

ELABORATING ESG CRITERIA IN INVESTMENTS: A CAPITAL MARKETS APPROACH

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Abstract

The aim of this study is to conduct a comprehensive analysis of ESG criteria in investments, using a capital markets approach, and to investigate the potential correlation between ESG pillar scores (i.e., environmental, social, and governance) and the market value of banks. Moreover, the study seeks to identify the areas where ESG performance is most valuable and relevant. ESG investment is a contentious subject, and there are varying perspectives regarding the appropriate weight given to ESG pillars when investing and managing certain banks. The study aims to establish ESG goals and means, define, evaluate, and report ESG performance of firms, and assist investors in comprehending the significance of ESG criteria in making informed investment decisions. Finally, the study provides insights into the implications of ESG investment for businesses and the capital markets as a whole.

Methodology- To investigate the correlation of ESG scores on the market value of banks, a quantitative research methodology was employed, which involved a thematic analysis to identify and analyze relevant data. The dataset for this study was obtained from Thomson Reuters database, and it includes data from the past 10 years' operating in the Turkish and Swiss banks.

Findings- The findings of the study suggest that ESG factors have a stronger and more significant impact on the market values of Swiss banks compared to Turkish banks. The higher degree of integration and alignment between ESG concerns and market value is evident through the stronger correlations observed between ESG scores, market capitalization, and the individual pillars within Swiss banks. This implies that Swiss banks have demonstrated a better incorporation of ESG considerations into their market valuations, potentially reflecting their stronger focus on sustainability, responsible business practices, and investor demands for ESG-related performance. Overall, these empirical findings support the hypothesis that there is a positive impact of ESG scores on market value of banks.

Conclusion- In sum, the analysis involved examining the correlation between various ESG metrics and market capitalization with a positive correlation between ESG scores and market capitalization in both Turkish and Swiss banks. Specifically, the correlation matrix showed that ESG scores were positively associated with market capitalization, indicating that higher ESG scores were generally accompanied by higher market values. Furthermore, the analysis highlighted the significance of individual ESG pillars. In both Turkish and Swiss banks, the E Pillar Score, S Pillar Score, and G Pillar Score showed positive correlations with market capitalization, suggesting that environmental, social, and governance factors play a role in influencing market value.

Keywords : ESG scores, financial performance, Sustainability, Enviromental Risk, Banking

INTRODUCTION

Environmental, Social, and Governance (ESG) factors are becoming increasingly important in investment decision-making, as investors recognize their impact on a company's long-term sustainability and profitability. ESG investing involves evaluating a company's performance in these areas to inform investment decisions. From a capital markets approach, ESG criteria can help manage risk and generate long-term returns. By considering a company's environmental impact, social responsibility, and governance practices, investors can better understand its overall health and potential for growth. This approach can help investors identify companies well-positioned for success and avoid those vulnerable to ESG-related risks.

Furthermore, ESG investing is based on three core pillars: Environmental, Social, and Governance. The Environmental pillar assesses a company's impact on the environment, including carbon emissions, use of energy and renewable resources, and waste management. It also considers a company's environmental policies and compliance with regulations. The Social pillar focuses on a company's relationships with stakeholders, such as employees, customers, suppliers, and communities. It includes issues like labor standards, human rights, diversity and inclusion, and community involvement. Finally, the Governance pillar examines a company's management structure and policies, including executive compensation, board composition, shareholder rights, and transparency. Good governance ensures that a company operates with integrity and accountability and can manage risk effectively.

This article is structured as follows: Section 1 introduces ESG and its pillars. Section 2 provides a literature review, while section 3 structured about sustainability and sustainable investments. Section 4 evaluates the influence of environmental risk in the banking industry. Section 5 is about data and methodology while in section 6 we have our findings. Finally, section 7 provides a concluding section.

LITERATURE REVIEW

There is growing interest in the impact of Environmental, Social, and Governance (ESG) criteria on the market value of banks. One notable study is "ESG and financial performance: aggregated evidence from more than 2000 empirical studies" by Friede, Busch, and Bassen (2015). This meta-analysis of over 2,000 empirical studies found a positive correlation between ESG criteria and financial performance, including higher stock returns and lower cost of capital. Also, a study that sheds light on the relevance of ESG criteria for investors is "Environmental, social, and governance criteria: why investors are paying attention" by Eccles and Serafeim (2013). The authors explore the reasons why investors are increasingly incorporating ESG criteria into their investment decisions and argue that ESG performance can serve as a proxy for management quality and long-term value creation. Furthermore, a study about the relationship between ESG performance and bank market value is "ESG and bank risk-taking" by Beccalli et al. (2020). This study investigates the relationship between ESG performance and bank risk-taking and finds that high ESG performance is associated with lower risk-taking behavior by banks. The authors argue that this could be because banks with high ESG performance are more likely to have good governance practices and risk management systems in place.

Other studies have also examined the relationship between ESG criteria and bank market value, with mixed results. For instance, "ESG and financial performance: do they match for banks?" by Giamporcaro et al. (2019) finds that ESG ratings have a positive impact on bank market value, but only for certain aspects of ESG, such as governance and social criteria. One such study is "The impact of ESG performance on risk and return: evidence from European banking" by Tang and Zhou (2018). This study examines the impact of ESG performance on risk and return for European banks and finds that high ESG performance is associated with lower risk and higher return. The authors argue that investors may prefer to invest in banks with high ESG performance as they are likely to be more sustainable and resilient in the long-term. In addition, another study that is

relevant to this topic is "The impact of ESG ratings on bank lending" by Dietsch et al. (2018). This study examines the impact of ESG ratings on bank lending and finds that banks with high ESG ratings tend to lend more to environmentally-friendly and socially-responsible projects. The authors argue that this could be because banks with high ESG ratings are more likely to have a long-term perspective and take into account the environmental and social risks of their lending activities.

Overall, these studies suggest that ESG criteria can have a significant impact on the market value of banks, and that investors are increasingly recognizing the importance of ESG performance in their investment decisions. As such, it is important for banks to pay attention to their ESG practices and communicate them effectively to investors.

SUSTAINABILITY AND SUSTAINABLE INVESTMENTS

Sustainable investing is a strategy that incorporates governance, social, and environmental factors into the decision-making process for investments. Its main goal is to produce favorable results for the environment and society while also producing long-term, sustainable financial rewards. Sustainable investment, also referred to as ESG or socially responsible investing, tries to achieve a balance between financial considerations and more general environmental and social issues. ESG saw a rise in popularity in the 1980s as a result of increased concern about the effects of economic growth on the environment and people. Scholars, the media, and the general public all contributed to this interest. The Brundtland Report was published in 1987 as a result of these worries by the World Commission on Environmental and Development (WCED). This paper provided a definition of sustainable development and underlined the significance of taking future generations' demands into account in addition to the crucial role that environmental resources play in ensuring human progress and survival. It emphasized the significance of managing these resources responsibly to ensure future generations will have access to them.

Moreover, a remarkable trend that has emerged in recent years on the financial markets is sustainability. The idea behind this is to satisfy our immediate wants and demands without sacrificing the capacity of future generations to satisfy their own. Sustainability includes social and economic resources as well as natural resources, all of which are equally important to the planet. Concerns for social justice, economic advancement, and environmental conservation are all interconnected and included into the concept of sustainability as a whole. Sustainable growth has been made possible by our growing understanding of how our activities will effect future generations. Differentiating sustainability is essential for investors and businesses. In order to determine if an investment is sustainable or not, investors may establish sustainability criteria. Such requirements could act as a bar for sustainable investment. However, from a business's perspective, sustainability can be viewed as a requirement to follow rules and laws or as a way to build the company's reputation by promoting its brand. It can also be seen as a long-term business strategy because companies need to preserve the social legitimacy that their operations have an impact on.

Additionally, Socially Responsible Investments (SRI) or Environmental, Social, and Governance (ESG) investments have various definitions and are frequently used indistinguishably. The fundamental idea behind "sustainable investment" is that financial decisions should take the long view and aim to have a good influence on society and the environment. The term "sustainable investment" might, however, mean different things in different texts and circumstances. According to Davis (1973), corporate social responsibility (CSR) comprises a company's extracurricular endeavors in addition to its legal responsibilities. As a result, a business cannot be regarded as socially responsible if it only complies with the bare minimum of legal standards.

A socially conscious business, on the other hand, goes above and beyond the call of duty to uphold society. According to Caplan, Griswold, and Jarvis' (2013) study, SRI is seen from the perspective of an investor as a portfolio creation strategy that avoids particular stocks or industries through negative screening based on established ethical norms. There are various alternative definitions

of SRI, but they all require knowledge of how enterprises interact with their other, the environment, and society. The financial performance of businesses is important because it determines a company's ability to create sizable cashflows and because investment decisions are dependent on the possibility of economic returns. Therefore, there must be a benefit for businesses in the form of enhanced financial performance in order to encourage them to engage in ethical and sustainable practices.

THE INFLUENCE OF ENVIRONMENTAL RISK IN THE BANKING INDUSTRY

As climate change and other environmental risks become more severe, they can have a significant impact on a bank's default risk. Firstly, environmental risks can lead to physical damage to a bank's assets, such as buildings, equipment, and infrastructure, and disrupt its operations, leading to financial losses. For example, a bank with a large portfolio of loans to businesses in an area prone to flooding may experience significant loan defaults if a severe flood occurs and destroys the businesses' properties. Secondly, environmental risks can lead to regulatory and legal risks. Governments are increasingly implementing regulations to mitigate the negative impacts of environmental risks, and banks that do not comply with these regulations may face fines, penalties, and reputational damage. For example, a bank that funds a company involved in environmental violations may face negative publicity and legal action. Finally, environmental risks can also affect a bank's reputation, as customers, investors, and stakeholders become increasingly concerned about sustainability and environmental responsibility. Banks that are perceived as not taking adequate steps to address environmental risks may face reputational damage, leading to a loss of customers and investors.

Physical harm, legal and regulatory hazards, and reputational harm are just a few ways that environmental risks can have a big impact on a bank's default risk. For banks to effectively reduce these risks, environmental risk management must be a part of their entire risk management strategy. It is evident that environmental factors have little to no impact on banks' short-term credit risk. This is due to the ability of banks, which serve as financial intermediaries, to foresee some risks, accurately assess them in their risk models, or limit their appetite for risk in certain businesses, as well as the still-limited materialization of physical and transition risks. As a result, banks are often shielded from physical threats that directly affect the physical infrastructure of businesses. These dangers are frequently linked to the location of facilities.

In summary, banks must establish, fund, and implement an appropriate business plan with regard to both internal and external stakeholders in order to achieve sustainable development. Designing innovative solutions for industries with a high carbon footprint will be vital from the perspective of credit risk management. The environmental risk impact on banks will still be low, even with relatively passive modifications made by banks, as studies predict that some of the costs associated with climate change that first fall on banks and insurers may ultimately be passed on to their clients (BoE, 2022).

DATA AND METHODOLOGY

The study under discussion is a quantitative research project that aimed to evaluate the impact of ESG scores on market value in the Swiss and Turkish banking industries. To achieve this goal, the study utilized ESG scores provided by Thomson Reuters Eikon database for the past decade (2010-2020). Thomson Reuters ESG score database is one of the most widely used databases in both academic and business research, and its use was appropriate for this study. One of the key advantages of using Thomson Reuters ESG score database is the breadth and depth of coverage. The database employs 186 highly relevant measures and contents that are specific to various sectors and industries. Furthermore, the database covers almost 70% of the global market capitalization and includes ESG scores for around 9,000 publicly listed companies worldwide. Thus, the database's extensive coverage provides a reliable and robust dataset for the study.

The overall ESG score provided by Thomson Reuters ESG score database is a combination of three pillars: environmental, social, and governance. Each of these pillars is evaluated using ten different

ESG performance topics, and a percentile rank score approach is used to determine the final score for each company by comparing it to other companies based on the 186 measures. This approach ensures that the ESG scores are comparable across companies and sectors. To analyze the impact of ESG scores on market value of banks, the study used a correlation matrix. It is to examine the relationships between different variables related to ESG (Environmental, Social, and Governance) criteria and market value in both Turkish and Swiss banks. The correlation matrix provides a measure of the strength and direction of the linear association between pairs of variables. Moreover, the importance of a correlation matrix lies in its ability to reveal patterns and associations between variables. By examining the values of the correlation coefficients, we can identify the degree to which variables are related to each other. A positive correlation coefficient indicates a positive linear relationship, meaning that as one variable increases, the other variable tends to increase as well. Conversely, a negative correlation coefficient indicates a negative linear relationship, where as one variable increases, the other variable tends to decrease.

For this study, the correlation matrix was from the last ten years, including a total of 20 banks from Turkey and Switzerland and running these correlation matrices with E-views software using Market Capitalization (MCAP) as dependent variable, while ESG score, E Pillar score, S Pillar score and G Pillar score as independent variables. Overall, the results of this study contribute to the growing literature on ESG investing by providing empirical evidence on the impact of ESG scores on market value of banks, and by demonstrating the usefulness of a capital markets approach for understanding the materiality of ESG factors in investment decision-making. These empirical findings support the hypothesis that there is a positive impact of ESG scores on market value of banks.

FINDINGS

Based on the correlation matrix for Swiss banks, we observed the following:

- Market Capitalization (MCAP) has a moderately strong positive correlation with ESG scores (0.632284), indicating that companies with higher market capitalization tend to have higher ESG scores, In addition to a positive correlation coefficient of (0.689586) between market capitalization (MCAP) and the E pillar score. This indicates a moderately strong positive relationship between these two variables. The positive correlation suggests that as the market capitalization of Swiss banks increases, there tends to be a higher E pillar score, which reflects the environmental performance of the banks. This implies that Swiss banks with larger market capitalization may exhibit better environmental practices and performance, as captured by the E pillar score. In addition to a moderate positive correlation between MCAP and S Pillar Score (0.660566) but with a weak positive correlation between MCAP and G Pillar Score (0.449847) in Swiss banks. This indicates that as the G Pillar Score increases, there is a slight tendency for the market capitalization of Swiss banks to also increase, suggesting a possible positive association between governance performance (as measured by the G Pillar Score) and market value.
- ESG scores have a strong positive correlation with E pillar scores (0.799744), indicating a significant relationship between overall ESG performance and environmental factors. ESG scores also have a very strong positive correlation with S pillar scores (0.959808), indicating a strong relationship between overall ESG performance and social factors. Additionally, ESG scores have a strong positive correlation with G pillar scores (0.904347), indicating a significant relationship between overall ESG performance and governance factors.
- There is a positive correlation between E pillar scores and S pillar scores (0.842473) suggesting a connection between environmental and social performance.
- There is a positive correlation between E pillar scores and G pillar scores (0.603642), indicating a relationship between environmental and governance performance.
- There is a positive correlation between S pillar scores and G pillar scores (0.806236) suggesting a connection between social and governance performance.

On the whole, the correlation matrix indicates that ESG scores are positively correlated with market capitalization and have strong relationships with the individual pillars (E, S, G) of environmental, social, and governance performance for Swiss banks.

On the other hand, by examining the correlation matrix of Turkish banks, we can discern the subsequent correlation patterns:

- Market Capitalization (MCAP) shows a positive correlation with ESG Score (0.281060). This suggests a moderate positive relationship between market capitalization and the ESG factors. However, there is a weak positive correlation coefficient of (0,092559) between MCAP and E Pillar Score. This indicates a relatively low and less significant relationship between market capitalization and the environmental performance (E Pillar Score) of Turkish banks. The relationship is not strong, and there may be other factors influencing the E Pillar Score apart from market capitalization. Furthermore, there is a positive correlation coefficient of (0.220387) between MCAP and S Pillar Score. This suggests a moderate positive relationship between market capitalization and the social performance (S Pillar Score) of Turkish banks. Meanwhile, the positive correlation coefficient of (0.336236) between MCAP and G Pillar Score. This indicates a moderate positive relationship between market capitalization and the governance performance (G Pillar Score) of Turkish banks. Banks with higher market capitalization tend to exhibit stronger governance practices. That summary in Turkish banks that there is a generally positive relationship between market capitalization and ESG performance, as reflected in the ESG Score, S Pillar Score, and G Pillar Score. However, the relationship with the E Pillar Score is weaker.
- ESG Score has a positive correlation with E Pillar Score (0.734538), S Pillar Score (0.825100), and G Pillar Score (0.682057). This indicates a strong positive relationship between the overall ESG score and its individual pillar scores.
- E Pillar Score shows a positive correlation with S Pillar Score (0.587547) and a moderate positive correlation with G Pillar Score (0.340055). This suggests a positive relationship between environmental factors and social factors, as well as a moderate relationship between environmental factors and governance factors.
- S Pillar Score exhibits a positive correlation with G Pillar Score (0.217309), indicating a weak positive relationship between social factors and governance factors.

Overall, the correlation matrix highlights the interconnectedness of the ESG factors within the Turkish banking industry. Higher ESG scores are associated with higher market capitalization, indicating the growing importance of environmental, social, and governance considerations in driving financial performance and value in Turkish banks.

To summaries, the results from the correlation matrix analysis provide insights into the relationship between ESG scores and market value for Turkish and Swiss banks, addressing the research question regarding the impact of ESG scores on market value. For Turkish banks, the analysis reveals a moderate positive correlation between market capitalization and ESG scores, indicating that higher market capitalization is associated with relatively higher ESG scores. However, the correlation between ESG scores and the individual pillars (E, S, G) is generally weaker, suggesting a more nuanced relationship between ESG performance and market value. On the other hand, the correlation matrix for Swiss banks indicates a relatively stronger positive correlation between market capitalization and ESG scores compared to Turkish banks. This suggests that Swiss banks with higher market capitalization tend to have higher ESG scores. Additionally, there are very strong positive correlations between ESG scores and the individual pillars (E, S, G) in Swiss banks, indicating a significant relationship between overall ESG performance and market value.

In sum, these findings suggest that ESG scores have a more pronounced impact on the market value of Swiss banks compared to Turkish banks. The stronger correlations observed in Swiss banks between ESG scores, market capitalization, and the individual pillars indicate a higher level of integration and alignment between ESG considerations and market value.

CONCLUSION

In our study, we aimed to examine whether the ESG performance of Swiss and Turkish banks had any effect on market value of banks. We collected data on banks listed in the Thomson Reuters Eikon database for the last ten years, from 2010 to 2020, and conducted a correlation matrix

analysis with E-views software. The dependent variable in our estimation was market capitalization, while the independent variables were E Pillar score, S Pillar score, G Pillar score, and ESG scores overall. The analysis involved examining the correlation between various ESG metrics and market capitalization. The findings revealed a positive correlation between ESG scores and market capitalization in both Turkish and Swiss banks. Specifically, the correlation matrix showed that ESG scores were positively associated with market capitalization, indicating that higher ESG scores were generally accompanied by higher market values. Furthermore, the analysis highlighted the significance of individual ESG pillars. In both Turkish and Swiss banks, the E Pillar Score, S Pillar Score, and G Pillar Score showed positive correlations with market capitalization, suggesting that environmental, social, and governance factors play a role in influencing market value. The findings of the study also suggest that ESG factors have a stronger and more significant impact on the market values of Swiss banks compared to Turkish banks. The higher degree of integration and alignment between ESG concerns and market value is evident through the stronger correlations observed between ESG scores, market capitalization, and the individual pillars within Swiss banks. This implies that Swiss banks have demonstrated a better incorporation of ESG considerations into their market valuations, potentially reflecting their stronger focus on sustainability, responsible business practices, and investor demands for ESG-related performance.

In conclusion, this research focused on examining the impact of ESG scores on the market values of Turkish and Swiss banks, indicating from the results that ESG factors play a significant role in determining the market values of both sets of banks. However, there were notable differences between the two groups. Swiss banks exhibited stronger correlations between ESG scores, market capitalization, and the individual pillars, suggesting a higher degree of integration and alignment between ESG concerns and market value. This implies that Swiss banks have been more successful in incorporating ESG considerations into their market valuations, potentially reflecting their greater emphasis on sustainability and responsible business practices. On the other hand, while Turkish banks also showed correlations between ESG scores and market value, the relationships were relatively weaker. In sum, the importance of ESG factors in the banking industry and suggest that Swiss banks may have a competitive advantage in terms of their ESG performance and its influence on market value

APPENDIX

Table 1. Correlation Matrix of Swiss Banks

Source: Authors' calculations.

	MCAP	ESG_SCORE	E_PILLAR_SCORE	S_PILLAR_SCORE	G_PILLAR_SCORE
MCAP	1				
ESG_SCORE	0,632284	1			
E_PILLAR_SCORE	0,689587	0,799744	1		
S_PILLAR_SCORE	0,660566	0,959808	0,842473	1	
G_PILLAR_SCORE	0,449847	0,904347	0,603642	0,806236	1

Table 2. Correlation Matrix of Turkish Banks

	MCAP	ESG_SCORE	E_PILLAR_SCORE	S_PILLAR_SCORE	G_PILLAR_SCORE
MCAP	1				
ESG_SCORE	0,281060	1			
E_PILLAR_SCORE	0,092559	0,734538	1		
S_PILLAR_SCORE	0,220387	0,82510	0,587547	1	
G_PILLAR_SCORE	0,336236	0,682057	0,340055	0,217309	1

Source: Authors' calculations.

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