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# ESG Regulations and Green Financing in Leading Private Banks: A Global Perspective

*Vignesh Shree M<sup>1</sup>, Akhila Cherian<sup>2</sup>, Dr. Anuradha P S<sup>3</sup>*

Christ University, Hosur Road, Near Dairy Circle, Bangalore Karnataka-560029, India

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## ABSTRACT :

The importance of Environmental, Social, and Governance (ESG) regulations and green financing has dramatically increased within the banking sector. Private banks are vital in promoting sustainable finance. However, implementing ESG practices is shaped by various regulatory frameworks and global market dynamics. This research explores ESG regulations, green finance trends, risk management strategies, and investment behaviors across different sectors and regions among major private banks. It also points out existing gaps in research. Among these, the need for standardized ESG criteria and robust reporting systems is stressed, as these are crucial in providing the transparency and accountability needed to encourage sustainable economic growth and build trust in the reliability of sustainable finance.

**Keywords:** ESG Regulations, Green Financing, Private Banks, and Sustainable Finance.

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## 1. Introduction :

The global financial industry has progressively aligned itself with sustainability targets by incorporating ESG criteria (Sulkowski & Jebe, 2022). Private banks actively integrate ESG factors into risk evaluations, investment approaches, and lending practices. (OECD 2022). Nevertheless, various regions' different regulations and financial incentives obstruct consistent ESG adoption. Importantly, green financing instruments—such as green bonds and sustainability-linked loans—have emerged as essential tools to foster investments in renewable energy, sustainable infrastructure, and social finance (Mavlutova et al., 2023). This paper explores how prominent private banks worldwide navigate the ESG environment and their difficulties in applying sustainable finance methods.

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## 2. Research Objectives :

The main aims of this study are:

- To explore the regulatory frameworks governing ESG compliance in private banks across various regions.
- To evaluate the influence of green financing tools, such as green bonds and sustainability-linked loans, on integrating ESG principles in private banking.
- To examine the risk management strategies employed by private banks to mitigate ESG-related financial and reputational risks.
- To compare trends in ESG investment across different sectors and regions, highlighting variations and growth patterns.

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## 3. Literature Review :

Green finance and environmental, social, and governance (ESG) have become critical in the banking industry, especially for private banks. Their efforts to align with global sustainability standards are crucial. However, ESG governance remains fragmented, shaped by voluntary frameworks with minimal government oversight, leading to regulatory inconsistencies across jurisdictions (Sulkowski & Jebe, 2022). While Europe has made significant progress in policy-driven sustainable finance, obstacles persist in developing a uniform financial flow taxonomy that aligns with climate objectives (Kemfert & Schmalz, 2019). Emerging markets face additional hurdles as regulatory structures and ESG adoption levels vary significantly. For instance, banks in BRICS economies are altered by international sustainability frameworks, like the Global Reporting Initiative (GRI). However, their ESG engagement depends mainly on regulatory pressures and market incentives (Arun et al., 2022). Moreover, economic policies are key in fostering sustainable finance by integrating environmental, social, and economic dimensions, but gaps in measurement and disclosure persist (Velinova-Sokolova et al., 2023).

The execution of ESG frameworks in private banks varies significantly globally, reflecting the diverse ownership structures, financial performance objectives, and regulatory environments. In India, for instance, private banks experience a negative impact from social ESG factors. In contrast, public sector banks have an advantage over environmental initiatives, underscoring the need for tailored ESG strategies (Jaiwani & Gopalkrishnan, 2023). Similarly, in the Middle East and North African region, the connection between ESG and financial performance is non-linear, with governance positively

influencing accounting performance but environmental investments following a convex trajectory with market returns (Khoury et al., 2021). On the other hand, European banks demonstrate higher cost efficiency when engaging in ESG practices, reinforcing the financial viability of sustainability investments (Liang et al., 2024). The Vietnamese banking sector also benefits from ESG disclosures, particularly in improving return on equity (ROE) and return on assets (ROA). However, social components show limited financial impact (Loan et al., 2024).

Green finance is essential for private banks to fulfill their ESG obligations. Tools like sustainable lending and green bonds aid the shift to ecologically conscious banking practices. Although green financing in India has been positively associated with sustainability outcomes, its full potential has not yet been realized because of government support and transparency gaps (Kothiyal & SmitaTripathi, 2023). With empirical evidence indicating their contribution to energy security and carbon reduction, green bonds have become viable tools for financing European renewable energy projects (Mavlutova et al., 2023). Banks in Russia have upheld corporate social responsibility pledges while promoting infrastructure development thanks to responsible financing tools (Chernykh et al., 2024). Incorporating ESG standards requires sustainable financing methods, such as ESG-linked credit facilities, which have proven essential in integrating ESG standards into corporate banking practices. However, long-term investment and commitment are necessary for meaningful impact (Kandpal et al., 2024).

From an investment perspective, the link between ESG adoption and financial performance continues to be debated. A large-scale quantitative study found that ESG incorporation significantly enhances investment portfolio success, particularly when reinforced by strong regulatory frameworks (Angorani, 2024). This suggests a promising future for sustainable finance. At a global level, companies that have high ESG ratings often encounter improved corporate financial performance (CFP), especially in high-risk industries where stakeholder trust and corporate reputation are key differentiators (Chen et al., 2023). Access to environmental financing is another determinant of financial success, with results suggesting that smaller banks benefit the most from sustainable finance initiatives, particularly in enhancing loan growth and management quality (Nizam et al., 2019). However, ESG ratings remain controversial, as major banks financing fossil fuel entities often receive high ratings despite their continued exposure to unsustainable investments, raising concerns about greenwashing and the reliability of ESG assessment methodologies (Bernardelli et al., 2022).

Despite the advancements in ESG integration and green finance, significant challenges remain, particularly regarding regulatory inconsistencies, standardization gaps, and regional disparities. ESG adoption in Islamic finance is consistent with ethical banking principles; however, green accounting practices are impeded by a lack of standardized frameworks and expertise (Khalique et al., 2024). Green finance in Nepal is still in its infancy, as banks mostly use ESG tactics to satisfy regulatory requirements rather than carrying out significant sustainability projects (Aryal et al., 2022). Indonesia's transition toward a Net Zero economy highlights the need for financial institutions to strengthen their internal ESG capabilities while navigating external regulatory pressures (Nusantara & Rahadi, 2025). A bibliometric analysis of green finance research trends underscores the growing interdisciplinary interest in the field yet emphasizes the necessity for collaborative efforts between governments, private banks, and academia to drive sustainable financial solutions. This underlines each entity's crucial role in advancing sustainable finance (Krastev & Krasteva-Hristova, 2024).

In conclusion, even though green finance and ESG regulations are still influencing private banking worldwide, there are still a lot of obstacles to overcome, including a lack of standardization, inconsistent regulations, and a range of financial performance implications. The existing literature highlights how crucial it is for private banks to develop adaptable ESG strategies that align with local regulatory requirements and international sustainability standards. Future studies will focus on enhancing ESG reporting practices, addressing greenwashing concerns, and expanding the role of green finance in fostering a more resilient and sustainable banking sector.

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#### **4. ESG Regulations and Green Financing Across Key Regions :**

Improving ESG ratings and green investments requires greater consistency, transparency, and data quality to enhance market integrity. Financial regulators, Policymakers, and central banks must work in line to ensure that standardized quality of ESG data is made available per global standards. Regulators must heavily insist on setting up mandatory disclosure frameworks and improving the granularity of ESG metrics to enable accurate risk assessments. Authorities must also examine and employ standardized tools to enhance verification and comparability of ESG data a step beyond baseline levels, such as voluntary disclosures in compliance with OECD guidelines. To improve methodologies and transparency, it is encouraged that there is a persistent debate between financial regulators, market players, and rating providers for betterment in terms of treating forward-looking indicators and disclosing potential conflicts of interest. (OECD 2022).

Funding the climate transition requires solid methodologies, standardized metrics, and greater transparency to enable a low-carbon economy. Financial regulators must identify and utilize existing instruments to enhance climate-related disclosures and ensure credibility in transition finance. Standardized reporting frameworks like TCFD and ISSB recommendations must be widely used to increase data comparability and reduce greenwashing risks. In addition, regulators, financial institutions, and ESG rating providers should cooperate to strengthen definitions, ensure best disclosure practices, and resolve methodological differences. Private banks are urged to develop transition plans with measurable net-zero objectives while using high-quality ESG data to align their investment strategy with sustainability targets. Improving oversight mechanisms and encouraging international cooperation will be needed to secure ESG integration into financial markets and support global green financing initiatives. (OECD 2022)

##### **4.1. European Region**

The European Union has adopted a strong ESG regulatory framework to increase transparency, accountability, and green financing in private banks and financial institutions. Some key regulations include the Sustainable Finance Disclosure Regulation (SFDR), which requires disclosures of sustainability risks, adverse impacts, and ESG-related claims at the entity and product levels. (European Commission, 2023). The EU Taxonomy Regulation classifies environmentally sustainable activities, requiring financial institutions to report their alignment with these standards. To counter greenwashing, the Do No

Significant Harm Principle ensures that sustainable financial products do no environmental or social harm. Enhanced oversight of ESG rating providers also improves transparency and reliability. The European Union has adopted a strong ESG regulatory framework to increase transparency, accountability, and green financing in private banks and financial institutions. Some key regulations include the Sustainable Finance Disclosure Regulation (SFDR), which requires disclosures of sustainability risks, adverse impacts, and ESG-related claims at the entity and product levels. (European Commission, 2023). The EU Taxonomy Regulation classifies environmentally sustainable activities and directs financial institutions to report their alignment with these standards or other stringent frameworks. To keep a check and curb greenwashing, principles such as the Do No Significant Harm work to ensure that sustainable financial products do not cause environmental or social harm. Enhanced oversight of ESG rating providers has also been observed to improve transparency and reliability.

Private banks are encouraged to embrace transition finance wherein capital is guided towards low-carbon projects (SFDR Consultation Report, 2023). Sustainable lending and investments are tracked using instruments such as GIR, GAR, and the EU GBS regulating issuing green bonds. Facile ESG reporting for SMEs eases access to green finance. Maturity with global frameworks, such as TCFD, ISSB, and OECD guidelines, in terms of reporting, eases international comparability (EU Platform on Sustainable Finance, 2025).

However, challenges persist. The ECB reports significant gaps in banks' ESG disclosures, with only 15% reporting Scope 3 financed emissions and 12% disclosing portfolio alignment metrics. While 71% describe board oversight of climate risks, governance structures remain inconsistent, and only 6% disclose all key risk and performance indicators (KRIs and KPIs) related to climate risks (European Central Bank, 2022). To fill these gaps, the ECB will enhance supervision through climate stress tests, thematic reviews, and deeper integration of ESG risks into Pillar 2 capital requirements. (EU Platform on Sustainable Finance, 2025).

Mandatory sector-specific climate risk assessments and expanded disclosure mandates, including biodiversity and pollution risks, will further enhance transparency and align financial institutions with the EU's sustainability goals. (EU Platform on Sustainable Finance, 2025). Such measures further strengthen the role of private banks in promoting sustainable finance while remaining compliant and responsibly allocating capital.

#### **4.2. Asian – Pacific Region**

ESG regulations and green financing are evolving fast in the Asia-Pacific region, with India, China, Japan, Singapore, and South Korea enhancing ESG disclosure frameworks and sustainable finance mechanisms. According to SEBI, India, in 2023, the top 1,000 listed companies under the BRSR framework shall make ESG disclosures, and the BRSR Core will ensure phased assurance. Mutual funds have been made to set aside 65% of the assets with the ESG-compliant firms by 2024, which would go all the way to 100% by 2025. India's sovereign green bond program has mobilized INR 160 billion, equivalent to \$1.96 billion, to finance renewable energy, clean transport, and climate adaptation under the Green Finance Working Committee, MoF, and CAG (World Bank, 2023). Especially loans is a very important concept for private banks, when it comes to sustainability green bonds is an important instrument as per

International Capital Market Association (ICMA), as per principles of Net Zero emission by 2070. According to ESG Finance, China is one of the Global leading players, which realized principles known as China Green Bond Principles (2020), which gives 100% of the use of green bonds. According to the People's Bank of China (PBOC), the China Securities Regulatory Committee (CSRC) and the National Development and Reform Commission (NDRC) have come up with a regulation called harmonization in regulation, which includes transparency in foreign investors. Private banks should take responsibility for green projects. This helps private banks concentrate more on green projects and increases the creditability of private banks. For example, South Korea, Hong Kong, and Singapore has already taken initiatives for climate tests like climate risk stress tests, according to SEBI (2023).

ESG reports of External Verification, which is standardized, are given by countries like Singapore, Japan, and South Korea. Countries like Malaysia and China have developed international standards like Green Finance Taxonomies. According to (SEBI 2023), topics related to Sustainability and green bonds in financial institutions have data standardization and challenges like greenwashing prevention, which is more resilient and economically sustainable.

#### **4.3. North American Region**

North American Financial Industry has already changed its green financing ESG Regulations. Large banks, like Wells Fargo, JPMorgan Chase, and Bank of America, use climate risk models based on the NGFS recommendations to calculate risks such as hurricanes, floods, and wildfires (Federal Reserve, 2024). Volatility in insurance markets and gaps in data are the steps taken or efforts taken for sustainability in finance, but uncertainty in regulations still exists. A country like Canada has taken the initiative towards sustainability in finance by aligning investment in 2023 with the Green Bond Framework and Sustainable Finance Action Council (SFAC).

Net Zero Emissions Accountability Act in 2021 and TCFD reporting are mandatory compliance with the regulatory initiatives as they have become a strength for mitigating climate risk and preparing sustainability reports within Companies Management of Canada 2023. Obstacles like fragmentation of regulations and greenwashing are high costs when related to investment. The challenges faced by the U.S. and Canada are related to sustainability in finance. Factors like ESG consideration, credit risk assessments, and portfolio management are strategies that increase the number of factors in private banks. At a point when it comes to aligning long-term climate goals, like issuing green bonds and initiatives in sustainable finance.

Standardized regulations and increased transparency are the first stages involving risk modeling to scale green finance. Strengthening climate risk assessment methodologies and improving ESG data collection will help banks ensure financial resilience amidst sustainable economic growth (Federal Reserve, 2024). As ESG regulations evolve, private banks must instill sustainability in their decision-making processes by balancing profitability with long-term environmental responsibility.

## 5. Research Gap :

Despite the growing body of literature, several gaps remain. Few studies have conducted an integrated analysis comparing ESG regulation and green finance practices across different regions, particularly between developed and emerging markets. Moreover, the relationship between ESG compliance, risk management strategies, and financial performance has not been sufficiently explored in a comparative context among major private banks. There is also a scarcity of research focusing on the sector-wise breakdown of ESG investments and its influence on overall sustainability outcomes. This study seeks to bridge these gaps by providing a comprehensive, multi-dimensional analysis.

## 6. Research Methodology :

This research utilizes a mixed-methods framework, integrating qualitative and quantitative research techniques to thoroughly examine how ESG is incorporated in private banking institutions. Secondary information was sourced from various channels, including ESG reports and annual disclosures from prominent banks (Axis Bank, IDBI Bank, JPMorgan Chase, Deutsche Bank, Morgan Stanley, and Goldman Sachs), along with regulatory documents such as the SEBI BRSR, EU SFDR, Basel III, UN SDGs, and the IFC Performance Standards, in addition to ESG databases from the World Bank and pertinent academic literature. A comparative analysis was conducted to identify variations in ESG investment patterns and regulatory adherence among these banks and their respective regions. In contrast, a sectoral analysis broke down ESG investments into key categories such as renewable energy, green bonds, sustainable infrastructure, social finance, and climate technology. Furthermore, qualitative techniques were employed to evaluate these organizations' ESG risk management strategies, facilitating a comprehensive understanding of how ESG factors are woven into their financial operations.

## 7. Data Collection :

Data were collected from a variety of credible sources, including:

- Bank ESG Reports: Axis Bank, IDBI Bank, JPMorgan Chase, Deutsche Bank, Morgan Stanley, and Goldman Sachs.
- Regulatory Frameworks: Documents about SEBI BRSR, EU SFDR, Basel III, and associated guidelines.
- Financial Databases: Reports on ESG Financing Trends and Green Bond Issuance from the World Bank.
- Academic Literature: Peer-reviewed studies exploring ESG financing trends in the banking sector, regulatory frameworks, and strategies for risk management.

## 8. Data Analysis :

Compare various regulators and institutional reports to identify certain major banks' key policies and regulatory compliance.

### 8.1. ESG Regulations & Policy Frameworks

Bank	Regulatory Compliance	Key ESG Policies
Axis Bank	IFC Performance Standards (PS1-PS8), World Bank EHS Guidelines	Sustainable Lending Policy, Environmental & Social Due Diligence (ESDD)
IDBI Bank	SEBI BRSR, RBI ESG Guidelines, UN SDGs	ESG integration in credit appraisal, Ethical Lending Practices
JPMorgan Chase	SEC ESG Regulations, GRI Reporting Standards	Climate risk modeling, \$1T sustainable finance commitment
Deutsche Bank	EU SFDR, Basel III, ISSB Standards	Green Bond Framework, exclusion of fossil fuel financing

**Findings:** Axis Bank and IDBI Bank adhere to India's global ESG standards and local regulatory mandates. In contrast, JPMorgan Chase and Deutsche Bank align their ESG strategies with the more rigorous EU and US regulations. According to data from the World Bank, regulatory fragmentation contributes to inconsistent ESG adoption, particularly in developing markets.

### 8.2. ESG Financing Commitments by Banks (Green Finance Data)

Bank	Sustainable Finance Target	Green Bond Issuance (2023)	Key ESG Investment Areas
Axis Bank	ESG finance integrated into corporate lending	Focus on clean energy & infrastructure	project finance risk categorization (A, B+, B, C)
IDBI Bank	SEBI-mandated ESG compliance	No direct green bonds were issued	Sustainable lending with environmental screening

JPMorgan Chase	\$1T by 2030	\$19.3B	Green finance, ESG-linked loans
Deutsche Bank	€500B by 2025	High allocation to renewables	Clean energy, transport, social finance
Morgan Stanley	\$1T by 2030	\$97B ESG-labeled transactions	Clean energy, transport, social finance
Goldman Sachs	\$800B by 2030	\$10B	Social finance, impact investing, diversity & inclusion

### 8.3. Region-Wise ESG Investment Trends

Region	Total ESG Investment (\$B)	Key Investment Areas	Regulatory Strength
Europe	\$190B	Renewable energy, Green Bonds, Sustainable infrastructure	Very High (SFDR, EU Green Bond Standards)
North America	\$160B	ESG venture capital, Climate tech, Social Finance	Moderate (SEC ESG Disclosures, but fragmented)
Asia	\$110B	Green bonds, EV production, Microfinance	Low to Moderate (China leading ESG adoption)

### 8.4. Sector-Wise ESG Investment Trends

Sector	Europe (\$B)	North America (\$B)	Asia (\$B)	Key Players
Renewable Energy	80	60	50	Deutsche Bank, JPMorgan, Axis Bank
Green Bonds	50	45	30	Deutsche Bank, Morgan Stanley, ICBC
Sustainable Infrastructure	40	35	25	ING, JPMorgan, IDBI Bank
Social Finance	20	25	15	Goldman Sachs, Morgan Stanley, IDBI Bank
Climate Tech	25	30	20	Tesla, JPMorgan, Chinese EV makers

### 8.5. ESG Risk Governance & Due Diligence in Banks

Bank	ESG Risk Management Approach	Key Risk Areas
Axis Bank	ESG Risk Management Approach	Categories project loans (A, B+, B, C) based on ESG risks
IDBI Bank	ESG Risk Management Approach	Exclusion list for unethical industries (e.g., fossil fuels, wildlife trade)
JPMorgan Chase	Climate stress testing, corporate ESG due diligence	Greenwashing risks, sectoral ESG compliance gaps
Deutsche Bank	ESG-linked credit monitoring, sustainable lending policy	Greenwashing risks, sectoral ESG compliance gaps
Goldman Sachs	Comprehensive ESG integration with a focus on social & impact investing	Balancing Risk in Social Finance and Diversity Initiatives

## 9. Findings & Discussion :

According to the research, private banks are the main ones that promote sustainable finance at the international level. They encourage and help in shifting towards green financing based on environmental, Social, and governance factors

Private-sector banks adhere to the regulatory framework and reporting standards and are leading in European nations. For example, the Deutsche Bank follows ESG standards. It effectively works in lending and investment portfolios by investing more towards issuing notable green bonds and initiatives like large-scale renewable energy to support sustainable finance globally.

Some institutions have already started taking solutions like innovation ESG-Linked and financial solutions in institutions like JP Morgan and Morgan Stanley. Investments in social finance and technology in climate conditions are the efforts taken to improve portfolio resilience and slow the risks in climate change. They have come across various tools like risk assessment tools and testing like climate stress tests. The efforts that are successful in green financing are the contribution towards the environment.

Even though the Asia Market is still developing, private banks are trying to gain strength in ESG initiatives. Banks like Axis Bank and IDBI Bank focused on contributing to renewable energy and efforts on microfinance for green financing.

Due to the unsteady regulatory standards and underdeveloped ESG practices, the banks are trying to improve green finance, which impacts socially responsible investing.

The private banks are improving their market practices and regulatory requirements throughout the locality. Risk management, which takes concerns regarding greenwashing, are the various initiatives ESG took. When considering ESG principles, factors like risk management and investment are incorporated into the ESG principles, and financial frameworks taken by private banks are always in the global transition when it comes to environmental goals and too low carbon footprints in the economy.

The final agenda of private banks is to highlight their thinking strategy in forwarding the green economy, which includes innovative green financing products and very comprehensive risk management, which enhances the financial statement of private banks and gives a broader goal to economy and sustainability in finance. Therefore, this highlights that advancement in technology and backing in regulations are multifaceted functions. So, the global economic framework always collaborates with financial entities, stakeholders, and the stock market.

## 10. Suggestions :

Global regulatory bodies ought to work together to establish a unified ESG taxonomy to address these challenges effectively. Private banks should integrate mandatory ESG risk assessments into their lending processes and enhance disclosure transparency through standardized reporting frameworks. Additionally, governments should provide incentives for issuing green bonds and ESG-linked loans, particularly in developing markets. It is essential to strengthen international collaboration among regulatory agencies, financial institutions, and ESG rating organizations to mitigate the risks of greenwashing and promote best practices in ESG compliance (Federal Reserve, 2024).

## 11. Conclusion :

Europe is at the forefront of ESG financing, while North America is making notable strides in climate technology and social finance. There has been a gradual improvement in green finance capabilities in Asia, although the region is encountering some regulatory challenges. Private banks play a vital role in integrating ESG practices by embedding sustainability into their financial operations. Future research should focus on the long-term economic impacts of ESG investments and develop strategies to tackle ESG-related risks, ultimately fostering a resilient and sustainable global economy (*Sustainability and Other Reporting*, n.d.-b).

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