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A Review on Cross-Market Differences in the Relationship Between ESG Performance and Stock Returns

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Abstract. Existing studies have reported mixed evidence on the link between Environmental, Social, and Corporate Governance (ESG) performance and stock returns across different markets, leaving the impact of ESG performance on stock returns inconclusive. Based on prior findings, this paper investigates the relationship between ESG performance and stock returns, exploring how ESG effects differ across market environments and the mechanisms driving these differences. In particular, it examines the effects of market development level, institutional environment, ESG information disclosure quality, investor structure, industry characteristics, and market conditions on the efficiency of ESG value transmission in stock markets. The results show that ESG performance can influence stock returns by reducing corporate risk, improving the information environment, and enhancing long-term corporate value, but this effect varies with market maturity, institutional environment, information quality, and industry characteristics, leading to cross-market heterogeneity. Future research can further strengthen comparisons between different markets, improve ESG evaluation and measurement methods, and, combined with stricter causal identification methods, explore the internal mechanisms by which ESG affects stock returns, thereby providing a theoretical basis for investment decisions and ESG regulatory policy formulation.

Keywords: ESG performance, Stock returns, Cross-market comparison, Institutional environment, Information disclosure

1. Introduction

In recent years, Environmental, Social, and Governance factors have gradually been incorporated into corporate valuation and investment decision-making processes. In addition, research shows that ESG performance may affect stock returns by reducing corporate risk, improving disclosure quality, and enhancing long-term value [1, 2]. However, ESG investments may also increase corporate costs, and due to differences in ESG rating standards, disclosure quality, and market pricing efficiency, their impact on earnings is not consistent [3, 4]. Moreover, the institutional environment, disclosure quality, and investor structure across markets affect the pricing of ESG information. In developed markets, strong disclosure systems and institutional investor participation enhance ESG information credibility and stock price relevance; in emerging markets, however, the lack of unified disclosure standards, insufficient regulatory enforcement, and limited investor attention may weaken market

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responses to ESG information. In addition, the ESG-stock return relationship is also influenced by industry characteristics, market cycles, and policy environments. Therefore, further analysis of the mechanisms through which ESG affects stock returns under different market conditions is needed. Based on this, this paper reviews research on the relationship between ESG performance and stock returns, focusing on analyzing the impact of factors such as market development level, institutional environment, quality of ESG disclosure, investor structure, industry characteristics, and market conditions on ESG returns, and explains the reasons for differences in ESG pricing results across different markets. In addition, it highlights gaps in ESG measurement, cross-market analysis, and causal identification, providing directions for future research.

2. The basic relationship between ESG performance and stock returns

2.1. ESG pricing mechanisms and return effects

ESG performance influences stock returns mainly through risk premiums and information effects [1]. In particular, high-ESG companies typically have lower environmental, legal, and reputational risks, reducing operational uncertainty and investor risk compensation, lowering equity capital costs and increasing firm valuations. Meanwhile, ESG disclosure improves information transparency and facilitates the pricing of long-term corporate value. Consistent with this mechanism, meta-analyses find that ESG performance is generally positively associated with financial performance, especially over longer horizons [5]. Further studies show that capital markets primarily price substantive ESG issues linked to corporate operations, while symbolic ESG activities have limited effects on stock returns [6]. This suggests that market pricing depends on the influence of ESG factors on future cash flows and risks rather than the amount of ESG investment itself [7].

However, ESG performance does not necessarily lead to increased stock returns. Investments in environmental governance, social responsibility, and corporate governance involve ongoing costs, while their benefits often materialize over longer horizons, potentially increasing short-term costs and reducing profitability. ESG overinvestment may lower resource allocation efficiency when it exceeds value-creation capacity. Moreover, greenwashing can weaken investor confidence in ESG information and trigger negative market responses [8]. Meanwhile, ESG pricing effects are shaped by institutional environments and evaluation frameworks, with variations in disclosure systems and rating standards contributing to cross-market differences in ESG return effects [2].

2.2. Market efficiency in the incorporation of ESG information

In addition to positive and negative findings, some studies report an insignificant or inconsistent link between ESG performance and stock returns. Related research points out that whether ESG information can be reflected in stock returns depends on factors like market information processing capabilities, data reliability, and measurement methods.

According to the Efficient Market Hypothesis, if ESG information is quickly incorporated into stock prices, its benefits will be priced in advance, thus limiting investors' ability to earn persistent excess returns from ESG information [9]. Therefore, ESG-driven improvements in corporate value do not necessarily translate into equity excess returns. Moreover, effective ESG information pricing is constrained by differences in rating systems. ESG rating agencies vary substantially in indicator frameworks, weighting schemes, and data sources, meaning that the same company may receive different ESG scores across rating systems, leading to measurement inconsistencies [3]. In addition,

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variations in sample markets, research periods, and return measurement methods may further contribute to differences in estimated ESG return effects.

For example, short-term event studies mainly focus on market reactions after ESG information disclosure, while long-term studies emphasize the impact of ESG performance on a company's sustained profitability. Indicators such as market returns, excess returns, and risk-adjusted returns may also yield different conclusions. Moreover, whether ESG information can be incorporated into stock pricing is also influenced by market information processing efficiency, ESG data quality, and institutional environment. Due to varying levels of investor attention and pricing mechanisms across different markets, ESG returns show clear divergence [3].

3. The cross-market differences in the ESG-stock return relationship

3.1. Development-level differences between markets

The impact of ESG performance on stock returns is constrained by the level of market development. Because developed and emerging markets differ in capital market maturity, information disclosure systems, investor structure, and regulatory environment, the extent to which ESG information is incorporated into stock pricing also differs.

In developed markets, ESG information generally offers greater transparency and accessibility, with higher institutional investor participation, enabling the market to more fully identify and price ESG-related information. Thus, firms with stronger ESG performance are more likely to receive valuation premiums and achieve long-term return advantages. Existing studies generally find that the positive ESG-stock return relationship is stronger in mature European and US markets [10]. In contrast, ESG pricing effects in emerging markets are limited by information environments and institutional conditions. Due to the absence of unified ESG disclosure standards and variations in corporate disclosure quality, investor attention to ESG information remains limited, making it difficult for such information to be fully incorporated into stock prices. Therefore, the ESG-stock return relationship in emerging markets is often weaker, with some studies finding no significant effects. By contrast, in markets with higher investor protection and robust regulatory mechanisms, ESG information is more easily incorporated into investment decisions and influences stock pricing.

3.2. Industry heterogeneity in ESG–return effects

The role of ESG factors in stock pricing depends on industry characteristics. Due to differences in environmental risks, regulatory constraints, and business models across industries, the importance of ESG dimensions and their impact on stock returns also varies [1].

More specifically, environmentally intensive industries, like energy, chemicals, and mining, face greater carbon emissions, resource consumption, and regulatory pressures, making environmental factors more relevant in ESG pricing. And improvements in pollution control, resource efficiency, and environmental management systems can reduce regulatory risks and operational uncertainty, thus influencing firm valuation [6]. In contrast, asset-light industries such as the internet, software development, and consulting services have less environmental impact, and their value creation depends more on technological innovation, human capital, and organizational management. As a result, investors' focus on ESG shifts more toward social and governance factors such as employee management, data security, corporate governance, and management decision-making quality. Due to limited environmental impact, the financial industry's ESG performance is mainly reflected in governance capabilities, risk management, and compliance levels. Higher ESG levels help reduce

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operational and regulatory risks, but have a relatively limited impact on short-term stock returns [9]. This implies that a single aggregate ESG score may not fully capture the industry-specific effects of ESG factors on stock returns.

3.3. Time-varying effects under different market conditions

The effect of ESG on stock returns varies over time. During periods of economic stability, lower market risk encourages investors to focus primarily on corporate profitability and growth prospects, limiting the role of ESG factors in stock pricing. In contrast, during financial crises, periods of high volatility, or external shocks, investors place greater emphasis on corporate risk management and operational resilience, increasing the potential impact of ESG performance on stock returns [1]. High-ESG firms typically possess stronger risk management systems, more stable stakeholder relationships, and greater information transparency, which help reduce uncertainty about future cash flows.

For example, during the global public health crisis, some studies found that the stock prices of high ESG companies declined relatively less, recovering faster, indicating that investors place greater emphasis on the risk resilience embodied by ESG in crisis environments [7]. However, ESG's risk buffering role depends on the market's messaging mechanisms and investor attention. In markets with well-established disclosure systems and high investor participation, ESG information is more easily reflected in stock prices; In contrast, in markets with insufficient attention to ESG information, its return effect may be weaker [11]. Therefore, the ESG return effect will adjust with market fluctuations, investor demand, and changes in the institutional environment.

4. Formation mechanisms and determinants of cross-market differences

4.1. Institutional environment and regulatory systems

The institutional environment determines whether ESG factors are incorporated into stock prices by shaping ESG information quality, market recognition, and pricing efficiency. Strict disclosure requirements and effective regulatory enforcement enhance ESG information transparency, reduce information asymmetry, and enable investors to better assess the links between ESG performance, corporate risk, and long-term value [2]. Meanwhile, strong investor protection mechanisms and cost constraints for violations can reduce selective disclosure and information distortion by companies, enhance the credibility of ESG information, and thereby enhance market pricing [4]. Conversely, incomplete disclosure rules, weak regulatory enforcement, and limited investor protection can reduce the reliability and comparability of ESG information, limiting investors' ability to utilize such information and preventing ESG performance from being fully incorporated into stock returns. Therefore, the institutional environment primarily affects ESG return effects by shaping information quality and the efficiency of market information processing.

4.2. ESG disclosure quality and rating inconsistency

The quality of ESG disclosure directly affects investors' identification and pricing of a company's ESG performance. Inconsistent disclosure standards and insufficient information completeness reduce the comparability and credibility of ESG information, increasing the difficulty for investors to assess corporate risk and long-term value, thereby weakening the impact of ESG information on stock prices [2]. Meanwhile, ESG rating systems differ in indicator settings, weight allocation, and

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data sources; the same company may receive different rating results, leading to ESG measurement errors and affecting the stability of earnings effects [3]. Moreover, greenwashing further reduces the reliability of ESG information. When a company's disclosures differ from actual ESG performance, investors may reassess corporate value, further weakening the pricing effect of ESG information [8]. Therefore, the ESG return effect depends not only on a company's ESG performance but also on the quality of information disclosure, rating consistency, and market identification capabilities.

4.3. Investor structure and market microstructure

Investor structure and market microstructure affect the efficiency of identifying and disseminating ESG information. Institutional investors typically have stronger information processing capabilities and longer investment horizons, enabling them to incorporate ESG factors into corporate valuation, thereby driving ESG information into the stock pricing process [11]. In contrast, in markets with a high proportion of retail investors, investors focus more on short-term price changes, which may limit the pricing effect of ESG information. Additionally, market liquidity and trading efficiency affect the speed at which ESG information is incorporated into stock prices. In particular, highly liquid markets with well-developed trading mechanisms can process ESG-related information more efficiently, whereas limited liquidity may slow information transmission and weaken ESG return effects through short-term price volatility. Moreover, foreign institutional investor participation can increase market attention to ESG information and strengthen the role of ESG factors in investment decisions and price formation [12]. Therefore, investor structure and market microstructure shape information recognition and transmission efficiency, thus influencing the impact of ESG on stock returns.

5. Conclusion

This study reviews existing research on the relationship between ESG performance and stock returns, examining how market environment, institutional conditions, information quality, investor structure, and industry characteristics shape ESG pricing effects. Existing evidence suggests that ESG performance influences stock returns mainly through risk reduction, information improvement, and investor valuation, while its effects remain heterogeneous depending on the extent to which ESG information is effectively recognized and priced by markets. The institutional environment and disclosure quality determine the credibility and efficiency of ESG information transmission; investor structure and market conditions influence the extent to which ESG information is absorbed; industry characteristics determine the pricing effects of different ESG dimensions. Existing research still faces challenges, including measurement biases arising from differences in ESG ratings, limited cross-market comparisons, and insufficient identification of dynamic pricing mechanisms. Future studies should improve ESG measurement consistency and incorporate institutional changes and market shocks to identify the causal mechanisms through which ESG affects stock returns, thereby providing a more accurate explanation of variations in ESG return effects across market conditions.

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