Sustainability and financial performance relationship: international evidence

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Abstract

Purpose – The purpose of the article is to examine the relationship of corporate sustainability to firm financial performance by presenting international data.

Design/methodology/approach – The sample includes non-financial companies from five emerging economies known as BRICS for a five-year period of 2014–2018. The study uses the ESG (environmental, social, governance) scores from Sustainalytics database and financial data from company reports. Panel regression models are developed to figure out the relationship.

Findings – The results of the article revealed that there is a positively significant relationship between sustainability performance and financial performance. Total ESG score has produced significant results while the individual scores of environmental, social, and governance have produced insignificant results; implying that the components of total ESG score have a joint effect on the financial performance.

Practical implications – The results of the article have important practical implications for companies. Engagement in sustainable business practices will help improve the financial performance. In addition, the companies should be active in all components of sustainability.

Originality/value – The article contributed empirical evidence for sustainability-financial performance relationship by using the international evidence from five emerging economies.

Keywords Sustainability, Financial performance, Emerging economies

Paper type Research paper

Introduction

Sustainability has become a commonly and frequently used concept in business and academic environments. Even though it is mostly associated with the economy of a country or global economy as a whole, it has also a very important dimension which is related to corporations. Sustainability and sustainable practices are linked to the concept of "sustainable development" which was defined by UN World Commission on Environment and Development as "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs." As this definition implies, it is about the development which affects both the current and the future generations. Governments and their economic, environmental and social policies have a crucially important role and impact to achieve such a development. Similarly, corporations also have very important roles and responsibilities to contribute the sustainable development of their nations and the world. Traditionally, it was assumed that the corporations are responsible against their shareholders and the primary objective of the managers is to maximize the wealth of the shareholders. However, in the last decades, it has been becoming more and more dominant that the corporations are responsible against a wider group of stakeholders and they have some other responsibilities, which is known as corporate social responsibility (CSR), even though there are several concepts referring to the same idea, such as corporate citizenship, triple bottom line, etc. The main theory behind this idea is stakeholder theory (Freeman, 1984), the corporations must consider the needs and expectations of all stakeholders in their processes and decisions. Having and sustaining good relationships with internal and external stakeholders help improve operational and financial performance.

This approach is basically against the Friedman's (1970) proposition describing the primary objective of the corporations as shareholder wealth maximization. Corporate sustainability is another concept which aims to emphasize the wider responsibilities of corporations and defined as a holistic and multidisciplinary approach to creating value in social, environmental and economic spheres in a long-term perspective, supporting greater responsibility (Ashrafi et al., 2018). As in the case of CSR, a question arises about the pros and cons of corporate sustainable practices regarding the impact on corporate financial performance: "*Do the corporations' sustainability practices have a positive or negative effect on the financial performance?*" In other words, whether adopting and implementing sustainability practices benefiting or harming the shareholders is of great importance. There are several empirical studies searching for the answers to such questions in different contexts.

There are several theories which attempted to explain the relationship sustainability performance and financial performance, namely resources-based view (RBV) theory, agency cost theory, slack resources theory and stakeholder theory among some others. The stakeholder theory has been widely accepted and used in the empirical studies. The stakeholder theory states that a corporation has responsibilities to a wide group of stakeholders (Freeman, 1984; Donaldson and Preston, 1995) and meeting the needs and the expectations of the stakeholders can improve the financial performance. If the corporation meets the requirements of external and internal stakeholders by adopting sustainability practices, external stakeholders offer their resources to the corporation and internal stakeholders provide a more productive contribution. Therefore, stakeholder engagement and satisfying the stakeholder, and use of corporate social responsibility are all expected to result in a better long-term financial performance. (Roberts, 1992; Clarkson, 1995; Jones, 1995; Barnett, 2007; Perrini et al., 2011; Chtourou and Triki, 2017; Velte, 2017).

In this article, we adopt the stakeholder theory and aim to find an answer to this question by using the data of five emerging economies known as BRICS, involving Brazil, Russia, India, China, and South Africa. Most of the studies on CSR and sustainability have focused on developed economies. Our article aims to provide empirical evidence from emerging economies.

The remainder of the article is organized as follows: the next section provides a short overview of the relevant literature. Section 3 gives the details about the sample, data and methodology. Section 4 provides descriptive statistics and the results of empirical analyses. The last section makes a conclusion on findings.

Literature review

The prior literature about the impact of sustainability factors on financial performance overlaps with the studies about corporate social responsibility (CSR) because sustainability and CSR are closely related; even sometimes they are used interchangeably. The studies which use the concept of sustainability mostly focus on the three dimensions, namely, environmental, social and governance. Due to the fact that these dimensions are also considered as the elements of CSR performance, sustainability studies refer to CSR related literature. Similarly, we focus on primarily on sustainability research but also refer to some CSR studies. There is a very immense literature on sustainability or social performance and financial performance relationship. We refer to meta-analysis studies in order to summarize the findings more effectively, as well as to some specific, individual studies.

The discussion about the responsibilities of corporations is not a new issue, and goes back to many decades ago, but one of the important milestones is Friedman's (1970) proposition, which states that the only responsibility of the business is to make economic gains to increase the wealth of shareholders. However, this approach has been criticized and the opposite view has gained an increasing dominance. The view stating that the business is not only responsible against shareholders, but also against a wider group of stakeholders is known as

stakeholder theory (Freeman, 1984). It claims that good relationships with stakeholders including customers, suppliers, employees, etc. is more beneficial for the success and survival of the business. Companies are not only responsible for and concerned with economic aims but also they have several social and environmental responsibilities and they are concerned with the effect of their activities on social and environmental issues (Maas and Reniers, 2014). They are expected to integrate sustainable business practices into their operations for the benefit of stakeholders and also they are expected to make disclosures about those practices and their performance in this sense. The activities or engagements in the context of CSR and sustainability requires investment of funds such as investing for a more environmentally responsible production system or making donations for the local community, etc. The question which attracted a great attention is whether those practices benefiting or harming the financial performance.

Sustainability and sustainable development concepts are mostly used in country and global economy level, but it is also applicable to corporations. Dyllick and Hockerts (2002) defined corporate sustainability by converting the idea in global level to corporate level as "meeting the needs of a company's direct and indirect stakeholders (employees, clients, pressure groups, communities, etc.), without compromising its ability to meet the needs of future stakeholders as well."

The level and quality of the engagements of corporations in sustainable business practices is referred to as corporate sustainability performance, which is a similar concept to corporate social performance. Corporate sustainability performance is measured by different tools in the literature. Some ratings calculate a ESG score which has three components of environmental, social and governance. The effect of each component can be at different levels (Statman and Glushkov, 2009; Friede et al., 2015). Humphrey et al. (2012) states that the use of individual scores for each dimension is better for the analysis of the effect on financial performance because a company might engage in each component of ESG at different levels due to the differences in several factors such as country and stakeholder pressures.

Many studies reported different results about the relationship between sustainability/ social performance and financial performance. There are mixed results for the relationship between sustainability and financial performance in the literature. Some studies reported that there is a negative relationship between sustainability practices and profitability ratios (López, 2007; Branco and Rodrigues, 2008; Lee et al., 2009) while some others reported a positive relationship (Waddock and Graves, 1997; Wagner, 2005; Artiach et al., 2010; Cheung, 2011; Eccles et al., 2014; Cahan et al., 2015; Wang and Sarkis, 2017). There are also studies which reported no significant relationship (Statman, 2006; Galema et al., 2008; Garcia-Castro et al., 2010; Surroca, 2010).

Some studies reported no linkage of CSR to improved performance; this situation mainly stems from the difficulties in the measurement of specific results expected from a specific investment and due to the fact that there is no such a tool to quantify the effects of investments such as CSR (Foote et al., 2010). Some studies claimed that the companies engaging in sustainability activities and initiatives should regard them as a strategic investment and should implemented provided that they benefit the company in the long run (McWilliams and Siegel, 2001; McWilliams et al., 2006).

Endrikat et al. (2014) conducted a meta-analytic review covering 149 studies and found that the relationship between environmental performance and financial performance is positive and partially bidirectional and also stronger in case of a proactive strategic approach.

Hang et al. (2019) made a meta-analysis of 142 studies about environmental performance and financial performance relationship and causality effects between them. They concluded that the causality depends on the time horizon; the financial resources owned by the firm can increase environmental performance in the short run, but this effect disappears in the long run.

Wagner (2010) analyzed the association of corporate sustainability performance with economic performance by considering the moderating effects of some factors for S&P 500 firms' data from 1992 to 2003. The study showed that advertising intensity is found to be a moderating factor in the relationship of sustainability and economic performance, but there is no moderating effect of research and development activities. Artiach et al. (2010) investigated the determinants of higher corporate sustainability performance for S&P 500 firms by using Dow Jones Sustainability Index (DJSI) as a proxy. They concluded that the firm size, level of growth and profitability are significant factors; however, having greater free cash flows and lower leverage are not significant.

Atan et al. (2018) examined the impact of environmental, social and governance factors on several financial indicators such as profitability, cost of capital and firm value for public limited companies in Malaysia for the 2010–2013 period. They concluded that sustainability factors do not have any impact on profitability and firm value individually or combined. The impact on cost of capital is significant as combined, whereas individual factors do not have any significant effect.

Laskar and Gopal Maji (2018) analyzed the impact of corporate sustainability on firm performance in four Asian countries including Japan, South Korea, Indonesia, and India by using the disclosures made for the calculation of corporate sustainability performance. They found out that the level and quality of sustainability disclosures have a positive impact on firm value which was measured by market to book ratio.

Duque-Grisales and Aguilera-Caracuel (2019) examined the association of financial performance with ESG scores for multinational companies from five Latin American countries including Brazil, Chile, Colombia, Mexico and Peru for the 2011–2015 period. They found negative relationship for both total ESG score and the components of the score separately, also concluded that financial slack and geographical international diversification have a moderating effect on the relationship.

Brooks and Oikonomou (2018) studied an extensive literature review on ESG disclosures and the effects on financial performance and firm value. They found out that the relationship is a positive significant, but it is economically modest at the firm level. In addition, the relation to several types of financial risk is a strong negative one and it is observable in different markets and asset classes.

Data and methodology
Sample and data
The sample is composed of the non-financial companies from several sectors in five emerging economies, known as BRICS which includes Brazil, Russia, India, China and South Africa. The time period for the data is the five-year period from 2014 to 2018. The driving factor in the composition of the sample was the availability of ESG scores. The first step was the collection of sustainability data and the second step was the collection of financial data for the companies having sustainability data. The companies with the data for the five-year period are included in the sample, and the companies with any missing data are excluded. Table 1 shows the number of companies from each country.

Country	No. of companies
Brazil	23
Russia	10
India	51
China	8
South Africa	17
Total	*109*

Table 1.
Sample companies by country

Variables
Dependent variables. The dependent variable is the financial performance, which is measured by several financial ratios. In order to analyze the effect of sustainability on financial performance, we developed different models in which a different financial performance ratio is used as the dependent variable; namely Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM) and Operating Profit Margin (OPM). The ratios are calculated by using the financial statements prepared according to International Financial Reporting Standards (IFRS) denominated in US dollars. This eliminates the problems which may raise the differences due to national accounting treatments and enables the comparisons among different countries.

Independent variables. The independent variable is the sustainability performance, which is measured ESG scores. ESG stands for Environment, Social, and Governance. There are four scores: total ESG score and a score for each of the components of total ESG score. The scores are obtained from Sustainalytics which is the leading independent global provider of ESG and corporate governance research and ratings to investors.

Control variables. In the models, we used several control variables in order to eliminate the effects of other factors and to find out the impact of sustainability on financial performance. These control variables include leverage, size, GDP growth rate and Human Development Index (HDI). Leverage is measured by total debt/total assets ratio and included to reflect the financial risk level of the company. Size is measured by the natural logarithm of total assets and included to reflect the effect of company size. GDP growth rate is the year-over-year change in the country's gross domestic product and included to reflect the effect of country's general economic development. Human Development Index is a measure used by United Nations Development Programme (UNDP), which takes into consideration the factors such as life expectancy, education and income per capita. HDI is included as a control variable to reflect the effect of those country-level factors.

Methodology and models
The methodology of this study is based on stakeholder theory. The stakeholder theory proposes that the corporation needs to meet the needs and expectations of internal and external stakeholders. Environmental, social and governance (ESG) practices are regarded as the stakeholder engagement in order to satisfy those expectations, which, in turn, provide a better financial performance. Therefore, a positive relationship is expected between sustainability performance and financial performance.

The dataset used in the study is a panel dataset, which covers cross-sectional and time-series data for the sample companies. We developed several models in which a financial performance ratio is the dependent variable and Total ESG score or the component scores are the independent variables and run panel regressions in order to find out the impact of sustainability performance on the financial performance. The models are divided into two groups. In Group 1, Total ESG score is used as the independent variable and In Group 2, environmental, social and governance scores are used as independent variables.

Group 1. The models are listed here:

Model 1: $\text{ROA} = \beta_0 + \beta_1 \text{TESG}_{i,t} + \beta_2 \text{LEV}_{i,t} + \beta_3 \text{SIZE}_{i,t} + \beta_4 \text{GDPGR}_{i,t} + \beta_5 \text{HDI}_{i,t} + \varepsilon_{i,t}$

Model 2: $\text{ROE} = \beta_0 + \beta_1 \text{TESG}_{i,t} + \beta_2 \text{LEV}_{i,t} + \beta_3 \text{SIZE}_{i,t} + \beta_4 \text{GDPGR}_{i,t} + \beta_5 \text{HDI}_{i,t} + \varepsilon_{i,t}$

Model 3: $\text{OPM} = \beta_0 + \beta_1 \text{TESG}_{i,t} + \beta_2 \text{LEV}_{i,t} + \beta_3 \text{SIZE}_{i,t} + \beta_4 \text{GDPGR}_{i,t} + \beta_5 \text{HDI}_{i,t} + \varepsilon_{i,t}$

Model 4: $\text{NPM} = \beta_0 + \beta_1 \text{TESG}_{i,t} + \beta_2 \text{LEV}_{i,t} + \beta_3 \text{SIZE}_{i,t} + \beta_4 \text{GDPGR}_{i,t} + \beta_5 \text{HDI}_{i,t} + \varepsilon_{i,t}$

Group 2.

Model 5: $\text{ROA} = \beta_0 + \beta_1 \text{ENVS}_{i,t} + \beta_2 \text{SOCS}_{i,t} + \beta_3 \text{GOVS}_{i,t} + \beta_4 \text{LEV}_{i,t} + \beta_5 \text{SIZE}_{i,t}$
$$+ \beta_6 \text{GDPGR}_{i,t} + \beta_7 \text{HDI}_{i,t} + \varepsilon_{i,t}$$

Model 6: $\text{ROE} = \beta_0 + \beta_1 \text{ENVS}_{i,t} + \beta_2 \text{SOCS}_{i,t} + \beta_3 \text{GOVS}_{i,t} + \beta_4 \text{LEV}_{i,t} + \beta_5 \text{SIZE}_{i,t}$
$$+ \beta_6 \text{GDPGR}_{i,t} + \beta_7 \text{HDI}_{i,t} + \varepsilon_{i,t}$$

Model 7: $\text{OPM} = \beta_0 + \beta_1 \text{ENVS}_{i,t} + \beta_2 \text{SOCS}_{i,t} + \beta_3 \text{GOVS}_{i,t} + \beta_4 \text{LEV}_{i,t} + \beta_5 \text{SIZE}_{i,t}$
$$+ \beta_6 \text{GDPGR}_{i,t} + \beta_7 \text{HDI}_{i,t} + \varepsilon_{i,t}$$

Model 8: $\text{NPM} = \beta_0 + \beta_1 \text{ENVS}_{i,t} + \beta_2 \text{SOCS}_{i,t} + \beta_3 \text{GOVS}_{i,t} + \beta_4 \text{LEV}_{i,t} + \beta_5 \text{SIZE}_{i,t}$
$$+ \beta_6 \text{GDPGR}_{i,t} + \beta_7 \text{HDI}_{i,t} + \varepsilon_{i,t}$$

where;

ROA: Return on Assets

ROE: Return on Equity

OPM: Operating Profit Margin

NPM: Net Profit Margin

TESG: Total ESG Score

ENVS: Environmental Score

SOCS: Social Score

GOVS: Governance Score

LEV: Leverage

SIZE: Firm Size

GDPGR: Gross Domestic Product Growth Rate

HDI: Human Development Index

The results of analyses and findings
Descriptive statistics
Table 2 provides the descriptive statistics for the variables. Total ESG score and its components (environmental, social, governance scores) are measured out of 100. The average TESG score for the sample is 61.51 with a minimum of 40 and a maximum of 95. The components have the average values ranging from 59 to 66. These scores show that sample companies have a moderate sustainability performance in overall. Regarding the financial performance variables, ROA has an average of 8% with a minimum of −31% and with a maximum of 32%. ROE has an average of 16% with a minimum of −255 % and a maximum of 294%. There is higher level of variability in ROE because it partly depends on the capital structure of the companies; those with a small amount of equity may have a higher value of ROE. NPM has an average of 11% with a minimum of −55% and a maximum of 185%. OPM has an average of 17% with a minimum of 52% and a maximum of 69%. The greater variability in NPM can be explained by the fact that it includes all operating and

Variable	Mean	SD	Min	Max	Skewness	Kurtosis
TESG	61.51	10.99	40	95	0.483	2.664
ENVS	61.14	13.31	31	100	0.334	2.766
SOCS	59.22	12.70	31.49	98.18	0.383	2.728
GOVS	66.38	11.93	37	100	0.169	2.595
ROA	0.08	0.08	−0.31	0.32	0.028	5.004
ROE	0.16	0.25	−2.55	2.94	0.060	59.385
NPM	0.11	0.15	−0.55	1.85	4.393	53.260
OPM	0.17	0.13	−0.52	0.69	−0.061	5.738
LEV	0.52	0.18	0.02	0.98	0.022	2.403
SIZE	23.34	1.35	19.36	26.46	−0.231	3.021
GDPGR	0.04	0.04	−0.04	0.08	−0.521	1.871
HDI	0.70	0.07	0.62	0.83	0.383	1.821

Note(s): No. of Observations: 545

Table 2.
Descriptive statistics

non-operating items while OPM reports only operating profit. Leverage (LEV) has an average of 52% with a minimum of 2% and a maximum of 98%. Even though there are some companies either almost all equity financed or almost all debt financed, the sample has an equally balanced capital structure on average. SIZE which is measured as the natural logarithm of total assets has an average of 23.34 with minimum of 19.36 and a maximum of 26.46, there is no a big variation in size of sample companies. GDP growth rates of the countries range from −4% to 8% during the study period. HDI is also a country level variable which has an average of 70% with a minimum of 62% and a maximum of 83%.

Pairwise correlations
Pairwise correlations among the variables are given for the groups in Table 3 and 4. They are reported separately due to the high correlations between TESG and its components; this is the case because TESG is dependent on the scores in the component scores.

Panel regression results
Table 5 reports the panel regression results for the models in Group 1, in which Total ESG score is independent variable. In this group of models, we used four profitability ratios as dependent variables, namely ROA, ROE, OPM and NPM.

The panel regression results in the table above reveal that Total ESG score has a significant effect on the profitability measures of ROA and ROA; however it produces

	TESG	ROA	ROE	NPM	OPM	LEV	SIZE	GDPGR	HDI
TESG	1								
ROA	0.143*	1							
ROE	0.147*	0.673*	1						
NPM	0.002	0.622*	0.415*	1					
OPM	0.040	0.506*	0.340*	0.592*	1				
LEV	0.0007	−0.443*	−0.028	−0.303*	−0.260*	1			
SIZE	−0.114*	−0.391*	−0.173*	−0.055	−0.031	0.344*	1		
GDPGR	−0.127*	0.238*	0.061	0.014	−0.047	−0.141*	−0.284*	1	
HDI	−0.066	−0.237*	−0.093*	−0.008	0.029	0.091*	0.318*	−0.774*	1

Note(s): *: significant correlations at 5%

Table 3.
Pairwise correlations among TESG and other variables

	ENVS	SOCS	GOVS
ENVS	1		
SOCS	0.643*	1	
GOVS	0.522*	0.578*	1
ROA	0.194*	0.083	0.085*
ROE	0.182*	0.096*	0.086*
NPM	0.029	−0.009	0.018
OPM	0.047	0.043	0.039
LEV	−0.045	0.044	−0.006
SIZE	−0.071	−0.128*	−0.099*
GDPGR	0.000	−0.162*	−0.200*
HDI	−0.120	−0.005*	−0.038
Note(s): *: significant correlations at 5%			

Table 4.
Pairwise correlations among ENVS, SOCS, GOVS, and other variables

insignificant results for OPM and NPM. The overall fit of the models which is depicted by Prob (F) is significant. R^2 values are between 9.7 and 29.15%.

In the first model, Leverage, Size and GDP growth rate have significant results, but Human Development Index is not significant. In the second model, only SIZE is the significant control variable. The third and fourth model, Leverage was found to be a significant coefficient. The significant results for leverage have negative coefficients; it implies that the companies with lower level of leverage would have higher profitability ratios. Similarly, the significant results for size have negative coefficients; it implies that the smaller companies would have better financial performance. The results of Hausman test which is used to decide between fixed effects model and random effects model indicated that random effects for model 1, 2 and 3, but fixed effects for model 4.

Table 6 reports the panel regression results for the models in Group 2, in which ENVS, SOCS and GOVS are independent variables. In this group of models, we used four profitability ratios as dependent variables, namely ROA, ROE, OPM and NPM.

Similar to the Group 1 models, the overall fit of the models (Prob(F)) in Group 2 is significant. R^2 values are between 9.55 and 37.17%. The results showed that components of ESG score do not have significant effects on the profitability ratios with some exceptions. In model 5, all components of ESG score produced insignificant results, however control variables, leverage, size and GDP growth rate have significant coefficients. In model 6, SOCS is significant at 1% and GOVS is significant at 10% level and only size has significant coefficient. In model 7, only SOCS produced significant result. In model 8, all components of ESG score have insignificant coefficients. Leverage is the only significant control variable in models 7 and 8. The coefficients of significant results for leverage and size are negative, similar to the findings in group 1.

Conclusion

This article aimed to investigate whether ESG factors have significant effects on the financial performance of the companies. We run two groups of models; total ESG score is the independent variable in the first group while the individual scores or the components of ESG score, namely environmental, social, and governance are the independent variables in the second group. We used four profitability ratios in both groups as the dependent variables, namely ROA, ROE, OPM and NPM. The overall conclusion of the results is that total ESG score produced mostly significant results, however individual scores revealed insignificant results with a few exceptions. These results indicate that the components of total ESG score or in other words the companies' performance on environmental, social and governance

Models	1) ROA		2) ROE		3) OPM		4) NPM	
Intercept	0.3591***	(0.000)	0.5914**	(0.050)	0.1187	0.568	-1.1175	0.338
TESG	0.0013***	(0.003)	0.0040***	(0.016)	0.0006	0.488	0.0011	0.504
LEV	-0.169***	(0.000)	0.0073	(0.960)	-0.1866***	(0.000)	-0.4645***	(0.004)
SIZE	-0.0129***	(0.001)	-0.0297***	(0.003)	0.0025	0.733	0.0838	0.324
GDPGR	0.3342**	(0.019)	0.2211	(0.701)	0.1529	0.659	0.6933	0.151
HDI	0.0261	(0.793)	0.0082	(0.979)	0.0637	0.766	-0.8225	0.496
R^2	0.2915		0.0470		0.0676		0.0971	
Adjusted R^2	0.2872		0.0399		0.0699		0.0887	
Hausman test	6.40 (0.2695)		9.05 (0.1072)		9.39 (0.0945)		15.52 (0.0084)	
Prob (F)	0.0000****		0.0053****		0.0006****		0.0002****	
Observations	545		545		545		545	

Note(s): *, **, ***, significant at 1%, 5%, 10%, respectively. *p*-values are reported in the parentheses

Table 5.
Panel Regression
Results – Total ESG
Score Is Independent
Variable

Models	5) ROA		6) ROE		7) OPM		8) NPM	
Intercept	0.3676***	(0.000)	1.271*	(0.065)	0.0516	(0.816)	−1.266	(0.326)
ENVS	0.0007	(0.113)	0.003	(0.130)	−0.0002	(0.756)	0.0003	(0.777)
SOCS	0.0005	(0.146)	0.004***	(0.019)	0.0012*	(0.062)	0.0012	(0.201)
GOVS	0.0001	(0.723)	0.003*	(0.091)	−0.00007	(0.918)	0.0005	(0.747)
LEV	−0.1675***	(0.000)	−0.108	(0.494)	−0.1914***	(0.000)	−0.4657***	(0.005)
SIZE	−0.0131***	(0.002)	−0.116*	(0.091)	0.0039	(0.593)	0.0865	(0.318)
GDPGR	0.3114***	(0.023)	0.057	(0.953)	0.2259	(0.529)	0.7357	(0.131)
HDI	0.0168	(0.858)	1.566	(0.401)	0.0862	(0.694)	−0.7985	(0.485)
R^2	0.3717		0.0633		0.0797		0.0955	
Adjusted R^2	0.3027		0.0511		0.0678		0.0837	
Hausman test	10.37 (0.1688)		14.13 (0.049)		9.70 (0.2063)		16.51 (0.0208)	
Prob	0.0000***		0.0458**		0.0006***		0.0004***	
Observations	545		545		545		545	

Note(s): *, **, ***, significant at 1%, 5%, 10%, respectively

Table 6.
Panel Regression
Results – ENVS, SOCS,
GOVS Are
Independent Variables

dimensions have a joint effect on the financial performance. Therefore, the results have a practical implication for the companies in that they should be actively engage in all the components of sustainability. In the group 1, total ESG score has a significantly positive effect on ROA and ROE; however the results for OPM and NPM are not significant. This might be explained by the fact that ROA and ROE are the profitability ratios which are calculated based on the statement of financial position while OPM and NPM are the ratios calculated based on profit/loss statement.

Regarding the control variables, in most of the models, leverage and size are found to be significant with negative coefficients; these results imply a negative effect for those variables in the sustainability-financial performance relationship. Country-level control variables, GDP growth rate and human development index produced insignificant results with a few exceptions in the models.

The article contributed empirical evidence for the relationship between the companies' sustainability performance and financial performance by using the data of non-financial companies from five emerging economies. Most of the previous studies have focused on developed economies; therefore, the article made an important contribution to the literature. The results of the article have important implications regarding the operations and processes of the corporations. Having a good sustainability record shows a positive effect on the financial performance; therefore, the corporations should adopt sustainability practices and integrate them into their business processes, and this will benefit shareholders as well as other stakeholders. The finding that total ESG score has significant positive effect on financial performance implies that the corporations should be conscious of environmental issues, be more responsive to the society in which they operate, and also have good corporate governance practices.

The article has some limitations. First of all the data covers a period from 2014 to 2018. Second, we used the data of five emerging economies. Third, sustainability scores are missing for some companies in the study period, and this decreased the sample size.

We can make some suggestions for the future research agenda by considering the limitations of our study and some other factors. Covering a longer time period and a larger sample may increase the consistency and reliability of the results. In our study, we included non-financial companies from several sectors, focusing on a sector may produce better implications for that specific sector.

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Further reading

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