

Institutional Investors, ESG Governance and Corporate Investment Efficiency

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Abstract: Institutional investors, ESG governance and corporate investment efficiency constitute a set of highly interrelated research topics in corporate finance. As sustainable investment concepts take root in capital markets, the role of institutional investors has undergone substantial changes. Rather than merely pursuing financial returns, these market participants have stepped forward to supervise corporate ESG practices from an external perspective. ESG governance mitigates internal agency conflicts within firms and partially bridges information gaps in capital markets, thereby reshaping corporate investment decision logic. Existing literature has yet to establish a complete analytical framework, and the intrinsic interaction paths among the three variables remain to be systematically sorted out. Taking the “institutional investor ESG governance investment efficiency” framework as the core analytical thread, this paper reviews domestic and international research findings across three dimensions: direct effects, moderating effects and mediating mechanisms. Empirical evidence suggests that improved ESG performance can boost corporate investment efficiency, yet such effect fluctuates with the actual governance engagement of institutional investors. Heterogeneous institutional investors produce differentiated moderating outcomes for the ESG investment efficiency nexus. Pressure resistant and long term oriented stable institutions deliver positive governance effects, whereas pressure sensitive and short term trading oriented institutions may exert weak or even adverse influences. Most empirical models adopt one way transmission chains and seldom examine two way feedback between ESG governance and investment efficiency. Based on literature collation, this paper further identifies promising research directions, including real world disturbances caused by ESG rating divergence, institutional investors’ strategic trade offs between “voice” and “exit”, and unique transmission logic shaped by China’s institutional context.

Keywords: Institutional investors, ESG governance, corporate investment efficiency, heterogeneity, moderating effect, literature review.

1. Introduction

Corporate investment efficiency serves as a vital metric for evaluating capital-allocation quality among listed companies. Under ideal capital-market conditions, firms should accept all investment projects with positive net present value until marginal revenue equals marginal cost. Real-world business environments hardly satisfy such theoretical assumptions. Agency frictions and information asymmetry prevail in corporate operations. Disturbed by these two factors, corporate investment often deviates from optimal benchmarks, giving rise to over-investment and under-investment, two typical forms of inefficient investment. Restraining distorted investment behaviour and revitalizing internal corporate capital represent practical concerns shared by industry practitioners and academic researchers.

Evolving capital-market institutions have fostered two prominent external governance forces that continuously reshape corporate investment contexts. Driven by internal reforms and opening-up policies in China’s capital market, institutional investors have expanded their shareholding scale. A growing number of institutions act as active shareholders and participate in internal corporate governance, attracting extensive academic attention. Meanwhile, alongside the implementation of the “Dual-Carbon” strategy and high-quality-development goals, ESG has moved from the periphery of corporate operations to a core position in corporate strategic planning.

These two external forces do not operate in isolation but interact closely with one another. As major practitioners of sustainable-investment principles, more than 5 370

institutions worldwide have signed the United Nations Principles for Responsible Investment (UNPRI). Institutional shareholding preferences and governance actions effectively push firms to adjust their ESG practices. Through curbing agency costs, easing financing constraints and improving information-disclosure quality, ESG governance acts upon corporate investment choices. It follows that institutional investors affect investment efficiency not only directly; a considerable portion of their influence works indirectly by elevating corporate ESG-governance standards.

Published studies exhibit obvious fragmentation. Literature exploring ESG and investment efficiency frequently overlooks external monitoring by institutional investors. Research linking institutional investors to investment efficiency rarely treats ESG as a critical mediating channel. Studies centering on interactions between institutional investors and ESG seldom extend analysis to investment efficiency as the ultimate economic consequence. An integrated analytical framework incorporating all three variables remains absent. Against such research background, this paper fills this gap. Following the logical thread of “institutional investor-ESG governance-investment efficiency”, it sorts existing literature, identifies consensus and divergence among previous studies, constructs an integrative analytical framework and pinpoints directions for future exploration.

2. ESG Performance and Corporate Investment Efficiency: Direct Impacts and Mechanisms

2.1. The Promoting Effect of ESG on Investment Efficiency

Empirical research concerning how ESG performance affects corporate investment efficiency has expanded rapidly in recent years. Owino et al. (2026) conducted bibliometric analysis and systematic review on 92 peer-reviewed papers published from 2000 to 2023. Research output in this field has surged, and most evidence supports the conclusion that superior ESG performance improves corporate investment efficiency. A secondary systematic review by Choithramani et al. (2026), covering 39 papers, corroborates this core finding.

Findings from China's capital-market samples reinforce the above conclusions. Ma Yongjian and Du Shuangmiao (2025) selected Shanghai-Shenzhen A-share listed firms spanning 2009-2023 as research samples. Their empirical results document multiple governance outcomes brought by sound ESG performance. Better ESG lowers stock-price crash risk and restrains over-investment stemming from corporate reckless expansion. It also mitigates under-investment via industry-university-research cooperation and curbs managerial short-sightedness, lifting overall corporate investment efficiency. Additional evidence based on 2017-2023 A-share data confirms that upward adjustments in ESG ratings effectively alleviate both over-investment and under-investment.

ESG governance exerts uneven intervention strength across the two types of inefficient investment. Empirical evidence from China reminds researchers that ESG supervision over over-investment is markedly stronger than its resource-supplement effect on under-investment. This observation suggests that ESG governance mainly functions to contain self-interested expansion driven by management. Its governance potency varies when confronting different forms of investment distortion.

2.2. Dual Mediating Mechanisms: Agency-Cost Reduction and Financing-Constraint Alleviation

According to existing literature, ESG shapes corporate investment efficiency via two core transmission channels: reduced agency costs and eased financing constraints.

From the agency-cost perspective, sound ESG performance generally signals more transparent internal governance structures and stronger capabilities to balance demands from diverse stakeholders. Such a governance environment narrows interest divergence between management and shareholders and constrains over-investment motivated by managerial self-interest. Empirical data from China's agricultural listed firms validate this logic. ESG performance improves investment efficiency through both agency-cost and financing-constraint channels, among which agency costs play a dominant mediating role. Cross-country studies on ESG ratings likewise identify agency costs as an indispensable mediating transmission channel.

Information-asymmetry theory explains the logic behind the financing-constraint path. Firms with high-quality ESG performance send positive signals of stable operation and standardized governance to capital markets, cutting external financing costs. A meta-analysis synthesizing studies from

2004 to 2024 demonstrates that ESG disclosure influences multiple corporate operational dimensions, with investment efficiency standing out as one key dimension. Changes in risk exposure and financing costs serve as important carriers for such influences. Apart from its internal governance function, the signalling function of ESG profoundly determines the quality of corporate investment decisions.

2.3. Limitations of Existing Research

Substantial empirical evidence confirms that ESG improves corporate investment efficiency; nevertheless, current research frameworks still bear noteworthy deficiencies.

Inconsistent measurement standards for ESG indicators present practical obstacles for researchers. Owino et al. (2026) note that studies in developed economies mostly rely on longitudinal panel data, whereas emerging-economy research favours case studies. Methodological discrepancies reduce comparability across research conclusions. Divergent ESG scores issued by third-party rating agencies constitute another real-world challenge. Rating disagreement introduces extra information uncertainty and dampens institutional investors' willingness to hold stocks.

Many studies specify a default one-way mediating chain. Researchers commonly treat ESG as an exogenous variable and test the transmission path "ESG → agency cost / financing constraint → investment efficiency". In reality, institutional shareholding interacts bidirectionally with corporate ESG performance. Higher institutional ownership promotes subsequent corporate ESG improvement; conversely, firms with outstanding prior ESG performance attract greater institutional holdings. This reality implies that the relationship between ESG and investment efficiency is not purely unidirectional; instead, they form a dynamic system with feedback loops.

The moderating value of institutional investors is frequently underestimated in relevant studies. Numerous empirical papers on ESG and investment efficiency merely include institutional-shareholding ratio as a control variable rather than examining it as a dedicated moderator. Such treatment produces estimation bias. The extent to which ESG governance optimizes investment efficiency largely depends on whether and how institutional investors engage in corporate governance.

3. Institutional Investors and ESG Governance: Who Drives Corporate Sustainability Transition?

3.1. Causal Impacts of Institutional Ownership on Corporate ESG Performance

To fully unpack logical connections among the three variables, we must first clarify how institutional investors shape corporate ESG practices. Scherer et al. (2025) synthesized 116 empirical studies through meta-analysis and delivered comprehensive empirical evidence. A positive bidirectional correlation exists between institutional ownership and corporate sustainability performance: expanded institutional shareholding lifts subsequent corporate ESG standards, and firms with pre-existing superior ESG performance draw more institutional capital inflows. This result aligns with both agency theory and stakeholder salience theory. Institutions advance corporate ESG

construction partly in pursuit of long-run financial returns and partly out of value-oriented investment preferences.

Similar governance patterns can be observed among China's listed firms. Some empirical works investigate institutional investor cliques — collaborative groups formed via joint shareholding among multiple institutions. Such clique shareholding stably promotes corporate ESG performance. Governance effects materialize through two channels: “voice” and “exit threat”. Institutional cliques exert direct pressure on management by submitting shareholder proposals and voting at general meetings. They also impose indirect discipline by signalling potential stock divestment.

3.2. Moderating Roles of Institutional-Investor Heterogeneity

The community of institutional investors is far from homogeneous. Differences in investment horizon, operational independence, risk appetite and governance willingness directly modify their intervention effects on corporate ESG practices.

The classification of pressure-resistant versus pressure-sensitive institutions is widely adopted in literature. Public funds and social-security funds are typical pressure-resistant institutions. They maintain few business ties with investee firms, so their monitoring activities are rarely interfered with by commercial relationships. By contrast, banks and insurance companies belong to pressure-sensitive institutions. Concerns over preserving business partnerships undermine their monitoring independence. Empirical data show that shareholding by pressure-resistant institutions effectively elevates corporate ESG standards, while pressure-sensitive institutions seldom generate positive governance outcomes and may even produce adverse effects. Pressure-resistant institutions boost corporate green-innovation input; pressure-sensitive institutions inhibit such innovation.

Investment horizon further distinguishes institutional behavioural patterns. A-share-market evidence reveals that higher long-term institutional ownership correlates with better corporate ESG performance, whereas rising short-term trading-oriented institutional ownership suppresses ESG outcomes. This empirical pattern resonates with the clientele-catering hypothesis and information-channel hypothesis. Long-term institutions possess stronger capacity for ESG-related information collection and interpretation and tend to allocate capital to listed firms with solid ESG fundamentals.

Other studies classify institutions according to independence. Evidence from China's heavily-polluting industries indicates that superior corporate ESG performance encourages position building among independent institutional investors, yet this attraction does not apply to non-independent institutions.

3.3. Mechanisms for Institutional Investors to Engage in ESG Governance: Voice and Exit

How do institutional investors alter corporate ESG practices? The classic theory proposed by Hirschman provides two analytical perspectives: “voice” and “exit”.

The voice strategy refers to direct institutional intervention in corporate decision-making. Institutions exercise voting rights at shareholders' meetings, submit shareholder proposals and conduct private negotiations with management.

The OECD (2025) report points out that institutional stewardship, including shareholder communication and proposal voting, has moved beyond symbolic gestures toward tangible governance outcomes. In China's capital market, institutions mainly exercise shareholder rights through two approaches: communication at shareholders' meetings, performance briefings and on-site corporate surveys (the most frequently adopted channel), and voting on proposals at general shareholders' meetings.

The exit strategy imposes market discipline via stock divestment. Nevertheless, the deterrence of exit threats hinges on corporate ownership structure and secondary-market liquidity. Exit threats exert stronger disciplinary power over management when corporate ownership is dispersed and stock liquidity is sufficient. Institutional participation in ESG governance suffers from an inherent cost-benefit mismatch: all stewardship costs are borne solely by participating institutions, yet governance benefits are shared across all shareholders. Such misalignment explains why actual institutional engagement generally falls below socially optimal expectations.

New governance instruments have emerged beyond the traditional voice-exit dichotomy. Some institutional investors adopt refinancing-restriction strategies. They withhold further financial support from firms failing to honour ESG commitments. This practice imposes hard constraints from the capital-supply side and generates stronger pressure on corporate ESG behaviours.

4. The Moderating Role of Institutional Investors in the ESG-Investment-Efficiency Nexus

4.1. Divergence over the Direction of Moderating Effects

Existing empirical studies yield inconsistent conclusions regarding how institutional shareholding reshapes the relationship between ESG and investment efficiency.

Scholarly work supporting positive moderation holds that external monitoring by institutional investors amplifies ESG-driven improvements in investment efficiency. Realization of ESG governance relies on external monitoring safeguards. Without robust external constraints, corporate ESG activities may degenerate into mere “greenwashing”. Firms release glossy ESG reports while making no substantive adjustments to internal investment decisions. Institutional investors check managerial opportunism and ensure ESG inputs translate into improved capital-allocation efficiency. A-share-market evidence supports this logic: stable institutions produce positive moderation, whereas non-independent institutions exert negative moderation. Higher proportions of pressure-resistant institutions strengthen ESG-led efficiency improvements; rising shares of pressure-sensitive institutions weaken such governance effects.

Other research documents negative moderating evidence. Xia Xiufang and Wang Yong (2024) paint a more complex picture. ESG-investment intensity exhibits a U-shaped relationship with real-sector corporate investment efficiency, and institutional ownership negatively moderates this relationship. At low ESG-investment levels, institutional intervention delays the realization of returns on ESG investment. Positive governance value from institutional

investors emerges only after ESG-investment intensity crosses a certain threshold.

Divergent empirical findings stem from heterogeneity within the institutional-investor community. Trading-oriented institutions prioritize short-term book returns, hold sceptical attitudes toward long-cycle, slow-payoff ESG investment, and may even exploit ESG-related information for short-term arbitrage. By contrast, stable-oriented institutions focus on long-term corporate value growth, tolerate short-run costs brought by ESG investment, and support firms to optimize investment efficiency via ESG governance.

4.2. Moderating Effects of ESG-Rating Divergence

ESG-rating divergence represents an easily overlooked yet practically consequential moderating variable. Different rating agencies assign remarkably divergent ESG scores to identical firms, introducing information-related uncertainty. Existing research confirms that rating divergence suppresses institutional investors' shareholding willingness, with human capital and return-on-assets serving as two transmission channels; external monitoring mitigates such adverse impacts.

These research insights carry implications for follow-up analyses on ESG and investment efficiency. Severe ESG-rating divergence hinders institutions from accurately judging true corporate ESG performance and weakens their monitoring and moderating functions. The extent to which ESG governance optimizes investment efficiency heavily depends on the credibility and consistency of ESG information.

4.3. Moderating Effects of Institutional Environments

External institutional environments also shape the magnitude of institutional investors' moderating effects. Meta-analysis results from Scherer et al. (2025) show that country-level institutional quality interferes with correlations between institutional ownership and corporate sustainability performance. Institutional investors deliver stronger governance effects in jurisdictions with efficient law enforcement and strict information-disclosure regulations.

Within China's institutional context, property-right nature constitutes a non-negligible moderating condition. Efficiency-enhancing effects of ESG are more pronounced among non-state-owned enterprises. State-owned enterprises are plagued by multiple-layer agency problems and undertake policy-oriented tasks stemming from administrative intervention. Their ESG inputs often serve compliance requirements and do not necessarily translate into higher investment efficiency.

5. Integrative Analytical Framework and Research Gaps

5.1. A Preliminary Integrative Framework

Synthesizing prior literature, this paper constructs an integrative analytical framework of "institutional investor-ESG governance-investment efficiency", containing three logically progressive layers.

The first layer covers direct effects. By cutting agency costs and easing financing constraints, ESG performance restrains corporate over-investment and under-investment. Abundant empirical evidence validates this logic, yet effect magnitude is conditioned by ESG-indicator quality and institutional

contexts where firms operate.

The second layer concerns moderating effects. Institutional ownership intervenes in the ESG-investment-efficiency relationship, and moderating direction is determined by institutional attributes. Pressure-resistant, long-term-stable and independent institutions generate positive moderation; pressure-sensitive, short-term-trading-oriented and non-independent institutions produce ineffective or even adverse moderation. ESG-rating divergence and external institutional environments further alter moderating-effect intensity.

The third layer addresses mediating mechanisms. Institutional investors promote improvements in corporate ESG governance. Enhanced ESG performance further reduces agency costs and relaxes financing constraints and ultimately lifts investment efficiency. The complete transmission chain reads: institutional investor ownership → improved corporate ESG performance → lower agency costs / eased financing constraints → higher investment efficiency. Institutional investors may also directly influence investment efficiency while bypassing ESG. Whether indirect mediating channels and direct impacts substitute for or complement one another awaits further empirical testing.

5.2. Core Research Gaps

Micro-level mechanisms behind institutional investors' moderating effects remain a "black box". Existing research generally treats institutions as a unified whole or applies simple binary grouping. Few studies unpack concrete institutional behaviours that alter the ESG-investment-efficiency relationship. Systematic answers are still lacking for questions such as whether institutions expand overall ESG-investment scale or raise the utilization efficiency of existing ESG capital.

ESG-rating divergence has not been adequately incorporated into mainstream analytical frameworks. Many empirical studies on ESG and investment efficiency adopt scores from a single rating agency and ignore discrepancies across raters. Since rating divergence distorts institutional shareholding decisions, omitting this variable produces biased parameter estimates for moderating effects.

Econometric modelling for two-way causal relationships remains insufficient. Bidirectional feedback exists between institutional ownership and ESG performance. Firms with improved investment efficiency possess more idle resources and can allocate more capital to ESG activities, forming a closed-loop feedback system. Most existing studies adopt static panel models; dynamic econometric models capable of identifying bidirectional causality are underutilized.

Considerable room exists for exploring unique transmission logics embedded within China's local institutional context. The development of China's institutional-investor industry bears distinct policy-driven features. State-owned equity structures, industrial-supervision rules and capital-market-opening paces reshape how institutions participate in ESG governance. Existing literature offers limited discussion over differentiated influences originating from such local institutional factors.

6. Directions for Future Research

6.1. Incorporating ESG-Rating Divergence as a Moderating Variable

Future empirical research may bring ESG-rating divergence into analytical frameworks and test how it interferes with institutional investors' moderating effects. Researchers can construct the interaction term "ESG-rating divergence $\times$ institutional ownership" and compare whether institutional moderating power decays under high versus low rating-divergence scenarios. This research direction carries policy relevance. If rating divergence indeed weakens external governance capacity of institutions, promoting standardized and transparent ESG-rating criteria becomes practically urgent.

6.2. Distinguishing "Scale Effect" from "Efficiency Effect"

Institutional investors moderate the ESG-investment-efficiency relationship through two distinct paths. On the one hand, institutions push firms to expand overall ESG-investment scale, for instance by encouraging more investment in green-sector projects. On the other hand, institutions constrain capital allocation and improve utilization efficiency of existing ESG inputs, preventing resources from flowing into low-efficiency projects. Future empirical designs need feasible schemes to separate these two paths, enabling more accurate identification of genuine governance functions delivered by institutional investors.

6.3. Adopting Dynamic Panel Models to Identify Bidirectional Causality

Econometric tools such as system-GMM and dynamic-panel threshold models deserve wider application within this research field. They help identify dynamic correlations among institutional ownership, ESG performance and investment efficiency. Prior literature hints at potential threshold effects: positive institutional moderation emerges only after corporate ESG-investment intensity crosses a critical cutoff point. Follow-up work should test the stability of such threshold effects.

6.4. Identifying Causal Effects via Quasi-Natural Experiments

A series of institutional reforms in China's capital market provide valuable exogenous-shock scenarios for causal identification. The launch of Shanghai-Hong Kong Stock Connect and Shenzhen-Hong Kong Stock Connect, gradual tightening of ESG-information-disclosure requirements, and introduction of the Dual-Carbon goals can be exploited to build quasi-natural experiments. By adopting difference-in-differences, regression-discontinuity-design and other approaches, researchers can rigorously disentangle causal relationships among the three variables and mitigate interference from endogeneity.

6.5. Deepening Comparative Research under China's Institutional Context

China's capital market features institutional characteristics different from overseas markets: dominant state-owned equity positions, policy-guided development of institutional investors, and the gradual shift of ESG-disclosure rules from voluntary to mandatory. How these institutional traits reshape

institutional investors' moderating effects carries both theoretical and practical significance. Researchers may compare subsamples of state-owned and non-state-owned enterprises, observe group differences in institutional-driven ESG-governance outcomes, and uncover institutional logics behind such discrepancies.

7. Conclusion

Institutional investors, ESG governance and corporate investment efficiency jointly form a research system rich in theoretical depth and practical implications. ESG governance optimizes corporate capital-allocation quality by reducing agency costs and alleviating financing constraints. Institutional investors advance corporate ESG practices through voice-based and exit-based governance strategies. Heterogeneous institutional attributes determine how substantially ESG governance improves investment efficiency. This multi-layer logical chain witnesses the identity shift of institutional investors from pure financial investors toward active governance participants. It also reflects the evolution of ESG from a mere compliance tool into an important instrument for corporate value creation.

Most existing studies only test pairwise relationships between two variables. Systematic discussions integrating all three variables remain scarce. Interference from ESG-rating divergence, micro-mechanisms behind institutional moderation, and econometric identification of bidirectional causality constitute major growth points for future research in this field. Alongside continuous deepening reforms in China's capital market and constant improvement of ESG-related institutions, understanding institutional investors' ESG-governance functions and their influences on corporate investment efficiency from an integrative perspective delivers valuable theoretical references for capital-allocation optimization among China's listed firms.

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