

Do ESG had influence on Return on Investments of BRICS listed Stock Exchanges:An Empirical Study

By

Dr. Sarvani Kocherlakota*

Head –Students' Affairs, Amrita Viswa Vidyapeetham, Amaravati Campus, Amaravati, Andhra Pradesh, India.

Email: ksarvanik@av.amrita.edu.in

Dr.C.Aruna*

Assistant Professor, GATES School of Business, Vijayawada, Andhra Pradesh, India.

Email: aruna17429@gmail.com

Rama Durga Sirisha Reddy

Lecturer in Commerce, ASD College for Women(A), Kakinada, Andhra Pradesh, India.

Email: siriprasadr@gmail.com

Abstract

Objective: The current study aimed to identify which factor of ESG influences on return on investment of the select BRICS nations during pandemic. **Method:** To attain the proposed objective, the total population of BRICS nations listed in the Refinitiv Model Conversion Tracking Sheet was considered. Out of the 150 BRICS nations listed, 122 companies (81%) were selected for the study. Secondary data from the Refinitiv Eikon database for 2021-22 was used. PLS Algorithm was applied to investigate the relationship between ESG and its correlation to financial performance. **Results:** The results suggest that the ESG factors influence the financial performance of the selected BRICS nations during the COVID-19 period. Further, the Combined ESG score and Controversies influenced the financial performance measured on the Return on Sales (ROS). **Conclusion:** ESG goals have become ever more predominant during COVID-19 in every economy but identifying which factor of ESG is influencing the performance of listed BRICS companies is yet to be investigated. The current study addresses this gap by identifying the ESG factors affecting financial performance during the COVID-19 period.

Keywords: ESG performance, Sustainable Development, Return on Investment.

1. Introduction

The term "ESG" or "Sustainable Development Goals" has been an area of interest in identifying their influence on financial performance, including the corporate board meetings for the past two decades (Peiro-Signes, A., Segarra-oria, M., Mondejar-Jimenez, J., Vargas-Vargas, M., 2013). The relationship between Environment, Social, and Governance (ESG) and financial performance plays a vital role in investing in ESG factors, especially for the corporate companies listed in the BRICS index to have rewarding returns on social issues. Over the past one and half decades, there has been a shift in the notion of businesses from improving financial improvement to meeting shareholders' priorities. Further, this will influence factors like the P/E ratio, market capitalisation, environmental, social, and governance (ESG) factors.

The impact of the COVID-19 pandemic globally became a significant turning point for

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ESG investing by policymakers, companies, and investors. In addition, the governments globally stimulated sustainable revolution by including ESGs in crisis management (J.P. Morgan, 2020). The stakeholders of the companies listed on stock exchanges worldwide also have been paying more attention to implementing corporate environmental, social, and governance responsibilities to protect the stakeholder's social issues and earn returns. Studies on ESG also have become a scorching issue, especially concerning the impact of ESG performance on corporate value, which has engrossed wide attention on the environmental (Gerged, A. M., Beddawela, E., & Cowton, C.J. (2021) and social factors (Albuquerque, R., Durnev, A., Koskinen, Y. (2018). Corporate governance performance on the financial performance of the companies selected for the sample (Drakos, A.A., & Bekiris, F.V., 2010). The findings of past studies proved that improving ESG performance would improve corporate market value. While the contemporary era, in the face of financial and non-financial risks, the net worth of companies that perform well in ESG is reasonably stable, and their prices are more flexible (Broadstock, D.C., Chan, K., Cheng, L.T.W., & Wang, X. (2021).

BRICS are the developing countries in the world. BRICS occupy around 27% of the geographical land area, 42% of the global per capita income, and 24% of the world's gross domestic product. The BRICS countries are poised to experience economic growth in terms of GDP and have huge growth potential in all demographic factors. In the coming 50 years, BRICS will focus on providing more inclusive, representative, and participatory financial instruments of global governance. This study emphasizes analysis of the environment, social, and governance magnitude of the BRICS countries to justify the possible impact of these sustainability indicators on financial performance in all-inclusive terms that relates to the ESG-FP (Environment, Social, & Governance–Financial performance). It has been classified into three categories, environmental, social, and governance. ESG has become ever more predominant in every economy but identifying which factor of ESG is influencing the performance of listed BRICS companies is yet to be investigated. The current study seeks to formulate the following research questions to address the gap.

1. Does ESG have any impact on financial performance in the BRICS countries?
2. Which ESG variable in specific is improving the financial performance in terms of returns to sales in the BRICS countries?
3. Do controversies have any impact on ESG in the BRICS countries?

2. Review of literature and Hypotheses Development

Theoretical Framework

The BRICS CSR (Corporate Social Responsibility) model considered in the study represents the intersecting model stated by Geva (2008). All the functions of ESG, resembling overlapping rather than individual impact, influence the firm's financial performance (See Figure 1). CSR is a voluntary contribution to sustainable development beyond legal requirements. But, due to statutory mandates by respective countries' regulatory bodies, CSR activities have seen an upsurge. Hence, the study attempted to determine the individual ESG factors and the combined effect of ESG on the financial performance of BRICS during the COVID-19 period.

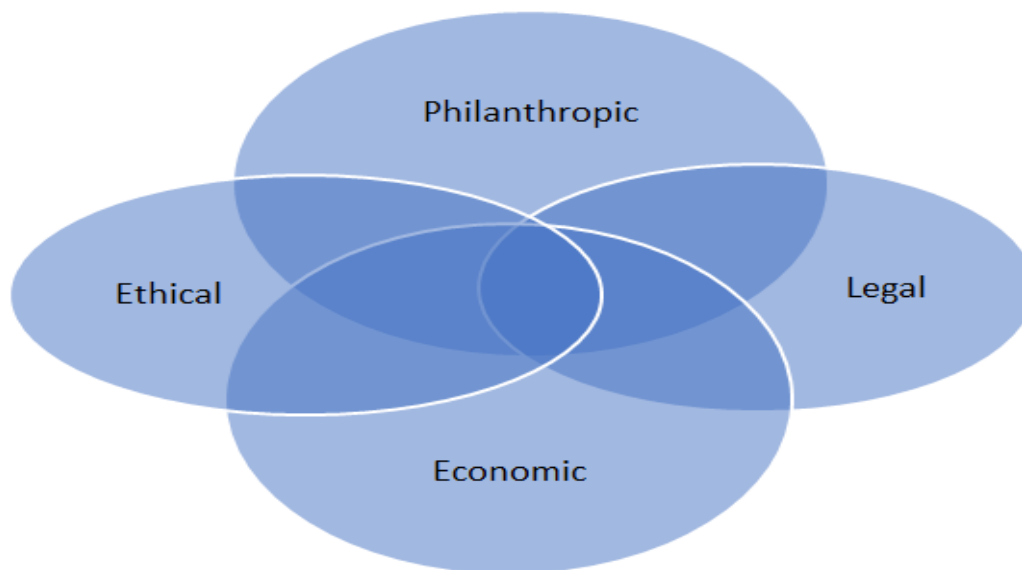


Figure 1: *CSR Intersecting Model*

Social, Environment, Governance and Financial Performance

Past studies on social factors of ESG found a negative and significant effect on market indicators and a negative but insignificant effect on financial performance for accounting indicators (Mardini, G. H., 2022). Further, they opined that the social factors affect a firm's competitive edge adversely and the overall credibility of the firm (Mardini, G. H. (2022). Socially responsible policies positively influence corporate performance (Ionescu, G.H., Firoiu, D., Pirvu, R., & Vilag, R.D., 2019; Landi, G., Sciarelli, M., 2018; Chitra Sriyani De Silva Lokuwaduge & Kumudini Heenetigala, 2017), thus providing several advantages. They minimise the fixed costs, lessen financial risks, enhance core competencies, advance corporate identity and increase consumer loyalty (Peiro-Signes, et al, 2013; Morrison, R., 2021; Albuquerque, R., et al, 2018; Wang, J., Song, L., & Yao, S., 2013; Shaukat, A., Qiu, Y. & Trojanowski, G., 2016; Whelan, T. Atz, U., Van Holt, T., Clark, C., 2021; Velte, P., 2017; Luo, X., Bhattacharya, C.B., 2008). In the same vein, studies (J.P. Morgan, 2020) highlighted that companies engaging in irresponsible or illegal behaviors cause inconvenience to shareholders. Further, studies also found that to enhance corporate value, socially accommodating behaviors to the law are required (Cardillo, G., Bendinelli, E., & Torluccio, G., 2022). It is predominant to highlight that not all studies agree upon the relationship between social responsibility policies and corporate performance.

Economically established companies can afford to upgrade with technical skills for disclosing CSR information which is knit with social and environmental performance (Clifford, G.H., C.P., Randall, S.K. & Dennis, P.S., 1999; Horvathova, E., 2010; Inoue, Y., & Lee, S., 2010). Past studies identified that top-level management would devise conceptual strategies to establish a relationship between ESG and a firm's performance for large corporate. Further, they found that top management's positive involvement enhanced transparency and accountability and maximised stakeholder trust. The top-level management has the legitimate power to improve the ESG effect, responsibility, employee trust, and customer loyalty, safeguarding social concerns and putting ESG into practice. In the past, contrary studies found a relationship between ESG performance and the presence of women on the board of directors (Velte, P., 2017), despite a positive and no significant relationship between management gender diversity and ESG disclosure (J.P. Morgan, 2020). Further, studies researched the relationship between corporate governance and corporate finance and found that firms with

more substantial shareholder rights had higher firm value, higher profits, and higher sales (Gompers, P., Ishii, J., & Metrick, A., 2003).

Hence, the first, second, and third hypotheses of the study are:

H1: The social factor does not have any significant impact on financial performance.

H2: A positive relationship exists between governance and a firm's financial performance.

H3: Environment does not significantly impact a firm's performance.

Controversies, Profit-to-Book Value, ESG and Financial Performance

Past studies opined that the effect of CSR on CFP (Corporate Financial Performance) might vary as per the time horizon. CSR's impact on CFP may be positive in the long term and negative in the short term. Hence, they stated that long-term financial planning would help the active favorable outcomes to shareholders. Further researchers found inverse curvilinear relations for short-term and medium-term investment horizons. Based on the sample chosen for study and socially responsible investment diversification, CSR effects in the short term may be positive and negative in the medium to long term. In the relation between CSR and performance analysis, size is a significant variable to be measured. On the contrary, few studies argue that firm size does not significantly influence this field of study. Further, studies advocate that the effects of CSR policies carried out by stock-listed companies show more real consequences than those of non-stock-listed ones.

The empirical analysis of the financial performance of ESG will enter the lexicon of investors, managers and other stakeholders in a significant way. ESG has been a surrogate for assessing the influencing factors on financial performance. There is an urge of BRICS-listed companies to be informative about the ESG influencing factors on financial performance, as it has a direct contribution to the GDP growth of every country. Several studies have investigated an existing direct causal relation between ESG and financial performance (Landi, G., Sciarelli, M., 2018; De Silva Lokuwaduge, C.S. & Heenetigala, K., Peiro-Signes, et al, 2013; 2017; Morrison, R., 2021; Albuquerque, et al, 2018). Yet, investigations could not univocally exemplify that ESG factors might affect their respective corporate results either positively or negatively (Shaukat, A., Qiu, Y. & Trojanowski, G., 2016; Whelan, et al, 2021; Velte, P., 2017). Several studies have analysed the impact of responsible corporate behaviours and non-financial information (sustainability disclosure) on business performance but have no consensus.

Further, the findings of past studies on ESGs and financial performance are inconclusive and lack consensus. The lack of consensus amongst various studies might be due to the period chosen (the first quarter of 2020), the geographical region taken for research and the economic strategies and type of economic agents and strategies considered (Cardillo, G., Bendinelli, E., & Torluccio, G., 2022). Hence, the current study addresses this gap by identifying the ESG factors affecting the financial performance in terms of returns to sales of BRICS nations in COVID-19 during 2021-22.

Hence, our fourth, fifth, sixth, seventh and eighth hypotheses:

H4: Controversies do not have any significant impact on ESG

H5: Controversies negatively influence a firm's financial performance.

H6: Profit-to-Book value has no significant effect on the firm's financial performance.

H7: ESG positively influences the financial performance of a firm.

H8: Combined ESG positively influences a firm's financial performance.

To test the above hypotheses, the ESG and financial performance model (for the COVID

period, 2021-2022) was proposed and presented in Figure 2.

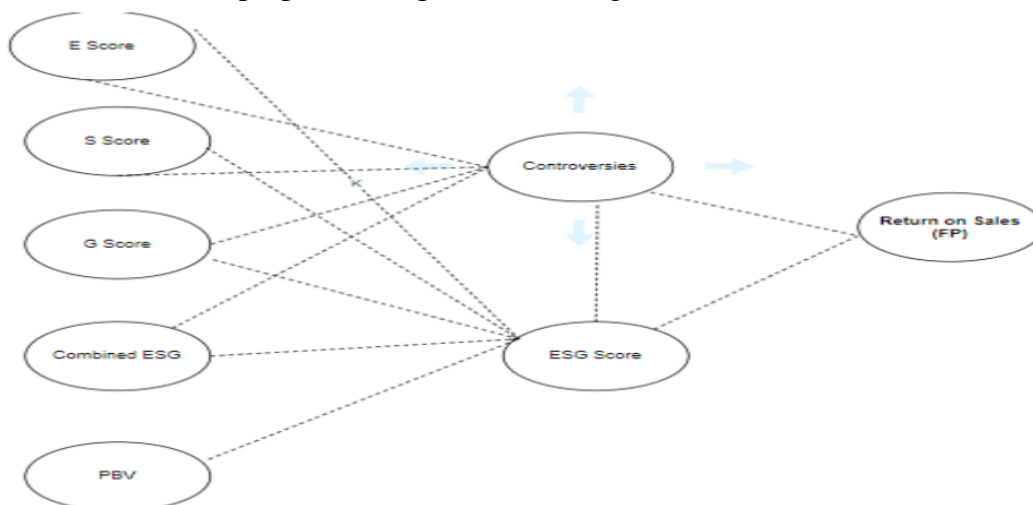


Figure 2. *Proposed Model for ESG Influence on Financial Performance*

The above model (See Figure 2) attempts to explain the Environment, Social, Governance, and other factors, namely combined ESG and Profit-to-Book Value (PBV), that influence the financial performance of sales. PLS-SEM is a path analysis technique developed to construct a model which establishes a relationship between ESG & other components' impact on financial performance. The sample data advocates that ESG and ESG components positively influence financial performance.

3. Method

The total population of BRICS nations listed in the Refinitiv Model Conversion Tracking Sheet is collected. Out of those 122 companies (81%), data from 150 companies was used. The null parameter was exercised and hence, the model was constructed with 122 companies only. Secondary data from the Refinitiv Eikon database for 2021-22 was extracted. PLS Algorithm is used for the proposed model to investigate the relationship between ESG and its correlation to financial performance. Findings indicate that ESG funding is not a mere investment but an investment avenue to convert into assets/claims to earn an economic advantage. The results suggest that the ESG factors influence the financial performance of the selected BRICS nations. Further, the Combined ESG score and Controversies influenced the financial performance measured on the Return on Sales (ROS).

The total population of BRICS nations listed in the Refinitiv Eikon is collected. 122 companies out of 150 companies' data were considered for the study. Using the NULL parameter, the model was constructed with 122 companies. This comprises of eighty-one percent of the data for the analysis, taken from Refinitiv Eikon database for the year, 2021-22.

Both absolute and relative sustainability measurements were used for each BRICS-listed company. Finally, the 'ESG influence on Return on sales (FP) customised using the quotient of BRICS sample data which provides a rounded and inclusive evaluation of a company's ESG performance based on the reported information was shown. The ESG scores were calculated to transparently and objectively measure a company's relative ESG performance. ESG controversies commitment and effectiveness with Profit to Book Value, which is well known, refers to the relatively higher performance of the selected sample. PLS-SEM was used to test the proposed model. The results of the PLS output for the proposed

hypotheses are shown in Figure 3.

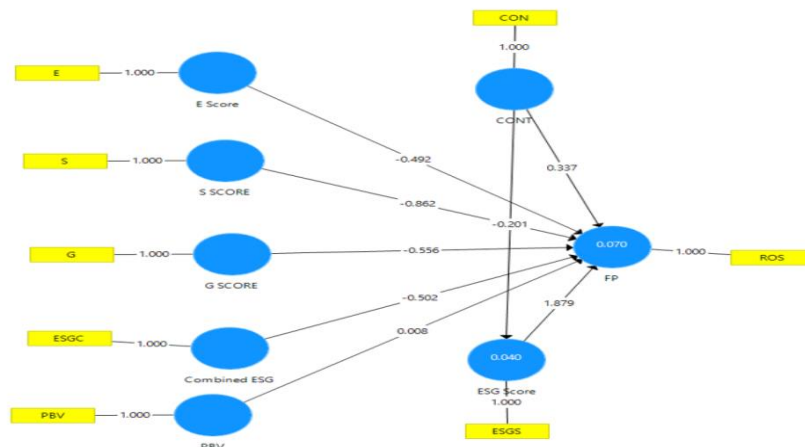


Figure 3. PLS Output on PLS Algorithm used for proposed model

From the above model presented in Figure 3, the independent variables considered in the study are E Score, S Score, G Score, Combined ESG Score, Profit to Book Value, Controversies and ESG Score to find the impact of the financial performance of BRICS selected sample in the form of Return on Sales. Return on Sales has been taken as a dependent variable because it measures how efficiently a company turns sales into profits. Returns on Sales are only applicable when comparing companies in the same line of business and of roughly the same size. Hence, all BRICS-listed companies' return on sales was the dependent variable on ESG.

The acceptable validity and reliability of any model, the derived should be greater than 0.7. In the proposed model, all the values are one, which implies that the model is valid and reliable. It means that ESG and other ESG-related components influenced the financial performance of the sample BRICS data from Table 1.

Table 1: Validity and Reliability of ESG on Financial Performance

Particulars	Cronbach's Alpha > 0.07	rho_A	Composite Reliability > 0.7	Average Variance Extracted (AVE) > 0.5
CONT	1	1	1	1
Combined ESG.	1	1	1	1
E Score	1	1	1	1
ESG Score	1	1	1	1
FP.	1	1	1	1
G SCORE	1	1	1	1
PBV.	1	1	1	1
S SCORE	1	1	1	1

Discriminant validity was used to test the distinctiveness of the variables used in the study. Each variable is correlated to other variables to identify their competencies. According to the analysis, in the discriminant validity test, each variable value should be less than 0.9. For instance, the discriminant variable, financial performance, has positive and negative values, but all those values are less than 0.9. From the results, it was found that the competitive variables in the study are not too highly correlated and have their identity. To assess discriminant validity, the HTMT criterion was employed. From Table 2, it is clear that all the

variables are less than 0.90; hence, the individual variables have their individual identify).

Table 2: Discriminant Validity of the proposed model

Particulars	CONT	Combined ESG.	E Score	ESG Score	FP.	G SCORE	PBV	S SCORE
CONT	1							
Combined ESG_	0.487	1						
E Score_	-0.2	0.515	1					
ESG Score	-0.201	0.709	0.747	1				
FP	0.011	-0.032	0.007	0.012	1			
G SCORE	-0.74	0.453	0.204	0.624	0.028	1		
PBV	-0.063	-0.014	0.081	0.032	0.006	-0.006	1	
S SCORE	-0.182	0.605	0.54	0.846	0.054	0.273	0.027	1

Findings indicated that for the Controversies and ESG Scores, the P values are 0.026 and 0.03, which are less than 0.05, which signifies that these variables influence financial performance when considering economic, social, and environmental scores. Individual economic and environment scores had p values of more than 0.05. It implies that these variables are less significant in influencing the financial performance of the selected BRICS sample. In addition, profit to book value is also not affecting the sample's performance in terms of scale returns. Further findings indicated that social controversies and combined ESG scores have a limited impact on the firm's financial performance as they are significant at 10% significance levels (P value <0.10). The results are presented in Table 3.

Table 3: Path Analysis of the Proposed Model

Variables	Original sample (o)	Sample Mean(M)	Standard Deviation (STDEV.)	T Statistics (IO/STDEVI)	P Values
CONT->ESG Score	-0.201	-0.199	0.09	2.232	0.026
CONT->FP	0.337	0.341	0.188	1.795	0.073
Combined ESG_->FP	-0.502	-0.515	0.27	1.857	0.064
E Score_->FP	-0.492	-0.478	0.411	1.198	0.232
ESG Score_->FP	1.879	1.852	0.879	2.138	0.033
G Sore->FP	-0.556	-0.544	0.343	1.622	0.105
PBV->FP	0.008	0.015	0.052	0.147	0.884
S SCORE ->FP	-0.862	-0.835	0.497	1.734	0.084

4. Results and Discussion

Results indicated that ESG factors influenced the financial performance of the study. Two variables, such as ESG score and ESG Controversies, significantly influenced the financial performance of any listed BRICS countries. Individual scores of Environment (E), Social(S) and Governance(G) have no significant impact on the financial performance in terms of Returns on Sales (RoS). Even Profit-to-Book value, though it is an economic variable, it is not show any significant impact on ESG influence on financial performance for BRICS listed companies. Even the Combined score of ESG does not significantly influence the financial

performance and ESG scores. This may be due to a company's exposure to long-term environmental, social, and governance risks often overlooked during traditional financial analysis. The ESG Controversy Category Score is calculated based on 23 ESG controversy topics and measures a company's exposure to environmental, social, and governance controversies and negative events reflected in global media. Therefore, the Controversy ESG score and Combined ESG score had an impact on attaining the financial advantage of BRICS-listed companies.

5. Managerial Implications

ESG information benefits investors, companies, the government, and all other society stakeholders due to its significant role in financial performance. The social responsibility/ESG is not only the responsibility of the public sector but also the social responsibility of the private companies, irrespective of their scale of operations. Recently, Corporate Social Responsibility has been renamed Environment, Social, and Governance variables to provide information to investors. Firm investors, managers, and other stakeholders had a significant role in increasing the firm's value. By investing ESG components into the managerial strategies of the firm, a firm can reduce risk. This study investigated the influence of ESG on the financial performance of the BRICS firms. It was found that ESG scores and ESG Controversies are significant factors for an active investor in the global market. As known, the world has become a global village, and each company may focus on the three variables as Environment, Social, and Governance factors together for the financial benefit of the individual investor, retail investor, corporate companies, government, and society.

6. Justification of level of significance

Justification of Hypothesis at 90% and 95% level significance	95% Significance	90% Significance	Accepted / Rejected
H1: The social factor does not have any significant impact on financial performance.	Nil	0.084	Accepted
H2: A positive relationship exists between governance and a firm's financial performance.	0.105	Nil	Rejected
H3: Environment does not significantly impact a firm's performance.	0.232	Nil	Rejected
H4: Controversies do not have any significant impact on ESG	0.026	Nil	Accepted
H5: Controversies negatively influence a firm's financial performance.	Nil	0.073	Accepted
H6: Profit-to-Book value has no significant effect on the firm's financial performance.	0.084	Nil	Rejected
H7: ESG positively influences the financial performance of a firm.	0.033	Nil	Accepted
H8: Combined ESG positively influences a firm's financial performance.	Nil	0.064	Accepted

From the above table, at a 95 percent level of significance, the variables like the social factor had a significant impact on financial performance and the Combined ESG had a positive

influence on a firm's financial performance. From the above table, at a 90 percent level of significance, the variables like the social factor had a significant impact on financial performance. Controversies had a negative influence on a firm's financial performance and the Combined ESG had a positive influence on the firm's financial performance.

7. Conclusion

This study finally derived a model establishing a relationship between ESG and the financial performance of listed companies of BRICS. The ESG variables help to contribute to Sustainable Development Goals (SDGs) in any economy. The proposed model of the study emphasises focusing on ESG Score and Controversies to improve the financial performance of the selected sample. Hence, this study is a proven model that investing in ESG companies influences the respective sample's return on sales (FP). Further, studies may be conducted on sustainable investing because sustainable investing is more about the long-term influence on ESG issues, which in turn responds to the financial performance and returns. The future study aims to invest money in areas and businesses that promote positive societal and climate impact, responsible corporate governance, and inclusive policies while taking a long-term view on financial returns for BRICS nations or G-20 Countries or developed economies.

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