform

compliance or symbolic adoption. The relatively wide range of ES scores is consistent with prior ESG studies that document uneven adoption of sustainability practices across firms and time (Krüger, 2015; Friede, Busch, & Bassen, 2015).

Job Satisfaction (JS), derived from the *100 Best Companies to Work for in America* ranking, displays a mean of 12.19 and a standard deviation of 26.26, with values spanning from 0 to 100. Although the median value is zero, reflecting the ranking-based construction of the variable, the observed dispersion and positive skewness indicate meaningful variation across firms and over time. This variation alleviates concerns that empirical results are driven solely by a small number of extreme observations and aligns with prior studies that employ ranking-based proxies for employee satisfaction (Edmans, 2011; Edmans, 2012).

Firm-level financial variables such as total assets, long-term debt, and sales turnover exhibit pronounced right-skewness and excess kurtosis, reflecting the presence of large firms alongside smaller counterparts. This distributional pattern is typical of firm-level panel data and consistent with prior empirical finance literature (Biddle et al., 2009; Rajkovic, 2020). The high dispersion in operating and staff-related expenses further suggests heterogeneity in firms' cost structures, which may influence both ESG engagement and employee satisfaction.

Overall, the summary statistics confirm that the variables employed in the analysis exhibit sufficient variation and economically meaningful dispersion. While non-normality is evident across several variables, this is expected in corporate finance data and is appropriately addressed through the use of panel estimation techniques and robust inference methods (Wooldridge, 2010). The descriptive evidence therefore supports the validity of the subsequent regression analysis examining the relationship between ESG practices and job satisfaction.

Panel unit root tests are a class of statistical methods that determine whether a variable follows a stationary process or contains a unit root. By unit root, this is implying that the variable is nonstationary-in a panel dataset. Different from the traditional time-series unit root tests, panel unit root tests use the cross-sectional dimensionality of panel data and, therefore, enhance the power of the test due to an increased sample size. These tests have become very important in econometrics and data analysis to ensure the stationarity of variables before their application in certain techniques, such as panel regression or cointegration analysis. Otherwise, spurious relationships may result, invalidating statistical inferences (Baltagi, 2008). Widely used panel unit root tests include the Levin-Lin-Chu test, which assumes a common unit root process in panels, and the Im-Pesaran-Shin test, which allows heterogeneity in panel unit root processes (Levin et al., 2002; Im et al., 2003). The key difference these tests mostly have is the assumptions and null hypotheses these tests retain. For example, LLC and IPS tests rely on the null hypothesis of a unit root in all series of the panel, whereas it is the reverse for the Hadri test; it tests the null hypothesis of stationarity. Fisher-type tests, including Augmented Dickey-Fuller-based and Phillips-Perron-based, combine P-values from individual unit root tests give a panel-level decision based on Maddala & Wu (1999). Panel unit root tests are indeed becoming very important when datasets are large in both cross-section and time dimensions, especially in the study of macroeconomics, finance, and social science. Selection among all these tests usually depends upon the data characteristics, i.e., balanced panel and cross-section dependence, which makes these tests a very important tool in today's econometrics.

This analysis made use of four panel unit root tests: Levin Lin Chu test, Fisher type test, Hadri test and Harris-Tzavalis test performed on independent, dependent and moderating variables.

The result of these tests for all of the variables in table 1 shows that all of the panels are stationary as result shows insignificance with Levin-Liu-Chu, Fisher type and Harris-Tzvalis and significance with Hadri.

Table 2: Panel Unit Roots Result

Variables/Test	Levin, Lin & Chu	Fisher type	Hadri	Harris-Tzavalis
ESScore	1.7205	115.8230	86.8307***	0.9365
TA	7.5969	79.7689	102.3488***	0.9378
LTD	5.0561	208.9404	68.6983***	0.9271
ST	3.4019	130.4680	75.9370***	0.9614
JS	3.6681	440.2323	22.4740***	0.4529
SE	27.1982	14.2169	67.2469***	0.7894
OE	7.5941	35.5894	81.6284***	0.9303
PRE	7.4678	95.5489	74.6020***	0.8508
CS	-0.8130	41.0513	94.7968***	0.9014

Note: *** and ** represent 1% and 5% significant levels, respectively.

This study also reports the correlation and corresponding significance between Job satisfaction, ESScore and moderating variables. These correlation coefficients are measures that quantify the strength and direction of linear relationship between two variables. Testing the significance of

correlation coefficients ensures that the observed relationships are not due to random chance. The result in table 2 below shows that most of the independent and moderating variables do not relate well with job satisfaction, however there is a very weak and significant positive correlation between job satisfaction, sales expenses (0.1454) and company status (0.0802). The ESG can be seen to be correlated with all the moderating variables, although these correlations seem to be weak with the strongest being with Sales Turnover (0.2820) followed by total assets (0.2060), these relationships are heavily significant. The total assets of the company is seen to be positively and significantly correlated with Sales turnover, Sales expenses, Operating expenses and pension and retirement expenses, however, there is a negative insignificant relationship with company status (-0.1911). The results also show that long-term debt is positively and significantly correlated with Sales Turnover, Sales expenses, Operating expenses and Pension Retirement expenses. The Sales turnover positively correlates significantly with Sales expenses, operational expenses, pension and retirement expenses and company status.

Table 3: Correlation Analysis

Variables	JS	ESScore	TA	LTD	ST	SE	OE	PRE	CS
JS	1								
ESG	0.1092	1							
TA	0.0087	0.2060***	1						
LTD	0.0100	0.1978***	0.8481***	1					
ST	-0.0364	0.2820***	0.4406***	0.4378***	1				

SE	0.1454***	0.0483**	0.2020***	0.2750***	0.0651***	1			
OE	-0.0408	0.0684***	0.1086***	0.0766***	0.7218***	0.0299	1		
PRE	0.0071	0.1038***	0.1018***	0.0535**	0.5241***	0.2644***	0.7302***	1	
CS	0.0802***	-0.1911***	-0.0189	0.0135	0.1090***	0.1666***	0.3121***	0.2469***	1

Note: *** and ** represent significant correlations at 1% and 5% significant levels, respectively.

Table 4: Breusch-Pagan Test for Heteroskedasticity

To assess whether the classical homoskedasticity assumption holds, a Breusch–Pagan heteroskedasticity test was conducted on the residuals of the baseline fixed-effects regression reported in Table 3. The Breusch–Pagan test evaluates the null hypothesis of constant error variance against the alternative of heteroskedasticity (Breusch & Pagan, 1979). The rejection of the null hypothesis indicates the presence of heteroskedastic residuals, which is common in firm-level panel data where firms differ substantially in size, leverage, and operational structure (Wooldridge, 2010).

The presence of heteroskedasticity does not bias coefficient estimates but renders conventional standard errors inconsistent, leading to invalid statistical inference if uncorrected (Wooldridge, 2010). To address this issue, all regressions reported in Tables 4–8 employ heteroskedasticity-robust standard errors clustered at the firm level. Firm-level clustering accounts simultaneously for heteroskedasticity and within-firm serial correlation over time, ensuring reliable inference in panel data settings (Arellano, 1987).

Accordingly, all reported t-statistics and significance levels are based on firm-clustered robust standard errors.

Chi square test statistics	78.01
P- value	0.000

Table 5: Hausman Test for Endogeneity

The output of table 4 below shows the coefficient of the variables when Hausman test was performed at fixed and random effects, difference between these two coefficients and the corresponding standard error. The output also shows that the test provided a test statistic of 9.33 and a p value of 0.2997. Since the p value is greater than 0.05, the random effects model is the most appropriate.

Coefficients				
Variables	Fixed effects	Random effects	Difference	Standard error
ESG	0.0063678	0.0260808	-0.019713	0.0118138
TA	0.0000121	7.98e-06	4.09e-06	5.79e-06
LTD	-0.0000597	-0.0000424	-0.0000173	0.000023
ST	0.0000245	3.51e-07	0.0000241	0.0000256
SE	0.0007216	0.0011055	-0.0003839	0.0001123
OE	-0.0000462	-0.000026	-0.0000202	0.0000194
PRE	0.0023459	0.001304	0.0010419	0.0011589

Chi square test statistics	9.33
P- value	0.2297

Table 6: Variance Inflation Factor (VIF) for Multicollinearity

The output of the Variance inflation factor for multicollinearity in table 5 below shows that all of the VIF of both the control and independent variable is less than 5 implying that there is little to no multicollinearity between the variables. The mean VIF (2.85) also implies that the overall multicollinearity is not severe. However, the individual VIFs for LTD and OE warrant attention as these two variables have the highest value of VIF ($VIF_{LTD} = 4.06$, $VIF_{OE} = 3.86$). A VIF of 4.06 suggests some level of correlation between long-term debt and other variables in the model. In the context of ESG, it's possible that companies with higher long-term debt also tend to have different ESG profiles (perhaps due to financial constraints or investment priorities). A VIF of 3.86 indicates a potential correlation with other variables. Companies with different operating expense structures might also have different approaches to ESG. For example, companies with higher operating expenses might have less flexibility to invest in ESG initiatives. Or, conversely, some ESG initiatives might require upfront operating expenses.

Variable	VIF	1/VIF
LTD	4.06	0.2463
OE	3.86	0.2589
TA	3.69	0.2708

ST	3.35	0.2981
PRE	2.52	0.3961
SE	1.28	0.7814
ESG	1.14	0.8749
Mean VIF	2.85	

4.4.2 Main Result

4.4.2.1 Presentation of Result.

This study explores how Environmental, Social, and Governance (ESG) engagement impacts Job Satisfaction (JS) within companies, offering valuable insights into the effects of corporate practices on employee well-being. The research employed correlation analysis, baseline regression, and interaction regression models to identify both direct and moderated relationships between ESG engagement and job satisfaction, while also considering moderating factors such as financial metrics and employee-focused spending. These findings support and enhance the existing literature that positions ESG practices as a key element of workplace dynamics.

Correlation Analysis: ESG, Job Satisfaction, and Moderating Variables

The correlation analysis highlighted several important relationships that shed light on the connections between ESG engagement, job satisfaction, and various moderating factors. The ESG engagement score (ESG), which measures the extent of a company's ESG practices, showed a positive correlation with Job Satisfaction (0.1092). Although this positive relationship was not

statistically significant on its own, it suggests a deeper alignment between a company's ESG initiatives and employees' satisfaction with their jobs. This observation is consistent with existing research indicating that ESG efforts, especially those focused on social responsibility, often enhance employee satisfaction (Edmans, 2011). Additionally, ESG revealed significant correlations with moderating factors such as Total Assets (TA), Long-Term Debt (LTD), Staff Expenses (SE), and Pension and Retirement Expenses (PRE). These correlations highlight the interconnected nature of ESG engagement and the structural and operational aspects of the firm. The moderating variables provided valuable insights into their individual impacts on job satisfaction. Staff Expenses (SE), which reflect investments in employee welfare and compensation, showed a statistically significant and positive relationship with Job Satisfaction (0.1454, $p < 0.001$). This result highlights the essential role of investing in employees to enhance satisfaction, aligning with literature that suggests employee-focused spending boosts workplace morale (Grewatsch & Kleindienst, 2017). Pension and Retirement Expenses (PRE) also revealed a significant positive correlation with ESG engagement (0.1038, $p < 0.001$), further supporting the idea that companies with strong ESG practices tend to prioritize the long-term welfare of their employees. Interestingly, Company Status (CS), which indicates whether a firm is actively operating, had a negative correlation with Job Satisfaction (-0.1911, $p < 0.001$). This implies that inactive or struggling companies may struggle to maintain employee morale, reinforcing previous studies that emphasize the importance of operational stability for employee engagement (Albuquerque et al., 2019).

Baseline Regression Analysis: Examining ESG and Job Satisfaction

The baseline regression model shown in table 6 below, which analyzed Job Satisfaction in relation to ESG and other important financial and employee-related variables, offered a deeper insight into what drives satisfaction. With an adjusted R-squared value of 0.0350, the model indicated that the variables included account for a small portion of the variance in Job Satisfaction. This highlights the complex nature of employee satisfaction, as workplace morale is influenced by a mix of individual, organizational, and environmental factors that go beyond what this model explicitly addresses.

ESScore has proven to be a key predictor of Job Satisfaction, with a coefficient of 0.1049 ($p < 0.01$). This supports the idea that engagement in ESG practices positively impacts employee satisfaction, emphasizing the significance of socially responsible corporate behavior. The beneficial influence of ESG engagement on Job Satisfaction is consistent with existing research that highlights how ESG practices contribute to a supportive and values-oriented work environment (Edmans, 2011; Grewatsch & Kleindienst, 2017). Additionally, Staff Expenses (SE) showed a strong positive correlation with Job Satisfaction ($\beta = 0.00295$, $p < 0.01$), highlighting the importance of investing in employee welfare to enhance workplace morale. This finding reinforces the notion that companies that focus on staff well-being are likely to see higher levels of employee satisfaction (Grewatsch & Kleindienst, 2017).

Interestingly, traditional financial metrics such as Total Assets (TA), Long-Term Debt (LTD), and Short-Term Debt (ST) showed weak or insignificant impacts on Job Satisfaction. This may indicate that while financial stability is crucial for running an organization, it has a less direct effect on how employees perceive their satisfaction. This aligns with recent research suggesting that employees

often value workplace culture and principles more than financial indicators when assessing their job satisfaction (Albuquerque et al., 2019).

Interaction Regression Analysis: Exploring Moderation Effects

Table 7 shows the interaction regression model incorporating interaction terms between ESG engagement (ESG) and various moderating variables to determine if the impact of ESG practices on Job Satisfaction is influenced by specific contextual factors. This model produced a slightly improved R-squared value (0.0433) compared to the baseline regression, indicating a minor enhancement in explanatory power. However, the interaction terms did not yield statistically significant results, suggesting that the effect of ESG engagement on Job Satisfaction operates largely independently of the moderating variables considered in this study.

The interaction between ESG and Staff Expenses (ESG_SE) showed a positive but statistically insignificant coefficient ($\beta = 0.00000024$, $p > 0.05$), indicating that combining ESG practices with employee welfare investments does not significantly amplify their effect. Similarly, the interaction between ESG and Pension and Retirement Expenses (ESG_PRE) was negative and statistically insignificant ($\beta = -0.0000164$, $p > 0.05$), suggesting that pension benefits alone do not enhance the impact of ESG engagement on Job Satisfaction. Lastly, the interaction between ESG and Total Assets (ESG_TA) also did not reach statistical significance ($\beta = -1.46e-07$, $p > 0.05$). These results underscore the potential limitations of financial and operational variables as moderators in the ESG-Job Satisfaction relationship, indicating that other mediating or moderating factors, such as organizational culture or leadership practices, may be more influential.

Table 6: Baseline Regression Model

Source	SS	df	MS
<i>Model</i>	52876.9161	7	7553.8452
<i>Residual</i>	1325632.52	1992	665.4782
<i>Total</i>	1378509.44	1999	689.5995

Number of observations = 2000, F-statistics = 11.35, p value = 0, R-squared = 0.0384, adjusted

R-squared = 0.0350, Root MSE = 25.797

JS	coefficient	SE	t-stat	p-value	95% Confidence Interval	
<i>ESG</i>	0.1049	0.0194	5.42	0.000	0.0669	0.1428
<i>TA</i>	2.38e-06	4.99e-06	0.48	0.634	-7.41e-06	0.1e-04
<i>LTD</i>	0.344-0.4	0.344-0.4	-1.00	0.318	-0.98e-04	3.24e-04
<i>ST</i>	-4.53e-04	0.264e-04	-1.75	0.080	-0.96e-04	5.39e-06
<i>SE</i>	0.0295	0.0047	6.30	0.000	0.0020	0.0039
<i>OE</i>	1.17e-04	4.34e-04	0.27	0.788	-7.35e-04	9.69e-04
<i>PRE</i>	-0.0016	0.0030	-0.54	5.592	-0.0074	0.0042
<i>constant</i>	8.6075	0.9026	9.54	0.000	6.8373	10.3776

Table 7: Interaction Regression Model

Source	SS	df	MS
<i>Model</i>	59653.7622	13	4588.7509
<i>Residual</i>	1318855.67	1986	664.0764
<i>Total</i>	1378509.44	1999	689.5995

Number of observations = 2000, F-statistics = 6.91, p value = 0, R-squared = 0.0433, adjusted R-squared = 0.0370, Root MSE = 25.77

JS	Coefficient	SE	t-stat	p-value	95% Confidence Interval	
<i>ESG</i>	0.1128	0.0204	5.52	0.000	0.0727	0.1528
<i>TA</i>	1.17e-04	1.83e-04	0.64	0.524	-0.24e-04	0.48e-04
<i>LTD</i>	-8.17e-06	1.42e-04	-0.06	0.954	-2.87e-04	2.71e-04
<i>ST</i>	-1.35e-04	1.3e-04	-1.04	0.299	-3.91e-04	1.23e-04
<i>SE</i>	0.0055	0.0012	4.56	0.000	0.0031	0.0078
<i>OE</i>	0.92e-04	1.55e-04	0.60	0.552	-2.1e-04	4.0e-04
<i>PRE</i>	-0.0055	0.0062	-0.89	0.376	-0.0176	0.0066
<i>ESG_TA</i>	-1.46e-07	2.47e-07	-0.59	0.553	-6.30e-07	3.37e-07
<i>ESG_LTD</i>	-1.68e-07	1.62e-06	-0.09	0.925	-3.70e-06	3.36e-06
<i>ESG_ST</i>	1.07e-06	1.62e-06	0.66	0.509	-2.11e-06	4.26e-06
<i>ESG_SE</i>	-0.42e-04	0.18e-04	-2.38	0.018	-0.8e-04	-7.39e-06
<i>ESG_OE</i>	-2.01e-07	2.20e-06	-0.09	0.927	-4.53e-06	4.12e-06
<i>ESG_PRE</i>	-9.64e-06	1.12e-04	-0.08	0.936	2.45e-04	2.3e-04
<i>constant</i>	8.3545	0.9653	8.65	0.000	6.4614	10.2476

Discussion and Implications.

The results of this study have important implications for both academic research and business practices. The positive and statistically significant link between ESG engagement and Job Satisfaction highlights the essential role that socially responsible corporate practices play in

enhancing employee well-being. This finding is consistent with the increasing evidence that companies prioritizing ESG initiatives foster a more supportive and value-driven work environment, which ultimately boosts employee satisfaction (Edmans, 2011; Albuquerque et al., 2019). Additionally, the strong positive impact of Staff Expenses on Job Satisfaction further underscores the significance of investing in employees, indicating that companies aiming to improve workplace morale should focus on expenditures that directly benefit their workforce. Nonetheless, the study also identifies limitations regarding the moderating effects of financial and operational variables on the relationship between ESG and Job Satisfaction. The absence of significant interaction effects indicates that the impact of ESG engagement on employee satisfaction functions independently of these factors, suggesting a need for future research to investigate other potential moderators or mediators. For example, aspects such as workplace culture, leadership practices, or employee perceptions of organizational values might be more crucial in determining the ESG-Job Satisfaction relationship.

Conclusion

This study adds to the understanding of how ESG practices impact employee satisfaction. By showing a positive and significant link between ESG engagement and job satisfaction, the findings highlight the importance of socially responsible corporate behavior. However, the limited influence of financial and operational factors suggests a need for more research into the contextual

elements that affect this relationship. Companies aiming to boost employee satisfaction should emphasize ESG practices, especially in areas related to employee welfare and well-being.

Description of variables.

Variables	Definition
Investment	This is the total of each firm's capital, R&D, plant and equipment, and acquisition expenditures.
Job Satisfaction	Proxy by the ranking of the "100 Best Companies to Work for in America." as adopted by Alex Edmans (2010). Published yearly by The Work Institute
Operating Expenses (OE)	This is the sum of all expenses related to the daily operations of the business.
Leverage	LEVERAGE is the ratio of long-term debt to asset
Total Assets (TA)	This is the total value of the assets of selected firms.
Pension and Retirement Expenses (PRE)	This is the total amount allocated for pension and retirement benefits for employees.
Long-Term Debt (LTD)	This is the amount of outstanding debt obligations that are due beyond one year.

Sales Turnover (ST)	This is the revenue generated by the firm from sales activities.
Staff Expenses (SE)	This is the total costs associated with employee compensation.
Company Status (CS)	This is a binary variable that indicates the operational state of the firm: 0 represent inactive firm and 1 represent active firm.
Size	Firm size

CHAPTER 5

CONCLUDING REMARKS

The three papers in this research present a cohesive narrative that connects ESG practices, job satisfaction, investment efficiency, and institutional quality in shaping the performance of top U.S. firms. The first paper concluded that ES practices positively impact job satisfaction in U.S. firms, with larger firms benefiting more due to their resources and scale. The second paper concluded that job satisfaction is important for enhancing investment efficiency in top-ranked US firms. It suggests that firms should focus on improving job satisfaction to achieve better investment outcomes, especially during periods of economic uncertainty. The third paper concluded that while institutional quality plays a crucial role in moderating the relationship between job satisfaction and investment efficiency, its impact varies depending on the specific institutional factor. Control of corruption and government effectiveness are particularly effective in enhancing investment efficiency by promoting a transparent and predictable environment. Conversely, regulatory quality and political stability lead to overinvestment due to increased employee confidence and reduced risk aversion.

In all, it is concluded that job satisfaction emerges as a critical driver that not only enhances employee morale but also optimizes resource allocation and investment outcomes. ESG practices amplify this effect by ensuring a purpose-driven work environment, while institutional quality ensures that these relationships are moderated within a transparent and stable framework. This synergy highlights the need for organizations to integrate ESG initiatives, prioritize employee satisfaction, and leverage institutional quality to sustain competitiveness and achieve holistic success.

5.1 LIMITATIONS

The research papers relied on secondary data from sources like ESG Scores and Top 100 rankings of firms. This introduced potential biases, as employee reviews and ESG scores do not fully represent the ground realities of firms. In addition, the study focused solely on top U.S. firms. This limited the generalisability of its findings to other regions or less-developed markets where ESG practices and job satisfaction dynamics differ. Also, the use of panel least squares (PLS) regression, while effective, does not capture the non-linear relationships and unobserved variables that influenced job satisfaction.

The second paper primarily examined job satisfaction through the rankings of firms in the “100 Best Companies to Work for in America”. This limits the applicability of the findings across all industries and lower-ranked firms in the U.S. The study also covered a long timeframe (1984–2021) during which economic, social, and technological changes might have introduced variability in job satisfaction and investment efficiency that is difficult to isolate. Furthermore, the study does not delve deeply into the reasons behind the lack of significant effects on underinvestment or overinvestment. This leaves gaps for further research.

The emphasis of the third paper on institutional quality as a moderating factor is insightful but it oversimplified the diverse factors that constitute institutional frameworks. The study overlooked other relevant institutional factors such as legal enforcement and cultural norms. The paper also examined only top U.S. firms, which do not reflect how institutional quality moderates relationships in smaller firms or in economies with weaker governance structures. Also, the potential overlap and interaction among institutional factors were not thoroughly explored in this study. A limitation

of this chapter is that the ES–job satisfaction relationship is examined only among firms already ranked in the Top 100 Best Companies to Work For. Future research could extend the dataset to include firms outside the Top 100, such as firms in the S&P 500—to explicitly test whether ES practices increase the probability of achieving Top 100 status using a probit or logit framework. Such an extension would allow for a more comprehensive evaluation of the role of ESG practices in shaping employer reputation and employee satisfaction outcomes.

In all, the three papers were limited by their focus on only large and well-established U.S. firms. This restricted the applicability of their findings to smaller organizations in the U.S. or developing economies. Their quantitative methodologies, while robust, do not capture the qualitative dimensions of job satisfaction, ESG integration, investment efficiency and institutional quality. Moreover, the studies lack longitudinal analysis to track how these relationships evolve over time. They do not also address how cultural or sectoral differences could have influenced the outcomes.

5.2 AREAS FOR FURTHER RESEARCH

The following areas are hereby suggested for further research:

- i. Impact of ESG practices on job satisfaction in developing economies and emerging markets.
- ii. How job satisfaction and investment efficiency vary across industries beyond the top 100 firms in the U.S.

- iii. Longitudinal research to track how changes in job satisfaction influence investment efficiency over time, particularly during significant economic events such as recessions or technological disruptions.
- iv. Explore the qualitative aspects of institutional quality, such as legal enforcement and cultural norms, and their interaction with job satisfaction and investment efficiency.
- v. Mechanisms by which job satisfaction and ESG practices influence underinvestment or overinvestment.
- vi. How digital transformation and workplace technology influence job satisfaction and its subsequent impact on ESG outcomes and investment efficiency.
- vii. Role of institutional quality in moderating the relationship between job satisfaction and investment efficiency in small and medium-sized enterprises (SMEs) or family-owned businesses.

REFERENCES

- Abdul-Rahman, A., Latif, R.A., Muda, R. and Abdullah, M.A., 2014. Failure and potential of profit-loss sharing contracts: A perspective of New Institutional, Economic (NIE) Theory. *Pacific-Basin Finance Journal*, 28, pp.136-151.
- Abel, A., (1983). Optimal Investment under Uncertainty. *American Economic Review* 73, 228–233.
- Aboramadan, M., Dahleez, K., & Hamad, M. H. (2020). Servant leadership and academics outcomes in higher education: The role of job satisfaction. *International Journal of Organizational Analysis*, 29(3), 562–584. <https://doi.org/10.1108/IJOA-11-2019-1923>.
- Aboud, A. and Diab, A. (2018) ‘The financial and market consequences of environmental, social and governance ratings: the implications of recent political volatility in Egypt’, *Sustainability Accounting, Management and Policy Journal*, 10(3), pp.498-520.
- Acemoglu, D., Johnson, S. and Robinson, J.A., 2001. The colonial origins of comparative development: An empirical investigation. *American economic review*, 91(5), pp.1369-1401.
- Acemoglu, D., Johnson, S. and Robinson, J.A., 2002. Reversal of fortune: Geography and institutions in the making of the modern world income distribution. *The Quarterly journal of economics*, 117(4), pp.1231-1294.
- Acemoglu, D., Johnson, S. and Robinson, J.A., 2005. Institutions as a fundamental cause of long-run growth. *Handbook of economic growth*, 1, pp.385-472.

- Adegbite, E., Guney, Y., Kwabi, F. and Tahir, S. (2019) 'Financial and corporate social performance in the UK listed firms: the relevance of non-linearity and lag effects', *Review of Quantitative Finance and Accounting*, 52, pp.105-158.
- Ademi, B. and Klungseth, N. J. (2022) 'Does it pay to deliver superior ESG performance? evidence from US S&P 500 companies', *Journal of Global Responsibility*, 13(4), pp.421-449.
- Ahmad, N., Scholz, M., AlDhaen, E., Ullah, Z. and Scholz, P. (2021) 'Improving firm's economic and environmental performance through the sustainable and innovative environment: evidence from an emerging economy', *Frontiers in Psychology*, 12, p.651394.
- Al Amosh, H., Khatib, S. F., Alkurdi, A. and Bazhair, A. H. (2022) 'Capital structure decisions and environmental, social and governance performance: Insights from Jordan', *Journal of Financial Reporting and Accounting*.
- Alareeni, B. A. and Hamdan, A. (2020) 'ESG impact on performance of US S&P 500-listed firms', *Corporate Governance: The International Journal of Business in Society*, 20(7), pp.1409-1428.
- Alqallaf, H. and Alareeni, B. (2018) 'Evolving of selected integrated reporting capitals among listed Bahraini banks', *International Journal of Business Ethics and Governance*, pp.13-34.
- Ali, B.J. and Anwar, G., 2021. An empirical study of employees' motivation and its influence job satisfaction. *Ali, BJ, & Anwar, G.(2021). An Empirical Study of Employees' Motivation and its Influence Job Satisfaction. International Journal of Engineering, Business and Management*, 5(2), pp.21-30.

- Arellano, M. (1987). Computing robust standard errors for within-groups estimators. *Oxford Bulletin of Economics and Statistics*, 49(4), 431–434.
- Arvidsson, S., Eierle, B. and Hartlieb, S., 2022. Job satisfaction and investment efficiency—Evidence from crowdsourced employer reviews. *European Management Journal*.
<https://doi.org/10.1016/j.emj.2022.10.007>
- Atanassov, J. and Kim, E.H., 2009. Labor and corporate governance: International evidence from restructuring decisions. *The Journal of Finance*, 64(1), pp.341-374.
- Aziri, B., 2011. Job satisfaction: A literature review. *Management research & practice*, 3(4).
- Batra, R. and Verma, S., 2017. Capital budgeting practices in Indian companies. *IIMB Management Review*, 29(1), pp.29-44.
- Bagajjo, W. S. (2021). The impact of motivation on employees' job satisfaction. *motivation and job satisfaction. Technium Soc. Sci. J.*, 16, 342.
- Baker, M., Stein, J. & Wurgler, J., (2003). When does the market matter? Stock prices and the investment of equity-dependent firms. *Q. J. Econ.* 118 (3), 969–1005.
<https://doi.org/10.1162/00335530360698478>.
- Barnett, M. L. and Salomon, R. M. (2003) ‘Throwing a curve at socially responsible investing research: a new pitch at an old debate’, *Organization & Environment*, 16(3), pp.381-389.

- Barnett, M. L. and Salomon, R. M. (2012) 'Does it pay to be really good? addressing the shape of the relationship between social and financial performance', *Strategic Management Journal*, 33(11), pp.1304-1320.
- Barney JB. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17,99-120.
- Baumöhl, E., Iwasaki, I. and Kočenda, E., 2019. Institutions and determinants of firm survival in European emerging markets. *Journal of Corporate Finance*, 58, pp.431-453.
- Bean, L. (2013) 'ESG reporting: what Is treasury's new role?', *Journal of Corporate Accounting & Finance*, 25(1), pp.33-37.
- Bebchuk, L.A., Cohen, A. and Hirst, S., 2017. The agency problems of institutional investors. *Journal of Economic Perspectives*, 31(3), pp.89-112.
- Benjamin, A. J., Hanges, P. J., Smith, D. B., & Salvaggio, A. N. (2003). *The effects of job satisfaction on organizational performance*. *Journal of Applied Psychology*.
- Ben-Nasr, H. and Ghouma, H., 2018. Employee welfare and stock price crash risk. *Journal of Corporate Finance*, 48, pp.700-725.
- Berle, A. & Means, G., (1932). *The Moder Corporation and Private Property*. Macmillan, New York.

- Biddle, G.C., G. Hilary and R.S. Verdi. 2009. "How does financial reporting quality relate to investment efficiency?" *Journal of Accounting and Economics*, 48(2-3): 112–31.
- Blanchard, O.J., Lopez-de-Silanes, F. & Shleifer, A., (1994). What do firms do with cash windfalls? *J. Financ. Econ.* 36, 337–360.
- Boubakri, S., Cosset, J.-C., & Saffar, W. (2013). The role of state and foreign owners in corporate risk-taking. *Journal of Financial Economics*, 108(3), 641–658.
- Breusch, T. S., & Pagan, A. R. (1979). A simple test for heteroskedasticity and random coefficient variation. *Econometrica*, 47(5), 1287–1294.
- Brough, P., Drummond, S., and Biggs, A. (2018) 'Job support, coping, and control: Assessment of simultaneous impacts within the occupational stress process', *Journal of Occupational Health Psychology*, 23(2), p.188.
- Buallay, A. and Al Marri, M. (2022) 'Sustainability disclosure and its impact on telecommunication and information technology sectors' performance: worldwide evidence', *International Journal of Emergency Services*, 11(3), pp.379-395.
- Branch S. (1999). The 100 best companies to work for in America. *Fortune*, 118-144.
- Cao, Z. and Rees, W., 2020. Do employee-friendly firms invest more efficiently? Evidence from labor investment efficiency. *Journal of Corporate Finance*, 65, p.101744.
- Cannas, C., Dalocchio, M. and Pellegrini, L. (2022) 'Environmental, social, and governance issues: An empirical literature review around the world', in *Climate change adaptation*,

governance and new issues of value: measuring the impact of ESG scores on COE and firm performance, pp.107-124.

Carnini Pulino, S., Ciaburri, M., Magnanelli, B. S. and Nasta, L. (2022) ‘Does ESG disclosure influence firm performance?’, *Sustainability*, 14(13), p.7595.

Castellacci, F., Oguguo, P.C. and Freitas, I.M.B., 2022. Quality of pro-market national institutions and firms’ decision to invest in R&D: evidence from developing and transition economies. *Eurasian Business Review*, 12(1), pp.35-57.

Chang, C.C., 2023. The impact of quality of institutions on firm performance: A global analysis. *International Review of Economics & Finance*, 83, pp.694-716.

Chen, S., Song, Y., & Gao, P. (2021) ‘Environmental, social, and governance (ESG) performance and financial outcomes: analyzing the impact of ESG on financial performance’, *Journal of Environmental Management*, 345, p.118829.

Chen, C., Chen, Y., Hsu, P.H. and Podolski, E.J., 2016. Be nice to your innovators: Employee treatment and corporate innovation performance. *Journal of corporate finance*, 39, pp.78-98.

Chen, F., O.-K. Hope, Q. Li and X. Wang. 2011a. “Financial reporting quality and investment efficiency of private firms in emerging markets”. *The accounting review*, 86(4): 1255–88

- Chen, R., S. El Ghouli, O. Guedhami and H. Wang. 2017. "Do state and foreign ownership affect investment efficiency? Evidence from privatizations". *Journal of Corporate Finance*, 42: 408–21.
- Cheng, M., Dhaliwal, D. and Zhang, Y., 2013. Does investment efficiency improve after the disclosure of material weaknesses in internal control over financial reporting?. *Journal of accounting and economics*, 56(1), pp.1-18.
- Chesney, T., Evans, K., Gold, S. and Trautrim, A., 2019. Understanding labour exploitation in the Spanish agricultural sector using an agent based approach. *Journal of Cleaner Production*, 214, pp.696-704.
- Cont, R. (2001). Empirical properties of asset returns: Stylized facts and statistical issues. *Quantitative Finance*, 1(2), 223–236.
- Cook, K.A., A.M. Romi, D. Sánchez and J.M. Sánchez. 2019. "The influence of corporate social responsibility on investment efficiency and innovation". *Journal of Business Finance & Accounting*, 46(3-4): 494–537.
- Dal Bó, E. and Rossi, M.A., 2007. Corruption and inefficiency: Theory and evidence from electric utilities. *Journal of Public Economics*, 91(5-6), pp.939-962.
- Dao, N.H., Marisetty, V.B., Shi, J. and Tan, M., 2020. Institutional quality, investment efficiency, and the choice of public–private partnerships. *Accounting & Finance*, 60(2), pp.1801-1834.

- Doh, J.P. and Guay, T.R., 2006. Corporate social responsibility, public policy, and NGO activism in Europe and the United States: An institutional-stakeholder perspective. *Journal of Management studies*, 43(1), pp.47-73.
- Duho, K.C., Amankwa, M.O. and Musah-Surugu, J.I., 2020. Determinants and convergence of government effectiveness in Africa and Asia. *Public Administration and Policy*, 23(2), pp.199-215.
- Dutta, S. and Nezlobin, A., 2017. Dynamic effects of information disclosure on investment efficiency. *Journal of Accounting Research*, 55(2), pp.329-369.
- Easterly, W. (2013), *The Tyranny of Experts: Economists, Dictators, and the Forgotten Rights of the Poor*, Basic Books, New York.
- Easterly, W. and R. Levine (2003), 'Tropics, Germs, and Crops: How Endowments Influence Economic Development,' *Journal of Monetary Economics* 50(1), 3–39.
- Edmans, A., 2011. Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial economics*, 101(3), pp.621-640.
- Edmans, A., 2012. The link between job satisfaction and firm value, with implications for corporate social responsibility. *Academy of Management Perspectives*, 26(4), pp.1-19.
- Edmans, A., Li, L. and Zhang, C., 2014. *Employee satisfaction, labor market flexibility, and stock returns around the world* (No. w20300). National Bureau of Economic Research.

- Ekpo, N.B., Etukafia, N. and Udofot, P.O., 2017. Finance manager and the finance function in business sustainability. *International Journal of Business, Marketing and Management*, 2(1), pp.31-38.
- Elaoud, A. and Jarboui, A., 2017. Auditor specialization, accounting information quality and investment efficiency. *Research in International Business and Finance*, 42, pp.616-629.
- El Ghoul, S. E., Guedhami, O. and Kim, Y. (2017) 'Country-level institutions, firm value, and the role of corporate social responsibility initiatives', *Journal of International Business Studies*, 48, pp.360-385.
- Eliyana, A. and Ma'arif, S., 2019. Job satisfaction and organizational commitment effect in the transformational leadership towards employee performance. *European Research on Management and Business Economics*, 25(3), pp.144-150.
- Elsayed, K. and Paton, D. (2005) 'The impact of environmental performance on firm performance: static and dynamic panel data evidence', *Structural Change and Economic Dynamics*, 16(3), pp.395-412.
- Fabro, G. and Aixala, J., 2013. Do the models of institutional quality differ according to the income level of the countries? The case of the low-income countries. *Hacienda Pública Española/Review of Public Economics*, 206(3), pp.11-26.
- Fama, E. F. (1965). The behavior of stock-market prices. *Journal of Business*, 38(1), 34–105.

- Fan, J. P. H., Titman, S., & Twite, G. (2012). An international comparison of capital structure and debt maturity choices. *Journal of Financial and Quantitative Analysis*, 47(1), 23–56.
- Farmaki, A., Pappas, N., Kvasova, O. and Stergiou, D.P., 2022. Hotel CSR and job satisfaction: A chaordic perspective. *Tourism Management*, 91, p.104526.
- Faruq, H.A. and Weidner, M.L., 2018. Culture, institutions, and firm performance. *Eastern Economic Journal*, 44, pp.519-534.
- Fauver, L., McDonald, M.B. and Taboada, A.G., 2018. Does it pay to treat employees well? International evidence on the value of employee-friendly culture. *Journal of Corporate Finance*, 50, pp.84-108.
- Fisman, R. and Svensson, J., 2007. Are corruption and taxation really harmful to growth? Firm level evidence. *Journal of development economics*, 83(1), pp.63-75.
- Filbeck G, & Preece D. (2003). Fortune's 100 best companies to work for in America: Do they work for shareholders? *Journal of Business Finance and Accounting* 30(5/6), 771-797.
- Flammer, C. and Luo, J., 2017. Corporate social responsibility as an employee governance tool: Evidence from a quasi-experiment. *Strategic Management Journal*, 38(2), pp.163-183.
- Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: Aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210–233.

- Freeman, S. J. (1994) 'Organizational downsizing as convergence or reorientation: Implications for human resource management', *Human Resource Management*, 33(2), pp.213-238.
- Galbreath, J. (2013) 'ESG in focus: The Australian evidence', *Journal of Business Ethics*, 118, pp.529-541.
- Gerhart B. & Scott K. (2003). Are The 100 Best Better? An Empirical Investigation Of The Relationship Between Being A "Great Place To Work" And Firm Performance. *Journal of Personnel Psychology*. 56: 965-993.
- Ghoul, S.E., Guedhami, O. and Kim, Y., 2017. Country-level institutions, firm value, and the role of corporate social responsibility initiatives. *Journal of International Business Studies*, 48, pp.360-385.
- Gillan, S. L., Koch, A. and Starks, L. T. (2021) 'Firms and social responsibility: a review of ESG and CSR research in corporate finance' *Journal of Corporate Finance*, 66, p.101889.
- Gomariz, M.F.C. and J.P.S. Ballesta. 2014. "Financial reporting quality, debt maturity and investment efficiency". *Journal of banking & finance*, 40: 494–506.
- Grant L. (1998). Happy workers, high returns. *Fortune*, 81.
- Greene, W. H. (2018). *Econometric Analysis* (8th ed.). Pearson Education.
- Gubman E. (1998). *The talent solution*. New York McGraw Hill.

- Hassan, A.S. and Meyer, D.F., 2021. Moderating effect of institutional quality on the external debt-economic growth nexus: Insights from highly indebted poor countries (HIPC). *African Journal of Business and Economic Research*, 16(2), p.7.
- Hayashi, F., (1982). Tobin's marginal Q and average Q: a Neoclassical interpretation. *Econometrica*. 50 (1), 213–224. <https://www.jstor.org/stable/1912538>.
- Habib, A. M. (2022) 'Does the efficiency of working capital management and environmental, social, and governance performance affect a firm's value? evidence from the United States', *Financial Markets, Institutions and Risks (FMIR)*, 6(3), pp.18-25.
- Habib, A. M. (2023) 'Do business strategies and environmental, social, and governance (ESG) performance mitigate the likelihood of financial distress? A multiple mediation model', *Heliyon*, 9(7).
- Habib, A. M. and Mourad, N. (2023) 'The influence of environmental, social, and governance (ESG) practices on US firms' performance: evidence from the coronavirus crisis', *Journal of the Knowledge Economy*, 1-22.
- Han, J. J., Kim, H. J. and Yu, J. (2016) 'Empirical study on relationship between corporate social responsibility and financial performance in Korea', *Asian Journal of Sustainability and Social Responsibility*, 1, pp.61-76.

Hassan, S., & Mahrous, A. A. (2019) 'Nation branding: the strategic imperative for sustainable market competitiveness', *Journal of Humanities and Applied Social Sciences*, 1(2), pp.146-158.

Hope, O.K. and Thomas, W.B., 2008. Managerial empire building and firm disclosure. *Journal of Accounting Research*, 46(3), pp.591-626.

Hoppock, R. (1935) *Job satisfaction*.

Hsueh, J. W. J., Campopiano, G., Tetzlaff, E., & Jaskiewicz, P. (2022). Managing non-family employees' emotional connection with the family firms via shifting, compensating, and leveraging approaches. *Long Range Planning*, 102274.

- Huang, M., Li, P., Meschke, F. and Guthrie, J.P., 2015. Family firms, employee satisfaction, and corporate performance. *Journal of corporate finance*, 34, pp.108-127.
- Hu, J., Wang, S. and Xie, F. (2018) 'Environmental responsibility, market valuation, and firm characteristics: evidence from China', *Corporate Social Responsibility and Environmental Management*, 25(6), pp.1376-1387.
- Husted, B. W. and de Sousa-Filho, J. M. (2019) 'Board structure and environmental, social, and governance disclosure in Latin America', *Journal of Business Research*, 102, pp.220-227.
- IMF, 2003. *World Economic Outlook: Growth and Institutions*, Washington: International Monetary Fund.
- Jalagat, R. (2016) 'Job performance, job satisfaction, and motivation: a critical review of their relationship', *International Journal of Advances in Management and Economics*, 5(6), 36-42.
- Jebe, R. (2019) 'The convergence of financial and ESG materiality: taking sustainability mainstream', *American Business Law Journal*, 56(3), pp.645-702.
- Jensen, M.C., (1986). Agency costs and free cash flow, corporate finance and takeovers. *Am. Econ. Rev.* 76(2), 323–329. <https://www.jstor.org/stable/1818789>.
- Jensen, M.C. and Meckling, W.H., 2019. Theory of the firm: Managerial behavior, agency costs and ownership structure. In *Corporate Governance* (pp. 77-132). Gower.
- Ji, Y., Rozenbaum, O. and Welch, K., 2017. Corporate culture and financial reporting risk: Looking through the glassdoor. Available at SSRN 2945745.

- Jibir, A., Abdu, M., Bello, F. and Garba, I., 2019. Do Institutions Promote Firm Performance? Evidence from Sub-Saharan Africa. *Review of Market Integration*, 11(3), pp.111-137.
- Jin, M., & Kim, B. (2022) 'The effects of ESG activity recognition of corporate employees on job performance: The case of South Korea', *Journal of Risk and Financial Management*, 15(7), p.316.
- Jo, H. and Na, H. (2012) 'Does CSR reduce firm risk? evidence from controversial industry sectors', *Journal of Business Ethics*, 110, pp.441-456.
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). *The job satisfaction–job performance relationship: A qualitative and quantitative review*. *Psychological Bulletin*, 127(3), 376–407.
- Judge, T. A., Zhang, S. C., & Glerum, D. R. (2020). Job satisfaction. Essentials of job attitudes and other workplace psychological constructs, 207-241.
- Kalia, D. and Aggarwal, D. (2022) 'Examining impact of ESG score on financial performance of healthcare companies', *Journal of Global Responsibility*, 14(1), pp.155-176.
- Kareem, M. A. and Hussein, I. J. (2019) 'The impact of human resource development on employee performance and organizational effectiveness', *Management Dynamics in the Knowledge Economy*, 7(3), pp.307-322.
- Kerwin, D., 2013. The US labor standards enforcement system and low-wage immigrants: recommendations for legislative and administrative reform. *Journal on Migration and Human Security*, 1(1), pp 32-57.

- Kidwell, R. E. and Valentine, S. R., 2009. Positive group context, work attitudes, and organizational misbehavior: The case of withholding job effort. *Journal of Business Ethics*, 86, pp 15-28
- Kim, S. and Li, Z. (2021) 'Understanding the impact of ESG practices in corporate finance', *Sustainability*, 13(7), p.3746.
- Kotsantonis, S., Rehnberg, C., Serafeim, G., Ward, B. and Tomlinson, B. (2019) 'The economic significance of long-term plans', *Journal of Applied Corporate Finance*, 31(2), pp.22-33.
- Krüger, P. (2015). Corporate goodness and shareholder wealth. *Journal of Financial Economics*, 115(2), 304–329.
- Kunawotor, M.E., Bokpin, G.A. and Barnor, C., 2020. Drivers of income inequality in Africa: Does institutional quality matter?. *African Development Review*, 32(4), pp.718-729.
- Kuncic, A. (2014), 'Institutional Quality Dataset,' *Journal of Institutional Economics* 10(1), 135–161.
- Koenker, R., & Bassett, G. (1978). Regression quantiles. *Econometrica*, 46(1), 33–50.
- Lambert, R., Leuz, C. and Verrecchia, R.E., 2007. Accounting information, disclosure, and the cost of capital. *Journal of accounting research*, 45(2), pp.385-420.
- Lange, T. (2021). Job satisfaction and implications for organizational sustainability: a resource efficiency perspective. *Sustainability*, 13(7), 3794.
- Lau RSM, & May B. (1998). A win-win paradigm for quality for work life and business performance. *Human Resource Development Quarter& Fall*, 211-226.

- Leonard, D.K., Bloom, G., Hanson, K., O'Farrell, J. and Spicer, N., 2013. Institutional solutions to the asymmetric information problem in health and development services for the poor. *World Development*, 48, pp.71-87.
- Levering R, & Moskowitz M. (1998). The 100 best companies to work for in America. *Fortune*, 84-95.
- Liu, H., Anwar, A., Razzaq, A. and Yang, L., 2022. The key role of renewable energy consumption, technological innovation and institutional quality in formulating the SDG policies for emerging economies: Evidence from quantile regression. *Energy Reports*, 8, pp.11810-11824.
- Liu, L. and Tian, G.G., 2021. Mandatory CSR disclosure, monitoring and investment efficiency: evidence from China. *Accounting & Finance*, 61(1), pp.595-644.
- Liu, L. and Nemoto, N. (2021) 'Environmental, social and governance (ESG) evaluation and organizational attractiveness to prospective employees: evidence from Japan', *Journal of Accounting and Finance*, 21(4).
- Locke, E. A. (1969) 'What is job satisfaction?', *Organizational behavior and human performance*, 4(4), pp.309-336.
- Locke, E. A. (1976). *The nature and causes of job satisfaction*. In M. D. Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology* (pp. 1297–1349). Chicago: Rand McNally.
- Malanski, L.K. and Póvoa, A.C.S., 2021. Economic growth and corruption in emerging markets: does economic freedom matter? *International Economics*, 166, pp.58-70.
- Maslow, A. H. (1943) 'A theory of human motivation', *Psychological Review*, 50(4), p.370.

- McGregor, D. M. (1960). *The human side of enterprise*. New York: McGraw-Hill.
- Modigliani, F. and M.H. Miller. 1958. "The cost of capital, corporation finance and the theory of investment". *The American Economic Review*, 48(3): 261–97.
- Modugu, K.P. and Dempere, J., 2020. Country-level governance quality and stock market performance of GCC countries. *Modugu, Kennedy P. and Dempere, Juan M.(2020). "Country-Level Governance Quality and Stock Market Performance of GCC Countries." Journal of Asian Finance, Economics, and Business*, 7(8), pp.185-195.
- Molnar, A. (2022) *Mandatory ESG reporting. A comparative analysis of Brazil, the United States, and Europe*
- Naeem, K. and Li, M.C., 2019. Corporate investment efficiency: The role of financial development in firms with financing constraints and agency issues in OECD non-financial firms. *International Review of Financial Analysis*, 62, pp.53-68.
- Nekhili, M., Boukadhaba, A. and Nagati, H. (2021b) 'The ESG–financial performance relationship: does the type of employee board representation matter?', *Corporate Governance: An International Review*, 29(2), pp.134-161.
- Nekhili, M., Boukadhaba, A., Nagati, H., & Chtioui, T. (2021a) 'ESG performance and market value: the moderating role of employee board representation', *The International Journal of Human Resource Management*, 32(14), pp.3061-3087.

- Nguyen, G., Nguyen, M., Pham, A. V., & Pham, M. D. M. (2022) 'Navigating investment decisions with social connectedness: Implications for venture capital', *Journal of Banking & Finance*, 155, p.106979.
- Nguyen, P. Nguyen L. & Le, D.N. (2021). The Impact of Extrinsic Work Factors on Job Satisfaction and Organizational Commitment at Higher Education Institutions in Vietnam. *Journal of Asian Finance, Economics and Business*. 8(8): 259-270.
- Nicholson, G., Kiel, G. and Kiel-Chisholm, S. (2011) 'The contribution of social norms to the global financial crisis: A systemic actor focused model and proposal for regulatory change', *Corporate Governance: An International Review*, 19(5), pp.471-488.
- Ninaus, K., Diehl, S. and Terlutter, R. (2021) 'Employee perceptions of information and communication technologies in work life, perceived burnout, job satisfaction and the role of work-family balance', *Journal of Business Research*, 136, pp.652-666.
- Ninaus, K., Diehl, S. and Terlutter, R., 2021. Employee perceptions of information and communication technologies in work life, perceived burnout, job satisfaction and the role of work-family balance. *Journal of Business Research*, 136, pp.652-666.
- Nurim, Y., Harjanto, N., Prabawati, P. I. and Wijaya, N. R. (2022) 'Stable financial performance as the antecedent of ESG activity and firm value relationship: an evidence from Indonesia', In *Quantitative analysis of social and financial market development* (Vol. 30, pp. 85-102). Emerald Publishing Limited.
- North, D. C. (1981), *Structure and Change in Economic History*, W. W. Norton & Co, New York.

- North, D. C. (1990), *Institutions, Institutional Change, and Economic Performance*, Cambridge University Press, New York
- Odle, T.K., 2022. Free to spend? Institutional autonomy and expenditures on executive compensation, faculty salaries, and research activities. *Research in Higher Education*, 63(1), pp.1-32.
- Ortas, E., Álvarez, I. and Garayar, A. (2015) ‘The environmental, social, governance, and financial performance effects on companies that adopt the United Nations Global Compact’, *Sustainability*, 7(2), pp.1932-1956.
- O'Toole, C.M., Morgenroth, E.L. and Ha, T.T., 2016. Investment efficiency, state-owned enterprises and privatisation: Evidence from Viet Nam in Transition. *Journal of Corporate Finance*, 37, pp.93-108.
- Pagano, M. and Volpin, P.F., 2005. Managers, workers, and corporate control. *The journal of finance*, 60(2), pp.841-868.
- Park, S. R. and Jang, J. Y. (2021) ‘The impact of ESG management on investment decision: Institutional investors’ perceptions of country-specific ESG criteria’, *International Journal of Financial Studies*, 9(3), p.48.
- Pellegrini, C. B., Caruso, R. and Mehmeti, N. (2019) ‘The impact of ESG scores on cost of equity and firm’s profitability’, *New Challenges in Corporate Governance, Theory and Practice*, 3, pp.38-40.
- Powell, D. (2022). Quantile regression with nonadditive fixed effects. *Quantitative Economics*, 13(3), 1007–1038.

- Qiu, Y., Shaukat, A. and Tharyan, R. (2016) 'Environmental and social disclosures: link with corporate financial performance', *The British Accounting Review*, 48(1), pp.102-116.
- Rahi, A. F., Chowdhury, M. A. F., Johansson, J. and Blomkvist, M. (2022) 'Nexus between institutional quality and corporate sustainable performance: European evidence', *Journal of Cleaner Production*, 382, p.135188.
- Rajkovic, T., 2020. Lead independent directors and investment efficiency. *Journal of Corporate Finance*, 64, p.101690.
- Redondo Alamillos, R., and De Mariz, F. (2022) 'How can European regulation on ESG impact business globally?', *Journal of Risk and Financial Management*, 15(7), p.291.
- Rehman M. Z., Khan, M. R., & Lashari, Z. A. (2010), Effect Of Job Rewards On Job Satisfaction, Moderating role Of Age Differences: An Empirical Evidence From. African Journal of Business Management, 4(6): 1131-1139.
- Rezaee, Z. and Tuo, L. (2017) 'Voluntary disclosure of non-financial information and its association with sustainability performance', *Advances in Accounting*, 39, pp.47-59.
- Richardson, S., (2006). Over-investment of free cash flow. *Review of Accounting Studies* 11, 159–189.
- Saari, L.M. and Judge, T.A., 2004. Employee attitudes and job satisfaction. *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human Resources Management*, 43(4), pp.395-407

- Salman, M., Long, X., Dauda, L. and Mensah, C.N., 2019. The impact of institutional quality on economic growth and carbon emissions: Evidence from Indonesia, South Korea and Thailand. *Journal of Cleaner Production*, 241, p.118331.
- Samet, M. and A. Jarboui. 2017. “How does corporate social responsibility contribute to investment efficiency?” *Journal of multinational financial management*, 40: 33–46.
- Sassen, R., Hinze, A. K. and Hardeck, I. (2016) ‘Impact of ESG factors on firm risk in Europe’, *Journal of Business Economics*, 86, pp.867-904.
- Saunders, M.N.K., Lewis, P. and Thornhill, A. (2019) *Research methods for business students* (8th ed.). Pearson Education.
- Shakil, M. H. (2020) ‘Environmental, social and governance performance and financial risk: moderating role of ESG controversies and board gender diversity’, *Resources Policy*, 72, p.102144.
- Smith, F. J. (1977). Work attitudes as predictors of attendance on a specific day. *Journal of Applied Psychology*, 62, 16–19.
- Smith, M., Yahya, K. and Marzuki Amiruddin, A. (2007) ‘Environmental disclosure and performance reporting in Malaysia’, *Asian Review of Accounting*, 15(2), pp.185-199.
- Shahzad, F., I.U. Rehman, F. Nawaz and N. Nawab. 2018. “Does family control explain why corporate social responsibility affects investment efficiency?” *Corporate Social Responsibility and Environmental Management*, 25(5): 880–88.
- Sharma, A., Sousa, C. and Woodward, R., 2022. Determinants of innovation outcomes: The role of institutional quality. *Technovation*, 118, p.102562.

- Shirokova, G., Morris, M.H., Laskovaia, A. and Micelotta, E., 2021. Effectuation and causation, firm performance, and the impact of institutions: A multi-country moderation analysis. *Journal of Business Research*, 129, pp.169-182.
- Stiglitz, J., Weiss, A.,(1981). Credit rationing in markets with imperfect information. *American Economic Review* 71, 393–410.
- Sualihu, M.A., Yawson, A. and Yusoff, I., 2021. Do analysts' forecast properties deter suboptimal labor investment decisions? Evidence from Regulation Fair Disclosure. *Journal of Corporate Finance*, 69, p.101995.
- Tamanaha, B.Z., 2004. *On the rule of law: History, politics, theory*. Cambridge University Press.
- Taylor, J.C., 1977. Job satisfaction and quality of working life: A reassessment. *Journal of Occupational Psychology*, 50(4), pp.243-252.
- Tao, C. Lingmin, X. & Yuanyuan Z. (2017). How does analysts' forecast quality relate to corporate investment efficiency? *Journal of Corporate Finance*. 43: 217-240.
- Tijana R. (2020). Lead independent directors and investment efficiency. *Journal of Corporate Finance*. 64: 1-16.
- Uchida, E. and Kino, Y., 2021. Study on the Relationship Between Employee Satisfaction and Corporate Performance in Japan via Text Mining. *Procedia Computer Science*, 192, pp.1730-1739.
- Van Aerden, K., Puig-Barrachina, V., Bosmans, K. and Vanroelen, C., 2016. How does employment quality relate to health and job satisfaction in Europe? A typological approach. *Social Science & Medicine*, 158, pp.132-140.

- van Essen, M., Strike, V.M., Carney, M. and Sapp, S., 2015. The resilient family firm: Stakeholder outcomes and institutional effects. *Corporate Governance: An International Review*, 23(3), pp.167-183.
- Veenstra, E. M. and Ellemers, N. (2020) 'ESG indicators as organizational performance goals: do rating agencies encourage a holistic approach?', *Sustainability*, 12(24), p.10228.
- Velte, P. (2017) 'Does ESG performance have an impact on financial performance? Evidence from Germany', *Journal of Global Responsibility*, 8(2), pp.169-178.
- Vroom, V. H. (1964) *Work and motivation*.
- Wacquant, L., 2003. America's New Peculiar Institution. *Punishment and social control*, p.471.
- Waheduzzaman, W., & Khandaker, S. (2022). Governance, institutional quality, and employee outcomes: Evidence from firm-level performance channels. *Corporate Governance: An International Review*, 30(4), 497–515.
- Wasiuzzaman, S., Ibrahim, S. A. and Kawi, F. (2022) 'Environmental, social and governance (ESG) disclosure and firm performance: does national culture matter?', *Meditari Accountancy Research*, 31(5), pp.1239-1265.
- Wang, H., Liu, Y., Xiong, W. and Song, J., 2019. The moderating role of governance environment on the relationship between risk allocation and private investment in PPP markets: Evidence from developing countries. *International Journal of Project Management*, 37(1), pp.117-130.
- Ward, C., Yin, C. and Zeng, Y., 2020. Motivated monitoring by institutional investors and firm investment efficiency. *European Financial Management*, 26(2), pp.348-385.

- Watson N. (2002). Happy companies make good investments. *Fortune*, 162.
- Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data* (2nd ed.). MIT Press.
- Xie, J., Nozawa, W., Yagi, M., Fujii, H. and Managi, S. (2019) ‘Do environmental, social, and governance activities improve corporate financial performance?’, *Business Strategy and the Environment*, 28(2), pp.286-300.
- Zallé, O., 2019. Natural resources and economic growth in Africa: The role of institutional quality and human capital. *Resources Policy*, 62, pp.616-624.
- Zhang, M., W. Zhang and S. Zhang. (2016). “National culture and firm investment efficiency: International evidence”. *Asia-Pacific Journal of Accounting & Economics*, 23(1): 1–21.
- Zhang, J., Chen, H., Zhang, P. and Jiang, M., 2022. Product market competition and the value of corporate cash: An agency theory explanation. *International Review of Financial Analysis*, 84, p.102422.
- Zhang, N., Zhang, Y. and Zong, Z. (2023) ‘Fund ESG performance and downside risk: evidence from China’, *International Review of Financial Analysis*, 86, p.102526.
- Zhang, S., Zhang, M.A., Qiao, Y., Li, X. and Li, S., 2022. Does improvement of environmental information transparency boost firms’ green innovation? Evidence from the air quality monitoring and disclosure program in China. *Journal of Cleaner Production*, 357, p.131921.
- Zingales, L., 2000. In search of new foundations. *The journal of Finance*, 55(4), pp.1623-1653.

Zhang, T., Zhang, J. and Tu, S. (2024) 'An empirical study on corporate ESG behavior and employee satisfaction: a moderating mediation model', *Behavioral Sciences*, 14(4), p.274.

Zhou, G., Liu, L. and Luo, S. (2022) 'Sustainable development, ESG performance and company market value: moderating effect of financial performance', *Business Strategy and the Environment*, 31(7), pp.3371-3387.