

# LEADERS VERSUS LAGGARDS: ESG PERFORMANCE, VALUATION PREMIUMS, AND THE COST OF CAPITAL

**Shahbaz Ahmad**

Lahore School of Accountancy and Finance, University of Lahore, Pakistan

**Marc Audi**

Abu Dhabi School of Management, Abu Dhabi, United Arab Emirates

**Amjad Ali**

Lahore School of Accountancy and Finance, University of Lahore, Pakistan

## Abstract

*The integration of environmental, social, and governance criteria into financial decision-making has transformed capital markets, reshaping how corporate value is assessed and priced. This study investigates the impact of sustainability ratings on firm valuation by comparing companies classified as leaders and laggards. Using a 33-year panel dataset of 1,200 firms across fifteen emerging economies, the analysis employs autoregressive distributed lag models, Granger causality tests, and cost of capital comparisons. The results reveal that environmental, social, and governance leaders consistently enjoy significant valuation premiums, lower borrowing costs, and reduced equity risk, while laggards face systematic valuation discounts, higher financing costs, and constrained access to capital. Contextual moderators further shape these outcomes: external assurance by Big Four auditors amplifies the premium for leaders, while rating divergence exacerbates the penalties for laggards. Granger causality tests confirm that sustainability performance predicts valuation rather than the reverse, underscoring its forward-looking role in shaping market outcomes. These findings demonstrate that sustainability leadership has become structurally embedded in the determinants of firm value, signaling resilience, credibility, and long-term competitiveness. The study contributes to the literature by providing robust empirical evidence on the valuation asymmetries between leaders and laggards and by highlighting the importance of credible assurance and standardized rating methodologies for effective capital allocation.*

**Keywords:** Sustainability Ratings, ESG Performance, Firm Valuation, Emerging Economies

## 1. Introduction

Integrating environmental, social, and governance criteria into mainstream finance is arguably the most consequential transformation in capital markets since the formalization of modern portfolio theory. For decades, financial analysis was grounded primarily in quantitative indicators such as profit margins, earnings growth, and asset efficiency. However, over the last twenty years, our understanding of corporate value has fundamentally evolved to encompass a broader set of factors. It is no longer sufficient to evaluate firms solely based on financial performance; investors and stakeholders increasingly recognize the importance of long-term sustainability, resilience, and ethical responsibility (Clark et al., 2015; Marc & Al Masri, 2024; Siddique et al., 2025; Mehdi et al., 2025).

Environmental, social, and governance integration reflects a paradigm in which companies are assessed based on how well they manage their environmental footprint, treat their employees and communities, and maintain ethical governance structures. This shift has been driven by an increasing awareness that non-financial risks, such as environmental degradation, labor disputes, or executive misconduct, can have direct and significant financial consequences (Krüger, 2015; Audi, 2024; Abbasi et al., 2025). As a result, these considerations are now seen not just as moral imperatives but as core components of financial risk management and value creation. Institutional investors and asset managers are progressively incorporating these criteria into their investment processes, driven both by fiduciary responsibility and growing empirical evidence suggesting that companies with strong environmental, social, and governance performance are more likely to deliver superior long-term returns (Eccles et al., 2014; Marc, 2024; Amir et al., 2025). This new orientation promotes a more holistic assessment of value that includes stakeholder impact and societal outcomes, moving capital markets toward greater accountability and transparency (Friede et al., 2015; Arshi et al., 2025). It also signals a fundamental redefinition of fiduciary duty, one that aligns investment practices with the long-term health of both markets and society (Kotsantonis et al., 2016; Audi et al., 2024; Batool et al., 2025).

Sustainable investments have experienced extraordinary global growth in recent years, reaching over 35 trillion dollars and constituting approximately 36 percent of all professionally managed assets worldwide. This represents a compound annual growth rate of 15 percent since 2016, highlighting an undeniable redirection of capital toward enterprises that demonstrate environmental, social, and governance responsibility. This shift not only illustrates a new era of investment behavior but also marks a fundamental transformation in how the financial community assesses corporate worth. The increasing allocation of capital to sustainability-focused portfolios is reshaping traditional risk-return models and introducing new variables into corporate valuation frameworks (Amel-Zadeh & Serafeim, 2018; Zahid et al., 2025). A clear indication of this transformation is seen in the rising integration of environmental, social, and governance indicators by institutional investors. According to a 2021 survey by Ernst & Young, 90 percent of institutional investors reported systematically incorporating such metrics into

their investment decisions — a dramatic rise from just 48 percent in 2017. This acceleration reflects a broader recognition that sustainability risks are financially material and must be actively managed (Eccles & Klimenko, 2019; Marc & Yu, 2024; Umair et al., 2025). The increasing availability of sustainability data, pressure from stakeholders, and regulatory developments have further cemented this approach.

This momentum is not limited to developed economies. The global diffusion of sustainability practices is evident in multilateral frameworks such as the United Nations Principles for Responsible Investment, which continues to attract signatories from diverse economic regions. Emerging markets are also participating in this global trend. For instance, the inclusion of the Indonesia Stock Exchange in the Sustainable Stock Exchange Initiative reflects a growing commitment among developing nations to align financial markets with sustainability objectives (Sullivan et al., 2018; Naeem et al., 2025). In parallel, major development finance institutions such as the International Finance Corporation have embedded environmental, social, and governance considerations into their investment strategies, reinforcing the idea that sustainable finance is not an aspirational goal but a central pillar of long-term financial stability and development (International Finance Corporation, 2021). The widespread adoption of sustainable finance practices underscores the need for a more nuanced understanding of how environmental, social, and governance dimensions affect company valuation. Investors must now consider not only how companies perform financially, but also how they manage long-term environmental and social risks, governance quality, and stakeholder relationships, all of which are increasingly seen as critical to enduring competitive advantage (Clark et al., 2015; Khan et al., 2016; Zafar et al., 2025).

### 1.1. The Emergence of Leader-Laggard Dichotomies

The emergence of environmental, social, and governance rating agencies such as MSCI, Sustainalytics, and Refinitiv has been pivotal in establishing structured and comparative performance tiers across the corporate landscape. These agencies assess companies across a range of environmental, social, and governance dimensions — including carbon emissions, labor standards, board composition, and transparency — and assign scores or ratings that serve as standardized indicators of a firm's overall sustainability posture. This process of external benchmarking has helped create clearer distinctions between companies based on their management of sustainability-related risks and opportunities (Berg et al., 2022). By segmenting firms into performance tiers, these rating systems have introduced a more granular valuation framework within capital markets. Companies receiving top-tier designations — for instance, those with MSCI AAA or AA ratings — are typically characterized by robust internal sustainability policies, strong stakeholder engagement, and proactive risk management. Their superior performance on environmental, social, and governance indicators tends to correlate with several strategic advantages: enhanced brand equity, improved regulatory compliance, stronger customer loyalty, and increased operational efficiency (Grewal et al., 2020; Karim et al., 2025). Empirical studies have shown that such companies often enjoy a lower cost of capital and higher market valuations, reflecting investor preference for firms that demonstrate long-term resilience and ethical leadership (Albuquerque et al., 2019).

In contrast, companies ranked in the lower tiers, such as those with MSCI B or CCC ratings, are often perceived as having substandard sustainability practices or insufficient disclosure on material issues. These firms may struggle with governance inefficiencies, environmental liabilities, or labor-related controversies, exposing them to reputational risk and operational volatility. As a result, they may face reduced investor confidence, higher borrowing costs, and declining access to long-term capital (Brandon et al., 2021). Rating downgrades can trigger divestment by institutional investors, particularly those bound by responsible investment mandates, compounding the financial and reputational pressure on poorly rated firms (Dimson et al., 2015). Nevertheless, it is important to recognize that environmental, social, and governance ratings are not without limitations. Significant methodological divergences exist between rating agencies, leading to inconsistencies in scores across providers. This variance can affect how investors interpret and respond to ratings, underscoring the need for improved transparency and convergence in sustainability assessment frameworks (Christensen et al., 2022; Ali et al., 2025). Despite these challenges, the influence of rating agencies in shaping capital allocation decisions and signaling firm quality continues to grow, cementing their role in the evolving ecosystem of sustainable finance.

The leader-laggard framework has become a widely adopted methodology in the scholarly investigation of corporate environmental, social, and governance performance. This dichotomy enables researchers to categorize companies based on their relative performance within sustainability rating systems, particularly those issued by widely used providers such as MSCI. For example, Nunes et al. (2023) employed this framework in their portfolio analysis, classifying firms as “leaders,” “average,” or “laggards” based on their environmental, social, and governance scores. Similarly, McCormick (2024) concentrated explicitly on firms within the “laggard” category to examine how poor environmental, social, and governance performance may translate into reputational and financial penalties. In the domain of fixed-income markets, Li et al. (2024) conducted a comparative study between environmental, social, and governance leaders and laggards to identify valuation differentials in the corporate bond space. Lewellyn and Muller-Kahle (2024) also adopted the leader-laggard binary in their analysis, using it to explore how governance-related practices influence firm-level risk exposure and investor behavior.

This comparative lens is critical, as it enables the isolation of valuation premiums often associated with high-performing firms and, conversely, the risk premiums or valuation discounts applied to firms that exhibit weak environmental, social, and governance practices. It also sheds light on the broader implications of sustainability for firm value, investor perception, and

capital access. Studies suggest that “leaders” may benefit from reputational enhancement, stakeholder trust, and improved operational efficiency, while “laggards” often face challenges such as increased regulatory scrutiny, reduced investor interest, and higher financing costs (Albuquerque et al., 2019; Khan et al., 2016; Ali et al., 2025). However, the validity of the leader–laggard framework is tightly bound to the credibility and methodology of the third-party rating agencies that assign these classifications. Agencies such as MSCI, Sustainalytics, and Refinitiv wield substantial influence over capital markets by shaping perceptions of firm quality and risk through their scoring systems (Berg et al., 2022; Ali et al., 2025). Consequently, the designation of a firm as a “leader” or “laggard” is often an externally imposed status that reflects the specific methodological decisions of the rater — including the weighting of various criteria, data sources, and materiality thresholds. This heavy reliance on rating agencies also brings forward important methodological limitations. A growing body of research highlights the inconsistencies and divergences between different rating providers, which can result in contradictory assessments of the same firm’s environmental, social, and governance performance (Christensen et al., 2022). The lack of standardized disclosure requirements and opaque rating methodologies further complicates the interpretation of scores and their application in comparative studies (Brandon et al., 2021; Ali et al., 2025). Therefore, while the leader–laggard classification offers a useful analytical tool, scholars must approach it with a critical understanding of the data sources and methodological assumptions underpinning it.

**Table 1: Global ESG Rating Distribution (2023)**

Rating Tier	% of Firms	Avg. Market Cap (\$B)
Leaders	12%	48.2
Advancers	38%	22.7
Laggards	17%	8.9
Unrated	33%	3.4

Source: MSCI Annual Review

Despite the increasing volume of research exploring the relationship between environmental, social, and governance performance and corporate value, several notable gaps persist within the existing literature. While numerous studies report positive associations between sustainability practices and firm performance, others yield mixed or even null results, reflecting the complexity of isolating causal mechanisms and the challenges of methodological heterogeneity (Whelan et al., 2021; Atz et al., 2022). Variability in environmental, social, and governance data quality, rating methodologies, industry contexts, and geographic factors further complicates the generalizability of findings across different studies (Christensen et al., 2022; Ali et al., 2025). As a result, academic discourse remains fragmented, and there is still no clear consensus regarding how and under what conditions environmental, social, and governance efforts contribute to long-term financial value.

One of the central challenges is the inconsistency in how environmental, social, and governance performance is operationalized. Some researchers emphasize environmental materiality, while others focus more heavily on governance structures or social equity considerations (Kotsantonis & Serafeim, 2019). Moreover, much of the literature has tended to adopt either aggregated rating scores or narrow sectoral analyses, without adequately accounting for the dynamic interplay between different environmental, social, and governance dimensions or the heterogeneity among firms within the same rating tier (Eccles & Klimenko, 2019; Ali et al., 2025). These knowledge gaps result in conflicting conclusions, which in turn hinder both academic clarity and practical application by investors, policymakers, and corporate managers.

To address these issues, the present study makes three primary contributions. First, it offers a more granular examination of the performance differences between companies classified as environmental, social, and governance “leaders” and “laggards,” using a consistent tiering framework drawn from a single major rating agency. Second, it incorporates longitudinal data to capture performance changes over time rather than relying solely on cross-sectional snapshots. Third, it accounts for industry-specific and regional differences, thereby improving the contextual validity of its findings. In doing so, this study aims to provide clearer empirical evidence on the extent to which environmental, social, and governance tiering correlates with differences in corporate valuation outcomes, contributing to a more nuanced understanding of sustainability’s financial implications.

## 1.2. Untangling Asymmetries: The Different Impact on Leaders and Laggards

Numerous studies, including large-scale meta-analyses such as those conducted by Whelan et al. (2021) and Friede et al. (2015), have confirmed a generally positive association between environmental, social, and governance performance and financial outcomes, the valuation asymmetries between firms at the extremes of the performance spectrum remain significantly underexplored. Much of the existing literature tends to aggregate environmental, social, and governance scores into composite indices or single summary metrics, which can obscure meaningful differences in how markets perceive and reward top-performing versus bottom-performing firms (Brandon et al., 2021). This methodological approach may blur the structural valuation advantages conferred on sustainability “leaders” and the potential penalties incurred by “laggards.”

Understanding these distinctions is critical, especially as capital markets become increasingly sensitive to non-financial indicators of corporate risk and opportunity. Investors are not merely concerned with whether firms perform well on average; they are keen to understand which firms stand out — positively or negatively — and how these positions influence cost of capital, equity pricing, and investor demand (Krüger, 2015; Albuquerque et al., 2019). However, few studies have provided clear, disaggregated evidence of the valuation premiums that accrue to firms with consistently high environmental, social, and governance ratings or the valuation discounts faced by those persistently ranked at the bottom by major rating agencies. Our approach offers practical value to both institutional investors seeking refined portfolio construction strategies and corporations aiming to understand how their sustainability positioning affects investor perception and market valuation (Kotsantonis et al., 2016).

### 1.3. Contextual Mediators: How Audit Quality and Rating Disagreement Affect Value

The process through which environmental, social, and governance performance is translated into financial value is far from linear or uniform. Rather than functioning as a one-size-fits-all mechanism, this translation is heavily mediated by contextual and institutional factors that either amplify or obscure the market's ability to accurately price sustainability-related information. Recent studies have emphasized the need to account for such external moderators, especially audit quality and the consistency of environmental, social, and governance ratings across agencies, in understanding valuation effects (Christensen et al., 2022; Avramov et al., 2022; Kanwal et al., 2025).

Credible and consistent environmental, social, and governance information is a prerequisite for the effective pricing of sustainability risks and opportunities. However, sustainability disclosures often suffer from limited standardization and weak verification mechanisms, which can introduce significant information asymmetry into capital markets (Eccles et al., 2012; Longston et al., 2025). One way to mitigate this problem is through external assurance. Independent audit verification, particularly when performed by one of the so-called "Big 4" accounting firms, plays a crucial role in enhancing the credibility of a firm's sustainability reporting. According to Vaihekoski and Yahya (2025), high audit quality strengthens investor confidence in reported environmental, social, and governance metrics by reducing uncertainty, which in turn increases the likelihood that sustainability leaders are fully recognized and rewarded by the market.

Conversely, another critical moderating factor is the degree of disagreement between environmental, social, and governance rating agencies. Research has demonstrated substantial divergence in how different agencies assess the same firms, due to varying criteria, weightings, and data sources (Christensen et al., 2022; Berg et al., 2022). This inconsistency can create what Avramov et al. (2022) term "ESG noise," a phenomenon in which unclear or conflicting ratings limit the market's ability to form coherent expectations around sustainability performance. In such situations, even firms with strong underlying sustainability practices may struggle to secure valuation premiums, as investors remain uncertain about the quality or relevance of the ratings being used. Similarly, firms with weak environmental, social, and governance performance may escape appropriate valuation penalties due to confusion or ambiguity in their assessments.

## 2. Literature Review

The academic discourse surrounding environmental, social, and governance performance and its implications for corporate finance has grown rapidly over the past two decades, reflecting the increasing integration of sustainability considerations into real-world investment decision-making. This section reviews foundational theories and relevant empirical research to establish a comprehensive conceptual background for our comparative analysis of sustainability leaders and laggards. The impact of environmental, social, and governance practices on corporate value can be examined through multiple theoretical lenses, each highlighting distinct mechanisms through which sustainability translates into financial outcomes. One of the most prominent frameworks is Stakeholder Theory, which posits that firms generate sustainable competitive advantages when they effectively manage relationships with all relevant stakeholders, including employees, customers, suppliers, regulators, communities, and the natural environment (Freeman, 1984). According to this perspective, the long-term success of a company depends not only on maximizing shareholder value but also on satisfying the diverse expectations of these groups. Stakeholder-oriented practices can result in both tangible and intangible benefits, such as operational stability, reputational enhancement, and reduced regulatory and litigation risks (Donaldson & Preston, 1995). For instance, firms that respond to consumer concerns about product safety, environmental impact, and ethical sourcing are more likely to foster brand loyalty, resulting in more predictable and resilient revenue streams. Empirical support for this theoretical framework is strong. Al Amosh et al. (2023), in their study of non-financial firms in Levant economies, found that companies adopting stakeholder-aligned environmental, social, and governance practices achieved an 18.7 percent increase in Tobin's Q, a proxy for firm value — demonstrating the direct financial impact of responsible corporate behavior.

Furthermore, stakeholder trust often enhances employee motivation, customer satisfaction, and supply chain reliability, all of which contribute to sustained operational efficiency (Jones et al., 2002). These relational advantages may be particularly pronounced among sustainability "leaders," whose elevated performance on environmental, social, and governance indicators reflects more deliberate and strategic stakeholder engagement. In contrast, "laggards" are likely to underperform in these areas, potentially facing more frequent disruptions, lower investor confidence, and weaker brand equity. The stakeholder lens



thus provides a critical theoretical foundation for understanding how and why firms situated at different ends of the sustainability spectrum experience divergent valuation outcomes.

Investments in employee well-being, equitable labor practices, and workplace diversity are increasingly recognized not merely as ethical obligations but as strategic business decisions that contribute to long-term firm success. By fostering a positive and inclusive work environment, firms can achieve higher levels of employee satisfaction, reduce staff turnover, and boost productivity. These human capital advantages are central to both operational efficiency and innovation capacity, particularly in knowledge-intensive industries (Edmans, 2011; Ali et al., 2025). Satisfied and engaged employees also tend to act as brand ambassadors, contributing to stronger relationships with customers and other external stakeholders.

More broadly, cultivating strong stakeholder relationships enhances corporate reputation and builds institutional trust. Firms that demonstrate accountability to a wide range of stakeholders — including communities, regulators, employees, and customers — tend to benefit from increased customer loyalty, reduced reputational risk, and a greater ability to attract and retain top talent. These intangible assets translate into tangible financial advantages. According to Wang et al. (2023), high environmental, social, and governance ratings significantly improve a firm's reputation, which serves as an intermediary pathway to higher market valuations. This finding aligns with signaling theory, which holds that third-party ratings act as credible signals of firm quality, especially in markets characterized by asymmetric information (Spence, 1973).

The reputational benefits associated with strong sustainability performance also influence investor behavior. Institutional investors, in particular, increasingly favor companies with positive reputational capital, viewing it as a proxy for effective governance, stakeholder responsiveness, and long-term risk management. In contrast, environmental, social, and governance laggards frequently suffer from reputational damage, which can undermine consumer trust, depress employee morale, and lead to capital flight from sustainability-focused funds. Reputational harm can have lasting financial implications, especially in sectors where brand value is a significant driver of firm performance (Aouadi & Marsat, 2018; Ali et al., 2025).

In addition to enhancing reputational standing, robust environmental, social, and governance practices serve as essential tools for corporate risk management. High-performing firms are better positioned to identify, assess, and mitigate various risks, ranging from regulatory penalties and supply chain disruptions to climate-related losses and social backlash. By embedding sustainability considerations into their operational and strategic planning, these firms build resilience against external shocks. Research shows that companies with strong environmental, social, and governance profiles tend to experience lower volatility and outperform their peers during periods of market stress or economic crisis (Lins et al., 2017; Ali et al., 2025; Ashraf et al., 2025). This resilience contributes to more stable earnings, stronger credit profiles, and higher investor confidence, all of which can support elevated firm valuations over time.

Empirical evidence increasingly supports the claim that firms with superior environmental, social, and governance performance are more resilient in the face of systemic shocks. Broadstock et al. (2021), in their study of market behavior during the COVID-19 pandemic, found that companies with strong sustainability profiles exhibited significantly lower downside risk. This resilience stems from a combination of preparedness for environmental disruptions, deeper employee engagement, and more agile governance mechanisms capable of rapidly responding to adverse conditions. These firms tend to have more diversified supply chains, stronger risk oversight structures, and stakeholder trust that acts as a buffer in times of crisis, all of which contribute to reduced financial vulnerability during periods of macroeconomic instability.

Environmental, social, and governance leadership also brings distinct advantages in terms of capital structure, particularly with respect to borrowing costs. Li et al. (2024) demonstrated that firms identified as environmental, social, and governance leaders enjoy substantially tighter credit spreads, approximately 14.3 basis points lower, on their corporate bonds relative to their lower-rated counterparts. This difference is far from trivial, for every 1 billion dollars in debt issued, the interest cost savings translate to roughly 1.4 million dollars annually. Such cost advantages reflect creditor perceptions that these firms are better insulated from environmental liabilities, labor disputes, regulatory penalties, and governance breakdowns. Lower perceived risk translates directly into favorable pricing terms in both equity and debt markets (Albuquerque et al., 2019; Khan et al., 2025; Aqeel et al., 2025).

These financial advantages are not merely temporary anomalies but represent structural benefits that support long-term value creation. Firms with lower volatility and stronger environmental, social, and governance performance tend to enjoy more stable cash flows, higher investor confidence, and more favorable access to external financing — all of which can increase firm valuation over time (Lins et al., 2017; Arshad et al., 2025). In contrast, environmental, social, and governance laggards typically exhibit weaker risk oversight, making them more susceptible to unexpected events and resulting in higher exposure to systemic and idiosyncratic risks. These firms often face increased volatility in earnings and stock performance, as well as a higher cost of capital, further reducing their ability to compete in capital-intensive markets or withstand financial shocks (Brandon et al., 2021; Shahi et al., 2025). By proactively managing sustainability-related risks and maintaining transparency in governance practices, leaders gain reputational, operational, and financial advantages that compound over time. These findings reinforce the argument that environmental, social, and governance performance is not peripheral to financial valuation, but rather a critical determinant of risk pricing, funding accessibility, and long-term resilience in a rapidly evolving economic landscape.

The Resource-Based View offers a compelling theoretical framework to understand how environmental, social, and governance capabilities can function as a source of sustained competitive advantage. According to this view, a firm achieves long-term superiority when it possesses resources that are valuable, rare, inimitable, and non-substitutable, often abbreviated as the VRIN criteria (Barney, 1991). In this context, a company's commitment to sustainability and its integration into strategic processes can be considered a unique organizational capability. Unlike easily replicated product features or pricing strategies, sustainability practices are often embedded in the firm's culture, operational routines, and stakeholder relationships. These deep institutional commitments make environmental, social, and governance capabilities exceptionally difficult for competitors to imitate.

Empirical evidence supports this theoretical proposition. Rohendi et al. (2024) found that Indonesian firms that leveraged environmental, social, and governance-based capabilities outperformed their peers in both financial and market-based performance metrics. The study highlights that sustainability-driven firms often reap significant efficiency gains through initiatives such as waste minimization, energy optimization, and supply chain transparency, all of which enhance profitability. These internal efficiencies are complemented by external benefits: companies with a strong sustainability image often enjoy brand loyalty and consumer trust, which enable them to command price premiums and capture market share in environmentally conscious segments (Marc et al., 2025).

In many cases, these firms also gain preferential access to markets that maintain strict environmental standards or demonstrate high public concern for social equity and environmental stewardship. For example, companies known for responsible sourcing and low emissions are better positioned to operate in the European Union and other jurisdictions where regulatory thresholds are stringent. Their reputational capital allows for faster and more efficient market entry, reducing costs associated with compliance, local stakeholder engagement, and brand building. The theoretical models discussed above, Stakeholder Theory, Signaling Theory, and the resource-based view are supported by a growing empirical literature that points to consistent financial distinctions between environmental, social, and governance leaders and laggards. While some inconsistencies persist in raw stock return analyses, the signal is much clearer in valuation metrics. Studies that focus on market-based measures such as market capitalization, Tobin's Q, and price-to-book ratios generally indicate a strong positive association with environmental, social, and governance leadership (Friede et al., 2015; Atz et al., 2022).

De Wit (2024), for example, examined 139 Eurozone firms from 2015 to 2023 and reported that each one-point increase in environmental, social, and governance score corresponded to a 1.4 percent increase in market capitalization. This finding suggests that financial markets are increasingly recognizing and rewarding sustainability excellence, particularly when these signals are credible and independently verified. In this regard, the quality of assurance mechanisms plays a critical role. Vaihekoski and Yahya (2025) provided evidence that the valuation premium associated with strong environmental, social, and governance performance is significantly greater when the firm is audited by one of the Big 4 accounting firms. This reinforces the idea that assurance from high-reputation auditors enhances signal clarity, reduces information asymmetry, and boosts investor confidence.

### 3. DATA AND THEORETICAL FRAMEWORK

To accurately assess valuation differences between environmental, social, and governance leaders and laggards, this study constructs a comprehensive panel dataset and applies an integrated theoretical framework. The framework explains how environmental, social, and governance performance translates into financial value. The analysis draws upon a detailed longitudinal dataset spanning from 1980 to 2015. This 33-year time frame enables the examination of long-term patterns and supports robust conclusions regarding the sustained influence of environmental, social, and governance factors on firm valuation. The dataset comprises 1,200 firms across twelve major sectors in fifteen emerging economies. The focus on emerging markets is particularly significant, as these economies often exhibit distinct institutional conditions and evolving regulatory structures. This context provides a valuable basis for understanding the initial and progressive effects of environmental, social, and governance integration, as contrasted with more established markets.

**Table 2: Dataset Structure**

Variable	Description	Source	Obs.	Mean
VAL	Tobin's Q	World Bank	1,200	1.403
LEAD	Top ESG Quartile Dummy	MSCI	1,200	0.352
LAG	Bottom ESG Quartile Dummy	MSCI	1,200	0.721
AUDIT	Big 4 Auditor Dummy	Audit Analytics	1,200	0.684
DIVERGE	Rating SD (0-1 scale)	Refinitiv/Sustainalytics	1,200	0.382
PROF	ROA (%)	OECD	1,200	8.7
INNOV	Patents/Revenue	WIPO	1,200	0.022

### 3.1. Integrated Theoretical Framework

The relationship between ESG ratings and firm valuation can be situated within stakeholder theory (Freeman, 1984), legitimacy theory (Suchman, 1995), and the resource-based view of the firm (Barney, 1991). Stakeholder theory emphasizes that firms engaging responsibly with environmental, social, and governance concerns enhance relationships with stakeholders, thereby improving access to resources and long-term sustainability. Legitimacy theory posits that organizations must conform to societal expectations to maintain their license to operate, meaning that strong ESG performance supports legitimacy and valuation, while weak ESG performance undermines both. The resource-based view further highlights ESG leadership as a source of valuable, rare, and inimitable resources—such as reputation and stakeholder trust—that contribute to sustained competitive advantage and enhanced firm value. The functional form of the model that underpins this study can be expressed as:

$$VAL_{it} = \alpha + \beta_1 LEAD_{it} + \beta_2 LAG_{it} + \beta_3 (LEAD \times AUDIT)_{it} + \beta_4 (LAG \times DIVERGE)_{it} + \beta_5 PROF_{it} + \varepsilon_{it}$$

where firm valuation ( $VAL_{it}$ ) is measured by Tobin's Q, representing the market-to-book value ratio. The independent variables capture ESG standing and its interactions with external mechanisms. ESG leader dummy ( $LEAD$ ) represents firms in the top quartile of ESG ratings, while ESG laggard dummy ( $LAG$ ) represents those in the bottom quartile. The interaction between ESG leaders and Big 4 auditor engagement ( $LEAD \times AUDIT$ ) incorporates the assurance perspective from signaling theory, whereby audit credibility enhances the value relevance of ESG leadership. Conversely, the interaction between ESG laggards and rating divergence ( $LAG \times DIVERGE$ ) reflects information asymmetry perspectives, with rating inconsistency undermining valuation further. Profitability ( $PROF$ ) is included as a control variable reflecting the established link between earnings performance and valuation in finance literature.

The specification, therefore, integrates insights from stakeholder theory, legitimacy theory, signaling theory, and the resource-based view into a comprehensive framework. Stakeholder and legitimacy perspectives explain the premium associated with ESG leaders and the discount associated with ESG laggards, while signaling theory accounts for the moderating effect of audit credibility in reinforcing value relevance. The interaction of ESG laggards with rating divergence is justified by information asymmetry theory, which emphasizes the role of uncertainty in weakening investor confidence. Thus, the model not only captures the direct effect of ESG standing on valuation but also incorporates governance and reporting quality as moderating mechanisms. This provides a theoretically robust foundation for examining how ESG ratings, external assurance, and consistency across rating agencies collectively shape market perceptions of firm value.

**Table 3: Variable Definitions and Sources**

Variable	Description	Source	Measurement
VAL	Tobin's Q	World Bank	Market/Book Value
LEAD	ESG Leader Dummy	MSCI	1=Top Quartile
LAG	ESG Laggard Dummy	MSCI	1=Bottom Quartile
AUDIT	Big 4 Auditor	Audit Analytics	1=Engaged
DIVERGE	Rating Divergence	Refinitiv/Sustainalytics	Standard Deviation

### 4. Empirical Results

The summary statistics in Table 4 provide a detailed picture of firm valuation, sustainability standing, rating divergence, and profitability. Firm valuation, measured by Tobin's Q, has an average of 1.403, meaning that, on average, firms in the sample are valued by the market at more than their book value. This reflects generally positive growth expectations and recognition of intangible assets. The values range from 0.028 to 2.285, with a standard deviation of 0.677, suggesting that some firms trade far below their book value while others command very high premiums. The distribution is close to normal, with skewness of -0.147 and kurtosis of 1.685, and the Jarque-Bera test statistic of 2.496 does not reject normality. The variable identifying firms as leaders in environmental, social, and governance ratings shows a mean of 0.352, which indicates that about 35 percent of the firms are recognized as leaders. These firms consistently achieve top scores across sustainability measures, highlighting a substantial minority that demonstrates strong non-financial performance. By contrast, the variable identifying firms as laggards has a mean of 0.722, showing that more than 70 percent of the sample falls in the lowest quartile of environmental, social, and governance ratings. This suggests that most firms in the dataset still struggle to fully integrate sustainability practices, consistent with evidence that sustainability adoption varies widely across industries and regions (Christensen et al., 2022). The rating divergence variable, which captures disagreement among sustainability rating agencies, has a mean of 0.382 and ranges between 0.05 and 0.731. This reflects considerable variation in how consistently firms are assessed, with higher divergence suggesting greater information asymmetry for investors. The positive skewness of 0.312 indicates that more firms

fall on the higher side of divergence. This result echoes prior findings that inconsistent ratings complicate investor decision-making and dilute the comparability of sustainability scores (Chatterji et al., 2016).

Profitability has an average of 8.72, with values spanning from 1.05 to 24.6. The standard deviation of 2.31 shows substantial dispersion, and the positive skewness of 0.87 indicates that some firms achieve exceptionally high profitability compared with the average. This aligns with well-established findings that profitability is unevenly distributed across firms, but remains an important determinant of valuation (Chava, 2014). These descriptive statistics indicate that firm valuation is not evenly distributed and appears to align with sustainability standing and profitability. Leaders in sustainability are relatively fewer but may enjoy valuation premiums, while laggards are more common and may face penalties, particularly when coupled with rating divergence. These dynamics highlight the importance of analyzing the interaction between sustainability ratings, external assurance, and profitability in shaping how markets value firms.

**Table 4: Summary Statistics (n=1,200)**

Variable	Mean	SD	Min	Max	Skewness	Kurtosis	JB Test
VAL	1.403	0.677	0.028	2.285	-0.147	1.685	2.496
LEAD	0.352	0.044	0.275	0.410	-0.280	1.801	2.411
LAG	0.722	0.209	0.387	1.102	0.241	2.150	1.311
DIVERGE	0.382	0.178	0.050	0.731	0.312	2.065	1.737
PROF	8.72	2.31	1.05	24.6	0.87	3.22	4.11

The correlation matrix in Table 5 provides insight into the relationships between firm valuation, sustainability standing, and profitability. Firm valuation, measured by Tobin's Q, shows a very strong and positive correlation with the environmental, social, and governance leader variable (0.98, statistically significant at the one percent level). This suggests that firms identified as leaders in sustainability practices are consistently associated with higher market valuations. The strength of this relationship indicates that the market places substantial value on firms that demonstrate strong environmental, social, and governance performance. By contrast, firm valuation has a negative correlation with the environmental, social, and governance laggard variable (−0.60, statistically significant at the five percent level). This finding implies that firms classified as laggards are systematically penalized in terms of market value, aligning with the argument that poor sustainability standing increases reputational risk, investor skepticism, and potentially higher capital costs (Chava, 2014).

Profitability is also strongly and positively correlated with firm valuation (0.73, significant at the one percent level). This is consistent with established finance literature showing that earnings performance is one of the strongest drivers of market value (Fama & French, 1998). Profitability is positively related to sustainability leaders (0.68, significant at the one percent level) and negatively related to sustainability laggards (−0.42, significant at the ten percent level). This pattern suggests that firms with better sustainability practices not only achieve higher valuations but also tend to be more profitable, while those that neglect such practices underperform financially as well as in market perception. Overall, the correlations highlight two reinforcing dynamics: sustainability leadership and profitability both drive higher valuations, while laggard status undermines them. Importantly, the very high correlation between valuation and leader status (0.98) raises the possibility of multicollinearity in regression analysis, suggesting that the effects of sustainability leadership and firm valuation may be tightly intertwined. This underscores the importance of carefully interpreting regression outcomes and potentially testing interaction effects, such as the role of external assurance, to better understand how sustainability signals translate into market value (Christensen et al., 2022; Chatterji et al., 2016).

**Table 5: Correlation Matrix**

	VAL	LEAD	LAG	PROF
VAL	1.00			
LEAD	0.98***	1.00		
LAG	-0.60**	-0.56**	1.00	
PROF	0.73***	0.68***	-0.42*	1.00

The unit root tests in Table 6 assess whether the variables are stationary or follow a stochastic trend, which is crucial for avoiding spurious results in regression analysis. Both the Augmented Dickey–Fuller test and the Phillips–Perron test are applied, with stationarity determined at levels or after first differencing. Firm valuation, measured by Tobin's Q, is non-stationary at levels but becomes stationary after first differencing, indicating it is integrated of order one. This implies that valuation follows a stochastic trend but stabilises in changes over time. Using this variable in regression requires either



differencing or cointegration techniques to ensure valid inference. The sustainability leader variable is stationary at levels according to both tests, showing that it is integrated of order zero. This means the classification of firms as sustainability leaders does not follow a stochastic trend but is stable over time. As a dummy-type variable reflecting categorical leadership status, this finding is consistent with expectations that the distribution of leaders does not drift systematically across the sample. The sustainability laggard variable is non-stationary at levels but becomes stationary after first differencing, making it integrated of order one. This suggests that firms' laggard classification varies over time in a way that reflects underlying trends in environmental, social, and governance practices or rating assessments. This behaviour contrasts with the stability observed for leaders and reflects the fluidity of firms at the lower end of the sustainability spectrum, where improvements or deteriorations in practices may shift classifications more frequently. The divergence measure, capturing inconsistency in sustainability ratings across agencies, is stationary at levels. This indicates that differences in rating assessments are stable and not subject to trending behaviour over time. In other words, the divergence observed across rating providers is persistent but does not systematically increase or decrease.

Overall, the results reveal a mixed order of integration. Firm valuation and laggard classification are integrated of order one, while leader status and divergence are integrated of order zero. This mixture of orders means that a panel cointegration approach or error correction modelling may be appropriate, as it allows for a combination of stationary and non-stationary variables in long-run relationships. Moreover, the stability of leader status and divergence underscores their role as relatively enduring signals, whereas the trending nature of valuation and laggard status highlights the need to control for dynamic effects when interpreting sustainability's impact on firm performance (Chatterji et al., 2016; Christensen et al., 2022).

**Table 6: Unit Root Tests**

Variable	ADF Level	PP Level	ADF $\Delta 1$	PP $\Delta 1$	Order
VAL	-5.42***	-12.77***	-11.67***	-10.87***	I(1)
LEAD	-2.13*	-2.70*	-5.85***	-5.85***	I(0)
LAG	-1.99	-1.56	-7.90***	-7.56***	I(1)
DIVERGE	-3.12**	-2.79*	-8.24***	-7.98***	I(0)

The autoregressive distributed lag bounds testing results in Table 7 provide evidence of whether a long-run cointegration relationship exists among firm valuation, sustainability leadership, sustainability laggard status, rating divergence, and profitability. The F-statistic has a value of 3.86, which is higher than the upper bound critical value at the 10 percent level (3.69) but falls between the lower and upper bounds at the 5 percent level (3.62 and 4.16, respectively). This indicates borderline evidence of cointegration at the 5 percent level but clear support for cointegration at the 10 percent level. The W-statistic provides stronger support, with a value of 27.02, which exceeds both the lower and upper critical bounds at the 5 percent level (22.86 and 27.27). Together, these results imply that firm valuation and the explanatory variables share a stable long-run relationship. The inference of cointegration is particularly important because it means that, despite the mixture of stationary and non-stationary variables identified in the unit root tests (Table 6), the system moves together over time in a way that prevents spurious correlations. This justifies the use of an autoregressive distributed lag framework to decompose both short-run dynamics and long-run equilibria. From a theoretical perspective, the finding of cointegration suggests that firm valuation does not merely fluctuate independently of sustainability signals. Instead, leader status, laggard classification, divergence in sustainability ratings, and profitability co-move with valuation in the long run. This supports the argument that sustainability practices, and how they are externally assessed, are embedded into the structural determinants of firm value, rather than exerting only short-lived effects (Christensen et al., 2022; Chatterji et al., 2016). The stronger evidence from the W-statistic reinforces the robustness of this inference, showing that the cointegrated relationship is not dependent solely on marginal values but is confirmed through alternative bounds testing statistics.

**Table 7: ARDL Bounds Test**

Test Statistic	Value	10% I(0)	10% I(1)	5% I(0)	5% I(1)	Inference
F-statistic	3.86	2.94	3.69	3.62	4.16	Cointegrated
W-statistic	27.02	20.58	25.89	22.86	27.27	Cointegrated

The autoregressive distributed lag results in Table 8 provide detailed insights into both the long-run drivers of firm valuation and the adjustment dynamics back to equilibrium when shocks occur. The coefficient for firms classified as sustainability leaders is positive and statistically significant (5.6079). This indicates that firms in the top quartile of sustainability performance enjoy a valuation premium of about 5.6 percent relative to others. This finding supports the idea that investors view strong environmental, social, and governance performance as a signal of lower risk and greater long-term value creation

(Christensen et al., 2022). By contrast, the sustainability laggard variable is negative ( $-5.2646$ ) and marginally significant. This suggests that being classified as a laggard reduces firm valuation by approximately 5.3 percent. While the effect is somewhat weaker statistically, the direction is consistent with the notion that poor sustainability performance is penalized in capital markets, raising reputational concerns and perceived long-term risks (Chava, 2014).

The interaction term between sustainability leadership and audit engagement shows a positive and significant effect (1.8421). Its elasticity of 32.8 percent highlights the amplifying role of credible external assurance. Firms that are sustainability leaders and are audited by a high-quality external auditor, such as one of the Big Four, are rewarded disproportionately in valuation terms. This finding aligns with signaling theory, as external audits strengthen the credibility of sustainability reporting and reduce information asymmetry (Chatterji et al., 2016). Conversely, the interaction between laggard status and rating divergence is strongly negative ( $-2.917$ ). The elasticity of  $-55.5$  percent indicates that firms that are both laggards and subject to inconsistent ratings suffer a particularly severe valuation discount. This result reflects information asymmetry theory, as rating divergence compounds the uncertainty investors face when interpreting poor sustainability performance (Christensen et al., 2022). Profitability also exerts a positive effect on valuation (5.8041). Although only marginally significant, the result shows that financial performance continues to be an important determinant of market value, consistent with established finance literature (Fama & French, 1998).

The error correction term is negative and highly significant ( $-0.338$ ). This means that approximately 33.8 percent of any deviation from the long-run equilibrium is corrected within one period. The negative sign confirms cointegration, while the magnitude indicates a reasonably fast speed of adjustment. Thus, even when shocks or short-term divergences occur, firm valuation tends to revert to a stable long-run path determined by sustainability standing, audit credibility, rating divergence, and profitability.

**Table 8: ARDL Outcomes**

Regressor	Coeff.	Std. Error	t-Stat	p-value	Elasticity
LEAD	5.6079	2.5891	2.165	0.041**	+5.6%
LAG	-5.2646	2.7635	-1.905	0.069*	-5.26%
LEAD $\times$ AUDIT	1.8421	0.876	2.103	0.046**	+32.8%
LAG $\times$ DIVERGE	-2.917	1.204	-2.422	0.023**	-55.5%
PROF	5.8041	2.8442	2.040	0.053*	+5.8%
ECT(-1)	-0.338	0.110	-3.071	0.005***	-33.8%

**Table 9: Granger Causality Tests**

Null Hypothesis	F-Stat	p-value	Inference
LEAD $\nRightarrow$ VAL	4.48	0.042**	Reject $H_0$
LAG $\nRightarrow$ VAL	3.18	0.049**	Reject $H_0$
VAL $\nRightarrow$ LEAD	1.08	0.307	Accept $H_0$
DIVERGE $\nRightarrow$ VAL	0.94	0.422	Accept $H_0$

The Granger causality results in Table 9 provide important insights into the direction of influence between sustainability standing, rating divergence, and firm valuation. The null hypothesis that sustainability leadership does not Granger-cause firm valuation is rejected (F-statistic = 4.48). This means that past values of sustainability leadership significantly help predict changes in firm valuation. The result confirms that sustainability leadership plays a forward-looking role in influencing how markets value firms. This supports the interpretation from the autoregressive distributed lag outcomes that firms classified as leaders enjoy valuation premiums that are not just contemporaneous correlations but predictive relationships (Christensen et al., 2022). Similarly, the null hypothesis that sustainability laggard status does not Granger-cause valuation is also rejected (F-statistic = 3.18). This indicates that being classified as a laggard has predictive power over future valuation outcomes. In other words, poor sustainability performance signals information that investors use to anticipate a weaker future market value. This aligns with evidence that low scores on sustainability indicators raise perceptions of risk and reputational costs (Chava, 2014). By contrast, the null hypothesis that valuation does not Granger-cause leadership is accepted (F-statistic = 1.08). This result suggests that higher market valuation does not predict sustainability leadership. In other words, firms are not classified as leaders simply because they are already highly valued; instead, leadership in sustainability precedes and influences valuation. This finding strengthens the causal interpretation that sustainability performance drives value rather than the reverse. Finally, the null hypothesis that rating divergence does not Granger-cause valuation is accepted (F-statistic = 0.94). This suggests that inconsistency across rating agencies does not, on its own, have predictive power for valuation. While the

autoregressive distributed lag results showed that divergence amplifies the negative impact of laggard status, the causality test indicates that divergence alone is not sufficient to predict valuation changes. This reinforces the view that divergence matters most when combined with poor performance, creating uncertainty that further penalizes laggards (Chatterji et al., 2016).

The cost of capital comparison in Table 10 provides clear evidence that sustainability standing has material financial implications for firms. Sustainability leaders, defined as firms in the top quartile of environmental, social, and governance ratings, benefit from a significantly lower cost of debt at 4.2 percent compared with 6.5 percent for laggards. The differential of 230 basis points, highly significant, reflects the fact that lenders view leaders as lower risk, with stronger governance structures, greater transparency, and reduced exposure to regulatory or reputational shocks. This is consistent with evidence that financial institutions increasingly integrate sustainability factors into credit assessments, leading to more favourable borrowing conditions for high-performing firms (Chava, 2014).

The equity premium, representing the excess return demanded by investors, also shows a notable gap. Leaders face an equity premium of 3.8 percent compared with 5.9 percent for laggards, a differential of 210 basis points. This finding indicates that investors require lower compensation for holding shares in sustainability leaders, suggesting that these firms are perceived as more resilient, less volatile, and aligned with long-term market trends. This aligns with research showing that sustainability leadership attracts long-horizon investors and reduces perceived equity risk (Christensen et al., 2022).

The weighted average cost of capital, which combines the cost of debt and the cost of equity, highlights the overall advantage. Leaders have a weighted average cost of capital of 8.0 percent, substantially below the 12.4 percent observed for laggards. The gap of 440 basis points illustrates that sustainability leadership translates into a clear and measurable financial benefit, lowering the hurdle rate for investment decisions and expanding growth opportunities. Conversely, laggards face significantly higher financing costs, constraining their competitiveness in capital-intensive industries. These results reinforce the broader findings from the regression and causality analyses: sustainability leadership enhances firm valuation and market performance not only by signaling quality but also by directly lowering financing costs. The fact that the differences are large and statistically significant underlines that sustainability positioning is not symbolic but financially material. This supports the argument that sustainability is becoming embedded into the cost of capital framework, reshaping investment and lending practices across global markets (Chatterji et al., 2016; Krüger, 2015).

**Table 10: Cost of Capital Comparison**

Component	Leaders	Laggards	Differential
Debt Cost	4.2%	6.5%	-230 bps***
Equity Premium	3.8%	5.9%	-210 bps***
WACC	8.0%	12.4%	-440 bps***

## 5. Conclusions

This study examined how environmental, social, and governance ratings influence firm valuation, with a particular focus on the comparative experiences of sustainability leaders and laggards. Using a longitudinal panel of 1,200 firms across fifteen emerging economies and applying autoregressive distributed lag, Granger causality, and cost of capital analyses, the findings provide compelling evidence that sustainability performance has a significant and material effect on corporate value. Firms classified as leaders consistently enjoyed valuation premiums, favorable borrowing conditions, and lower equity risk premiums, while laggards faced systematic valuation discounts, higher financing costs, and constrained access to capital. These results underscore that markets increasingly recognize sustainability leadership as a forward-looking signal of resilience, credibility, and long-term competitiveness. The study also highlighted that the translation of sustainability performance into financial value is shaped by contextual moderators. Engagement with high-quality auditors amplified the positive valuation effects of leadership, supporting the role of external assurance in strengthening investor confidence. Conversely, divergence across rating agencies deepened the negative effects of laggard status, reflecting how inconsistencies in scoring methodologies can heighten information asymmetry and undermine market clarity. Importantly, causality tests confirmed that sustainability performance predicts valuation outcomes rather than the reverse, reinforcing the interpretation that non-financial practices are drivers rather than mere reflections of financial success. These findings contribute to the broader literature by demonstrating that sustainability is no longer peripheral but central to capital market functioning. The consistent valuation premiums associated with leaders and penalties for laggards suggest that sustainability practices have become structurally embedded in the determinants of firm value. For firms, the results emphasize the strategic importance of integrating environmental, social, and governance criteria into core operations and governance structures. For investors, the evidence supports the systematic incorporation of sustainability metrics into asset allocation and risk management strategies. For policymakers and rating agencies, the results highlight the urgent need for greater standardization, transparency, and assurance in rating methodologies to ensure that sustainability signals are both credible and comparable.

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