

The Multifaceted Role of ESG Factors in Shaping Financial Market Performance: A Comprehensive Review of Empirical Evidence and Theoretical Underpinnings

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Abstract

This research paper provides a comprehensive review of the empirical evidence and theoretical underpinnings concerning the role of Environmental, Social, and Governance (ESG) factors in financial market performance. Drawing upon a diverse body of academic literature, this paper explores the intricate relationships between ESG performance and various financial metrics, including corporate profitability, firm valuation, cost of capital, and stock returns. The paper synthesizes findings on the generally positive impact of ESG on operational efficiency and firm value, while also addressing the more complex and often mixed results observed in stock returns. It delves into the moderating effects of industry characteristics, geographical contexts, corporate innovation, and economic crises, highlighting the context-dependent nature of ESG's financial materiality. Furthermore, this paper critically examines key challenges in ESG research, such as rating inconsistencies, data noise, and greenwashing, and discusses their implications for both academic inquiry and practical application. By integrating insights from prominent theories—including Stakeholder Theory, Resource-Based View, Legitimacy Theory, Signaling Theory, Risk Mitigation Theory, and Over-investment Theory—this paper aims to offer a nuanced understanding of the mechanisms through which ESG influences financial outcomes. Finally, strategic implications for corporate managers, investors, and policymakers are provided, alongside avenues for future research to advance the field of sustainable finance.

Keywords: ESG, Financial Performance, Corporate Sustainability, Sustainable Finance, Stock Returns, Cost of Capital, Firm Valuation, Corporate Profitability, Stakeholder Theory, Risk

Management.

1. Introduction

Over the past two decades, Environmental, Social, and Governance (ESG) criteria have emerged as a transformative force, fundamentally reshaping corporate behavior and investment practices across global capital markets. These factors have become critical dimensions of corporate evaluation, extending beyond traditional financial metrics to encompass a broader assessment of a company's sustainability and societal impact.¹ The increasing prominence of ESG is evidenced by a significant surge in related research, particularly since 2019.

³ This heightened interest is largely attributed to growing global awareness of climate change, increased public and investor demand for sustainable practices, and the amplified focus on corporate responsibility during events like the COVID-19 pandemic.³ For instance, the proportion of S&P 500 companies publishing sustainability reports dramatically increased from a mere 20% in 2011 to over 90% in 2019.

⁵ Concurrently, global sustainable fund assets experienced a staggering 53% year-on-year increase, reaching USD 2.7 trillion in 2021.5 Governments, international organizations, and various sectors of society are increasingly integrating ESG principles into strategic planning and investment decisions, recognizing their pivotal role in fostering sustainable development and enhancing financial performance.⁴

Despite this growing consensus on ESG's potential benefits, the precise contribution of these practices to value creation across various sectors remains a subject of ongoing inquiry.² The relationship between ESG and financial performance is often characterized by ambiguity, with prior studies presenting contradictory findings.³ While a substantial body of research suggests a positive correlation between strong ESG performance and improved financial outcomes, other studies indicate a negative impact or highlight that the effect is significant only at a sector-specific level.⁸ Meta-analyses further underscore this complexity, with some revealing a low overall positive correlation

³, while others report consistent positive correlations for corporate financial performance but find ESG investing returns to be indistinguishable from conventional investments.¹⁰ This variability underscores the need for a comprehensive and nuanced examination of the underlying mechanisms and contextual factors at play.

The purpose of this paper is to provide a comprehensive review of the empirical evidence and theoretical explanations that illuminate the role of ESG factors in financial market performance. It aims to clarify the extent, direction, and variations of this association by systematically examining ESG's impact on corporate profitability, firm valuation, cost of capital, and stock returns. This study contributes to the academic discourse by offering an integrated overview that incorporates various theoretical perspectives, addresses key moderating factors, and discusses prevalent methodological challenges. Such an approach facilitates a more nuanced understanding for academics, practitioners, and policymakers navigating the evolving landscape of sustainable finance.

2. Theoretical Frameworks Explaining ESG-Financial Performance Linkages

The intricate relationship between ESG performance and financial outcomes is not explained by

a single cause but rather by a multifaceted interplay of internal and external firm dynamics. Consequently, a holistic understanding necessitates integrating insights from several theoretical perspectives rather than relying on a singular framework. Each theory offers a distinct lens through which to comprehend *why* and *how* ESG factors might influence a firm's financial standing, market perception, and long-term viability.

2.1. Stakeholder Theory

Stakeholder theory posits that a company's long-term success is not solely determined by maximizing shareholder wealth, but also by its ability to create value for all groups affected by its operations, including employees, customers, suppliers, communities, and regulators.¹¹ By actively addressing the needs and concerns of these diverse stakeholders, companies can enhance their reputation, reduce operational and reputational risks, and secure critical resources, ultimately leading to improved financial performance.

In the ESG context, strong ESG performance serves as a tangible demonstration of a company's commitment to responsible practices, thereby fostering trust and securing "buy-in" from both internal and external stakeholders.¹² For instance, fair labor practices and employee well-being (Social) are crucial for attracting and retaining skilled talent, while diligent environmental stewardship (Environmental) can improve community relations, reduce the likelihood of environmental incidents, and mitigate regulatory scrutiny. Robust governance structures (Governance) ensure transparent and ethical decision-making, which in turn builds investor confidence and reduces perceived risks.

Empirical evidence supports this theoretical linkage, showing that companies demonstrating strong ESG performance can gain access to scarce resources and alleviate financing constraints, as positive stakeholder perception, particularly from investors, can lower the cost of capital.¹² This engagement with stakeholders contributes to an enhanced brand image, fosters customer loyalty, reduces investment risks, and can lead to lower financing costs.

12 Investors are increasingly integrating ESG factors into their decision-making processes, underscoring the growing recognition of companies' responsibility to behave sustainably.¹³ This perspective highlights ESG as a strategic imperative for building social capital and ensuring operational continuity, moving beyond the perception of ESG as merely a cost center to a value-creation driver by emphasizing the long-term benefits of strong relationships.

2.2. Resource-Based View (RBV)

The Resource-Based View (RBV) asserts that a firm's sustained competitive advantage and superior performance arise from its unique, valuable, rare, inimitable, and non-substitutable (VRIN-O) resources and capabilities.¹⁴

When ESG practices are deeply integrated into a firm's core operations and strategic planning, they can evolve into such valuable and inimitable resources.⁵ For example, the development of proprietary eco-friendly products, the optimization of supply chains for enhanced sustainability, or the cultivation of a highly ethical and transparent corporate culture can lead to significant cost savings, an enhanced brand reputation, and innovative capabilities that are difficult for competitors to replicate.⁵

Empirical observations align with this view, indicating that strong environmental performance can result in cost efficiencies through improved energy efficiency and reduced regulatory risks.⁵

Furthermore, firms with a strong ESG focus tend to exhibit higher levels of innovation, achieve cost reductions, and improve overall efficiency by developing eco-friendly products, streamlining supply chains, and enhancing energy utilization, thereby securing competitive advantages.¹⁶ Within this framework, ESG disclosure itself is considered a strategic asset that can significantly boost a firm's reputation and improve its access to capital.⁵ This perspective suggests that not all ESG initiatives yield uniform financial benefits; only those that truly develop into unique and hard-to-imitate capabilities will confer a sustained competitive advantage. This implies a strategic need for differentiation in ESG efforts, moving beyond generic compliance to truly leverage ESG for financial gain.

2.3. Legitimacy Theory

Legitimacy theory posits that organizations continuously strive to ensure their operations are perceived as legitimate by society, aligning with prevailing social norms, values, and expectations to secure and maintain their "social license to operate".⁶

In the context of ESG, companies adopt and disclose their ESG performance, often through sustainability reports, as a proactive measure to bridge any perceived "legitimacy gaps" and cultivate a positive public image.⁶ This deliberate alignment with societal expectations helps companies avert potential societal penalties, mitigate negative public perception, and avoid stringent regulatory interventions.

Empirical evidence indicates that ESG disclosures and sustainability reports are effective tools for gaining and securing legitimacy. This legitimacy is positively correlated with improved financial performance metrics, including increased revenue, reduced costs, and enhanced profits, ultimately contributing to a higher market valuation.¹⁷ The credibility of the ESG information disclosed, often bolstered by independent assurance, is crucial for fostering stakeholder trust.⁶ Legitimacy theory thus underscores a defensive aspect of ESG, where firms invest in sustainability to protect their existing financial performance and market position by avoiding reputational damage and regulatory backlash. This suggests that even companies not actively seeking competitive advantage through ESG may still invest in these areas primarily to maintain their social acceptance and operational continuity.

2.4. Signaling Theory

Signaling theory addresses situations of information asymmetry, where one party in a transaction (e.g., a company) possesses more or better information than the other (e.g., investors). In such scenarios, companies utilize credible signals to convey unobservable internal qualities and intentions to external stakeholders.¹⁹

Within the ESG framework, high ESG performance and transparent ESG disclosures serve as powerful signals to investors, indicating that a company is well-managed, forward-thinking, and inherently less risky.¹³ This strategic communication reduces information asymmetry, making the company more attractive to potential investors.

Empirical findings suggest that superior financial performance and comprehensive sustainability reporting are expected to transmit a positive signal to stakeholders, which in turn enhances firm value.²⁰ Strong ESG performance can also increase investor confidence and potentially reduce the cost of capital.¹ However, it is important to note that some studies have found an insignificant signaling effect for certain types of ESG disclosures, highlighting that the

effectiveness of ESG as a signal is contingent on its credibility.¹⁹ This implies that mere disclosure is insufficient; independent assurance and genuine, verifiable practices are crucial for ESG signals to translate into tangible financial benefits. The presence of "noise" in ESG ratings or perceived "greenwashing" can undermine the signal's credibility, making independent assurance and genuine, verifiable practices paramount for ESG signals to effectively influence financial outcomes.

2.5. Risk Mitigation Theory

Risk mitigation theory posits that companies engaging in robust ESG practices are better positioned to identify, assess, and mitigate various operational, reputational, regulatory, and financial risks.²¹

Proactive management of environmental impacts (e.g., reducing pollution, conserving resources), social issues (e.g., ensuring fair labor practices, maintaining product safety), and governance weaknesses (e.g., promoting board independence, implementing anti-corruption measures) significantly reduces the likelihood of costly incidents, legal liabilities, and reputational damage.²¹ This proactive approach ultimately leads to greater financial stability and enhanced resilience for the firm.

Empirical evidence supports this theory, indicating that higher ESG scores are associated with reduced systematic risk (Beta).⁸ ESG performance has been shown to enhance financial resilience, particularly during periods of economic crises such as the COVID-19 pandemic.¹ Companies with strong ESG practices are generally considered safer investment options and tend to exhibit greater stability during turbulent times.² This positions ESG as a crucial component of long-term financial planning and risk management, acting as a buffer against market volatility and unforeseen shocks, which translates into more stable financial performance and sustained investor confidence.

2.6. Over-investment Theory

The over-investment theory suggests that managers, particularly in companies with substantial excess cash flow, may engage in "overinvestment" in projects, including ESG initiatives, that do not necessarily maximize shareholder value or may be undertaken primarily for signaling purposes rather than genuine efficiency.²³ This can lead to an inefficient allocation of resources and potentially result in negative financial outcomes.

In the ESG context, companies might engage in overinvestment in ESG activities as a means to signal their status, enhance their public image, or attract ESG-focused investors, even if the direct financial returns from these investments are not immediate or clearly demonstrable.²³ Such actions can lead to increased operational costs and a reduction in short-term profitability.⁹ Empirical findings occasionally suggest a negative relationship between ESG scores and stock returns, with the argument that expenditures on ESG projects can diminish a firm's earnings.⁹ In some specific contexts, higher ESG scores have indeed been associated with negative stock returns.⁸ One study even indicated that overinvestment had a significant negative effect on overall ESG performance, which contradicts the tenets of legitimacy theory.²³ This perspective offers a counter-narrative to the generally positive view of ESG, highlighting that not all ESG spending is value-accretive, especially if it is driven by managerial discretion or superficial image management rather than genuine strategic alignment. This underscores the importance of

careful strategic alignment and materiality assessment in ESG investments.

2.7. Information Asymmetry Theory

Information asymmetry theory posits that in a transaction, one party possesses more or superior information than the other, which can lead to market inefficiencies and suboptimal decision-making.

In the context of ESG, disclosure initiatives play a critical role in reducing this information asymmetry between firms and investors.¹⁹ By providing transparent and reliable information about their environmental, social, and governance practices, companies can significantly reduce the perceived risk and uncertainty for investors.

The reduction in information asymmetry, in turn, leads to improved firm valuation and potentially a lower cost of capital, as investors are able to make more informed and confident investment decisions.¹⁹ However, the effectiveness of this mechanism is heavily dependent on the credibility and verifiability of the disclosed information.

19 This highlights that transparency in ESG reporting is not merely a moral obligation but a strategic tool to enhance market efficiency and attract capital, provided the information is credible and independently assured. If investors lack complete information about a company's true ESG risks and opportunities, they will demand a higher risk premium or undervalue the company. Conversely, by providing clear, verifiable ESG data, companies can effectively bridge this information gap. The emphasis on "signal honesty" and "third-party verification" 19 further reinforces that the *quality* of information is paramount for this mechanism to function effectively.

Table 3: Overview of Theoretical Perspectives on ESG-Financial Performance Linkages

Theory	Core Premise	ESG Mechanism	Key Financial Outcomes
Stakeholder Theory	Long-term success from balancing all stakeholder interests, not just shareholders.	ESG fosters trust and engagement with diverse stakeholders (employees, customers, communities, investors).	Enhanced Reputation, Risk Reduction, Access to Capital, Alleviated Financing Constraints, Customer Loyalty, Lower Financing Costs
Resource-Based View (RBV)	Competitive advantage from unique, valuable, rare, inimitable, non-substitutable (VRIN-O) resources.	Deeply integrated ESG practices become inimitable resources, driving innovation and efficiency.	Cost Savings, Enhanced Brand Reputation, Competitive Advantage, Innovation, Enhanced Capital Access
Legitimacy Theory	Organizations seek to align with societal norms and expectations to maintain their "social	ESG disclosures bridge legitimacy gaps, managing public perception and avoiding negative	Increased Revenue, Reduced Costs, Enhanced Profits, Higher Market Valuation, Risk

	license to operate."	scrutiny.	Mitigation
Signaling Theory	Companies use credible signals to convey unobservable internal qualities to reduce information asymmetry.	High ESG performance and transparent disclosures signal quality, lower risk, and good management.	Investor Confidence, Reduced Cost of Capital, Improved Firm Valuation
Risk Mitigation Theory	Proactive ESG practices identify, assess, and mitigate various operational, reputational, and financial risks.	ESG reduces likelihood of costly incidents, legal liabilities, and reputational damage.	Financial Stability, Enhanced Resilience, Reduced Systematic Risk, Downside Protection
Over-investment Theory	Managers may overinvest in projects (including ESG) for signaling or image, not necessarily value maximization.	ESG spending may reduce earnings if not strategically aligned or if driven by superficial motives.	Increased Costs, Reduced Short-term Profitability, Negative Stock Returns (in some contexts)
Information Asymmetry Theory	One party has more information, leading to market inefficiencies.	ESG disclosure reduces information asymmetry, allowing investors to make more informed decisions.	Improved Firm Valuation, Lower Cost of Capital

3. Empirical Evidence: Impact of ESG on Key Financial Performance Metrics

The empirical literature exploring the relationship between ESG factors and financial performance presents a complex and often varied picture. While a general trend of positive correlation is observed across several financial metrics, the strength and precise direction of this relationship are highly contingent on specific contexts, methodologies employed, and the particular financial metric under consideration. This section synthesizes key findings across corporate profitability, firm valuation, cost of capital, and stock returns.

3.1. ESG and Corporate Profitability & Operational Efficiency

A consistent theme in the literature points to a generally positive relationship between corporate ESG performance and financial performance, a conclusion that holds even after rigorous endogeneity and robustness tests.⁴ This positive association is frequently observed across various operational metrics, including Return on Equity (ROE), Return on Assets (ROA), and Free Cash Flow (FCF).²

The mechanisms through which ESG enhances profitability often involve improvements in operational efficiency. ESG practices are associated with significant reductions in operating costs and an increase in regulatory compliance, particularly when integrated with digital

transformation initiatives.² The operational efficiencies gained through sustainable practices frequently translate into direct cost reductions, optimizing resource utilization and minimizing waste.² Specific financial indicators further illustrate this link: high ESG scores are significantly associated with enhanced financial resilience, innovation, and performance, including strong positive correlations with ROE and FCF.² Liquidity Ratios, such as the Current Ratio and Quick Ratio, also exhibit significant positive correlations with ESG scores, suggesting that firms with robust liquidity and effective working capital management are better positioned to implement ESG policies and demonstrate greater resilience.² Moreover, studies indicate that both composite ESG scores and individual pillar scores (Environmental, Social, and Governance) are significantly positively correlated with corporate profitability.⁴ This consistent positive link between ESG and operational efficiency/profitability suggests that ESG initiatives are not merely external compliance burdens but can actively drive internal efficiencies and competitive advantages. This implies a significant shift from viewing ESG as a cost center to recognizing it as a strategic investment capable of fostering operational excellence and contributing directly to the bottom line.

3.2. ESG and Firm Valuation & Market Capitalization

ESG practices generally exert a positive influence on firm valuation and market capitalization. Good ESG practices are shown to significantly enhance firms' future cash flows, long-term value, and market competitiveness.²⁴ ESG positively impacts firm value, often measured by Tobin's Q.¹³

The mechanisms for this value creation are multifaceted. ESG initiatives can increase long-term firm value by reducing the weighted average cost of capital (WACC) and improving the return on invested capital (ROIC).²⁴ Market capitalization, which reflects investor perceptions of future growth potential and inherent risks, often increases for firms demonstrating strong ESG performance due to the anticipated financial benefits derived from sustainability efforts.⁵

The credibility of ESG evaluation and the quality of internal governance play a crucial role in translating ESG performance into higher valuation. Firms with higher ESG scores tend to achieve higher valuations when a Big Four audit firm is engaged as their external auditor, underscoring the importance of audit quality in validating ESG claims.²⁵ Furthermore, effective internal governance mechanisms, such as the presence of independent board members, appropriate board size, an independent audit committee, and the implementation of a split CEO-chair structure, enhance the credibility and effectiveness of ESG initiatives, thereby magnifying their positive impact on market capitalization.⁵ This indicates that the positive impact of ESG on firm valuation is not solely about direct financial gains but also about enhancing credibility and reducing investor uncertainty. Consequently, robust governance and external assurance are critical enablers for ESG to effectively translate into market value, serving as a quality signal to investors.

While a substantial body of literature explores this relationship, findings can be inconsistent, with most studies historically focusing on mature Western markets and relatively less research on emerging economies.²⁴ However, a general trend of positive correlation between ESG scores and market capitalization is observed, particularly in regulated sectors and developed markets.¹

3.3. ESG and Cost of Capital

A significant portion of the literature indicates a general trend towards a lower cost of capital for

companies with strong ESG performance. Many studies suggest that firms with higher ESG scores tend to incur a lower cost of debt, reflecting a negative relationship between ESG and borrowing costs.⁶ ESG practices can lead to enhanced access to capital and more favorable borrowing terms.¹³

Specifically, ESG performance has been shown to reduce the weighted average cost of capital (WACC).²⁴ While some analyses suggest that both the cost of debt and cost of equity are only vaguely affected by changes in ESG scores, high ESG performers do show indications of a marginal decrease in their overall cost of capital, though this finding does not always achieve statistical significance across all studies.²⁶

Several moderating factors significantly influence the relationship between ESG and the cost of capital:

- **Independent Assurance:** The strength of the relationship between ESG performance and both financial performance and the cost of debt is amplified when independent assurance or an audit is provided for sustainability reporting.⁶ Stakeholder trust in the credibility and reliability of ESG information is heavily dependent on this external verification.⁶
- **Media Coverage:** For Korean-listed companies, firms with poor ESG ratings face higher debt costs. However, this adverse financial impact is significantly mitigated for companies that receive higher media coverage.²⁷ Conversely, high media coverage can also amplify the adverse impact of inadequate ESG performance on debt costs, suggesting that public scrutiny can both alleviate and exacerbate financial repercussions depending on the quality of ESG performance.²⁷
- **Firm Size:** Larger companies may experience a lower cost of debt, while potentially facing an increase in the cost of equity. In contrast, smaller companies may derive a greater benefit from improving their ESG score, experiencing a significant decrease in their cost of equity.²⁶

The impact of ESG on the cost of capital is not uniform and is heavily influenced by the credibility of ESG information and external scrutiny. This indicates that investment in transparent reporting and robust assurance mechanisms can yield tangible financial benefits by reducing perceived risk for lenders and investors, thereby directly influencing capital allocation decisions.

3.4. ESG and Stock Returns

Research on the relationship between ESG scores and stock returns presents a highly mixed and inconsistent body of evidence.³ While some studies suggest a positive potential for enhancing financial returns globally⁸, others indicate a negative impact.⁸ Some meta-analyses even show no significant overall correlation in certain contexts, particularly within English-language papers.³

Positive findings include observations that firms with higher levels of ESG disclosure tend to achieve superior stock returns.⁹ Similarly, successful ESG efforts are often followed by positive abnormal stock returns.⁹ Furthermore, portfolios concentrating on companies that have recently improved their ESG ratings have consistently outperformed broader market indices.⁹ Higher ESG scores are also associated with reduced systematic risk (Beta).⁸

Conversely, some analyses report that higher ESG scores are significantly associated with negative stock returns.⁸ A primary argument for this negative relationship is that spending on

ESG projects can reduce a firm's earnings, thereby impacting shareholder returns.

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A critical factor in understanding this mixed evidence is "ESG Momentum." The change in ESG rating (Δ ESG), or "ESG Momentum," appears to play a more significant role in explaining the impact of ESG activity on stock returns than static ESG scores.⁹ An increase in a company's ESG rating tends to translate into immediate positive returns and reduced risk.⁹

A significant methodological challenge contributing to the mixed findings is the "problem of noise" in ESG ratings. Existing measures of ESG performance are often noisy, leading to attenuation bias in standard regression estimates.²⁸ This bias typically causes the observed effect of ESG performance on stock returns to appear weaker than its true magnitude. When this bias is corrected using advanced econometric techniques, such as instrumental variable approaches, the effect of ESG performance on stock returns is found to be much stronger, with coefficients often more than doubling.²⁸ The average noise-to-signal ratio in ESG ratings can be as high as 61.7%.²⁸ This suggests that the highly mixed findings on ESG and stock returns are significantly influenced by methodological challenges, particularly the "noise" inherent in ESG ratings. Consequently, the true positive relationship might be underestimated in many studies, and investors appear to react more strongly to *improvements* in ESG performance (momentum) than to static high scores, indicating a dynamic market perception.

Table 1: Summary of Empirical Findings on ESG and Financial Performance Metrics

Financial Metric	Overall ESG Impact	Environmental (E) Impact	Social (S) Impact	Governance (G) Impact	Key Context/Nuance
Corporate Profitability & Operational Efficiency	Positive	Positive	Positive	Positive	Cost reductions, increased regulatory compliance, enhanced resilience; holds after endogeneity/robustness tests.
Firm Valuation & Market Capitalization	Positive	Positive	Positive	Positive	Enhances future cash flows, reduces WACC, increases ROIC; amplified by audit quality & strong internal governance.
Cost of Capital (Debt &	Generally Negative (lower CoC)	Not specified	Not specified	Not specified	Stronger with independent assurance; media

Equity)					coverage can moderate; smaller firms benefit more for CoE.
Stock Returns	Mixed/Inconsistent; potentially stronger positive when noise corrected	Mixed/Positive	Mixed/Negative	Mixed/Positive	Significant "noise" in ratings biases results; "ESG Momentum" (change in rating) often positive; associated with reduced systematic risk.

4. Moderating Factors and Contextual Nuances

The relationship between ESG factors and financial market performance is not a universal constant but rather a highly context-dependent phenomenon. Various moderating factors, encompassing industry characteristics, geographical location, firm-specific attributes, and broader economic conditions, significantly influence the strength and direction of this relationship. Understanding these nuances is crucial for both accurate academic analysis and the effective strategic implementation of ESG initiatives by practitioners.

4.1. Industry-Specific Variations

The impact and effectiveness of ESG practices exhibit considerable variation across different industries.² A particularly pronounced positive impact of ESG performance on financial outcomes is observed in resource-intensive industries (e.g., energy, manufacturing) and high-pollution industries.² This amplified benefit is largely attributed to the increased regulatory and societal demands placed on these sectors, which translate into tangible advantages such as cost reduction, improved regulatory compliance, and strengthened stakeholder trust.

² This suggests that ESG is not a "one-size-fits-all" solution. Its financial materiality is amplified in industries where environmental and social impacts are more direct, visible, and subject to stricter regulation or public scrutiny. Consequently, firms operating in such sectors should prioritize ESG issues that are most material to their specific industry context to maximize financial benefits.

4.2. Geographical and Market Differences

The strength and consistency of the ESG-valuation relationship are highly region-specific, influenced by the maturity of financial markets, the robustness of regulatory frameworks, investor awareness levels, and data availability.¹ Developed markets, such as those in the US, EU, and Japan, tend to exhibit a stronger and more consistent link between ESG and financial performance. In contrast, emerging markets often show greater variability, which can be attributed to factors like a short-term investor focus, a lack of standardized data, and weaker regulatory enforcement.¹

Meta-analyses further reveal significant linguistic and cultural influences on this relationship.

For instance, studies published in Chinese and Korean consistently demonstrate a moderate positive correlation between ESG and financial performance, whereas English-language papers (often reflecting Western markets) show no significant overall correlation.³ This disparity is partly explained by the absence of correlation between the Social (S) and Governance (G) dimensions and financial performance in English papers.³

Individual ESG pillars also demonstrate varying impacts across regions:

- **Environmental (E):** Shows a moderate positive correlation in English and Korean papers, but a lower positive correlation in Chinese papers.³
- **Social (S):** Exhibits a moderate positive correlation in Korean papers, linked to the cultural value placed on social cohesion and public trust, a low positive correlation in Chinese papers, and no correlation in English papers.³
- **Governance (G):** Displays a moderate positive correlation in Korean papers, driven by stricter regulations and a focus on corporate transparency following corporate scandals, but no correlation in English and Chinese papers.³

These findings highlight that cultural norms, regulatory maturity, and market development significantly shape how ESG practices are perceived and valued by financial markets. This implies that ESG strategies must be localized and tailored to specific regional contexts to maximize their financial impact, as a successful approach requires a deep understanding of the local market's specific drivers and expectations.

4.3. The Role of Corporate Innovation and Financing Constraints

Corporate innovation plays a dual role in the ESG-financial performance relationship. High ESG scores are positively correlated with increased R&D investment and innovation capacity.² Sustainable practices generally foster an innovation-friendly environment, contributing to a competitive advantage, as greater investments in R&D lead to technological developments and more sustainable processes, thereby improving overall ESG performance.²

However, the relationship is further moderated by other factors. Financing constraints have been found to positively moderate the ESG-financial performance relationship.⁴ This indicates that in situations where access to finance is limited, strong ESG performance can be even more beneficial in enhancing financial outcomes, as it signals credibility and reduces perceived risk for lenders. Conversely, a strong corporate innovation focus has been observed to have a negative moderating effect on the ESG-financial performance relationship.⁴ This suggests that while ESG can indeed foster innovation, an *overemphasis* on innovation without balancing other ESG aspects might dilute the direct positive impact of ESG on overall financial performance, or that ESG investments might compete with other innovation-related expenses. This demonstrates that ESG can be both a catalyst for innovation and a mitigating factor against financial constraints, but the relationship is nuanced, requiring a balanced corporate strategy.

4.4. Influence of Economic Crises (e.g., COVID-19 pandemic)

ESG performance appears to enhance firm resilience during periods of economic crises, such as the COVID-19 pandemic.¹ Firms with strong ESG scores tend to exhibit greater stability during crises and demonstrate superior management and stewardship of resources.

2 During turbulent times, companies with robust ESG performance show greater financial resilience, experiencing lower stock price volatility, faster recovery, and improved liquidity.¹

High ESG portfolios have also been observed to typically outperform low ESG portfolios during financial crises.⁴ This suggests that ESG acts as a "flight to quality" mechanism during times of economic uncertainty, providing a defensive advantage that enhances financial resilience. While general market volatility might temper some positive effects, the underlying risk mitigation benefits of ESG become more pronounced when stability is paramount. However, some empirical evidence also suggests that the positive effects of ESG implementation and disclosure may decrease due to overall economic uncertainty and market volatility during periods like the COVID-19 pandemic.⁶ This indicates that while ESG offers a defensive buffer, it does not render companies immune to widespread market downturns, but rather helps them weather the storm more effectively than their peers.

4.5. Firm-Specific Characteristics (e.g., firm size, ownership structure)

Firm-specific characteristics also play a role in moderating the ESG-financial performance relationship. The positive impact of ESG performance is more pronounced in state-owned enterprises.⁴ In terms of firm size, larger firms, often facing greater public scrutiny and possessing more resources, are particularly motivated to adopt ESG initiatives and are frequently associated with higher ESG scores.² However, smaller companies may experience a more significant benefit from increasing their ESG score, particularly in terms of a substantial decrease in their cost of equity.²⁶ Furthermore, geographical location *within* a country can also influence the impact; for example, the positive impact of ESG performance has been observed to be more pronounced in enterprises located in eastern regions (e.g., in China).⁴ This indicates that the financial benefits of ESG are not uniform across all firm types. Larger, state-owned entities might see greater reputational or regulatory benefits, while smaller firms might find ESG a more potent tool for reducing capital costs. This suggests that ESG strategies need to be tailored not just to industry and region but also to the specific characteristics and strategic priorities of the individual firm.

Table 2: Key Moderating Factors and Their Influence on ESG-Financial Performance

Moderating Factor	Influence on ESG-FP Relationship	Specific Context/Mechanism	Relevant Snippets
Industry-Specific Variations	Strengthens	More pronounced positive impact in resource-intensive and high-pollution industries due to regulatory and societal demands.	²
Geographical & Market Differences	Varies by region and pillar	Stronger link in developed markets; significant linguistic/cultural	¹

		influences (e.g., Korean vs. English papers); varying pillar impacts by region.	
Corporate Innovation & Financing Constraints	Nuanced; strengthen or weaken	Financing constraints positively moderate (ESG more beneficial when finance is scarce); innovation focus negatively moderates (overemphasis may dilute direct ESG benefits).	²
Influence of Economic Crises	Enhances resilience/provides buffer	ESG performance improves firm resilience, lowers volatility, and aids recovery during crises (e.g., COVID-19); high ESG portfolios outperform low ESG peers.	¹
Firm-Specific Characteristics	Varies by firm type	More pronounced positive impact in state-owned enterprises; larger firms motivated by scrutiny; smaller firms see greater CoE reduction benefits.	²

5. Challenges and Methodological Considerations in ESG Research

Despite the growing body of literature and increasing interest, research on the ESG-financial

performance nexus faces significant methodological challenges. These issues contribute to the often-inconsistent findings observed across studies and complicate the accurate assessment of ESG's true financial materiality, necessitating careful consideration in both academic inquiry and practical application.

5.1. ESG Rating Inconsistencies and the Problem of Noise

A fundamental challenge in ESG research stems from the substantial disagreement between ESG ratings provided by different agencies.¹ Each rating agency employs unique methodologies that differ considerably in scope, weighting of factors, data sources, and evaluative criteria. This divergence leads to low correlations among ESG scores for the same firm across different providers.¹

This inherent "noise" in available ESG measures has a direct impact on empirical research. Standard regression estimates of the ESG-financial performance relationship often suffer from attenuation bias.²⁸ This bias typically leads to an underestimation of the true effect, causing the observed relationship to appear weaker or even statistically insignificant in many studies.²⁸ The "noise" in ESG ratings is a fundamental methodological flaw that directly contributes to the mixed empirical findings and hinders a clear understanding of ESG's financial impact. This implies that researchers must employ advanced econometric techniques to account for measurement error, and practitioners should exercise caution when relying solely on single ESG ratings.

To address this, researchers are increasingly employing noise-correction procedures, such as instrumental variable (IV) approaches (e.g., using ratings from other agencies as instruments for a given rating).²⁸ When corrected for attenuation bias, the effect of ESG performance on stock returns, for instance, has been found to be much stronger, with coefficients often more than doubling.²⁸ Studies indicate that the average noise-to-signal ratio in ESG ratings can be as high as 61.7%.²⁸

5.2. Concerns Regarding Greenwashing

Greenwashing, defined as superficial or misleading claims about a company's environmental or social performance, presents another significant challenge. Rating inconsistencies and greenwashing tactics remain persistent issues, often obscuring the genuine link between reported ESG performance and real sustainability practices.¹

Superficial or performative ESG strategies may fail to deliver sustained financial benefits and, critically, could even trigger severe reputational risks if investors and stakeholders perceive them as disingenuous greenwashing.¹ This concern is particularly salient in emerging markets, where skepticism regarding greenwashing and regulatory inconsistency is often more pronounced.¹ Greenwashing undermines the credibility of ESG disclosures, eroding investor trust and potentially negating any positive financial signals that genuine ESG efforts aim to convey. This highlights that regulatory bodies and investors need to advocate for greater transparency, verifiability, and independent assurance of ESG claims to ensure that genuine sustainability practices are appropriately rewarded by the market.

5.3. Addressing Endogeneity and Ensuring Robustness in Empirical Studies

The relationship between ESG and financial performance is often complex and can be

characterized by endogeneity. This means that while ESG performance may influence financial outcomes, a firm's financial performance or capacity might also influence its ability or willingness to invest in ESG initiatives.⁴ This bidirectional causality complicates the establishment of clear causal links.

To ensure the reliability of their findings, researchers are increasingly conducting rigorous endogeneity and robustness tests.³ Common methodological approaches include pooled Ordinary Least Squares (OLS) regression models, fixed-effect panel regressions, and instrumental variable (IV) approaches designed to address measurement error and bias.¹ Robustness checks, such as excluding a significant proportion of sample papers or utilizing alternative proxies for key variables, are also crucial to confirm the stability and generalizability of initial findings.³ The presence of endogeneity and measurement error necessitates sophisticated econometric techniques to establish causality and ensure reliable findings. This indicates a maturing field of research that is moving beyond simple correlations to more robust causal inferences, continuously refining its methodologies to advance the understanding of ESG's true financial impact and move towards more definitive conclusions.

6. Strategic Implications and Future Research Directions

The synthesis of empirical evidence and theoretical perspectives on the role of ESG factors in financial market performance offers valuable insights for various stakeholders within the financial ecosystem. However, the inherent complexities and remaining research gaps underscore fertile ground for future inquiry, which is essential for refining our understanding and promoting more effective ESG integration.

6.1. Recommendations for Corporate Managers

For corporate managers, ESG is no longer a peripheral corporate social responsibility (CSR) activity but a strategic imperative that, when implemented thoughtfully and credibly, can drive tangible financial benefits. Managers should strategically integrate ESG efforts into their core business models by identifying the ESG issues most material to their specific business and factoring ESG effects into strategic, financial, and operational decisions.²⁹ This involves moving beyond superficial compliance to genuine value creation.¹ It is crucial to tailor ESG strategies to specific markets, recognizing the cultural and linguistic variations in the ESG-financial performance correlation.³ Managers should prioritize ESG dimensions that demonstrate stronger financial performance correlations in their specific contexts, such as environmental sustainability in Korea and English-speaking markets, or governance in Korea.³

Furthermore, investing in robust ESG reporting and seeking independent assurance is paramount to enhancing the credibility of ESG information. This transparency and verification can positively impact financial performance and reduce the cost of debt by fostering greater stakeholder trust.⁶ Managers should also leverage ESG practices for improved risk management and enhanced financial resilience, particularly during periods of economic uncertainty, as ESG acts as a buffer against market volatility.¹ Finally, recognizing ESG as a powerful driver for innovation, cost reduction, and efficiency improvements can lead to significant competitive advantages.²

6.2. Insights for Investors

For investors, ESG is evolving from a niche ethical consideration to a financially material factor crucial for risk management, long-term value creation, and potentially enhanced returns. Investors should increasingly consider ESG performance beyond traditional financial metrics, as it provides a more comprehensive picture of a firm's overall performance and potential risks, often surpassing traditional indicators in assessing long-term corporate value.⁴

A key consideration for investors is to focus on "ESG Momentum"—paying close attention to changes in ESG ratings. Improvements in a company's ESG rating tend to translate into immediate positive returns and reduced risk.⁹ ESG investing has also been shown to provide downside protection and can lead to superior risk-adjusted returns in certain regions or during economic crises.⁴ However, navigating the "ESG confusion" requires sophisticated analysis beyond simple ESG scores. Investors must be aware of ESG rating inconsistencies and the problem of noise in the data.¹ To mitigate the risks of greenwashing and obtain a clearer signal of true ESG performance, it is advisable to consider using multiple ESG ratings or prioritizing independently assured disclosures. Furthermore, recognizing that the financial impact of ESG varies significantly across sectors and geographies is essential.¹ This understanding should guide investment strategies, potentially leading to a focus on resource-intensive industries or developed markets where the link between ESG and financial performance is often stronger.

6.3. Guidance for Policymakers

Policymakers have a critical role in creating an enabling environment for ESG to effectively contribute to financial market performance. This involves addressing systemic issues like data quality and regulatory fragmentation, which currently act as barriers to realizing ESG's full potential. Policymakers should actively push for the standardization of ESG metrics and reporting frameworks to address existing rating inconsistencies and improve overall data transparency.¹ Such measures would significantly enhance the reliability of ESG research and facilitate more informed, data-driven sustainable finance decisions.

Clearer regulatory frameworks and stronger enforcement mechanisms can significantly amplify the positive impact of ESG practices, particularly in resource-intensive sectors.² This regulatory clarity can help mitigate greenwashing and ensure that genuine sustainability efforts are appropriately rewarded by the market. Additionally, policymakers should consider implementing policies that support the development of mature financial markets and robust ESG reporting infrastructure in emerging economies, where the ESG-financial link currently exhibits greater variability.¹ Finally, encouraging or mandating independent assurance or audits of sustainability reports is crucial for enhancing the credibility of ESG information and fostering greater stakeholder trust in corporate ESG claims.⁶

6.4. Identified Gaps and Avenues for Future Research

The field of ESG and financial performance is still evolving, with significant opportunities for research to refine understanding, particularly by addressing methodological limitations, exploring under-researched contexts, and delving deeper into causal mechanisms.

To advance the field, more longitudinal studies are needed to fully understand the long-term impact of ESG performance on financial outcomes, moving beyond short-term correlations.¹ There is also a need for further detailed exploration of sectoral nuances, especially in less-researched industries, to understand precise impacts at a more granular level.² Continued

research on ESG practices and their value creation effects in emerging markets and transition economies is crucial, as the current body of literature is heavily focused on mature Western markets.²⁴

Deeper investigation into the specific mechanisms and mediating factors through which ESG influences financial performance is warranted, including the role of digital transformation and specific types of innovation.² Further research is also needed to understand how disagreement among ESG ratings leads to different firm-level study results on the ESG-financial performance relationship.

7 The continuous application of advanced econometric techniques is essential to rigorously address endogeneity and establish causal relationships, moving beyond mere correlations.⁴ Finally, while quantitative studies currently dominate, more qualitative and mixed-methods research could provide richer, deeper understandings into the "how" and "why" behind observed relationships, especially concerning issues like greenwashing and the internal dynamics of ESG integration within organizations. This implies a continuous need for interdisciplinary collaboration and innovative research designs to fully unravel the complexities of ESG's role in financial markets.

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