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Examine the Effect of the Environmental and Social Disclosures on Profitability: Evidence from the Turkish Banking Sector

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Abstract:

This study sought to examine the impact of environmental and social disclosure practices on financial performance and firm profitability. Data was collected from the annual statements and financial reports of twelve commercial banks listed in Bursa Istanbul. Profitability variables were determined through return on assets, return on equity, and earnings per share, concerning environmental and social disclosure information, it was measured according to GRI. Accordingly, correlation testing and regression analysis were used to identify the relationship and impact of environmental and social disclosure at the end of 2019 on the profitability of banks at the end of 2020. The results of the study indicated that there was not a significant relationship or effect of environmental and social disclosure on profitability in commercial banks listed on the Bursa Istanbul. Thus, the alteration in profitability cannot be predicted by the change in the level of environmental and social disclosure. Regarding the level of disclosure in general is good and acceptable, as it reaches the level of 58% and an average of 30% for social disclosure and a level of 60% and an average of 26% for environmental disclosure.

Keywords: Earnings per share, Environmental disclosure, Return on assets, Return on equity, Social disclosure.

(JEL) Classification: M14, M41, Q56.

1. Introduction:

Global corporations have played a significant role in reshaping environments in the domestic as well as the international domain during recent decades. Against the backdrop of their growing influence, global corporations have been facing increasing pressure to act responsibly, as well as to protect, promote and realize sustainable development (Teixeira, 2021). This has prompted corporations to balance their global activities between growth strategies and considerations of corporate social responsibility.

Sustainable development is one of the most pressing global challenges facing all of us today. Institutional investors have a fundamental role to play in this scenery by raising the pressure on firms to behave in a socially responsible way for the stakeholders they affect - both for current and future generations. Furthermore, institutional investors can use their ownership rights and they have the power to influence irresponsible firms to act more like corporate citizens (Al Maeeni et al., 2022).

Another approach to using their power is to consciously exclude firms that harm people and the planet from their investment universe. The preceding is known as socially responsible investing. In brief, socially responsible investing provides a method through which investors can promote environmentally and socially sound corporate behavior (Bushee and Noe, 2000).

There is an important increase in interest in company responsibility regarding the environment and society in recent years, and it is now regarded to be at its most prevalent representing an important topic for research. Not only has this topic received academic attention, but it is becoming a mainstream issue for many organizations that are aiming to achieve sustainability.

Stakeholders like customers, employees, social groups, Nongovernmental Organizations, providers of goods and services, governments, and shareholders have stimulated firms to invest in environmental and social responsibility. Many firms have responded positively to implementing environmental and social responsibility and responsibly offering their products and services. Furthermore, companies began to report their ethical, social, and environmental behavior.

Environmental and social disclosures are used for several purposes. One of them is that investors use these disclosures for forecasting purposes. Investors are interested in the company's future Financial Performance. For example, companies with excellent or high-quality Environmental and social reports have several benefits cost reduction of their operations, increased efficiency, communication tools with stakeholders, and benefits to the capital market. Banks are interested to give loans to companies with good CSR reports (Dhaliwal, et al., 2012).

The objective of this study is to examine the effect of environmental and social disclosures on profitability in listed banks in Bursa Istanbul, in addition, this study attempts to provide contributions to the literature on environmental and social disclosures.

2. Literature Review:

In 2010 Yang et al. mentioned in their study on the linkage between company social performance and company financial performance, they mentioned that previous empirical studies have indicated an unclear connection between social performance and financial performance. Therefore, research and development and size are adopted in their study as control variables to examine the relationship between social performance and financial performance. The companies listed in the TSEC Taiwan 50 Index and TSEC Taiwan Mid-Cap 100 Index are included as samples to analyze the link between social performance and financial performance, and regression analysis is used in this study. The outcomes of this study point out that previous social performance has a positive influence on the return on assets for the next period. In considering research and development and size, the previous social performance has a positive correlation with the latter return on assets. In addition, social performance has a negative correlation with return on equity in the financial industry, and social performance has nothing to do with financial performance in the electronic industry.

Fischer and Sawczyn in 2013 studied the relationship between corporate social performance and corporate financial performance, with an experimental study of the social disclosures of large German-listed companies, they examined the causal relationship between corporate social performance and corporate financial performance. they measure corporate social performance as an equal-weighted social performance Index based on Global Reporting Initiative's (GRI) environmental and social core key performance indicators. firm financial performance is measured by return on assets. Based on correlation and regression analyses, they find support for a positive and significant interaction between social performance and financial performance for large German listed companies.

On the contrary, in the same year, 2013 Najah and Jarboui studied the social disclosure impact on corporate financial performance. Panel data of 201 listed French firms are used in their empirical analysis covering the period from 2000 to 2010. Accounting Data were collected from the websites of firms and the Orbis Database. In the empirical analysis, regression models are developed to test the impact of social reporting on return on assets and return on equity, the results showed that there is no significant link between social disclosure and financial performance for French firms. However, a positive effect of time on this relation is discerned when there is a lag of one year for the observations.

In 2021, Batae et al. analyzed the relationship between environmental, social, and financial performance in the banking sector. Their data was collected from the Refinitiv database for 39 European banks, for the period 2010-2019. Several control variables highlighting macroeconomic aspects were collected from the World Bank statistics. The results of the study show a positive relationship between emission reductions and financial performance. However, a bank's accounting and market performance

may be at odds with its product quality and social responsibility policies.

Kuo et al. in their study in 2021 asked do corporate social responsibility practices improve financial performance. By using a multilevel practical and theoretical framework, the study selected 30 airlines with environmental and social performance indicators, out of 112 on the Thomson Reuters EIKON database, as research samples, with data spanning five years. The total sample size was 150. The study used environmental and social performance indicator data from 2012 to 2016 and short-term return on assets (ROA) as corporate financial performance data from 2013 to 2017. A multilevel quadratic growth model was used to investigate the impact of airlines' disclosure of environmental and social performance indicators. The results revealed that in the initial stages of implementation of environmental and social practices, airlines demonstrate a downward trend in return on assets. However, it gradually increases after a period of incorporation and implementation.

3. Research Problematic:

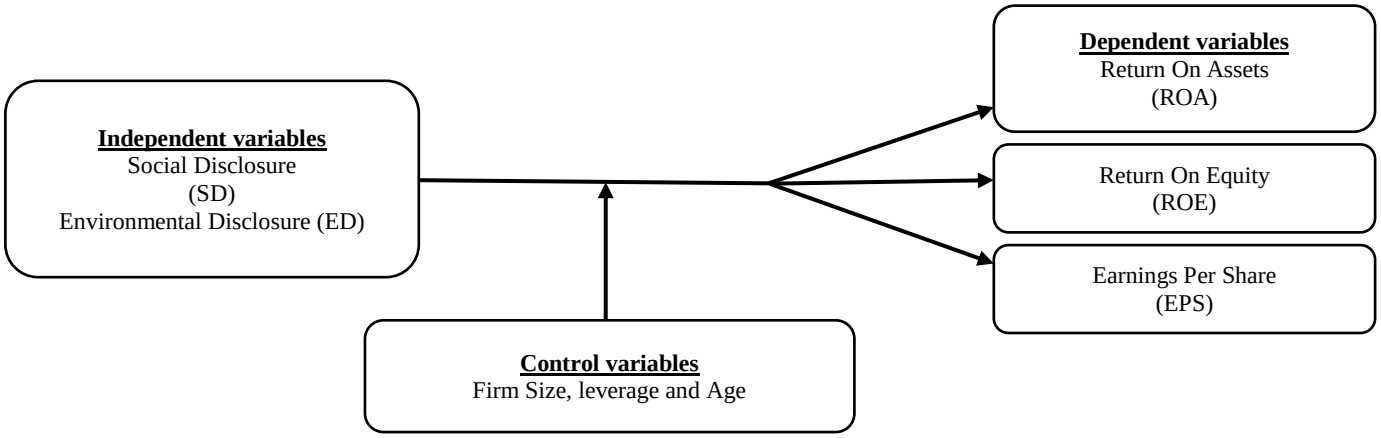
Over the past decade, several national governments in the USA and Europe have approved a series of regulations on environmental and social investments. Many laws and regulations demand firms participate in some of their CSR activities with the public through the disclosure of non-financial information (Najah and Jarboui, 2013).

Many firms make voluntary disclosures about the effects of their actions on society and the environment, and how they have managed them, leading to much interest among academics. Organizations expend time and money for voluntary CSR disclosure, so one would expect that firms gain from the decision to release such disclosures otherwise they would not choose to do so (Bowerman and Sharma, 2016).

A key problem that has bothered the literature has been the absence of in generally accepted theoretical perspective on why firms should participate in social reporting and what its effects will be on the various stakeholder groups. Thus, much of the scholarly discourse in this area was, and continues to be, philosophical in nature, examining the role of social accounting in society and organizations, and dealing with issues relating to the sustainability of the modern corporate environment. Such research raises standard questions regarding the extent to which accounting academics have to engage with and further the dispute on the environmental and societal problems caused by corporations. Some assume that the primary purpose of corporate disclosure is to 'influence perceptions regarding the future financial prospects of the firm in the minds of external, primarily financial, stakeholders' rather than to genuinely attempt to reduce environmental or social damage. There is also evidence that when disclosures are voluntary, firms will only supply a judiciously selected portion of the information that presents them in a positive light in a self-congratulatory way, which raises questions about the completeness of corporate social disclosures and a requirement for assurance of such reports (Bicer and Feneir, 2019).

According to the above and after reviewing the literature of the relevant study, this study seeks to answer the following question: Does environmental and social disclosure affect the profitability of the commercial banks listed in Bursa Istanbul?

Figure (01): The theoretical framework



4. Hypotheses:

For the investigation, and after reviewing literature related to environmental and social disclosures and profitability, the hypotheses were developed by relying on the results that have been confirmed so far. Therefore, it seems appropriate to set the hypotheses depending on the existence of an impact of the social disclosure (SOD) and environmental disclosure (END) on the profitability which is represented by Returns on Assets (ROA), Returns on Equity (ROE) and Earnings Per Share (EPS); this means there is prediction influence of the social disclosure (SOD) and environmental disclosure (END) on Returns on Assets (ROA), Returns on Equity (ROE) and Earnings Per Share (EPS), in agreement with the prevailing views. This agreement is lead us to the following hypotheses:

H1: Return on Assets is affected by the level of environmental and social disclosure.

H2: Return on Equity is affected by the level of environmental and social disclosure.

H3: Earning Per Share is affected by the level of environmental and social disclosure.

5. Research and Methodology:

5.1 Sample and Data:

The study focuses on twelve commercial banks listed in the Borsa Istanbul for financial year-ends on 31 December 2019 regarding the environmental and social information and financial year-end 2020 regarding the profitability and control variables information. These banks provide full and adequate disclosure of financial and non-financial information. Since the number of registered banks is small would not be necessary to withdraw a sample of the study, the population has been studied as a whole. The data have been compiled from annual and sustainability reports issued annually by most target banks and through published information about environmental and social practices on banks' websites.

5.2 Measurement of Variables:

The purpose of this study is to examine the social disclosure (SOD) and environmental disclosure (END) influence on returns on assets (ROA), returns on equity (ROE), and earnings per share (EPS), and the following are the methods of measuring the variables of the study:

Independent variables: The social disclosure (SOD) and environmental disclosure (END) have been measured like many previous studies by comparing annual and sustainability reports with the GRI Sustainability Reporting that offers Reporting Principles and Standard Disclosures (Nekhili et al., 2017) (Bowerman and Sharma, 2016) (Plumlee et al., 2015) (Najah and Jarboui, 2013). GRI is an independent

international institution that has led sustainability reporting since 1997. GRI helps firms and governments globally to understand and report their impact on critical sustainability issues such as human rights, climate change, governance, and social luxury.

Dependent variables: Returns on Assets (ROA), Returns on Equity (ROE), and Earnings Per Share (EPS) were identified as dependent variables in this study. According to the figures appearing in the financial statements of the banks at the end of 2020, the ROS was calculated by dividing the net income by the total assets, the ROE was calculated by dividing the net income by the total equity, and the EPS was calculated by dividing the net income on the number of common shares it has outstanding.

Control variables: Consistent with the literature related to the subject of this study as well as the nature and sample of the study, three factors were identified as control variables that have an impact in determining the impact of social disclosure and environmental disclosure on the profitability (Firm Size, leverage, and Firm Age). Firm size was measured as the natural logarithm of total assets. For statistical analysis, the natural logarithm was used instead of the real number of total assets, leverage was calculated as total debt divided by total equity, and the firm's age was measured as the difference between the annual report date and the firm establishment date.

5.3 Study Models:

The study models were prepared, and their components were identified, according to what was stated in previous studies, which were applied to different societies and economies. In this study, multiple linear regression analysis is used to address the research question and test hypotheses. The multiple regression models of the study are estimated as follows:

Model 1:

$$ROA = \alpha + \beta_1 SOD + \beta_2 END + \beta_3 Size + \beta_4 Age + \beta_5 Lev + \varepsilon$$

Model 2:

$$ROE = \alpha + \beta_1 SOD + \beta_2 END + \beta_3 Size + \beta_4 Age + \beta_5 Lev + \varepsilon$$

Model 3:

$$EPS = \alpha + \beta_1 SOD + \beta_2 END + \beta_3 Size + \beta_4 Age + \beta_5 Lev + \varepsilon$$

Where:

(ROA) is Return on Assets, (ROE) is Return on Equity, (EPS) is Earning Per Share, SOD and END are Environmental and social Disclosures, (Size) is Firm size (log of total assets), (Lev) is leverage, (Age) Firm Age and ε is the regression error term.

6. Result and Discussion:

6.1 Descriptive Analysis:

Descriptive statistics results (according to the SPSS statistical program) of END and SOD measures, dependent variables, and control variables for the sample are presented in Table 1. The means value of the END and OSD are 26% and 30% respectively in the annual reports of banks with a range from 5% to 60% for END and from 10% to 58% for SOD. These results indicate that despite there is evidence of listed banks' engagement in environmental and social disclosure practices, they do not fully disclose all items of the sustainability report (GRI). It is also evident that there is a significant difference in the size of disclosure between banks which can be seen from the big difference between maximum values and minimum values, the reason may be the absence of regulations or laws that specify or oblige banks how disclosure of.

Table (01): Descriptive statistics

Descriptive Statistics					
	N	Min.	Max.	Mean	Std. Dev.
SOD	12	10%	58%	30%	19.284%
END	12	5%	60%	26%	18.402%
ROA	12	0.30%	2.21%	1.06%	0.54719%
ROE	12	4.40%	19.49%	10.94%	3.88362%
EPS	12	0.60%	26.00%	5.88%	8.24578%
Size	12	23.95	27.30	25.91	1.37877
Lev.	12	4.60	16.80	8.46	3.83724
Age	12	33	96	62.67	20.518

Table 1 shows that the average the ROA of the banks listed in Borsa Istanbul is 1.06% with a range from 0.30% to 2.21%. The study finds that the mean value of ROE is 10.94% with a range from 4.40% to 19.49%. On average 5.88% of EPS between the highest value of 26% and the lowest value of 0.60%, it is clear that there is a big difference in the performance of banks and there is a disparity in achieving returns. This difference also appears in the financial leverage of banks (Lev), where the highest value appeared at 16.80 and the lowest value at 4.60, this means that there are differences in the banks' ability to cover their obligations, whether short or long-term. There are also differences in the ages of banks, which range from 96 years to 33 years, and the highest value shows the extent of the age and experience of the banking field in Turkey. Finally, there is no significant difference between banks in terms of size, which is represented by total assets, as the highest value appears at 27.30 and the lowest value at 23.95, taking into account, this value has been modified by natural logarithm to be valid for statistical use.

6.2 Correlation Coefficient:

To determine if there is not a linear relationship between the variables of the study, the Pearson correlation coefficient test was applied by using the SPSS program, which measures the presence and strength of a linear relationship between two variables, and its coefficients range from -1 to +1, where +1 represents the strongest direct positive relationship between two variables and -1 is the strongest inverse negative relationship between two variables, and the results of the test appeared as shown in Table 2.

Table (02): Pearson correlation coefficient

Correlations								
	SOD	END	ROA	ROE	EPS	Size	Lev.	Age
ROA	-0.163	0.078	1	.899**	0.073	-0.004	0.286	0.128
ROE	-0.226	-0.153	.899**	1	-0.003	0.057	0.143	-0.016
EPS	-0.366	-0.169	0.073	-0.003	1	-0.323	-0.357	-0.178
*. Correlation is significant at the 0.05 level (2-tailed).								
**. Correlation is significant at the 0.01 level (2-tailed).								

Through Table 2, we can be noted that there is a very weak and negative relationship between the three variables of profitability and social disclosure, and the largest coefficient appears at the earnings per share -0.366 and the smallest coefficient at the return on assets -0.163. As for the environmental

disclosure, the relationship is almost non-existent with return on assets, also weak and negative with return on equity and earning per share. With the rest of the variables, we notice that there is no strong correlation between the profitability variables and other controlling variables, but there is a positive and strong relationship between the return on assets and the return on equity with a coefficient of 0.899.

6.3 Regression Analysis:

The linear regression analysis is used to estimate the relationship between dependent and independent variables. The analysis was applied to the three models that were developed to examine the relationship and the influence of environmental and social disclosure on the variables of profitability.

Table (03): Results of linear regression analysis (Model 1)

Coefficients[a]							
Model		Unstandardized Coefficients		t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error			Lower Bound	Upper Bound
1	(Constant)	**-0.136**	5.058	-0.027	**0.979**	-12.513	12.240
	SOD	**-0.008**	0.014	-0.573	**0.587**	-0.044	0.027
	END	**0.007**	0.018	0.389	**0.711**	-0.037	0.050
	Size	**0.022**	0.205	0.106	**0.919**	-0.480	0.524
	Lev.	**0.050**	0.060	0.829	**0.439**	-0.097	0.197
	Age	**0.004**	0.015	0.282	**0.787**	-0.033	0.042
a. Dependent Variable: ROA							

Table 3 shows the results of the regression analysis of the first model of return on assets ($ROA = \alpha + \beta_1 SOD + \beta_2 END + \beta_3 Size + \beta_4 Age + \beta_5 Lev + \varepsilon$).

According to the regression analysis test results and shown in Table 3, the coefficient for the correlation of the social disclosure variable with the return on assets appears with a negative and very weak value of -0.008, this correlation has no statistical significance as can be seen from the p-value statistics of 0.587, which is greater than the significance level of 0.05. Likewise, concerning the correlation between environmental disclosure and return on assets, it appears positive and very weak, with a coefficient of 0.007, which also has no statistical significance as can be seen from the p-value statistics of 0.711, which is greater than the significance level of 0.05.

Based on these results, the study failed to reject the null hypothesis, and reject the first hypothesis of the study (H1) which predicted that the return on assets is affected by the level of social disclosure and environmental disclosure.

Table (04): Results of linear regression analysis (Model 2)

Coefficients[a]							
		Unstandardized Coefficients				95.0% Confidence Interval for B	
Model		**B**	Std. Error	t	**Sig.**	Lower Bound	Upper Bound
2	(Constant)	**-5.291**	37.872	-0.140	**0.893**	-97.960	87.377
	SOD	**-0.042**	0.108	-0.392	**0.709**	-0.307	0.222
	END	**-0.011**	0.133	-0.083	**0.937**	-0.337	0.315
	Size	**0.627**	1.536	0.408	**0.697**	-3.132	4.387
	Lev.	**0.184**	0.450	0.408	**0.697**	-0.918	1.285
	Age	**0.000**	0.116	-0.002	**0.998**	-0.283	0.283
a. Dependent Variable: ROE							

Table 4 shows the results of the regression analysis of the second model of return on equity (ROE = $\alpha + \beta_1$ SOD + β_2 END + β_3 Size + β_4 Age + β_5 Lev + ε).

Based on the regression analysis test results, and what appears in Table 4, the coefficient for the correlation of return on equity appears a negative and very weak value with both environmental and social disclosure (-0.042 and -0.011 respectively), this correlation has no statistical significance as can be seen from the p-value statistics with the two variables (SOD 0.709, END 0.937) which are greater than the significance level of 0.05.

As a result, the study failed to reject the null hypothesis, and reject the second hypothesis of the study (H2) which predicted that the return on equity is affected by the level of social disclosure and environmental disclosure.

Table 5 shows the results of the regression analysis of the third model of earning per share (EPS = $\alpha + \beta_1$ SOD + β_2 END + β_3 Size + β_4 Age + β_5 Lev + ε).

Table (05): Results of linear regression analysis (Model 3)

Coefficients[a]							
		Unstandardized Coefficients				95.0% Confidence Interval for B	
Model		**B**	Std. Error	t	**Sig.**	Lower Bound	Upper Bound
3	(Constant)	**108.799**	53.712	2.026	**0.089**	-22.629	240.228
	SOD	**-0.228**	0.154	-1.487	**0.188**	-0.604	0.147
	END	**0.116**	0.189	0.613	**0.562**	-0.346	0.577
	Size	**-3.255**	2.179	-1.494	**0.186**	-8.587	2.077
	Lev.	**-1.532**	0.638	-2.399	**0.053**	-3.094	0.031
	Age	**-0.031**	0.164	-0.187	**0.858**	-0.432	0.371
a. Dependent Variable: EPS							

Depending on the regression analysis test results in Table 5, the coefficient for the correlation of the social disclosure variable with the earning per share appears with a negative and weak value of -0.228, this correlation has no statistical significance as can be seen from the p-value statistics of 0.188, where it is greater than the significance level of 0.05. Also, regarding the correlation between environmental disclosure and earnings per share, it appears positive and weak, with a coefficient of 0.116, which also has

no statistical significance as can be seen from the p-value statistics of 0.562, which is greater than the significance level of 0.05.

According to these results, the study failed to reject the null hypothesis, and reject the third hypothesis of the study (H3) which predicted that the earnings per share are affected by the level of social disclosure and environmental disclosure.

6.4 Study Results:

Depending on what was used for analyses and statistical tests, the study found the following results:

1- The level of practice of environmental and social disclosure in commercial banks listed in Bursa Istanbul is good and acceptable, especially because it is considered voluntary and non-binding, as it reaches the level of 58% and an average of 30% for social disclosure and the level of 60% and an average of 26% for environmental disclosure.

2- The results showed that there is no correlation between the independent variables (SOD and END) and the dependent variables (ROS, ROE, and EPS) in the existence of a group of controlling variables represented by firm size (log of total assets), leverage and firm Age.

3- The study proved that there is no relationship or effect of environmental and social disclosure on the profitability variables represented in ROS, ROE, and EPS. Thus, the change in profitability cannot be predicted by the change in the level of environmental and social disclosure.

4- The results of the study are consistent with the results of the study (Najah and Jarboui, 2013), which found that there is no relationship or impact of the social performance of firms on financial performance. Otherwise, the study contradicts the rest of the studies, and the reason may be the difference in the culture of society and its lack of awareness of the importance of what firms do to reduce their negative influence on society.

5- Through the results of the regression analysis test for the three study models, which are shown in Tables 1, 2, and 3, we can notice a decrease in the correlation coefficients for the rest of the controlling variables and the absence of a statistical significance for the relationship between these variables and the profitability variables.

7- Conclusion:

Recently, there are increasing demands in developed societies that firms pay attention to social responsibility practices and increase disclosures about their environmental and social role. This study sought to test the impact of environmental and social disclosure practices on financial performance and corporate profitability. Data was collected from the annual statements and financial reports of twelve commercial banks listed in Bursa Istanbul. Profitability variables were determined through return on assets, return on equity, and earnings per share and their data were collected according to the financial statements published for the year 2020. Environmental and social disclosure information was measured according to GRI, and the information published in 2019 was determined. Accordingly, correlation testing and regression analysis were used to identify the relationship and impact of environmental and social disclosure at the end of 2019 on the profitability of banks at the end of 2020. The results of the study were contrary to many previous studies applied in different societies, where the results indicated that there was not a significant relationship or effect of environmental and social disclosure on profitability in commercial banks listed on the Bursa Istanbul. Thus, the change in profitability cannot be predicted by the change in the level of environmental and social disclosure.

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