

Sustainability Reporting and Firm Performance: Evidence from Selected Indian

Companies

Sangita Patra

Research Scholar
Department of Commerce
The University of Burdwan

Dr. Arindam Das

Professor of Commerce
The University of Burdwan

Dr. Mohua Das Mazumdar

Associate Professor
Rampurhat College

Manish Rajak

Assistant Professor
Swami Niswambalananda Girls College,
Uttar Para, Hooghly

Abstract

The association between financial performance and sustainability reporting is complex and overlapping. The existing studies show conflicting results on this association and there exists very few studies in the Indian context. The prime objective of the present paper is to investigate the relationship between sustainability reporting and firm performance from selected Indian companies. The impact of sustainability reporting is examined using the Discroll kraay robust measure in fixed effect Model. Yearly panel data between 2018–2023 for 252 observations for 43 companies have been used for the study. Data were collected from the respective companies' annual reports. The ESG scores considered as a proxy for sustainability reporting have been collected from the Bloomberg database. The study reveals that risk and leverage have significant negative relationship with Tobin's Q but Current Ratio and ESG scores have positive significant relationship with Tobin's Q. Leverage, size and ESG scores have significant negative relationship with ROA but Current Ratio and Growth have positive significant relationship with ROA. Risk, Current Ratio and Growth have positive significant relationship with ROCE but Size and ESG scores have negative relationship with ROCE.

Key Words: Discroll kraay Robust Measure, ESG, Firm performance, Panel regression, Sustainability reporting.

1. Introduction

After the financial meltdowns and the stock market crisis, it was felt that traditional reporting could not support the information needs of multiple stakeholders, primarily capital lenders. The Sustainability Report linked this information gap by providing an extensive interdisciplinary account of economic, environmental and social elements into one report [Ackers 2009 & KPMG 2008]. So, nowadays the most critical issue confronting an organization is sustainability. Environmental, social, and governance (ESG) issues are covered by sustainable reporting, which stakeholders want from organizations to manage opportunities and risks. There is a propensity to establish a new worldwide system for sustainable reporting in order to ensure accountability and transparency. Sustainability reporting is also known as CSR reporting, triple-bottom-line reporting, non-financial reporting and so on [Buallay, *et al.* 2020].

Sustainability reporting can be defined as the practice of measuring, disclosing and being accountable to internal and external stakeholders for organizational performance towards the goal of sustainable development [Girón, *et al.* 2021]. Previously, profit maximization was considered the most important goal of the firm, but now a days, financial analysts, investors and other stakeholders are increasingly demanding information on a company's non-financial performance *i.e.*, Environmental, Social and Governance (ESG) performance, in addition to financial information, in order to make more rational and informed investment decisions. [Aggarwal, 2013]. KPMG (2011) observed in its International Survey on Corporate Responsibility Reporting that 95% of the world's 250 largest companies report on corporate responsibility. In Asia Pacific, approximately half of the companies report on corporate responsibility. According to Hubbard G. (2008), the number of investors seeking to invest in Socially Responsible Investments (SRI) is rapidly increasing, prompting the development of various sustainability indices such as the Dow Jones Sustainability Index. Companies attempt to make money from sustainable reporting and publish their reports in light of these benefits. Nonetheless, research in the area also indicates a negligible or negative correlation between Sustainability reporting and financial execution. According to certain research, financial performance has improved. [Buallay A. 2022, Emeka-Nwokw & Osioma, 2019] and other researchers show mixed and no relationship between sustainability reporting and financial performance. [Buallay & Al Marri 2022, Goel P. 2020]. It confirmed that the social, political and economic aspects of developing nations influence how these nations' businesses approach social

responsibility [Haider, Shannon & Moschis 2022]

Sustainability reporting is widely believed to lay the groundwork for maintaining and increasing a company's value through a variety of strategic benefits, including enhanced stakeholder engagement or relationships, better customer access, customer loyalty, new products, new markets, good brand image, improved employee morale, retention and loyalty, risk avoidance, easier access to capital, strengthened license to operate, cost savings, productivity etc. [Warren & Thomsen, 2012]. Over the past ten years, numerous studies have examined the relationship between financial performance and sustainability reporting. But the results are inconsistent, conflicting, and frequently mixed. Sustainable reporting and related initiatives can help businesses strengthen their brand reputation and cultivate trust-based connections with customers in order to boost financial performance. Companies who are actively pursuing sustainable reporting are fully aware of how this strategy supports their attempts to enhance and safeguard their company's reputation, to appease its stakeholders through sustainable reporting and to achieve a variety of financial performance goals. Thus, the purpose of this research is to clarify how sustainability reporting and performance of companies are related in Indian companies. This research takes into account the accounting and market indicators that demonstrate the effects of sustainability reporting on firm's performance in Indian context.

2. Review of Literature

Numerous studies have been undertaken concerning sustainability reporting and its impact on financial performance. The previous studies did not show a clear and precise link between sustainability reporting and financial performance. The findings are conflicting and ambiguous, so we divided the literature review into four categories: positive relationships, negative relationships, mixed relationships and no relationships in order to provide a clearer understanding of the nature of the relationship between sustainability reporting and corporate financial performance.

Positive Relationship

Most of the research studies demonstrate that sustainability disclosures are positively and significantly correlated with financial performance due to several advantages, such as an improvement in shareholder value and market performance, etc. (M. Lawrence 2022; Thomas C.J *et al* 2021; Jadhav A. *et al* 2020; Wardhani P.P.C. *et al* 2019; etc.). Most of the authors in this study have used financial performance indicator variables such as return on assets, return on

equity, Tobin's Q, Net Profit Margin, Return on Capital Employed, EPS and DPS for equity valuation, etc. as well as sustainability reporting indicator variables such as environmental, social, governance, economic, community, employee, health and safety scores. To determine the relationship between sustainability reporting and corporate financial performance they used least square panel techniques and panel regression techniques. (Buallay A. 2022; Al Hawaj A.Y *et al.* 2022, M Lawrence 2022; D Dissanayake *et al* 2021; SS Motwani *et al* 2016 and others). The majority of the studies were conducted in developed countries namely the United Kingdom, United States, New Zealand, Switzerland etc.

Negative Relationship

According to Oprean-Stan C. *et al* 2020; MJ Islam 2020; N Emeka- Nwokeji *et al* 2019; Cormier and Magnan 2007, full disclosure of information about new product and process development, risk management techniques, eco-efficiency, training and development etc. may incur expenses and pose risks. The initial cost increases associated with sustainability programs are significant and have a short-term negative impact on financial performance. They used parameters for sustainability reporting such as ESG scores as well as indicators for financial performance, including return on assets, return on equity, Tobin's Q and applied panel regression methods to determine the relationship between a company's financial performance and sustainability reporting. Most research studies were executed in developed countries like Spain, Germany, Switzerland etc.

Mixed Relationship

It is challenging to determine any clear or substantial correlation between sustainability reporting and financial performance because sustainability disclosures include a variety of components that may have diverse impacts that balance against one another (Buallay A. 2022; Buallay A and A Marri M. 2022; Nugrahani T.S and Artanto D.A.2022; Goel P. 2019 etc). Consequently, it is preferable to analyze each aspect of sustainability's effect on financial performance separately in order to reach conclusions that are more precise and specific. They used financial performance indicator variables, such as return on assets, return on equity, return on capital employed and earnings per share and Tobin's Q as well as measurements for sustainability reporting such as environmental, social and governance scores (ESG scores) and the regression analysis has been utilized to figure out the relationship between the financial performance of companies and sustainability reporting (Alhawaj A *et al* 2022; Buallay A and Al Marri M. 2022 Buallay A. *et al*

2021; Buallay A.M. 2020). Except few studies from developing countries such as Indonesia, Malaysia and India, most of the research studies have taken place in developed countries such as Saudi Arabia, the United Kingdom and Switzerland.

No Relationship

According to some researchers, companies' financial performance is not significantly impacted by sustainability disclosures (Buallay A. 2022; Goel P. and Misra R. 2020; Ching H.Y. *et al* 2017; P Aggarwal 2013 etc.). Most of the authors in this study have used key performance indicators for financial performance, including return on assets, return on equity, return on sales, Tobin's Q, earning per share, share price volatility etc. and indicators for sustainability reporting, including environmental, social, and governance scores (ESG scores) (Buallay A. 2022; Abughnie m M.S *et al* 2019; Oluseyi S.O., Owolabi A.A. and Iyoha F.O. 2019; Said R.M., *et al.*, 2015 etc). The majority of the studies were conducted in developing nations, like Malaysia, Brazil, India, Jordan and others.

3. Research Gap

After reviewing all existing literature related to this topic, we found that there has not been any recent work on sustainability reporting and firm performance in India. It motivates us to carry out a study in the Indian context.

4. Objective of the study

The prime objective of the study is to investigate the relationship between sustainability reporting and firm performance in selected Indian companies.

5. Research hypotheses

To attain the objectives of the present study the following research hypotheses are proposed

H1: Sustainability reporting has positive impact on market performance.

H2: Sustainability reporting has positive impact on accounting performance.

H3: Sustainability reporting has positive impact on profitability and efficiency performance.

6. Database and Methodology

Study Period, Source of Data and Sample

This study employs a panel dataset comprising 252 firm year observation (The total potential observation were 258 which is 43 companies \times 6 years, however 6 observations were excluded due to missing ESG score and financial dataset) from 43 listed Indian companies out of top fifty stocks listed in Nifty 50 index over the period 2018-2023. This period has been chosen for the

study as ESG scores are started to integrate into typical investment strategies which are also backed by regulatory attention, growing public awareness, and increased pressure from institutional investors. Besides, the revision of global sustainability agendas and the Global Reporting Initiative (GRI) standards influenced corporations to disclose ESG information during this period.

The independent variables such as leverage, risk, size, growth and current ratio have been collected from the respective annual reports of the companies and the ESG scores considered as a proxy for sustainability reporting have been collected from the Bloomberg database. The dependent variables are Tobin's Q, ROCE and ROA. In Model 1, Tobin's Q is a market-oriented measure for long-term financial performance, whereas ROA is an accounting-oriented measure that discloses the company's short-term financial performance in Model 2 and ROCE measures the profitability and efficiency of a company's capital investments in Model 3. These are variables used in similar studies in the literature to measure different aspects of performance. In this study, the fixed effect panel regression model has been applied. To normalize skewed distributions and meet the statistical assumptions, the variables namely risk, size, and growth were transformed using natural logarithms. The Jarque-Bera test also confirmed the improved normality after transformation.

To estimate the relationship between sustainable reporting and financial performance Model 1, Model 2 and Model 3 have been applied. As the results of the relationships between variables are mixed in the literature on accounting measures (ROA model), profitability and efficiency measures (ROCE model) and market measures (Tobin's Q model), therefore, the study aims to investigate the relationship between sustainable reporting and firm performance from selected Indian companies using three equations based on accounting, profitability and efficiency and market dimensions of performance. The different variables used in the present study are as follows:

Table1: Variables used in the study

Variable	Definition
Tobin's Q*	Total market value of the stock/Total asset value of firm
ROA	Return on Asset—net income/Total asset
ROCE	Operating Profit or EBIT / Capital Employed
Leverage	Total liabilities/Total assets
Risk	Natural logarithm of (Total debt/Total asset)
Size	Natural logarithm of total assets

Growth Natural logarithm of yearly sales growth
 Current Ratio Current asset/Current liabilities
 ESG Environmental, Social and Governance score provided by Bloomberg database.

The following panel regression models have been considered for the present study is examining the relationship between the firm performance and sustainability reporting.

Model 1: $Tobin's Q_{it} = \beta_0 + \beta_1 Risk_{i,t} + \beta_2 Leverage_{i,t} + \beta_3 Size_{i,t} + \beta_4 Current\ Ratio_{i,t} + \beta_5 Growth_{i,t} + \beta_6 ESG_{i,t} + \epsilon_{i,t}$;

Model 2: $ROA_{it} = \beta_0 + \beta_1 Risk_{i,t} + \beta_2 Leverage_{i,t} + \beta_3 Size_{i,t} + \beta_4 Current\ Ratio_{i,t} + \beta_5 Growth_{i,t} + \beta_6 ESG_{i,t} + \epsilon_{i,t}$.

Model 3: $ROCE_{it} = \beta_0 + \beta_1 Risk_{i,t} + \beta_2 Leverage_{i,t} + \beta_3 Size_{i,t} + \beta_4 Current\ Ratio_{i,t} + \beta_5 Growth_{i,t} + \beta_6 ESG_{i,t} + \epsilon_{i,t}$.

The study employed Driscoll-Kraay robust measure to control the panel data set's heteroscedasticity and auto-correlation. Various specification tests are employed in order to identify the best panel regression model for every dependent variable. These include the Wald Chi² test for model fit under random effects, the F-test for fixed effects, the Hausman test to determine between fixed and random effects models, and the Breusch-Pagan Lagrange Multiplier (BPLM) test to compare random effects with pooled OLS.

7. Analysis and Interpretation

The steps stated in the methodology section were followed to determine the model *i.e.*, pooled OLS, fixed effect and random effect models for panel regression. In this case, all three models are accepted as fixed effect model because here null hypotheses are significant by the fixed effect model as well as the BPLM test and the null hypotheses of the Hausman test is also significant that's why the fixed effect model was chosen. The test results are shown in Table 2.

Table 2 Selection of Appropriate Model for Panel Regression Result

Dependent variables	Random Effect Wald Chi2 Value	BPLM Test Chibar2 Value	Fixed Effect F Value	Hausman Test Chi2 Value	Appropriate Model Applied
Tobin's Q	201.55***	71.41***	21.15***	10.97*	Fixed Effect

ROA	43.56***	283.48***	4.89***	39.92***	Fixed Effect
ROCE	34.05***	217.05***	5.16***	28.89***	Fixed Effect

Source: Author's Own Tabulation

The result of the study shows that ESG score has a negative and significant relationship with financial performance in Model 2 (ROA) and Model 3 (ROCE) again it has a significantly positive relationship with market performance in Model 1 (Tobin's Q). The fixed-effect models have an R-squared value of 0.3847, 0.1264 and 0.1322 in Model1 Model2 and Model3 respectively. It implies that independent variables explain 38.47%, 12.64% and 13.22% of the variation in the dependent variables. The F-statistics of the model are 275.29 for Model 1, 33.39 for Model 2 and 29.43 for Model 3 which are statistically significant at the 1% level.

The study shows that there is a significantly negative relationship between risk and market performance (Tobin's Q). On the other side, there is a positive and significant relationship between risk and financial performance (ROCE), the result is not similar to studies of M. Lawrence (2022); Thomas C.J. Tuyon *et al.*, (2021). Risk is related to the stability of the company. This can lead to a lower market valuation and raise concerns about the companies' ability to maintain profitability and financial stability. Companies with such relationships may need to address risk factors, improve transparency and demonstrate effective risk management to regain market confidence and enhance their financial performance. According to Tobin's Q, the higher risk of a company affects market perception negatively. It signifies efficient use of capital, competitive strength, investor confidence and a strategic focus on maximizing returns. However, it's essential to consider other factors and conduct a comprehensive financial analysis to ensure that this relationship is sustainable and not driven by short-term gains at the expense of long-term success.

Table 3: Results of Panel Regression Model Estimations

<i>Fixed Effects Estimation with Driscoll and Kraay standard errors</i>			
	Tobin's Q (Model-1)	ROA (Model-2)	ROCE (Model-3)
Independent Variables	Co-efficient	Co-efficient	Co-efficient
<i>Risk</i>	-1.681281*** (-4.85)	-0.226334 (-0.31)	4.682746** (3.07)
<i>Leverage</i>	-1.006673** (-2.28)	-1.692777*** (-5.00)	-1.248489 (-1.03)

<i>Size</i>	-1.18991 (-1.19)	-3.862299** (-3.60)	-9.761915*** (-4.22)
<i>Current Ratio</i>	0.3527369*** (8.47)	0.063771*** (3.78)	0.096412*** (5.7)
<i>Growth</i>	0.1424644 (0.97)	0.6876997** (3.42)	1.270933** (3.23)
<i>ESG</i>	0.0248484* (1.85)	-0.009357* (-1.81)	-0.028594* (-1.75)
<i>Constant</i>	53.98752 (4.55)	53.98752*** (4.55)	125.9043*** (4.76)
<i>Observations</i>	252	252	252
<i>F-test</i>	275.29	33.39	29.43
<i>Sig.</i>	0.0000	0.0000	0.0000
<i>R²</i>	0.3847	0.1264	0.1322

Notes: Authors' own Calculation

*Figures in the parentheses indicate t statistics; *** indicates significant at 1% level, ** indicates significant at 5% level, * indicates significant at 10%, level.*

There is significantly negative relationship between leverage and financial performance for both Tobin's Q and ROA which is similar to the study carried out by Oprean-Stan C. *et al.* (2020); MJ Islam (2020). It suggests that the company may be facing financial challenges, reduced profitability and lower market valuation due to its debt burden. Managing leverage prudently and aligning it with the company's financial capacity and risk tolerance are essential to mitigate these adverse effects and maintain financial health.

Size has a negative and significant impact on financial performance according to both ROA and ROCE which is consistent with the studies Oprean-Stan C. *et al.* (2020); MJ Islam (2020). Accordingly, the market also responds negatively to the size as even in the long term; it is very difficult to reach higher profits from investments made by big companies. It is a clear indicator that the companies need to address these issues to enhance their financial health and long-term sustainability. Identifying the specific causes of these negative impacts is crucial for implementing effective strategies to improve financial performance and create value for shareholders and stakeholders.

Current ratio is an important tool for indicating liquidity and the coefficients of current ratio have a positive and significant impact on Tobin's Q, ROA and ROCE, which is similar to the studies carried out by M. Lawrence (2022); Thomas C.J. Tuyon J. *et al.* (2021); I Yilmaz (2021); Jadhav A. *et al.* (2020). It indicates that a company is effectively managing its liquidity, utilizing its

assets efficiently and creating value for shareholders.

Growth has a positive and significant impact on ROA and ROCE which is consistent with the studies M. Lawrence (2022); Thomas C.J. Tuyon J. *et al.* (2021); I Yilmaz (2021); Jadhav A. *et al.* (2020). It indicates that the companies are not only expanding but doing so in a way that enhances profitability, efficiency and long-term value.

8. Major Findings and Conclusions

The purpose of this study is to examine the relationship between sustainable reporting and financial performance taking into consideration the market-oriented, accounting-oriented and profitability and efficiency-oriented measures that enable a long-term and short-term perspective in select Indian companies. The ESG shows a significantly negative impact on ROA (short-term oriented measure) and Tobin's Q (long-term market measure) and a significantly positive impact on ROCE (profitability and efficiency measure). The evidence presented in the study highlights that risk has a considerable impact on market measures, as well as profitability and efficiency measures of the financial performance of a developing nation like India. In addition, because of its high debt load, the company may experience financial difficulties, decreased profitability and a decrease in market value. Leverage has a substantial impact on Tobin's Q and ROA. ROA and ROCE are significantly impacted by size and growth. Additionally, current ratio has a substantial impact on all three models, a positive and significant impact of the current ratio on Tobin's Q, ROA, and ROCE indicates that maintaining a healthy level of liquidity can benefit the companies' ability to pursue growth opportunities, enhance profitability and generate better returns on its capital, ultimately contributing to its overall financial performance and attractiveness to stakeholders. ESG score has a considerable impact on Tobin's Q, ROA and ROCE suggesting that companies in developing nations like India place more emphasis on sustainability reporting as a means of improving financial performance. According to the findings of the study, it may be conclude that ESG Disclosure has significantly negative effects on firm performance and significantly positive impact on market performance. This suggests that businesses that are open about sustainability may gain the public's trust and investor's confidants. For policy maker it implies that while encouraging ESG discloser may be costly for firm in the short run but it is beneficial for long run by promoting sustainable business and market efficiency. The study has certain limitations which are as follows: a) the study is restricted to 43 companies from the Nifty 50 index which may not reflect the performance of

entire Indian corporate sector. b) The selected time frame is restricted to five years only *i.e.*, 2018-2023.

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