





DOES ENVIRONMENTAL, SOCIAL, GOVERNANCE (ESG) INVESTMENTS INFLUENCE BANK PERFORMANCE? CROSS-COUNTRY EVIDENCE FROM EMERGING MARKETS

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Abstract

This study aims to provide a comprehensive analysis of how Environmental, Social, and Governance (ESG) practices of banks influence their financial and market performance, which are proxied by return on assets (ROA) and Tobin's Q, respectively. The sample comprises 35 banks from 11 emerging market countries over the period from 2017 to 2022. To assess this relationship, two distinct models are estimated for each performance indicator, examining both contemporaneous and lagged effects. The results reveal a negative association between ESG scores and financial performance, consistent with the predictions of the Trade-off Hypothesis in that costs associated with ESG investments may outweigh their financial benefits. This negative relationship remains robust when considering the lagged effects. However, no significant impact is found between ESG practices and market performance, as proxied by Tobin's Q, across the models tested. The findings of this study offer important insights into the role of ESG practices within the banking industry, especially in emerging economies where the adoption and implementation of these practices may be in the early phases and differ considerably among institutions.

Keywords: ESG, Banking sector, Emerging countries, Financial performance, Market performance, Panel data analysis

JEL Classification Codes: G20, G21, G30, C33, O50

1. Introduction

In the recent decades, companies' tendency towards acting in a socially responsible manner and pursuing sustainable investment practices have increased due to fast changing economic environment. As a result, both financial performance and non-financial performance – often captured through Environmental, Social, and Governance (ESG) pillars – have become essential

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concerns for economic actors. ESG score, reflecting a company's ESG performance based on publicly reported information, is derived from a combination of 10 grouped categories making up the three pillars. The environmental pillar focuses on a firm's activities related with emissions, resource usage, and environmental product innovation. The social pillar encompasses actions as to workforce, human rights, community engagement, and product responsibility. Lastly, the governance pillar is related with management, shareholders, and corporate social responsibility strategy (London Stock Exchange Group (LSEG) Methodology, 2024). In recent decades, ESG scores have gained concern and attention from investors, policy makers, and all other stakeholders alike since they demonstrate the manner companies conduct their businesses with a perspective on being socially responsible and corporate governance issues.

Banks, as key financial intermediaries, play a vital role in channeling funds from those with excess capital to those with capital shortage and good investment prospects. Thereby, they facilitate the flow of capital in the most efficient manner. As one of the most fundamental institutions in the economy, banks' attitude towards the implementation of ESG activities cannot be ignored and how banks integrate ESG practices into their financial activities is a paramount concern of investors. The ESG pillars stated above carry distinct and significant implications for the banking sector. For example, Environmental practices may shape banks' exposure to climate-related financial risks, particularly through lending to carbon-intensive industries. Social considerations, such as employee relations, customer treatment, and community engagement, play a vital role in building stakeholder trust and long-term client relationships. Finally, governance practices are central to ensuring effective risk management, enhancing transparency, and maintaining regulatory compliance that are important in a sector fundamentally based on credibility.

Accordingly, this study investigates the impact of ESG activities on both the financial and market performance of banks in emerging markets. As banks are relatively more heavily regulated, investments in ESG can prove to be an important factor to attain competitive advantage. Especially in developing countries, this situation may be more strongly pronounced and add more value to the banks due to the relatively low regulatory restrictions in these markets (Azmi et al., 2021). Furthermore, since regulations, corporate governance and transparency are weaker in emerging markets, providing a perspective from the banking sector in a cross-country setting from these markets is essential as potentially more value can be generated with ESG practices. However, as further will be detailed in the section devoted to the theoretical background, this relationship between ESG practices and performance can turn out to be negative if resources for these investments are used inefficiently.

While ESG has gained significant attention globally, there remains a limited understanding of its implications within the banking sector of developing economies. In particular, existing studies often focus on developed countries or single-country analyses, leaving a research gap regarding cross-country evidence from emerging markets where ESG adoption is still evolving. Thus, this study aims to fill this gap by examining whether ESG practices enhance or hinder bank performance in a cross-national sample of 11 emerging economies.

The layout of the study is organized as follows. Theoretical background and hypotheses formulation are presented in the next section. Literature review is provided in Section 3 followed by research design and methodology. The findings of the models utilized are displayed and evaluated in Section 5; lastly followed by concluding remarks.

2. Theoretical Review and Hypothesis Formulation

This section focuses on theories with respect to the link between ESG investments and firm performance. Preston and O'Bannon (1997) present two key opposing theories, known as the Trade-off and Social Impact hypotheses, regarding the nature of the connection between corporate social and financial performance. The Trade-off Hypothesis is a reflection of the ideas of Friedman (1970, 2007) and argues that ESG practices result in resources being inefficiently used. Being a major proponent of neoclassical theory, Friedman argues that investments in ESG activities increase costs, put firms into a competitive disadvantage, and reduce corporate performance. Thus, rather than concentrating on ESG practices, he proposes that firms should prioritize maximizing profits and wealth for shareholders. Accordingly, the predicted relationship is negative. In contrast, the relationship is expected to be positive in Social Impact Hypothesis. According to the Stakeholder Hypothesis, which supports a positive connection, the success of a business' goods and services relies on fulfilling the interests of its stakeholders. Therefore, firms are expected to enhance their performance and value when stakeholders' needs are satisfied. Moreover, it is regarded to be the managers' responsibility to enhance value for and communicate with all interested parties (Freeman, 1984; Freeman et al. 2010). Additionally, as stated by Velte (2017), if the trust of stakeholders increases, both financial and nonfinancial circumstances will be improved.

Contrarily, according to the Agency Theory; when principles (owners) delegate decision making process to an agent (manager) and make them act on their behalf, the agents' actions may not align with the interests of the principle; thus, interest discrepancies may arise (Jensen and Meckling, 1976). The costs that arise due to this misalignment of interest will be detrimental to corporate performance. Based on the fundamentals of agency theory, ESG practices can be undertaken by managers to pursue their own interests, specifically when the managers are not correctly incentivized. Thus, when resources are diverted away from shareholders, it may lead to reduction in value. In opposition, the Resource-Based View proposes that both tangible and intangible assets, which are considered key strategic resources, contribute to improved performance and a competitive advantage (Wernerfelt, 1984). According to Buallay et al. (2020), revealing both financial and non-financial resources helps firms attain superior performance. With the help of these resources, firms' capabilities and competence are improved; thus, competitive advantage can be attained. Furthermore, Azmi et al. (2021) views investments in ESG practices as strategic investments.

As stated above, contrasting predictions have been offered by theories with respect to the relationship between ESG activities of banks and their performance. Whereas a negative association is expected by the Trade-off Hypothesis and Agency Theory; Social Impact Hypotheses, Stakeholder Theory and Resource-Based View anticipate a positive relationship. As theoretical predictions are divergent, an empirical question still remains on the relationship between ESG scores and performance—particularly in the context of emerging markets where institutional structures, stakeholder expectations, and ESG maturity differ significantly from developed economies. Building on these contradictory theoretical predictions, this study aims to explore the nature of the ESG–performance relationship across both financial and market performance indicators based on a dataset of emerging market banks. Consequently, two hypotheses are formulated as follows:

H1a. There is a significant relationship between the ESG Scores and bank financial performance.

H1b. There is a significant relationship between the ESG Scores and bank market performance.

3. Literature Review

Within the scope of this array of literature; while some researchers have observed that investments in ESG related activities improve performance (Brogi and Lagasio, 2018; Alam, et al. 2022; Sain and Kashiramka, 2024), others have demonstrated the negative impact of these investments upon performance (Buallay et al. 2020; Menicucci and Paolucci, 2023; Yuen et al. 2022). Furthermore, no significant association between ESG and firm performance have been documented (Alghafes et al., 2024). Additionally, the researches that investigate this relationship for the ESG components have come up with conflicting results with respect to these individual components. A comprehensive overview of about 2,200 academic researches performed by Friede et al. (2015) reveals that around 90% of the studies document positive results as to ESG and firm performance relationship. The number of studies conducted within this array of literature for developing economies are relatively limited with respect to developed ones due to fact that the companies that disclose data as to ESG activities are limited in number and confronted with difficulties as to the quantification of ESG practices. Furthermore, within the scope of developing ones, single country studies are less in number so researchers focus mostly on multi-country and regional studies rather than single country ones due to data availability issues.

A study conducted by Brogi and Lagasio (2018) with respect to a developed market, U.S., evaluates influence of ESG investments on ROA of listed firms. The sample is divided into three sub-categories made up of banks, insurance, and industrial companies. The overall evidence reveals that ESG score contributes to financial performance of selected firms. This finding is pronounced to be stronger for the case of banks in comparison to the industrial companies. Moreover, significant differences have been documented as to industrial companies and financial institutions. Additionally, the analysis as to the components of ESG score also reveals environmental dimension to be strongly associated with bank profitability. Another study

based on the U.S. explores how ESG practices affect banks' market value and shows an inverted U-shaped association between the associated variables (Ersoy et al., 2022). One other developed country study, performed on a dataset of Italian banks, explores the impact of ESG activities and its pillars on banks' financial, operational, and market performance. ESG is found to negatively influence operational and market performance. However, analysis as to dimensions under selected pillars reveals that waste reductions and emissions improve banks' performance (Menicucci and Paolucci, 2023). Furthermore, the evidence based on developing countries have been found to be positive and significant for India and Turkey in the studies of Sain and Kashiramka (2024), Çetenak et al. (2022), and Korkmaz and Nur (2023).

A comprehensive regional study by Khoury et al. (2023), which includes data belonging to the Middle East and North Africa regions, conducted on a dataset of 46 banks evaluates the direction of the association between ESG and financial performance. The evidence shows a concave relationship in that whereas investments in ESG are found to add value to the firm at lower investment levels, the opposite is true for higher levels of investments.

With a cross-country dataset, Buallay (2019) concentrates on a total of 235 European banks and documents a significant and positive influence of ESG score on selected performance indicators. However, analysis of ESG components demonstrates varying evidence. Environmental score positively influences ROA and Tobin's Q and governance score is detected to positively affect only Tobin's Q. In contrast, the evidence with respect to social score is in opposition with its influence being negative and significant for all three performance indicators. Furthermore, governance score is also detected to negatively influence ROA and return on equity (ROE). A more extensive analysis, involving a dataset of 882 banks across 80 countries, provide evidence for a negative and significant effect of ESG on all selected performance measures as in the aforementioned study (Buallay et al., 2020). This negative relationship is further corroborated by a subsequent paper by Buallay et al. (2023) examining the banking and finance industry across seven regions and 60 countries.

Shakil et al. (2019) perform a comprehensive study on 93 emerging markets to evaluate how ESG and bank performance are related. Their findings highlight a positive and significant impact of the environmental and social dimensions on ROE, while no significant effect of governance pillar has been detected. Furthermore, none of the ESG pillars were found to have a significant influence on operational performance, as indicated by ROA. Another study conducted on 44 emerging countries documents a non-linear association between firm value and ESG. While low levels of ESG practices are found to positively influence firm value measured by Tobin's Q, high levels are observed to display diminishing returns to scale. Additionally, the evidence reveals that among the ESG components, environmental activities are found to be the most influential one on bank value (Azmi et al., 2021). Furthermore, the study of Yuen et al. (2022) takes into account the potential influence of COVID-19 on the global banking system with a focus on both developed and developing economies. The study is performed on a dataset of 487 banks compiled from 51 countries with the result that ESG activities exert a negative impact on bank profitability due to

increasing costs associated with these investments. Furthermore, a U-shaped relationship has been identified, suggesting that, over the long term, ESG activities may be positively influencing bank performance. Lastly, banks that are better in terms ESG activities are found to demonstrate superior performance during the pandemic period.

A cross-country study based on both developing and developed economies with a perspective on Islamic finance investigates how the Islamic Finance Development Indicator (IFDI) relates with ESG practices. The findings point to a positive relation between the scores of IFDI and ESG specifically for the social component (Paltrinieri et al. 2020). Another study comparing conventional and Islamic banks in the MENA region, investigating the impact of ESG practices on efficiency, finds a positive effect for both types of banks when considering the overall dataset. However, when the research question is analyzed separately on the basis of bank type, the impact is found to be insignificant for Islamic banks. While further component analysis reveals no significant impact of governance practices neither on conventional or Islamic banks, a positive influence is found for both types in the case of environmental practices. Additionally, social activities are found to contribute only to conventional bank efficiency (Alam, et al. 2022). A more recent paper conducted on 29 Islamic banks in Gulf Cooperation Council countries finds no significant influence of ESG on bank performance proxied by ROE, ROA, and Tobin's Q. However, when component analysis is applied, it is seen that each component contributes positively to only one or two of the selected performance measures (Alghafes et al., 2024).

Based on the review of literature, the direction and significance of the relationship differs as to the country, market, and the region for which the analysis is being conducted and the period under question. Even though the array of literature on ESG and firm performance is growing, gaps still exist. Since the concept of ESG is relatively more established and data is more available in developed countries, most of the studies focus on these economies. Although emerging markets have a vital and growing role in global finance with a significant potential for ESG practices, they receive relatively limited attention from researchers. Additionally, cross-country studies in the banking industry are relatively limited due to the fact that greater portion of existing literature focus on individual countries or specific sectors. Moreover, the studies evaluating the impact of ESG activities on both financial and market performance together with the potential lagged effects are also few in number. Accordingly, this study aims to fill these gaps in literature by providing a cross-country analysis in banking industry, evaluating both immediate and lagged impacts of ESG practices on banks' financial and market performance.

4. Research Design and Methodology

This section presents the sample, variables, methodology, and models employed in the study. To probe how ESG influences financial and market performance of the selected banks, panel data analysis is applied. This method is advantageous as it integrates both time series and cross-sectional data, thereby enhancing degrees of freedom, richness of the data, and its variability.

Furthermore, the method mitigates the presence of multi-collinearity and also handles with heterogeneity (Baltagi, 2001; Wooldridge, 2002).

4.1. Data Set and Variables

This study uses a population of 91 banks from 15 countries covering the years between 2017-2022. The sample is restricted to banks with the availability of ESG data in Refinitiv ESG Database formerly known as Thomson Reuters. Furthermore, the selected countries are the ones that are defined as emerging markets by the chosen database. Data for the bank-specific explanatory and control variables are obtained from Thomson Reuters. As the final sample is being constructed, the idea is to generate the largest and most recent firm-year observations as possible so that the analyses are conducted for 35 banks from 11 countries. The breakdown of the data as to countries with respect to the number of banks is provided in Table 1 below;

Table 1: The Country Breakdown of the Data

Country	Number of Banks
Brazil	2
Chile	1
Colombia	2
Indonesia	3
South Korea	4
Malaysia	6
Mexico	2
Philippines	1
Poland	5
Thailand	5
Turkey	4
Total	35

To assess the effect of ESG practices on bank performance, this study uses two key dependent variables: ROA and Tobin's Q. These metrics are employed to represent financial performance and market valuation, respectively (Bătae et al., 2021; Buallay et al., 2021; Menicucci and Paolucci, 2023; Khoury et al., 2023). ROA is computed as the ratio of net income to total assets, while Tobin's Q is derived by dividing the sum of the market value of equity and the book value of liabilities by the total book value of assets. Moreover, the explanatory variable of the study is chosen to be the combined ESG score, which comprises environmental, social, and governance pillars. Additionally, to investigate the potential lagged effects of ESG practices on performance, the ESG score is included in the model with a one-year lag.

In order to choose control variables, previous theoretical and empirical studies have been screened to identify bank specific factors that have a potential to influence financial and market performance other than ESG. Thus, control variables such as size, capital adequacy, leverage, loan to customer deposits, and cost to income are embedded into the models. Consistent with the works

of Paltrinieri et al. (2020), Menicucci and Paolucci (2023), and Lamanda and Tamásné Vőneki (2024), size is measured as natural logarithm of total assets to reveal the potential advantages of being larger due to economies of scale and market share. To control for the degree to which banks comply with capital requirement regulations, capital adequacy ratio is included in the models, calculated as total capital divided by total risk-weighted assets (Bătae et al., 2021; Menicucci and Paolucci, 2023; Lamanda and Tamásné Vőneki, 2024). To control for financial risk of the banks and degree of reliance on external financing that can influence bank risk-return profile, the ratio of total liabilities to total equity is utilized in all models as an indicator of leverage (Esteban-Sanchez et al., 2017; Ungphakorn, 2024). This control variable can be regarded as an indicator for the investment strategies of the banks as it shows the degree of using external financing for value creation (Bătae et al., 2021). Bank liquidity is captured in the models by the ratio of total loans to customer deposits to reflect liquidity risk in line with the studies of Wu and Shen (2013); Terraza (2015), Bătae et al. (2021); and Serino et al. (2024). Finally, cost to income ratio is utilized as an indicator of bank operating efficiency and is computed as the ratio of operating expenses divided by operating income (Gupta and Kashiramka, 2020; Khoury et al, 2023; Sain and Kashiramka, 2024). The variables with their abbreviations and definitions are displayed in Table 2 below.

Table 2: The Variables and Their Abbreviations

Variable	Abbreviation	Definition
<i>Dependent Variables</i>		
Return on Assets	ROA _{it}	Net income/Total assets for firm <i>i</i> at year <i>t</i>
Tobin's Q	TOBINSQ _{it}	(Total market value of equity + total book value of liabilities)/Total book value of assets for firm <i>i</i> at year <i>t</i>
<i>Explanatory Variables</i>		
ESG	ESG _{it}	Overall company score based on the self-reported information in the Environmental, Social, and Corporate Governance pillars for firm <i>i</i> at year <i>t</i>
ESGLAG	ESGLAG _{it}	Overall company score based on the self-reported information in the Environmental, Social, and Corporate Governance pillars for firm <i>i</i> at year <i>t-1</i>
<i>Control Variables</i>		
Firm Size	SIZE _{it}	Natural logarithm of total assets for firm <i>i</i> at year <i>t</i>
Capital Adequacy Ratio	CAPADQ _{it}	The ratio of total capital to total risk-weighted assets for firm <i>i</i> at year <i>t</i>
Financial Risk	RISK _{it}	Total liabilities/Total equity for firm <i>i</i> at year <i>t</i>
Liquidity	LIQ _{it}	Indicates the proportion of loans that are funded by customer deposits and is computed as net loans divided by total deposits for firm <i>i</i> at year <i>t</i>
Cost to Income Ratio	CI _{it}	Operating expenses/operating income for firm <i>i</i> at year <i>t</i>

4.2. The Models Utilized

To evaluate the effect of ESG on financial and market performance of the selected banks with respect to the hypothesis generated, the models in Table 3 are developed. As can be seen by the mathematical representations, model (1) and model (2) are generated to find the link between ESG and bank financial performance, namely ROA. Whereas model (1) evaluates this relationship by using the ESG scores, the second model takes into account the lagged effect to find out how investments in ESG issues influence financial performance of the following year. Additionally, models (3) and (4) are generated in the same manner in that they evaluate the impact of ESG on Tobin's Q as an indicator of bank market performance.

Table 3: Models in Their Functional Forms

Models	Functional Representations	Equation No
$ROA = f(\text{ESG, SIZE, CAPADQ, RISK, LIQ, CI})$	$ROA_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 SIZE_{it} + \beta_3 CAPADQ_{it} + \beta_3 RISK_{it} + \beta_3 LIQ_{it} + \beta_3 CI_{it} + \epsilon_{it}$	(1)
$ROA = f(\text{ESGLAG, SIZE, CAPADQ, RISK, LIQ, CI})$	$ROA_{it} = \beta_0 + \beta_1 ESGLAG_{it} + \beta_2 SIZE_{it} + \beta_3 CAPADQ_{it} + \beta_3 RISK_{it} + \beta_3 LIQ_{it} + \beta_3 CI_{it} + \epsilon_{it}$	(2)
$TOBINSQ = f(\text{ESG, SIZE, CAPADQ, RISK, LIQ, CI})$	$TOBINSQ_{it} = \beta_0 + \beta_1 ESG_{it} + \beta_2 SIZE_{it} + \beta_3 CAPADQ_{it} + \beta_3 RISK_{it} + \beta_3 LIQ_{it} + \beta_3 CI_{it} + \epsilon_{it}$	(3)
$TOBINSQ = f(\text{ESGLAG, SIZE, CAPADQ, RISK, LIQ, CI})$	$TOBINSQ_{it} = \beta_0 + \beta_1 ESGLAG_{it} + \beta_2 SIZE_{it} + \beta_3 CAPADQ_{it} + \beta_3 RISK_{it} + \beta_3 LIQ_{it} + \beta_3 CI_{it} + \epsilon_{it}$	(4)

In order to select the appropriate estimator for the models, Likelihood-ratio (LR) test is performed to assess the existence of unit and/or time effects. The findings demonstrate that all models except model (4) have both unit and time affects, making them two-way models. In contrast, model (4), which explores the impact of lagged ESG scores on market-based bank performance, only shows a unit effect. The determination of whether the models should use fixed or random effects is determined based on the Hausman test results. Accordingly, while models (1) and (2) have fixed affects, the other two models are found to demonstrate random effects. Furthermore, regarding associated test results, all models are found to have heteroskedasticity, autocorrelation, and cross-sectional independence. Consequently, Driscoll-Kraay standard errors are applied in the regression analysis of all four models (Tatoğlu, 2020, p. 338-339).

5. Empirical Findings

The results for models (1) through (4), which examine the relationship between bank performance and ESG practices, are presented in Table 4. Models (1) and (2) focus on financial performance, while models (3) and (4) use market performance as the dependent variable. Furthermore, the lagged relationship as to the main variables of interest, namely; performance and ESG scores is taken into account in Models (2) and (4).

Based on the findings of model (1), ESG scores are found to be negatively and significantly influencing financial performance in line with the results of Yuen et al. (2022) and Buallay et al. (2023). Regarding the control variables, only bank leverage, which is used as a measure of financial risk, and cost to income ratio that controls for banks' operating efficiency are found to demonstrate significant and negative impact on financial performance. These findings imply that while higher financial risk deteriorates ROA, a lower ratio of operating efficiency contributes to financial performance. When investigating the potential lagged effect of ESG investments on future financial performance in model (2), a similar negative and significant relationship is still observed, though with a higher coefficient. In addition to the control variables that are significant in Model (1), bank size and capital adequacy are also found to have a significant and positive effect on the selected measure of bank performance.

From a theoretical standpoint, the findings of the study for the models using ROA are parallel to the predictions of Trade-off Hypothesis. This theory suggests that investments in ESG practices incur additional costs, which can negatively impact bank performance. Thus, a negative relationship between ESG scores and financial performance is predicted consistent with the building blocks of this theory.

In contrast, with regard to the influence of ESG scores on the market performance of the banks, no significant evidence is found in Model (3). When the lagged relationship is further embedded into Model (4), it is observed that the association is still insignificant. The only significant control variable that is influential on market performance is capital adequacy, though at 10% significance level, in Model (3). Furthermore, this variable turns out to be insignificant in Model (4) with none of the variables being significant in this last model.

Table 4: The Results of the Models (1) – (4)

Method	Fixed Effects	Fixed Effects	Random Effects	Random Effects
Dependent Variable	ROA	ROA	TOBINSQ	TOBINSQ
Variables	Model (1)	Model (2)	Model (3)	Model (4)
ESG	-.01998*** (.00440)		-.00108 (.00067)	
ESGLAG		-.02958*** (.00219)		-.00026 (.00036)
SIZE	.96723 (.52222)	1.50148* (.55264)	-.00306 (.00312)	-.00241 (.00338)
CAPADQ	.03947 (.02138)	.04959* (.01907)	-.00271* (.00131)	-.00173 (.00102)
RISK	-.51259** (.19703)	-.66316** (.18193)	-.00621 (.00739)	-.00472 (.00773)
LIQ	.00000 (0.00000)	.00000 (0.00000)	.00000 (0.00000)	.00000 (0.00000)
CI	-.03317*** (.00545)	-.02850*** (.00543)	-.00037 (.00032)	-.00014 (.00022)
constant	-25.07347 (-14.7999)	-39.8663* -1.601.219	1.22277*** (.06096)	1.12101*** (.06096)
Number of observations	210	175	210	175
Number of groups	35	35	35	35
F	573.90	10479.07		
Prob>F	0.0000	0.0000		
Wald chi2			187.82	55.55
Prob > Chi2			0.0000	0.0000
Within R-squared	0.2571	0.3379		
Overall R-squared			0.0157	0.0131
legend	* $p < 0.10$;	** $p < 0.05$;	*** $p < 0.01$	
All models are regressed with Driscoll-Kraay standard errors				

6. Conclusion

This study adds to the expanding body of literature that investigates the connection between ESG scores and bank performance; namely, financial and market, with a particular focus on emerging markets. This relationship is explored on a sample of 210 bank-year observations spanning from 2017 to 2022. To test the influence of ESG scores on performance, two distinct models are estimated for each dependent variable, ROA and Tobin's Q, both with and without a lag for each performance proxy.

The study reveals that ESG scores negatively affect banks' financial performance. When the lagged effect is also taken into account, this negative relationship is still observed with a higher coefficient. This result is parallel to predictions of Trade-off Hypothesis suggesting that additional costs associated with ESG activities contribute to a deterioration in performance. In other words, the hypothesis posits that costs associated with ESG investments may outweigh their financial benefits. However, the relationship turns out to be insignificant when Tobin's Q is utilized as a measure of market performance in both of the models. These may suggest that while ESG practices influence financial outcomes, their impact on market performance may be less pronounced, or perhaps influenced by other factors not captured in this study. The results of this study provide valuable insights into the role of ESG practices within the banking sector, particularly in emerging economies, where the adoption and implementation of ESG practices may still be in the early stages and vary significantly across institutions.

From a cross-country perspective, this study adds to the literature regarding the influence of ESG practices on banking sector's performance. However, the study has some limitations. The major limitation is that the sample is relatively small, which is made up of 35 emerging market banks. This limited sample size may affect the generalizability of the results. Since the aim is to construct a balanced panel data set that is uninterrupted in terms of ESG scores to make up the largest and most recent bank-year dataset possible, the data set turns out to be limited. The main reason rests upon the fact that ESG data in Refinitive ESG Database does not have a very long and consecutive history for the emerging market case. Therefore, the lack of long-term and consistent ESG data for the banks presents a challenge, as ESG scores in emerging economies are often less comprehensive and may not fully reflect the impact of ESG activities. This fact also results in a selection bias since the banks with ESG scores may already be the ones that are larger, better governed, more performance oriented than their non-ESG-disclosing counterparts. Additionally, banks with better performance may have more resources and motivation to invest more in ESG activities, which may result in an endogeneity problem. While control variables are utilized in the models to reduce some of these problems, the same issue of endogeneity is common for most of the cross-country studies. Thus, further research could address this issue with additional analyses.

Future studies could also enhance the understanding of ESG's impact by expanding the sample to include a wider range of banks from diverse regions, as well as by examining the potential long-term effects of ESG investments on performance. Moreover, the role of specific ESG dimensions

can be individually investigated in shaping financial outcomes. The findings of this study show that ESG investments do not always result in improved financial performance for banks in emerging markets. Thus, before encouraging banks to adopt ESG practices, policymakers should deeply consider the cost–benefit balance involved. Ultimately, understanding the broader implications of ESG investments in banking could provide valuable guidance for both practitioners and policymakers aiming to address the growing importance of sustainable and responsible banking practices. Additionally, improving the standardization and transparency of ESG reporting can help ensure that such practices are more effective and comparable across institutions. Lastly, results within this array of literature will contribute to a more comprehensive understanding of how ESG activities can influence the financial outcomes of banks, particularly in regions where the adoption of ESG practices may still be evolving.

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