

Does ESG Improve Firm Performance? Evidence from Indian Companies

Somali Deb¹, SK Sajit², Biki Digar³

¹Assistant Professor, Department of Commerce, JD Birla Institute, Kolkata, West Bengal, India

²Guest Lecturer, KD College of Commerce and General Studies, Midnapore, West Bengal, India

³Biki Digar, Academic Associate, Indian Institute of Management (Calcutta), Kolkata, West Bengal, India

Abstract - This research paper explores the association between ESG i.e.; Environmental, Social, and Governance factors, and the financial performance of 37 Indian companies. It shows how ESG financial execution influences the profitability of companies and its contributions toward sustainable development. It employs various regression models including pooled OLS, fixed effect, and random effect models as well as dynamic panel regression. This study results positively significant connection between ESG performance and firm performance in terms of capital efficiency. Return on Assets (ROA), Return on Equity (ROE) and Return on Capital Employed (ROCE) - these various financial metrics have demonstrated this positive connection. To support our findings this study employs both static and dynamic panel analysis. The insights of this paper are valuable for the stakeholders including policymakers, corporate managers, and investors who are interested in ESG principles and in understanding the relationship between ESG practices and companies financial performance.

Key Words: ESG; Firm Performance; Sustainability; GMM Model.

JL Classification: L25; Q56; C32; C33.

1. INTRODUCTION

ESG' as the name defines Environment, Social, and Governance performance on the value and profitability of companies, so it is quite beneficial and mandatory to run these activities by a company. It is necessary to take mitigation measures and to disclose transparent financial outcomes to investors, employees, suppliers, customers, and the government as well. Only the goal of profit maximization cannot make a company to reach on top, rather taking care of ESG performance may be one of the most important reasons not only in increasing profits but also in the maximization of value of companies. So all the listed companies are disclosing specific ESG financial information or explaining the reason why this information is not disclosed (Zhao et al, 2018). This will have a great emphasis on quality with little focus on quantity. Positive financial outcomes due to ESG may push return on equity to its highest including improvement in the cost of capital and enhancing stock price performance (Rao et al, 2023). According to 87% of investors, corporate reporting on sustainability contains green washing, and 82% say their clients demand that ESG factors to be taken onto account (PWC). Return on Equity (ROE), Return on Assets (ROA), Stock price,

operational efficiency and risk management can be improved by strong corporate management of ESG (NYU Stern Center for sustainable business, 2015). The environment, social and governance and its impact on financial performance has great influence on market participants as well. So ESG performance may lead a company in growing opportunities, healthy environment, productivity, investment, ESG strategy and regulation also. This will be helpful in reducing cost and in the maximization of both profit and value.

ESG have become increasingly important in the investment world, as investors recognize the potential impact of sustainable and responsible business practices on financial performance. The integration of ESG considerations into investment decisions aims to not only generate financial returns but also promote positive environmental and social outcomes. That's why majorly listed company disclosed ESG information. Also, it's important because it can ameliorate a company's image and character, which will attract further investors. It forces companies to introduce, which uncovers all kinds of new openings and good for terrain. Embracing ESG factors can have a positive impact on companies by enhancing their reputation, mitigating risks, driving cost savings, improving access to capital, fostering innovation, engaging stakeholders, and creating long-term value. ESG considerations are increasingly recognized as key drivers of sustainable business success.

Profit maximization to long-term sustainability – sole mantra of the business throughout the era (Chelawat and Trivedi, 2016). But in last decade a tremendous changes happen in the business scenario; all business concerns are now bound to play an environmental-social-governance responsibilities while aiming the profit maximization. India is a fast-moving economy. Environmental and social challenges are part and parcel of business environment. In India, amendment of ESG reporting is started from 2011 with the Minister of Corporate Affairs (MCA), Government of India (GOI), issuing the National Guidelines on social,

Environment and economic responsibilities of Business (NVGs) (MCA, 2011). SEBI recently mandate ESG reporting for listed companies. A long-term positive association can be established by ESG disclosure and annual average share price of the listed companies. In

other words, ESG is an efficient policy for portfolio selection as per sustainable and responsible investment (Ray & Goel, 2020). As per investment consideration ESG works in two-way, enhances risk management and generate sustainable yields for the customers (Dalal & Thaker, 2019). ESG performance enhances the financial outcomes at a lower risk. Growth in the ESG-Score has positive impact on the earnings of the company (Manescu, 2010). So, ESG Performance and their disclosure is an important implications for investors, customers, investors, corporate management, policymakers and regulators. Trust among stakeholders can be established by measuring and reporting the ESG performance of companies as well. This paper consists 37 listed companies showing last 5 years ESG scores and giving a clear picture of ESG performance of those companies.

Performance and position are important to the company's larger group of stakeholders and this can be evaluated by ESG metrics (Kay et al, 2020). Popularity among publicly related firms can be increased by ESG disclosures due to response to the investor's demand, establishing credibility, and reacting to crises and competition in their respective industries (Olsen et al, 2021). Corporations are receiving an economic rewards from their activities by engaging ESG practices (Yoon et al, 2018). Sustainable global economies are getting continuous support from international organizations, sector institutions and governments (SSE, 2022). ESG issues are having much importance in the decision-making by companies and investors (Eccles & Youmans, 2015).

By performing the ESG activities companies are improving their stock performance. Not only this they are able to reduce their cost of capital. And this impacts on the financial performance positively. The improvements make the returns fruitful to them. Mostly ESG is positively related with financial performance. The improvements in financial performance are becoming the reasons towards sustainable developments. There should be transparent ESG report to the stakeholders from the companies' end. By providing accurate information they can earn that trust from their stakeholders. It enhances the reputation of the companies among investors who are looking for sustainable investments. Companies will be able to find out the areas where they need to improve and this may lead to cost savings as well as increase efficiency.

In this study it is shown how non-financial data such as ESG disclosures are influencing financial performance of the companies and there are three models –ROA, ROE and ROCE have been constructed with having three types of analysis named Pooled OLS, Fixed Effect and Random Effect Model.

2. LITERATURE REVIEW

Businesses which point out ESG factors are more likely to be for years sustainable, based on investors. By taking account of the regulatory environment, environmental and social risks, risk management, and good governance practices, these firms can limit anticipated adverse effects, boost disclosure and openness, and generate value over time (Halid et al., 2022). As a result of such issue, investors are encouraged by the United Nations Principles for Responsible Investment (UNPRI) to take ESG aspects into account when making investments in order to create a persistent and durable global financial system, it aims to encourage a more profound dedication to ethical investment practices. Likewise certain firms have already been granted license to use ESG ideas across different sectors. Besides that, various company have been promptly given to integration ESG practices to several field of their business ESG is an efficient policy for portfolio selection as per sustainable and responsible investment (Ray & Goel, 2020). As per investment consideration ESG works in two ways, enhancing risk management and generating sustainable yields for the customers (Dalal & Thaker, 2019). (Velte, P. 2017) In this article, we looked at the connection between ESG performance and firm financial performance caused by 412 firm-year observations the prime-standard listed companies in Germany (MDAX, TecDAX, DAX30) that were included in the sample. We discovered a strong association between sustainability performance and firm revenue growth using stakeholder theory. Tobin Q is not greatly impacted by ESG, despite the fact that it has a favorable effect on ROA. In contrast to ESG, governance performance has a big effect on how well the business does financially. (Balasubramanian et al., 2019) Uses information from 2014 to 2018 collected by Yahoo Finance and Prowess IQ to investigate the connection between ESG ratings and firm financial outcomes. Tobin's Q is adopted to choose companies using the Nifty 100 index as an agent for the corporation value and outcomes. ESG subcategories of the sustainable score, together with business size, have additional effects on firm value. The ESG score has a considerable impact on outcome. The assumptions have been tested using standard linear squares. According to (Sinha ray et al, 2023) This paper delivers major help to the field of sustainable research by exploring the link between ESG outcome and Stability in finance furthermore to the mediation role that financial performance plays. Financial performance serves as a link variable in this research to examine how ESG outcome influences the Value of publicly listed companies. With the company's

financial success clearly operating as a mediating component, the study presents concrete proof that an organization value on the marketplace could grow by increasing its ESG outcomes. The work offers regulators, public companies, and investors valuable advice. According to (Partalidou et al., 2020) Companies communicate their CSR efforts through integrated reports, sustainability reports, and press releases. The focus should be on the quality and accuracy of ESG information, as some companies may use embellishments to improve reputation despite subpar ESG performance. Credible and reliable ESG disclosures are crucial for evaluating sustainability practices. Disclosure channels include annual reports, websites, ESG data providers, and regulatory filings, while third-party verification enhances credibility. Choosing appropriate sources fosters transparency and trust with stakeholders. (Bui et al., 2020) Extensive research has been conducted to explore the connection between ESG outcomes and financial outcomes. One important area of study investigates whether the disclosure of ESG data positively impacts financial achievement. This relatedness is rooted in the belief that enterprises that provide greater comprehensive knowledge about their ESG initiatives and allocate greater resources to Corporate Social Responsibility (CSR) are more likely to embrace sustainable business practices. Consequently, such practices may lead to corporate enhancements, competitive advantages, and an improved reputation. (Zhou et al, 2022) In this paper significantly advances the area of ESG research by investigating the link between sustainable outcomes and business financial accomplishments in addition to the mediating function of financial accomplishment. In this investigation, financial performance is used as a link variable to assess how ESG outcomes affect the monetary value of publicly traded firms. The study provides empirical evidence that enhancing a company's ESG outcomes may raise its market value, with the enterprises financial efficiency unmistakably serving as a mediating element. This resource provides helpful guidance for Authorities, that are publicly traded corporations, and shareholders can all benefit from the advice in this resource.

3. RESEARCH GAPS

Previous studies concluded that ESG performances effect firm's performance. But, not given any information that ESG has a significant impact on the risk, income, and company's financial performance. Thus, considering the research gap the main objectives of the study is to ESG Score and analyses the financial performances of the selected Indian companies to know the impact of ESG.

4. OBJECTIVES

- To show relation between the ESG scores and financial performance of the listed companies.
- Knowing the impact of ESG performance on financial performance.
- To know the impact of ESG performance towards sustainable development in India.

5. HYPOTHESIS

H₁: There is significant relationship between ESG Score and ROA.

H₂: There is significant relationship between ESG Score and ROE.

H₃: There is significant relationship between ESG Score and ROCE.

6. RESEARCH METHODOLOGY

DATA COLLECTION

Data are collected for this study completely based on secondary sources (CMIE Prowess Database). Authors selected S&P ESG 100 companies from the Indian stock market. But only 37 companies are considered on the basis of data availability.

STUDY PERIOD

For the purpose of the study S&P ESG 100 companies considered as a sample data, for 5 consecutive years, from 2018 to 2022.

Table -1: Variable Description

VARIABLE	MEASUREMENT	ACRONYM	VARIABLE
Return on Asset	(EBIT+Depreciation)/ Total Asset	ROA	Dependent Variable
Return on Equity	Equity/Total Assets	ROE	Dependent Variable
Return on Capital Employed	EBIT/Capital Employed	ROCE	Dependent Variable
ESG Score	S&P ESG 100	ESG	Independent Variable
Firm Size	Natural log of Assets	SIZE	Independent Variable

Leverage	Total Debt/Equity	LEV	Independent Variable
----------	-------------------	-----	----------------------

The firm performance is considered as dependent variable, which is measured by return on asset (ROA), return on equity (ROE) and return on capital employed (ROCE) respectively. ESG Score i.e., ESG performance considered as independent variable. Also, firm size and leverage are considered as control variables to know the impact of other determining factors to financial performance.

DATA ANALYSIS

Table 2: Descriptive Statistics

	Observations	Mean	Standard Deviation	Min	Max	VIF	1/VIF
ESG	185	44.54	23.86	9	89	1.36	0.7375
ROA	185	9.446	8.74	-8.87	35.15		
ROE	185	18.57	19.50	-28.84	105.51		
ROCE	185	15.74	18.38	-13.6	97.2		
LEV	185	.6317	1.08301	0	5.04	1.65	0.6060
SIZE	185	4.664	.7087	3.13	6.315	1.76	0.5665
					Mean VIF	1.59	

Table 2 represents the result of descriptive statistics summary which shows the mean, minimum, maximum values and SD of independent and dependent variables used in the research. This table reveals that minimum ROA is -8.87 and maximum value is 35.15 with the mean value of 9.446. Mean values of ROE and ROCE are 18.57 and 15.74 respectively. ESG score varies between 9 and 89 and the average value is 44.54, which indicate that ESG performance is moderate.

VIF value are calculated to check the existence of multicollinearity among variables, independent and control variables. Mean VIF is 1.59 which is much lower than maximum acceptance level i.e., 5. No multicollinearity presents between the variables.

Table 3: Person Correlation Coefficient

	ESG	ROA	ROE	ROCE	LEVERAGE	SIZE
ESG	1.0000					
ROA	0.2621	1.0000				
ROE	0.3557	0.8420	1.0000			
ROCE	0.2983	0.8753	0.9670	1.0000		
LEV	(0.1888)	(0.4286)	(0.1872)	(0.3564)	1.0000	
SIZE	0.3137	(0.6649)	(0.4830)	(0.5606)	0.5091	1.0000

Table 3 shows the person correlation coefficient between the variables. Some of correlation coefficient are statistically significant and positive relationship between ESG score and firm performances.

Table 4: Static Panel Regression (Dependent Variable – ROA)

Variable	Pooled-OLS	FIXED effect	Random Effect	Hausman	Lagrangian	Acceptance
ESG	.0476067 (0.041)	.041716 (0.041)	.0486265 (0.007)	0.8067	0.0000	REM is accepted.
LEV	1.474379 (0.010)	2.157567 (0.039)	1.661944 (0.025)			
SIZE	-6.551246 (0.000)	-9.409225 (0.003)				
CONSTANT	43.05504 (0.000)	56.55697 (0.000)				

Ordinary Least Square (OLS), fixed effect model (FEM) and random effect model (REM) – these methods of multiple regression are applied to analyses the panel data. In Table 4, the author shows the positive impact of ESG score on return on asset (ROA) in every model. But every model has their own assumptions. Hausman test applied to select more appropriate model between FEM and REM. Table 4 shows that the Hausman test is significant

(0.8067) at the 5% level of significance and the null hypothesis accepted. So, the REM is more appropriate. Thereafter the lagrangian test is applied to select between OLS and REM. The result represents that the Lagrangian Test is significant (0.000) at the 5% level of significance and reject the null hypothesis. Finally, in this table REM is most appropriate to test the effectiveness of ESG score with ROA.

Table 5: Static Panel Regression (Dependent Variable – ROE)

Variable	Pool ed-OLS	FIX ED effect	Ran dom Effect	Haus man	Lagra ngian	Accep tance
ESG	.195 5845 (0.001)	.040 5484 (0.509)	.097 7513 (0.065)	0.323 4	0.0000	REM is accepted.
LEV	- .601 392 (0.681)	- .484 4168 (0.877)	.614 98 (0.765)			
SIZE	- 10.7 5671 (0.000)	- 27.2 0069 (0.004)	14.1 8476 (0.000)			
CONSTANT	77.8 263 (0.000)	147. 57 (0.001)	88.7 0033 (0.000)			

Table 5 shows that the value of Hausman test is 0.3224 at the 5% level of significance and the null hypothesis accepted. So, the REM is more appropriate. Thereafter the Lagrangian Test is applied to select between OLS and REM. The result reveals that the Lagrangian Test is significant (0.000) at the 5% level of significance and accept the alternative hypothesis. Finally, in this table REM is most appropriate to test the effectiveness of ESG score with ROA.

Table 5: Static Panel Regression (Dependent Variable – ROCE)

Variable	Pool ed-OLS	FIX ED effect	Ran dom Effect	Haus man	Lagra ngian	Accep tance
ESG	.162 7527 (0.003)	.069 3482 (0.174)	.112 4639 (0.012)	0.323 5	0.0000	REM is accepted.
LEV	- 3.31 3817 (0.012)	- 3.80 2634 (0.144)	- 2.54 5179 (0.156)			

SIZE	- 10.2 4151 (0.000)	- 25.7 7045 (0.001)	13.2 809 (0.000)			
CONSTANT	72.8 4909 (0.000)	141. 4468 (0.001)	84.3 0649 (0.000)			

Table 5 represents that 0.8067 is calculated value from the Hausman Test at the 5% level of significance and the alternative hypothesis rejected. So, the REM is more appropriate. Thereafter the Lagrangian Test is applied to select between OLS and REM. The result shows that the Lagrangian Test is significant (0.000) at the 5% level of significance and reject the null hypothesis. Finally, in this table REM is most appropriate to test the effectiveness of ESG score with ROA.

Table 6: GMM-based Dynamic Panel Regression

	One-step (ROA)	Two-step (ROA)	One-step (ROE)	Two-step (ROE)	One-step (ROCE)	Two-step (ROCE)
ESG SCORE	.086778 (0.001)	.0632 648 (0.004)	.0896 409 (0.525)	.0248 984 (0.721)	.1422 684 (0.115)	.10 504 (0.026)
LEVERAGE	1.936365 (0.175)	1.249 022 (0.861)	- 1.987 359 (0.642)	3.012 59 (0.205)	- 3.156 557 (0.250)	2.7 798 66 (0.046)
FIRM SIZE	-4.35068 (0.584)	4.072 411 (0.621)	- 25.29 341 (0.375)	- 27.06 474 (0.000)	- 23.31 139 (0.385)	- 26. 161 73 (0.003)
CONSTANT	33.62856 (0.394)	20.39 278 (0.316)	151.4 406 (0.275)	158.8 374 (0.000)	137.4 504 (0.298)	152 .49 45 (0.001)
WALD TEST	11.19	9.43	4.71	29.64	4.70	16. 66
AR (1)	-.15648	- .2357 3	1.442 6	2.099 7	1.669 9	2.7 812

		1.966 2		- .2070 1	- .0319 1	.46 927
AR (2)	1.7108		-.562			
SARGAN TEST		8.57		6.49		3.49
OBSE RVATION	185	185	185	185	185	185

Random effect model (REM) is failed to encounter the endogeneity problem and the estimates cannot be robust. Dynamic relationship eliminates the problem of endogeneity. The research considered the Arellano and Bond (1991) dynamic panel regression model. This model also includes some post estimation test (Sargan test and Arellano-Bond test) to test the validity and autocorrelation of instruments. In Table 6, the Sargan test statistics are insignificant (8.57, 6.49 and 3.49) and accepts null hypothesis, which indicates the instruments are valid and unrelated and reveals the second order Arellano-Bond is not significant, which means absence autocorrelation in this model. Finally, the study shows both one-step and two-step estimation of dynamic panel regression are significant, positive (coefficient value .086678, .0632648) and significant (p-value 0.001, 0.004) relationship between ESG score and firm performance.

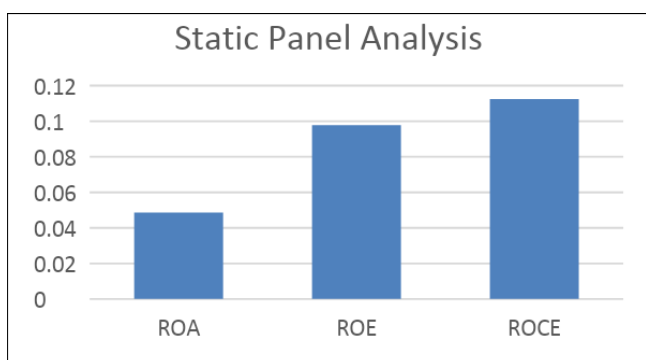


Figure-1

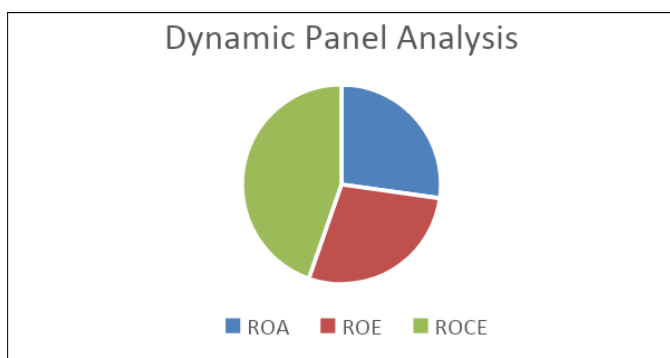


Figure-2

7. CONCLUSION

In this paper, the used factors are increasingly considered important for long-term financial success and this will lead to sustainable development. Those companies that have focused on sustainable development and are aligned with ESG principles, attract socially conscious investors, not only but also give a commitment to addressing global challenges. The positive impact of ESG on financial performance can make companies reach on top in the long term. This research paper shows that ROCE is more (Figure-1, Figure-2) significant in comparison With ROA and ROE but still, ROA and ROE are significant and it impacts positively on equity and asset returns by ESG performance. Mainly this study concludes a significant positive upward relationship between ESG.

This study only mainly focuses on Indian companies. For future study companies from other countries need to be assigned. Due to the unavailability of data only 37 companies are considered. The result will more accurate if the size of the sample increased.

8. REFERENCES

- Ahmad, N., Mobarek, A., & Roni, N. N. (2021b). Revisiting the impact of ESG on financial performance of FTSE350 UK firms: Static and dynamic panel data analysis. *Cogent Business & Management*, 8(1). <https://doi.org/10.1080/23311975.2021.1900500>
- Balasubramanian, A. M. D. P. (2019). A study on relationship between corporate financial performance and environmental social & governance score (ESG score). *FIFI-2019*.
- Bui, T., Ali, M. H., Tsai, F. M., Iranmanesh, M., Tseng, M., & Lim, M. K. (2020). Challenges and Trends in Sustainable Corporate Finance: A Bibliometric Systematic Review. *Journal of Risk and Financial Management*, 13(11), 264. <https://doi.org/10.3390/jrfm13110264>
- Frooman, J. (1997). Socially irresponsible and illegal behavior and shareholder wealth. *Business & Society*, 36(3), 221–249. <https://doi.org/10.1177/000765039703600302>
- Gillan, S. L., & Starks, L. T. (2009). 11. The Evolution of Shareholder Activism in the United States. In *Columbia University Press eBooks* (pp. 202–240). <https://doi.org/10.7312/chew14856-011>
- Halid, S., Rahman, R. A., Mahmud, R., Mansor, N., & Wahab, R. A. (2023). A literature review on ESG Score and its impact on firm performance. *International Journal of Academic Research in Accounting, Finance and*

- Management Sciences*, 13(1).
<https://doi.org/10.6007/ijarafms/v13-i1/15101>
7. Hedges, L. V., & Olkin, I. (1980). Vote-counting methods in research synthesis. *Psychological Bulletin*, 88(2), 359–369. <https://doi.org/10.1037/0033-2909.88.2.359>
 8. Khorana, A., Servaes, H., & Tufano, P. (2008). Mutual fund fees around the world. *Review of Financial Studies*, 22(3), 1279–1310. <https://doi.org/10.1093/rfs/hhn042>
 9. Ortas, E., Álvarez, I., & Erro, A. G. (2015). The Environmental, Social, Governance, and Financial Performance Effects on Companies that Adopt the United Nations Global Compact. *Sustainability*, 7(2), 1932–1956. <https://doi.org/10.3390/su7021932>
 10. Partalidou, X., Zafeiriou, E., Giannarakis, G., & Sariannidis, N. (2020). The effect of corporate social responsibility performance on financial performance: the case of food industry. *Benchmarking: An International Journal*, 27(10), 2701–2720. <https://doi.org/10.1108/bij-11-2019-0501>
 11. Rao, A., Dagar, V., Sohag, K., Dagher, L., & Tanin, T. I. (2023). Good for the planet, good for the wallet: The ESG impact on Financial Performance in India. *Finance Research Letters*, 56, 104093. <https://doi.org/10.1016/j.frl.2023.104093>
 12. Rubera, G., & Kirca, A. H. (2012). Firm Innovativeness and its Performance Outcomes: a Meta-Analytic Review and Theoretical integration. *Journal of Marketing*, 76(3), 130–147. <https://doi.org/10.1509/jm.10.0494>
 13. Ray, R. S., & Goel, S. (2022). Impact of ESG score on financial performance of Indian firms: static and dynamic panel regression analyses. *Applied Economics*, 55(15), 1742–1755. <https://doi.org/10.1080/00036846.2022.2101611>
 14. Salzmänn, O., Ionescu-Somers, A., & Steger, U. (2005). The business case for corporate sustainability: *European Management Journal*, 23(1), 27–36. <https://doi.org/10.1016/j.emj.2004.12.007>
 15. Schmidt, F. L. (1992). What do data really mean? Research findings, meta-analysis, and cumulative knowledge in psychology. *American Psychologist*, 47(10), 1173–1181. <https://doi.org/10.1037/0003-066x.47.10.1173>
 16. Tsikriktsis, N. (2005). A review of techniques for treating missing data in OM survey research. *Journal of Operations Management*, 24(1), 53–62. <https://doi.org/10.1016/j.jom.2005.03.001>
 17. Ullmann, A. A. (1985). Data in Search of a Theory: A critical examination of the relationships among social performance, social disclosure, and economic performance of U.S. firms. *Academy of Management Review*, 10(3), 540–557. <https://doi.org/10.5465/amr.1985.4278989>
 18. Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. *Journal of Global Responsibility*, 8(2), 169–178. <https://doi.org/10.1108/jgr-11-2016-0029>
 19. Zhao, C., Guo, Y., Yuan, J., Wu, M., Li, D., Zhou, Y., & Jiangang, K. (2018). ESG and Corporate Financial Performance: Empirical Evidence from China's Listed Power Generation Companies. *Sustainability*, 10(8), 2607. <https://doi.org/10.3390/su10082607>
 20. Zhou, G., Liu, L., & Luo, S. (2022). Sustainable development, ESG performance and company market value: Mediating effect of financial performance. *Business Strategy and the Environment*, 31(7), 3371–3387. <https://doi.org/10.1002/bse.3089>