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ORIGINALNI NAUČNI RAD / ORIGINAL SCIENTIFIC PAPER

THE INTERPLAY OF MANDATORY CORPORATE SOCIAL RESPONSIBILITY EXPENDITURE AND CREDIT RATINGS

Heena Sumit Bhalotia

Ph.D. Research Scholar, Changu Kana Thakur college of Arts, Commerce and Science,
New Panvel, Maharashtra, India, heenabhalotia@gmail.com;
ORCID ID: 0009-0000-1831-1120

Mohd Merajuddin Inamdar

Assistant professor, National Institute of Securities Markets, SEBI Road, Mumbai,
India, meraj.inamdar1@gmail.com; ORCID ID: 0000-0002-0571-9845

Kıymet Tunca Çaliyurt

Professor, Trakya University, Türkiye, kiymetcaliyurtconference@gmail.com

Ashok D. Wagh

Principal: B.N.N. College, Bhiwandi, Research Guide: Changu Kana Thakur college of
Arts, Commerce and Science, New Panvel, India, askwagh@gmail.com;
ORCID ID: 0009-0004-2013-0782

Abstract: *This study explores the effect of mandatory Corporate Social Responsibility (CSR) expenditure on the credit ratings of Indian-listed firms. The sample for the study is 259 Indian listed firms evaluated by using panel regression. The study uncovers a positive connection between mandatory CSR spending and long-term credit scores, indicating that firms adhering to CSR requirements tend to enjoy elevated credit ratings. While overspending negatively impact the credit rating of the firm. India is only country where CSR expenditure as per percentage of profit is mandatory by law. This study contributes the growing literature on mandatory CSR focusing on its impact on credit ratings. The finding can help the corporate leaders to make strategic financial planning related to CSR expenditure and credit rating optimisation. With the help of this study, we provide empirical evidence that mandatory CSR expenditure significantly improves a firm's Credit ratings in an emerging economy such as India. This study is helpful for policy makers to mandate the corporate social responsibility and implementing CSR related laws.*

Keywords: CSR, Credit rating, India, Mandatory CSR spending

Jel classification: G3, M14, G24

INTRODUCTION

Corporates are regarded as entities to fulfil the demands of the market by availing required products and rendering the desired services, they are also entrusted with the social responsibility for their stakeholders. According to Bowen H, It is the responsibility of corporates to give back to the society in which they operate and corporate has responsibility beyond profit maximization. However, Friedman says expenditure

incurred on CSR is taken as a non-fruitful use of shareholder's income and it hinders in value maximization of shareholder's wealth. Moreover, Bhalotia & Wagh points out that in times of economic uncertainties, corporates strategic realign CSR investments indicating corporate resilience.

The differentiated views on the topic have triggered a vast amount of research on CSR, and its effect on the company's varied financials. Though unidirectional results have not been achieved in this regard. Few studies like Orlitzky and Cho, et.al concluded a positive link between the financial performance of firms and CSR while Han et al. does not find any significant relationship between CSR and the Financial performance of the firms. At the same time, Sekhon & Kathuria find a neutral or negative association between CSR and financial performance, taking different variables.

In India, CSR disclosure has been made mandatory with the Companies Act 2013, which came into effect in April 2014. Thereby making corporates compulsorily spend on CSR activities. Firms with a net worth of 500 crores or turnover of 1000 crores or a net profit of 5 crores are obliged to spend at least 2% of their average annual profit of the last 3 years on CSR activities. To bridge the gap between society's expectations and firms' investment in CSR, Indian Government has passed this regulation and has set a precedent in the world. It would ensure sustainable development and a fair legal platform in the country. The current study explores the effect of Mandatory CSR expenditure on Credit ratings of the firm in India.

THEORETICAL BACKGROUND AND HYPOTHESIS FRAMING

Credit ratings depict the financial obligations of a firm. It might differ if the non-financial disclosures made by the firm vary. The credit ratings can be enhanced or sub-grade based on the disclosures made by the companies. Devalle & Fiandrino studied the credit ratings of the firm in association with ESG scores for Italian and Spanish companies. Barnea & Rubin discovered that managers may overspend on CSR for personal advantages leading to inefficient resource allocation of shareholders' money. Further, the link between these two variables has hardly been tested in the context of a developing economy except for a few, while most studies focus on developed nations, such as evidence from emerging markets remains relatively limited. To cover this gap, we have attempted to study the variables in the emerging economy of India. Moreover, most of the studies have been conducted on a voluntary aspect of CSR like Bannier et al. and Attig et al.. The effect of voluntary CSR on credit ratings may differ from that of the mandated aspect of CSR, Bhattacharya & Rahman. Lys et al. state that voluntary CSR does not bring profits to the firm in the future rather it indicates the profits for the time to come. Hence, for this study, we have taken the mandated CSR expenditure as per the regulation as our independent variable. Different studies have proxied CSR for different parameters such as Environment, social, and governance (ESG) scores, Bhattacharya & Sharma, Devalle et al. and Attig et al.. while some others have computed CSR scores based on a scale developed by them, Muttakin & Subramaniam and Sindhu et al.

CSR score describes the arena of CSR performance, but it does not show the quantum of CSR expense incurred, Bhattacharya & Rahman (2019). Therefore, for this study CSR is taken as the CSR expenditure as mandated by the law.

To fill in the above gaps we study the mandated CSR expenditure and its effect on credit ratings in the developing economy of India.

CSR policies across the world differ from country to country.

Hypotheses

The conclusions drawn differ greatly in this regard, which paved the way for research, further into the study of mandatory CSR in India about financial aspects and obligations of the firms. Here, we study, The effect of mandatory CSR expenditure on the Credit ratings of the firm, in Indian context.

The proposed alternative hypotheses are as follows.

H₁: Mandatory Corporate Social Responsibility expenditure has a positive influence on the Credit ratings of the companies in India.

DATA AND METHODOLOGY

The study considers companies which are listed on National Stock Exchange (NSE) and part of Nifty 500 Index. Out of a population of 500 companies around 259 companies were taken to study the relationship between mandatory CSR expenditure and Credit Ratings using panel regression. Credit ratings are inherently ordinal, and the cardinal “distance” between adjacent notches is not strictly equal. We nonetheless adopt panel OLS as our primary specification on three grounds: first, with a sufficiently fine-grained ordinal scale, OLS provides a defensible linear approximation that has been widely used in the rating-determinants literature; second, OLS coefficients are directly interpretable in the units of the dependent variable; and third, panel OLS readily accommodates firm-level heterogeneity. As a robustness check, we re-estimate the model using random-effects ordered probit and report marginal effects at the means; the sign and significance of all key variables are preserved, indicating that our conclusions are not driven by the linear-model assumption. The sample is selected as per the availability of data. The data then further clean for data analysis. The research period covers of years between 2016-2017 to 2021-2022, spanning the mandatory CSR regime in India till the time of this research study, leaving aside the initial settling years. The data has been collected for a 6-year period from the CMIE prowess database. The independent variable Mandatory CSR expenditure (MCSRE) as per the Companies Act, 2013, and actual CSR expenditure incurred by the firm (ACSRE) is taken as a measure of CSR. The dependent variable here is Credit ratings issued by credit rating agencies like Crisil, ICRA, or CARE. Ordinal values are assigned to the ratings given and mean credit rating is taken for the purpose of analysis. Control variables taken for the study are Market capitalization, Leverage ratio, Size of the firm, Age of the firm, and Profitability.

The scope of the study is limited to the firms listed on NSE500, which have been given ratings by Credit rating agencies such as Crisil, ICRA, or CARE, and data related to CSR is available for the years 2016-17 to 2021-22 FY.

Dependent variables

Credit ratings issued by third-party agencies are taken as the dependent variable. The Dependent variable Credit ratings are taken as long-term issuer credit ratings .

Credit ratings given on long-term loans by Crisil, Care, or ICRA are taken for this study. If ratings by Crisil are not available for some reason then we take the ratings by Care or ICRA, as the pattern of assigning ratings is on the same fundamentals by the

agencies . Ordinal values are assigned to the alphabetical ratings issued by the agencies in line with previous literature.

Independent variable

The measure for CSR is taken as the actual expenditure incurred on CSR activities by the firm and the mandatory CSR expenditure required to be incurred by the companies as per the law. Here two independent variables are taken; the mandated Expenditure on Corporate social responsibility (MCSRE) as per the Companies Act, 2013, and the amount of actual expenditure incurred by the firm on CSR activities in compliance with the regulation. (ACSRE).

Control Variables

Firm age: It can impact both CSR commitments and financial soundness of the firm hence an essential control in the study. Taken as years since the incorporation of the firm
Leverage: Directly affects the financial distress of the firm, hence it is important to control for firms' debt structure. Taken here as Total liabilities/ Total assets.
Firm size: Acts as a critical control to account for scale effects ensuring robust analysis for size related effects. Here we have taken it as a log of total assets. **Market Cap** is the market value of firm's outstanding shares. Firms with higher market capitalization are perceived to be more stable, hence it is taken here to control the market perception of the company's value and stability.

Profitability: Taken as profit before interest and taxes scaled by total assets. Higher earnings would mean better financial health hence this variable controls for firm's earning capacity and its influence on credit ratings.

METHODOLOGY

To estimate the impact of the credit rating on the companies taken, we have used panel regression model to capture the impact of the independent variables on the dependent variable used in the study. The estimated equation is as follows:

$$\text{Credit Rating}_{n,t} = \alpha_0 + \beta_1 \text{ACSRE} + \beta_2 \text{MCSRE} + \beta_3 \text{Firm age} + \beta_4 \text{Firm size} + \beta_5 \text{Leverage} + \beta_6 \text{Market cap} + \beta_7 \text{profitability} + \epsilon, n, t$$

Table 1. Description of the variables

Description of the variables		
Nature of the variable	Name of the variables	Description of the variables
Dependent variable	Credit rating	Ratings provided by the agencies in Letter grade
Independent variable	ACSRE β_1	Actual CSR amount being spent by the company
	MCSRE β_2	The mandate notified amount for the companies
	Firm age β_3	Age of the firm since its incorporation
	Firm size β_4	Natural log of total assets
Control variable	Leverage β_5	Total borrowings to total assets
	Market Cap β_6	Market capitalization of the company
	Profitability β_7	PBIT to total assets

Source: Author calculation

Table 1 represents the description of the dependent, independent as well as control variables taken for the study. Credit rating has been considered as the dependent variable by way of converting the letter grade to numeric coding for convenience in the analysis. CSR spent (ACSRE) has been considered the actual amount being spent by the companies towards CSR activities. CSR to be spent (MCSRE) is the amount which is mandated to the companies through the Companies Act, of 2013. In addition to that, firm age has been considered as the control variable which presents the age of the firm from the date of incorporation to till date. The firm size is considered by calculating the log of total assets. In addition to that, leverage and market cap are also being considered by taking borrowings to total assets for the calculation in the study. Finally, the profitability by way of considering PBIT to total assets has been included among the control variables to proceed with the analysis.

EMPIRICAL ANALYSIS & DISCUSSION

Summary Statistics

Table 2. Descriptive statistics

Descriptive statistics						
Variables	No. of Obs.	Mean	Median	Std. Deviation	Minimum	Maximum
Credit rating	1213	2.9736	3.1750	3.4887	0.0000	8.0000
ACSRE	1213	290.41	61.800	832.8433	0.100	9220.00
MCSRE	1213	276.31	63.000	777.0907	0.100	8840.00
Firm age	1213	38.092	32.000	22.03664	2.000	119.00
Firm size	1213	11.164	10.982	1.542903	7.342	16.47
Leverage	1213	0.2197	0.171	0.207789	0.000	0.90
Market Cap	1213	3294.2	818.667	9312.227	0.000	178184.10
Profitability	1213	0.0012	0.001	0.000754	-0.001	0.01

Source: Author calculation

Table 2 presents the descriptive statistics of the variables considered for the study. Among the variables taken for study, Market capitalization (Market cap) has a mean of 3294.2, which is the highest among the variables followed by ACSRE, and MCSRE which are 290.41 and 276.31 respectively. Whereas among the ACSRE and MCSRE, the maximum spent is 9220, followed by 8840.0, which indicates the leverage has shown the lowest volatility among the variables i.e., 0.2077 followed by 1.542 in the case of firm size. Credit rating, which is considered a significant factor is showing an average of 2.97 and a maximum of 8 (ordinal scale) across the years.

Regression results

Table 3. Cross-Correlation Matrix

Cross-Correlation Matrix							
	ACSRE	MCSRE	Firm age	Firm size	Leverage	Market Cap	Profitability
ACSRE	1	0.776	0.170	0.568	-0.008	0.773	0.003
MCSRE	0.776	1	0.143	0.572	0.006	0.794	-0.001

Firm age	0.170	0.143	1	0.168	-0.161	0.126	-0.010
Firm size	0.568	0.572	0.168	1	0.326	0.473	-0.281
Leverage	-0.008	0.006	-0.161	0.326	1	-0.031	-0.301
Market Cap	0.773	0.794	0.126	0.473	-0.031	1	0.049
profitability	0.003	-0.001	-0.010	-0.281	-0.301	0.049	1

Source: Author calculation

Table 3 presents the cross-correlation matrix of the study. Among the variables considered, the result reports the absence of multicollinearity among the variables. However, ACSRE with MCSRE is highly correlated with each other, as both variables are coming under the same cluster. Apart from that, no other variables are having the issue of multicollinearity persisting in the dataset. Which provides the signal to proceed further in the analysis.

Table 4: Regression results of the variables

Variable	Pooled OLS (1)	Ordered Logit (2)	Ordered Probit (3)
ACSRE	-0.0011 (4.21e-04)	-5.33e-04* (2.76e-04)	-3.09e-04** (1.51e-04)
MCSRE	0.0019*** (4.66e-04)	0.0014*** (3.20e-04)	7.12e-04*** (1.73e-04)
Firm age	0.0162*** (0.0040)	0.0153*** (0.0024)	0.0089*** (0.0014)
Firm size	-0.0316 (0.0747)	0.0691 (0.0436)	0.0707*** (0.0261)
Leverage	4.7999*** (0.4565)	2.5203*** (0.2678)	1.3860*** (0.1573)
Market Cap	-3.95e-05** (1.62e-05)	-3.22e-05*** (1.08e-05)	-1.45e-05** (5.88e-06)
Profitability	367.998** (119.25)	296.96*** (71.97)	196.87*** (41.71)
Constant	1.1047** (0.8254)	–	–
Cut 1	–	2.4179***	1.7631***
Cut 2	–	2.4755***	1.7984***
Cut 3	–	2.9852***	2.1100***
Cut 4	–	4.7317***	3.1152***
Observations	1213	1213	1213
R ²	0.0941	–	–
Adj. R ²	0.0856	–	–
Pseudo R ²	–	0.0575	0.0598
Log-likelihood	–	-1815.46	-1811.04
F / LR χ^2 (7)	21.80***	221.45***	230.28***

Notes: Std errors in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

Source: Author calculation

Table 4 presents the regression results of the study. Across all three models, Mandatory CSR Expenditure (MCSRE) is consistently positive and highly significant ($p < 0.01$), confirming that firms with higher statutory CSR obligations attract better credit ratings, while Actual CSR Expenditure (ACSRE) is negative across all models and significant in the Ordered Logit ($p < 0.10$) and Ordered Probit ($p < 0.05$) specifications, supporting the overinvestment hypothesis that spending beyond the mandated threshold signals inefficient capital allocation to rating agencies. However, ACSRE is significant but is negatively influencing credit rating. Which defines, rating is inversely related to the actual CSR spending. Among the control variables, firm age, leverage, and profitability are showing a positive influence at a 5% level of significance. In addition to that, R-square shows 9.41 percent, and is highly significant. That indicates keeping other variables constant, and independent variables together is explaining 9.41 percent of the dependent variables. The model fit is adequate with an R^2 of 9.41% for Pooled OLS and Pseudo R^2 of approximately 0.058–0.060 for the ordered models, with all three specifications jointly significant ($p < 0.01$), collectively affirming that mandatory CSR compliance not discretionary overspending is the key driver of credit rating improvement among Indian listed firms.

CONCLUSION, IMPLICATIONS & SUGGESTIONS

We study the impact of mandatory CSR expenditure on the Credit ratings of the firms. The regulation implementing mandatory CSR came into effect with Section 135 of The Indian Companies Act, 2013, it was the first of its kind in the world to be implemented and make CSR expenditure mandatory. We find that the mandatory CSR expenditures are positively related to long-term credit ratings issued by the Rating agencies. The study also finds that MCSRE has a considerable effect on Credit ratings, but the actual expenditure incurred on CSR activities by the firms is not only determined by the mandate issued by the government. Other factors such as firm size and market capitalization also influence the firm's decision to invest in CSR activities as we find that the actual amount spent on CSR differs from the mandated amount. This supports the Hypotheses.

The strong negative influence seen between Actual CSR expenditure (ACSRE) and Credit ratings adds weightage to the overinvestment view suggested by Jiraporn, and Barnea a & Rubin which finds that overspending in CSR activities leads to low credit ratings. The study observed 47% of observations witnessed over spent in CSR i.e. the companies are spending beyond the mandated 2% of the average profits, while 25% of observations depicted exact compliance with the law. This builds on the overinvestment theory talked about in previous research by Bhattacharyya & Rahman and Lys et al.

We provide a significant positive association between Mandatory CSR expenditure and Credit ratings. Our results add to the debate on the association between CSR and its effect on Credit ratings. Earlier studies provide different results, as positive, and negative association between CSR and Credit ratings. While most of these studies have taken the Environmental, social, and Governance (ESG) score for the study while we have taken the CSR expenditure instead of any proxy, thereby establishing a closer relationship with the variable. Prior studies in the Indian context have examined ESG disclosures as a moderating mechanism linking non-financial reporting to firm

financial performance, and the present study extends this line of inquiry by specifically examining mandatory CSR expenditure as a determinant of credit ratings.

With the help of this study, we provide empirical evidence that mandatory CSR expenditure significantly improves a firm's Credit ratings in an emerging economy such as India. This would further assist the regulatory bodies in developing countries in framing and implementing the law. It would throw light on decision making by credit rating agencies, firms and investors and their perception towards CSR.

Further studies can incorporate broader samples entailing cross country and cross industry comparison. Qualitative measures of CSR can also be tested with credit ratings to give deeper insight into the association.

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