ESG PRESSURES IN BANK AND FINTECH LENDING: STRUCTURAL SHIFTS AND FINANCIAL INCLUSION OUTCOMES

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Abstract

This paper examines how ESG pressures are reshaping lending practices in banks and FinTech firms, driving structural shifts that influence financial inclusion. Drawing on recent empirical and theoretical evidence, the study analyzes how ESG criteria are embedded in credit allocation and how adoption differs between traditional banks and FinTech lenders. Banks integrate ESG primarily through formal risk-assessment models and regulatory compliance, whereas FinTechs rely on technological innovation, data analytics, and alternative scoring methods. These differences produce distinct outcomes: banks improve inclusion indirectly via transparency and risk management, while FinTechs extend credit more directly to underserved populations. Nonetheless, reliance on algorithmic models raises concerns regarding fairness, bias, and ESG consistency. The findings highlight ESG as a transformative force in lending, with its effectiveness in promoting sustainable and inclusive finance contingent on the interplay between regulatory frameworks and technological capabilities.

Keywords: *ESG integration, Financial inclusion, Bank–FinTech comparison, Sustainable finance, Credit allocation, Alternative credit scoring, Digital lending.*

Clasificare JEL : *A13, E50, G10.*

1. Introduction

The global financial landscape is currently undergoing a dual transformation, driven simultaneously by the imperative of sustainability and the acceleration of digitalization. In this context, Environmental, Social, and Governance (ESG) criteria have evolved from peripheral corporate social responsibility initiatives into central pillars of financial stability and credit allocation strategies. As financial institutions face increasing regulatory pressure and market demand for responsible capital allocation, the mechanisms through which they integrate ESG factors are creating structural shifts in the lending ecosystem.

However, the adoption of ESG pressures manifests differently across the financial landscape. Traditional banks and Financial Technology (FinTech) firms operate under distinct operational models, leading to divergent approaches to sustainable finance. For traditional banks, ESG integration is largely driven by regulatory compliance—such as the European Union's Taxonomy or Basel framework adjustments—and formal risk management aimed at mitigating climate-related transition risks (Schreiner and Beyer, 2025). Consequently, banks often adopt a defensive posture, utilizing ESG metrics primarily as exclusion filters or risk-adjustment tools.

In contrast, the FinTech sector, unburdened by legacy systems, leverages ESG pressures as a catalyst for innovation. By utilizing big data, artificial intelligence (AI), and alternative credit scoring, FinTech lenders are uniquely positioned to address the "Social" (S) pillar of ESG, specifically regarding financial inclusion (Li and Chen, 2024). These firms are expanding credit access to "thin-file" borrowers—segments of the population traditionally underserved by banks due to information asymmetry or lack of collateral (World Bank, 2024).

This divergence raises critical questions regarding the future of inclusive lending. While banks provide stability and rigorous governance, stringent ESG frameworks risk exacerbating financial exclusion for vulnerable sectors. On the other hand, while FinTechs promote rapid inclusion, their reliance on non-transparent algorithmic models raises concerns regarding fairness, bias, and the consistency of ESG reporting (Xu, 2024).

Therefore, this paper examines how ESG pressures are reshaping lending practices in banks compared to FinTech firms. It analyzes the structural trade-offs between the compliance-driven model of banks and the innovation-driven model of FinTechs. While traditional and digital actors are both fundamental to a sustainable financial ecosystem, their divergent strategies produce distinct inclusion outcomes, pointing to a critical need for harmonized oversight to forestall new forms of digital inequality.

2. Theoretical Foundations: The Convergence of ESG and Digital Finance

Analyzing the conceptual foundations of the convergence between ESG and digitalization is crucial for understanding the paradigm shift in modern lending. The integration of ESG criteria marks a fundamental evolution in financial governance, moving beyond a narrow focus on short-term profit maximization. As Macchiavello and Siri (2022) observe, this transition implies that financial institutions are no longer viewed solely as commercial entities, but as actors accountable to the broader economic and regulatory system. In this context, ESG factors have evolved from optional reputational enhancements to core elements of risk management. Research indicates that environmental risks—whether physical or transitional—are material financial factors that directly affect a borrower's probability of default (Schreiner and Beyer, 2025). Consequently, Li and Chen (2024) argue that adopting ESG is not merely an ethical decision but a rational economic necessity, requiring credit evaluations to incorporate non-financial metrics.

However, the practical implementation of these sustainability goals is heavily constrained by the theory of "Information Asymmetry" in credit markets. In the context of financial inclusion, this asymmetry is the primary barrier for unbanked populations and SMEs, who lack the "hard information" (e.g., audited financial statements, collateral history) required by traditional risk models (World Bank, 2024). The theoretical innovation brought by the digital era, as highlighted by the Bank for International Settlements (Feyen et al., 2024), is the capacity to substitute this missing hard information with "soft information" derived from alternative data sources. Studies indicate that technology reduces processing costs, allowing lenders to extend services to marginalized economic actors previously viewed as too costly to serve (Li et al., 2024). FinTechs adopt AI, data analytics, and alternative scoring to embed ESG more flexibly, enabling access for underserved or "thin-file" populations (IFC, 2024).

However, a significant debate exists regarding how Environmental and Social goals fit together within this framework. While Li and Chen (2024) argue that digitalization and sustainability support each other, contrasting views warn of potential negative effects. This perspective suggests that strict environmental standards (the E pillar) may unintentionally weaken social inclusion (the S pillar). Specifically, if lending depends entirely on following green rules, capital might go only to large corporations. As a result, this risks pushing out smaller players who cannot afford the high costs of compliance. Furthermore, the OECD (2021) warns that using Artificial Intelligence to bridge this gap brings new challenges regarding lack of transparency and bias. This complicates Governance (G) standards, as automated systems can unintentionally repeat historical inequalities found in the data. Consequently, the central tension explored in this paper is how different institutions manage the trade-off between reducing environmental risk and ensuring fair access to finance.

These approaches produce distinct inclusion outcomes. Banks promote responsible, sustainable lending but remain conservative. In contrast, FinTechs extend credit more directly to marginalized populations, raising important concerns regarding fairness and governance. Coordinated strategies combining regulation, innovation, and governance are essential to ensure ESG-driven finance is both sustainable and inclusive (World Bank, 2024; IFC, 2024).

3. Models of ESG Criteria Adoption in Banks and Fintechs and Their Effects on Financial Inclusion

The adoption of Environmental, Social, and Governance (ESG) criteria is not a uniform process across the financial sector; rather, it follows two distinct structural models depending on the nature of the institution. This dichotomy creates a dual-speed financial system where traditional banks and FinTech firms operate under fundamentally different incentives. The divergence stems from their operational logic, where banks operate under a compliance-based framework driven by mandatory disclosure metrics, while FinTechs operate under a data-driven innovation framework focused on efficiency and market expansion.

For traditional banking institutions, the integration of ESG has evolved from a voluntary corporate responsibility initiative into a mandatory prudential requirement. This structural shift is largely driven by the European Central Bank's climate risk expectations and the enforcement of revised capital standards. A pivotal development in this regard is the introduction of the Green Asset Ratio (GAR), which became a mandatory Key Performance Indicator for European credit institutions starting in 2024 (Frykström, 2025). The GAR measures the proportion of a bank's assets that are aligned with the EU Taxonomy for sustainable activities, effectively forcing banks to reconfigure their lending strategies to optimize this metric. To improve their ratios, banks are strategically realigning their portfolios. This involves directing capital toward large, taxonomy-aligned corporations while actively offloading assets in carbon-intensive sectors through exclusion strategies. However, while this regulatory strictness strengthens the financial system against climate risks, it generates undirectly negative consequences for the Social pillar of ESG. Recent analysis indicates that the reliance on complex data creates a significant 'data gap' for Small and Medium Enterprises (SMEs). Unlike large firms, these smaller actors often lack the resources to provide the detailed sustainability reports that banks now demand. As a result, the current banking model tends to secure environmental stability at the macro level but, in doing so, unintentionally risks increasing financial exclusion for the SME sector.

In contrast to the traditional banking model, which focuses heavily on regulatory compliance, FinTech firms utilize ESG pressures as a catalyst for innovation and market differentiation. Free from the constraints of legacy systems and rigid capital requirements, FinTech lenders leverage technological agility to bridge information gaps, specifically targeting the social dimension of ESG. The core structural innovation of FinTech lies in its ability to process unstructured data and utilize "soft information," moving beyond a sole reliance on balance sheets and physical collateral (Li and Chen, 2024). Advanced algorithms now analyze digital footprints—ranging from e-commerce transaction histories and mobile phone usage patterns to psychometric testing—to build comprehensive credit profiles for individuals who are otherwise invisible to traditional credit bureaus. This data-driven approach, often referred to as "weak signal analysis," effectively separates a borrower's creditworthiness from their ownership of assets (Li et al., 2024). By doing so, FinTechs address the root cause of financial exclusion in emerging markets: the lack of collateral and formal credit history. Recent empirical studies indicate that FinTech development significantly reduces financing barriers for green enterprises and underserved populations by optimizing information symmetry.

The fundamental differences between these two approaches, highlighting the trade-offs between regulatory stability and market access, are synthesized in the table below.

Table No. 1. Comparative Analysis of ESG Adoption Models

Feature	Traditional Banks	FinTech Firms
Primary Driver	Regulatory Compliance (Basel/Taxonomy)	Innovation & Market Penetration
Dominant ESG Pillar	Environmental (E) – Climate Risk focus	Social (S) – Inclusion focus
Credit Scoring	Standardized, historical, collateral-based	Algorithmic, behavioral, alternative data
Inclusion Outcome	Conservative: Indirect, systemic stability	Expansive: Direct access for unbanked

Source: processing after World Bank (2024)

4. Governance Challenges and Regulatory Implications in Digital Lending

While the FinTech model offers a promising pathway for enhancing social inclusion, the digitization of lending introduces complex governance challenges that demand critical scrutiny. As algorithms increasingly drive credit allocation, the financial system faces risks that extend beyond simple operational errors to encompass systemic ethical dilemmas. The central tension lies in the trade-off between the predictive power of Artificial Intelligence and the governance requirement for explainability. Deep learning models—the engines of FinTech innovation—often operate as "Black Boxes"; although they can identify complex, non-linear correlations to predict default risk with high accuracy, their internal logic remains opaque. This opacity creates a fundamental conflict with the principle of transparency, making it difficult for institutions to provide consumers with a clear, understandable justification when a loan application is rejected.

This lack of interpretability has triggered a robust regulatory response, most notably through the EU Artificial Intelligence Act of 2024. Under this framework, AI systems used for creditworthiness evaluation are classified as "High-Risk," a designation that imposes strict obligations regarding data quality, human oversight, and accountability. However, compliance with these standards presents a technical paradox known as the "accuracy-interpretability trade-off." To comply with the governance requirement of transparency, FinTech lenders may be forced to use simpler, linear models (like Explainable AI or XAI), which are easier to interpret but often less accurate than complex neural networks (Dwivedi et al., 2023).

Beyond the technical challenges, the widespread use of alternative data raises serious ethical concerns regarding consumer privacy. This creates a clear conflict between the "Social" and "Governance" pillars of ESG. FinTech lenders often use data scraping methods to gather users' digital footprints—such as location data, social media activity, and browsing history—to build detailed profiles. While this information helps evaluate "thin-file" borrowers who lack a traditional credit history, it essentially turns private behavior into a profit tool. The Organization for Economic Co-operation and Development (OECD, 2021) warns that without strict rules limiting how this data is used, this practice could turn into a form of "surveillance capitalism." In this scenario, access to money becomes dependent on giving up one's privacy. This dynamic unfairly affects vulnerable populations, who often have no choice but to agree to invasive monitoring just to access basic financial services. This creates an unequal system of privacy rights that contradicts the fair and equitable goals of sustainable finance.

Finally, a significant governance gap persists due to regulatory arbitrage. FinTech entities frequently operate under e-money or payment institution licenses, which are subject to lighter prudential requirements than full banking licenses. This regulatory asymmetry creates an environment where "shadow banking" practices can flourish under the guise of innovation. Some FinTechs may market "inclusive" or "green" loans that, in reality, carry predatory interest rates masked by the convenience of digital access. To mitigate these risks, the current academic and policy consensus advocates for a "Same Activity, Same Risk, Same Regulation" approach (Feyen et

al., 2024). This principle implies that regardless of the technological medium, any entity performing credit maturity transformation must adhere to the same rigorous governance and capital standards as traditional banks. Only through such a harmonized regulatory environment can the financial sector ensure that the ESG revolution drives genuine sustainability rather than masking new forms of digital fragility and exclusion.

5. Conclusions

The present study highlights the growing influence of ESG pressures on lending practices in both traditional banks and FinTech firms. As shown through the analysis of recent literature and institutional reports, ESG considerations are no longer peripheral criteria but are actively shaping credit models, decision-making processes, and strategies for financial inclusion. By integrating ESG metrics through governance frameworks, risk assessment, and technological innovation, financial institutions are able to enhance transparency, promote responsible lending, and extend access to underserved populations. The research confirms that strategic adoption of ESG not only strengthens institutional resilience and accountability but also positions sustainability as a central driver of inclusive and ethical financial innovation.

However, beyond this shared commitment to sustainability, the analysis reveals a fundamental structural divergence in how these actors navigate the trade-offs between environmental risk and social equity. Traditional banks, operating under a compliance-driven model, have effectively fortified the financial system against climate risks through instruments like the Green Asset Ratio. Yet, this rigorous focus on the environmental pillar creates unintended consequences for the social pillar. By prioritizing verifiable "hard data," the banking sector risks exacerbating the exclusion of Small and Medium Enterprises (SMEs) that lack the resources to meet complex reporting standards. In this context, systemic environmental stability may inadvertently come at the cost of reduced capital access for smaller economic agents.

Conversely, FinTech firms have emerged as critical enablers of social inclusion by leveraging alternative data to serve "thin-file" borrowers, thus bridging the gap left by traditional institutions. Nevertheless, this study emphasizes that such digital inclusion introduces complex ethical vulnerabilities regarding governance. The reliance on opaque "Black Box" algorithms creates a tension between predictive accuracy and the fundamental right to explainability. Furthermore, the commodification of behavioral data raises concerns that financial access is becoming contingent upon the erosion of consumer privacy, potentially leading to new forms of digital inequality.

Ultimately, the future of sustainable lending depends on the capacity of policymakers to harmonize these competing models. A purely market-driven approach is insufficient to ensure that the transition to a green economy remains socially equitable. Regulatory frameworks must evolve toward a "Same Activity, Same Risk" principle, ensuring that digital lenders adhere to the same consumer protection standards as traditional banks. Only by balancing the rigidity of prudential regulation with the agility of technological innovation can the financial sector ensure that ESG integration drives genuine, broad-based prosperity rather than masking new systemic fragilities.

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