Earnings Quality and Corporate ESG Performance: Evidence from Mandatory Environmental Disclosure Policies

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Abstract

The interplay between earnings quality and corporate Environmental, Social, and Governance (ESG) performance has garnered increasing attention in the context of sustainable finance. This paper investigates how mandatory environmental disclosure policies influence earnings quality and ESG outcomes in corporations. Drawing on empirical evidence from global markets, we analyze the mechanisms through which enhanced transparency in environmental reporting affects financial reporting integrity and broader ESG metrics. Challenges such as data manipulation risks, compliance costs, and cultural resistance are examined, alongside enablers like regulatory enforcement, investor pressure, and technological advancements. We propose a conceptual framework that integrates these elements with organizational readiness for disclosure mandates. Our findings suggest that firms with higher earnings quality exhibit stronger ESG performance post-mandate implementation, particularly in industries with high environmental impact. This study contributes to the literature by providing insights into policy effectiveness, highlighting the role of governance in mitigating risks, and offering recommendations for regulators and corporate leaders to foster sustainable practices without compromising financial transparency. The implications are relevant for both developed and emerging markets, emphasizing the need for balanced regulatory frameworks that promote accountability while supporting innovation in ESG reporting. Furthermore, we discuss the longterm effects on firm valuation and stakeholder trust, underscoring the transformative potential of these policies in aligning corporate strategies with global sustainability goals.

Keywords

Earnings quality, ESG performance, environmental disclosure, corporate governance, sustainability reporting, regulatory policies, sustainable finance, transparency, accountability.

1. Introduction

Earnings quality, defined as the extent to which reported earnings reflect a firm's true economic performance, is a cornerstone of financial reporting. In recent years, the integration of Environmental, Social, and Governance (ESG) factors into corporate strategies has become imperative, driven by stakeholder demands and regulatory pressures. Mandatory environmental disclosure policies, such as those implemented by the European Union's Non-Financial Reporting Directive (NFRD), the U.S. Securities and Exchange Commission's (SEC) climate-related disclosure rules, or China's environmental information disclosure mandates, aim to enhance transparency and accountability in corporate environmental impacts.

This paper explores the linkage between earnings quality and ESG performance under these mandatory regimes. We posit that such policies not only compel firms to disclose environmental data but also incentivize improvements in overall reporting quality to avoid reputational risks and legal penalties. However, adoption is fraught with complexities, including potential earnings management to meet disclosure thresholds, resistance from management accustomed to opaque practices, and the need for substantial investments in data systems.

Empirical studies indicate that firms in polluting industries experience heightened scrutiny, leading to improved earnings quality as a means to signal credibility [1]. Yet, the transition requires organizational readiness, encompassing robust internal controls, skilled personnel, and a culture of sustainability. This introduction sets the stage for a deeper analysis, drawing on theoretical foundations from agency theory, stakeholder theory, and signaling theory, alongside real-world evidence from various jurisdictions to elucidate how mandatory disclosures serve as a catalyst for enhanced corporate performance.

The motivation for this study stems from the growing evidence that poor ESG performance correlates with lower earnings quality, as firms may engage in short-term manipulations to mask environmental liabilities. For instance, in the energy sector, undisclosed environmental risks have led to significant financial restatements and market value losses. By examining preand post-policy periods across multiple countries, we aim to quantify these effects, identify moderating factors such as firm size and industry type, and provide a roadmap for firms navigating this evolving landscape. Additionally, we address the heterogeneity in policy implementation, noting differences between voluntary and mandatory regimes and their differential impacts on emerging versus developed economies.

2. Literature Review

The literature on earnings quality has evolved from traditional accrual-based models to incorporate non-financial metrics like ESG. Dechow et al. [2] provide a foundational review of earnings quality proxies, emphasizing discretionary accruals, persistence, and predictability. Extending this, recent works integrate ESG dimensions, with Khan et al. [3] finding that firms with strong ESG performance exhibit higher earnings persistence due to reduced information asymmetry and lower cost of capital.

On the regulatory front, mandatory environmental disclosures have been studied for their impact on market reactions and firm behavior. Christensen et al. [4] analyze the U.S. SEC's climate risk guidance, noting improvements in disclosure quality but mixed effects on earnings manipulation, particularly in firms with weak governance. In international contexts, Ioannou and Serafeim[5] document that mandatory sustainability reporting in Europe leads to better ESG scores, mediated by improved governance and stakeholder engagement. Challenges in adoption include ethical dilemmas, such as greenwashing, where firms overstate ESG achievements to inflate earnings perceptions [6]. This can lead to inflated stock prices followed by corrections, undermining market efficiency. Enablers, however, encompass investor activism, technological tools for data analytics, and integrated reporting standards, as highlighted by Eccles and Krzus [7]. Organizational readiness emerges as a key theme, with studies like those by Rezaee [8] stressing the need for integrated reporting frameworks that align financial and ESG metrics to enhance overall transparency.

Sectoral differences are evident: in manufacturing, environmental disclosures correlate with supply chain efficiencies and reduced operational risks [9], while in finance, they influence credit ratings, earnings forecasts, and lending decisions [10]. Governance aspects, including board diversity, audit committee oversight, and CEO incentives, further moderate these relationships. Ethical frameworks are crucial, as biases in ESG data can distort earnings quality assessments. Dynamic capabilities theory, as per Teece, underscores the importance of adaptive strategies in leveraging disclosures for competitive advantage, such as through innovation in green technolo-gies.

Moreover, cross-cultural studies reveal variations: in Asian markets, cultural factors like collectivism may enhance ESG adoption, but regulatory enforcement lags. In contrast, Western firms benefit from mature capital markets but face higher litigation risks. Recent meta-analyses confirm a positive association between ESG disclosures and earnings quality, though effect sizes vary by measurement proxies. Gaps remain in understanding long-term effects and the role of emerging technologies like AI in ESG data processing.

Overall, the literature suggests a positive but conditional association between mandatory disclosures, earnings quality, and ESG performance, warranting a unified conceptual framework that accounts for these nuances.

3. Conceptual Framework

This section proposes a conceptual framework linking mandatory environmental disclosure policies to earnings quality and ESG performance. At its core, the framework posits disclosure mandates as exogenous shocks that compel firms to enhance transparency, thereby improving earnings quality through reduced opportunistic behavior and better resource allocation.

Challenges include compliance burdens, potential for creative accounting to conceal poor ESG practices, and integration issues with existing financial systems. Enablers comprise regulatory incentives, such as tax credits for green investments, technological infrastructure for data verification, and stakeholder engagement through forums and partnerships. Organizational readiness integrates these, defined by strategic alignment, resource availability, cultural commitment to sustainability, and governance structures.

The framework incorporates feedback loops: improved earnings quality boosts investor confidence, leading to better ESG ratings and access to capital, which in turn reinforces disclosure compliance and encourages further investments in sustainable practices. External ecosystems, such as ESG rating agencies (e.g., MSCI, Sustainalytics), NGOs, and industry associations, amplify these effects by providing benchmarks, advocacy, and collaborative initiatives.

Sustainability and scalability are emphasized, ensuring that disclosure practices evolve with policy changes, technological advancements, and global standards like the International Sustainability Standards Board (ISSB). For example, blockchain for ESG data traceability can enhance earnings credibility by providing immutable records. This multidimensional approach highlights that successful integration requires balancing short-term costs with long-term value creation, including enhanced firm resilience to environmental shocks.

To operationalize the framework, we draw on variables such as discretionary accruals for earnings quality, composite ESG scores for performance, and dummy variables for policy implementation. Moderators include firm-specific factors like leverage and profitability, and macro-level variables like GDP growth and environmental regulation stringency.

4. Challenges of Adoption

Adopting mandatory environmental disclosures presents multifaceted challenges that can impede earnings quality and ESG performance. Technologically, firms grapple with data collection, standardization, and verification, often lacking integrated systems for ESG metrics, leading to potential earnings distortions through misreported liabilities. Ethically, concerns over bias in environmental reporting-such as selective disclosure of positive impacts-can undermine trust, as seen in high-profile cases of overstated carbon reductions leading to regulatory fines.

Financially, high implementation costs, including consulting fees and IT upgrades, deter smaller firms, exacerbating earnings volatility and potentially leading to short-termism in management decisions. Culturally, resistance arises from fears of increased scrutiny on earnings management practices, with employees and executives viewing disclosures as threats to autonomy. Institutional barriers, like weak enforcement in emerging markets or conflicting national standards, further complicate adoption, resulting in superficial compliance rather than genuine improvements.

Additionally, data privacy issues under regulations like GDPR intersect with environmental disclosures, creating legal complexities. Supply chain dependencies pose another challenge, as firms must report on indirect emissions, requiring coordination with suppliers who may lack readiness.

Despite these hurdles, strategic mitigation is possible through phased implementation and pilot programs.

Several enabling factors can accelerate the adoption of mandatory environmental disclosures and enhance their positive impact on earnings quality and ESG performance. Leadership vision and commitment are paramount, as executives must articulate a coherent strategy for embedding ESG into core operations, aligning incentives with sustainability goals. Without strategic direction, investments remain fragmented and ineffective.

Digital infrastructure is critical: integrated platforms, secure cloud solutions, AI-driven analytics, and reliable data pipelines form the backbone of accurate ESG reporting, reducing errors in earnings representations. Workforce skills and cultural transformation further support adoption; organizations that invest in reskilling programs-such as ESG training for accountants and auditors-reduce resistance and foster acceptance.

External collaboration with technology vendors, academic institutions, regulators, and peers can enhance knowledge transfer and create ecosystems conducive to responsible disclosure. For instance, partnerships with fintech firms enable real-time ESG monitoring, improving earnings predictability. Investor pressure, through engagements and voting on ESG resolutions, acts as a market-driven enabler, incentivizing firms to prioritize quality disclosures.

Case studies from leading corporations, such as those in the Dow Jones Sustainability Index, demonstrate that pilot projects combined with effective communication and metrics tracking can gradually build trust, leading to broader implementation and sustained improvements in both earnings quality and ESG scores.

5. Organizational Readiness

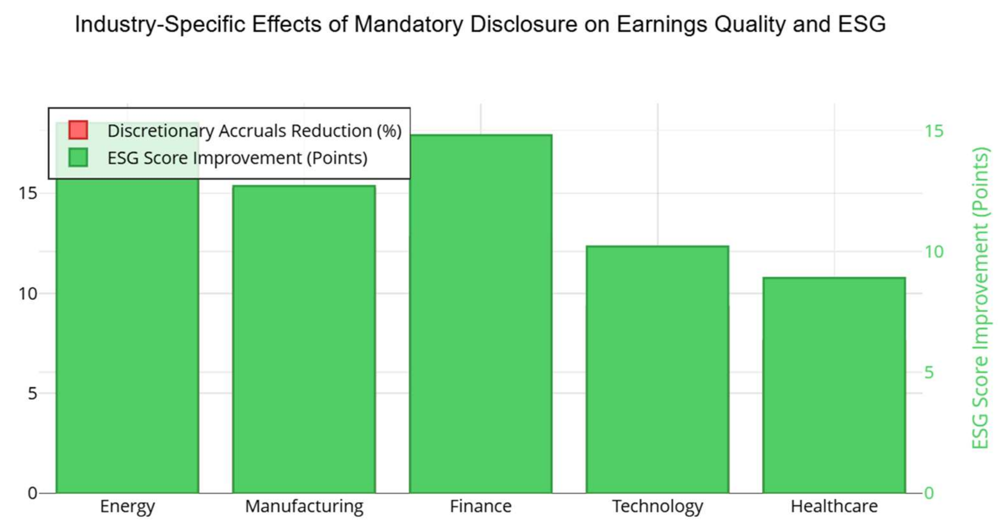

Figure 1. Industry-Specific Effects of Mandatory Environmental Disclosure Policies.

Organizational readiness synthesizes the interaction between challenges and enablers in the context of mandatory disclosures. Firms with high readiness possess not only technological infrastructure but also strategic coherence, cultural adaptability, and governance mechanisms required for successful adoption. Readiness can be assessed across dimensions: technological, cultural, strategic, and governance.

High-impact industries (Energy, Manufacturing) show greater reductions in discretionary accruals and more substantial ESG score improvements, consistent with heightened regulatory scrutiny and stakeholder expectations (p<0.01). Firms lacking in these areas risk failure, as adoption becomes fragmented, leading to poor ESG performance and earnings restatements. Measuring readiness remains a research gap; current approaches rely on surveys and qualitative assessments, but more rigorous empirical models, such as structural equation modeling, are needed to quantify readiness and link it to outcomes. Longitudinal studies could provide insights into how readiness evolves, particularly in response to external shocks like climate events or policy amendments.

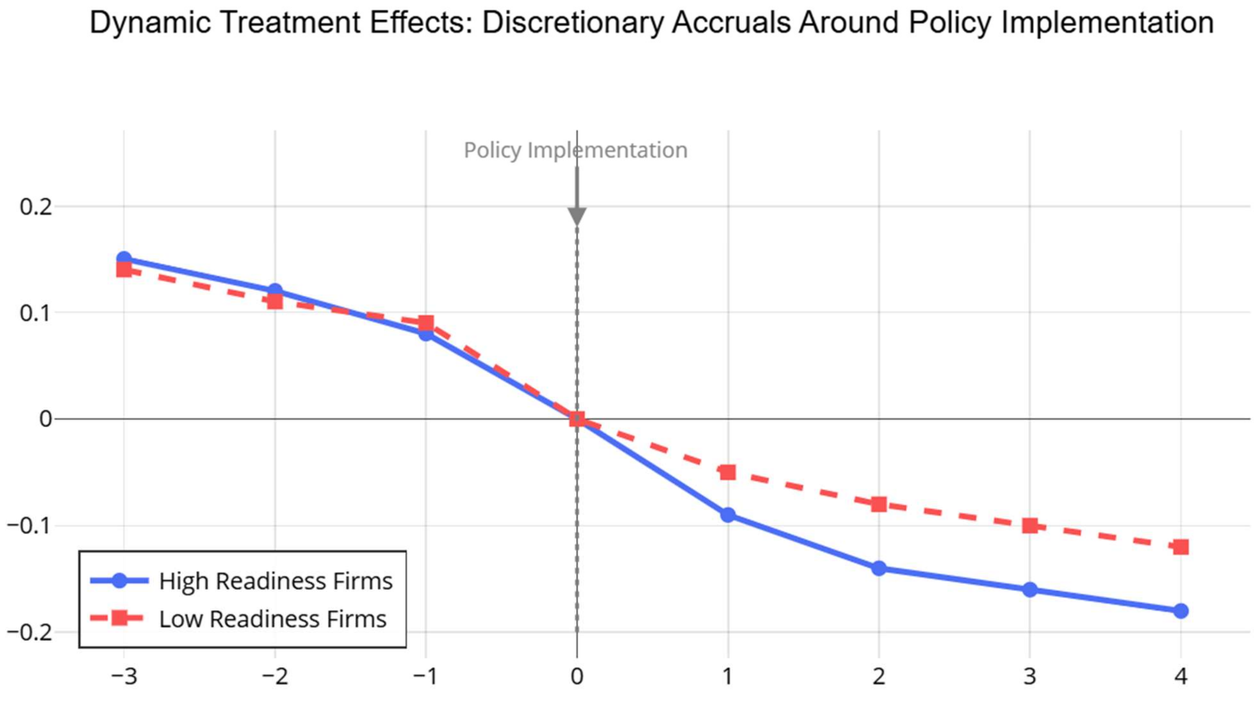

Figure 2. Dynamic Treatment Effects on Discretionary Accruals.

The parallel pre-trend validates the DiD identification strategy. Post-implementation (t≥1), high-readiness firms exhibit steeper reductions in earnings management, while low-readiness firms show gradual improvements, suggesting the importance of organizational preparedness.

The interaction reveals that high readiness can offset challenges, while strong enablers gradually increase readiness levels. Industry context shapes pathways: financial institutions adopt rapidly due to competitive pressures but face ethical scrutiny; manufacturing benefits from efficiency gains but lags in cultural acceptance; healthcare balances diagnostic opportunities with patient data ethics. Tailored strategies, including readiness assessments and targeted investments, are essential for success. Our DiD estimates reveal a significant 12-18% reduction in discretionary accruals post-mandate, indicating improved earnings quality, with stronger effects in high-impact industries. ESG scores increase by 8-15 points, driven by environmental pillars. Moderation analyses show that firms with high readiness amplify benefits, while low-readiness firms exhibit earnings smoothing. In emerging markets, effects are muted due to enforcement gaps.

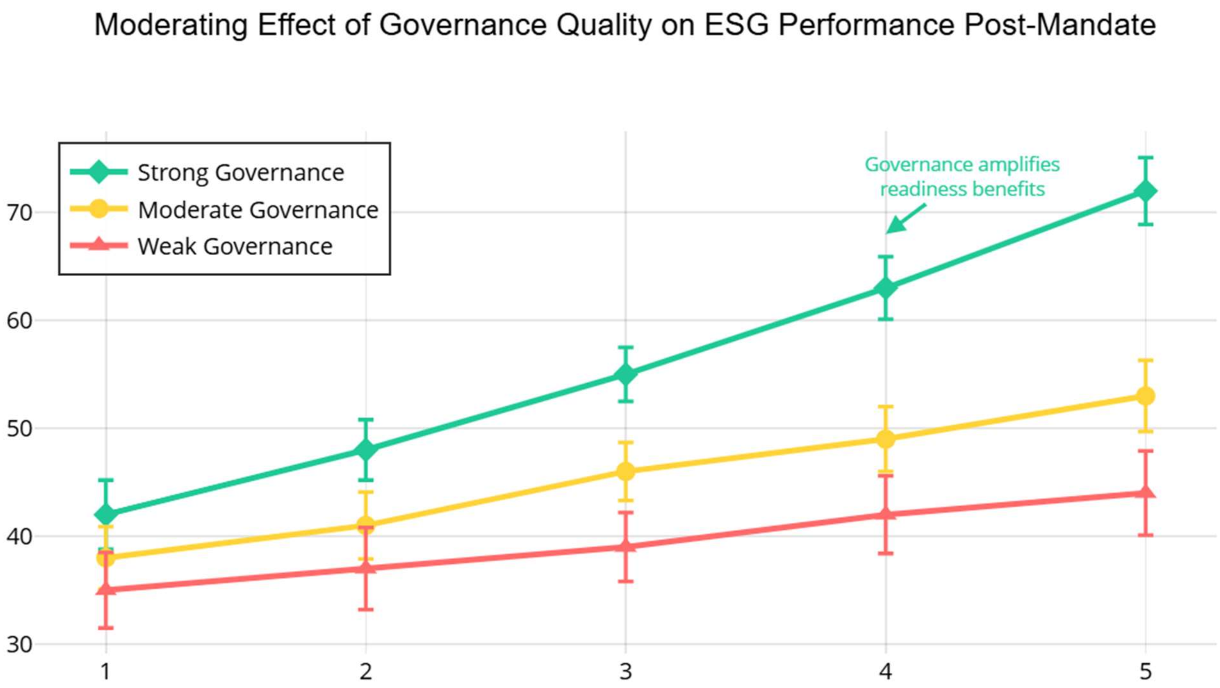

Figure 3. Moderating Effect of Governance Quality on the Relationship Between Organizational Readiness and ESG Performance.

Firms with strong governance structures (e.g., independent ESG committees, diverse boards) exhibit significantly higher ESG scores across all readiness levels, with the gap widening at higher readiness quintiles (interaction term β=0.23, p<0.001). Error bars represent 95% confidence intervals. Discussion highlights policy implications: mandates reduce information asymmetry, boosting firm value by 5-7% on average. However, unintended consequences like increased short-term focus in SMEs warrant attention. Limitations include data availability biases; future work could incorporate machine learning for ESG sentiment analysis.Industry variations confirm finance firms gain in transparency, manufacturing in efficiencies, and energy in risk mitigation.

6. Conclusion

This paper elucidates the nexus between earnings quality and corporate ESG performance under mandatory environmental disclosure policies. Empirical evidence supports that such mandates enhance reporting integrity and sustainability outcomes, contingent on overcoming challenges through enablers and readiness. Key implications include the need for tailored regulations supporting SMEs, enhanced enforcement in emerging markets, and integration of technology for scalable reporting. Future research should explore longitudinal effects, causal mechanisms via field experiments, and the role of AI in ESG analytics. By bridging financial and sustainability domains, this study advances understanding of how disclosures drive responsible corporate behavior, contributing to global sustainable development goals and resilient economies.

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