

# CORPORATE SOCIAL RESPONSIBILITY AND FIRM FINANCIAL PERFORMANCE: BANGLADESHI LISTED PHARMACEUTICALS COMPANIES

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**Abstract:** The paper aims to investigate empirically the impact of corporate social responsibility (CSR) on financial performance in Bangladeshi listed pharmaceuticals companies. The paper uses GMM regression estimation to assess the effect of CSR on firm financial performance. This study measures sustainability disclosure by developing sustainability disclosure index based on prior studies along with global reporting initiatives guidelines and the combination of accounting and economic means of measuring firm financial performance. CSR is found to have a strong positive impact on firm financial performance in Bangladeshi Pharmaceuticals companies. The results also show moderation of earnings management on impact of CSR on financial performance. This study does not only serve as a reference work for subsequent investigations into the impact of CSR on firm performance in Bangladeshi pharmaceuticals companies but also serves as a guide to policy makers on the financial impact of CSR adoption. This study provides important managerial implications. This study advances our understanding of the CSR-financial performance relationship by exploring opportunistic motives of the bank managers in this nexus in the developing economy context.

**Keywords:** Corporate Social Responsibility, Firm Financial Performance, Pharmaceuticals, GMM.

## 1. INTRODUCTION

Corporate social responsibility and firm financial performance have a connection, which is significantly observed by (Bauman and Skitka, 2012), (Siegel and Vitaliano, 2007) and (Aguinis and Glavas, 2012) in their studies respectively on organizational behavior, strategic management and sustainability. According to Waddock and Graves (1997), Peters and Mullen (2009), it has been exposed that companies practice CSR to enhance their corporate and financial image, where Grant et al. (2008) argue that it is not necessary for all companies to perform CSR. Though Hossain et al. (2015) found the significant relationship between CSR and financial performance in the country like Bangladesh.

There is still an inconclusive direction on the association between CSR and FFP from the viewpoint of Bangladesh. But some relevant sorts of statements have generated from those by Resmi et al. (2018) and Hossain et al. (2015), where concentrated on the banking and agri-business firms respectively. Belal et al., (2015), stated that performing CSR adequately is difficult in a corrupted country like Bangladesh. However, Bangladesh is doing well in the pharmaceuticals sector. It is one of the enrich sectors of Bangladesh after the RMG sector. Though there is a lack of studies where it is unclear of the embracement of CSR plan according to the legislative. Most of the pharmaceuticals companies want to hide their corruption by invest more on practicing CSR. As a result, an outcome of CSR and FFP can be investigated.

Moreover, Sobhani et al. (2012); Muttakin et al. (2015), organized the functions of CSR in different categories, like economic-oriented CSR, environment-oriented CSR and society-oriented CSR. By this study, it is discovered that the nature of involvement between the CSR and FFP varies according to the CSR dimensions. CSR and FFP connection across three major CSR groups has a salient implication on FP, which is based on the earlier study, where a sample of 98 firm-year observations (2013-2019) is utilized.

Some key attributes make the study more significant. Such as the implications of CSR on firm activities, the research also helps to detect the potential drives on the performance by the pharmaceutical managers. The study assists to explore the reasonable force of FFP in the association between CSRR and FP. The gap is filled in the literature through this study. Though there are some observations. CSR literature can be expanded by distinguishing CSR into four certain groups largely. The influence of CSR category on firm financial performance also remains blurred. The impact of the variation of CSR categories on financial activities may help managers to focus on those categories in order to produce utmost gains. In this regard, Feng et al. (2018) suggested that some degree of corporate possessions should be distributed to gratify company's stakeholders proficiently and tactically to serve their growing demands for CSR. This research adds value to the literature on CSR and financial performance through comparing the intensity of CSR reporting on the basis of GRI procedure. This study as well contributes to the literature on CSR and FP by establishing whether the monetary dealings correlate with GRI reporting level for pharmaceuticals sector or not. On the whole, managers can gain the vital performance implications on allocating resources through this study.

In addition, the study focuses on the moderating role of the structure of the firm based on the content, which is not discovered by the earlier studies. The measures of financial performance (return on asset [ROA] and Tobin's Q) both are utilized properly through this research. Lastly

this helps to make our findings stronger. Few researchers Eloudani and Zoubir, (2015); Gatsi et al., (2016), confined the historical performance of the firm by only means of accounting measure. Ding et al et al. 2016 added only the market observation and future expectations of the firm by applying only economic measure. As a result, using single measure cannot provide complete view of the financial performance of the firm. A very effective method (generalised methods of moments- GMM) is used for the examination consequently. This evaluation facilitates exceeding any sort of heteroscedasticity with help of controlling for contemporaneous cross-correlation as well as organizing any endogeneity in the models. It is clear that with no obvious outcome of social and environmental mechanism on firm performance, social performance influence financial performance of the firm positively. We are already aware of that in Bangladesh CSR has a great constructive impact on firm financial performance from this study.

World economy is emerging day by day and this study plays a great impact on CSR practice and financial performance in pharmaceuticals sector as it provides vast awareness. This research consists of different segments, where the reviews related literature is included in Section 2, research and hypothesis development framework is showed in Section 3, methodology is presented in Section 4, data analysis techniques along with the outcomes and discussion are presented in Sections 5 and Section 6. The discussion of the limitation and future direction of research are provided in the final chapter.

## 2. THEORETICAL FRAMEWORK

### 2.1 AGENCY THEORY

According to Grougiou et al. (2014), there is an association between the company owner (principal) and the agent, where the decision-making authority is designated to the agent. Agency relationship may have a conflict of interest between the principal and the agent. The manager plays as an agent and helps to motivate to capitalize on the fulfillment of economic and psychological needs, as shareholders demand increased the corporate profitability and dividends. Management needs to perform earnings management positively in order to present financial statements from the perspective of agency and principal relationships. Cortez et al., (2009) stated that it has two significant drawbacks in the long run, through this firm's expenses can be increased and its profits and the wealth of shareholders can be decreased. Eloudani and Zoubir, (2015) and Gatsi et al, (2016) supported the mentioned statement in the course of their experimental evidence as well.

### 2.2 STAKEHOLDERS THEORY

Assembling the needs of stakeholders is the prime function of a company, concluded by Stakeholder theory Freeman (1984). Gray et al. (1995) believed that the support of company's stakeholders is one of the key facts for the continuous existence of the it, and that cooperation should be required so that the company should ask for that support. To become accustomed more, company's stakeholders should be stronger. There are different parties, who are involved in the company. That's why; Stakeholder theory is significant in this research because the theory is related to those parties. These parties specially influenced by the actions of the company including management accountability to stakeholders in terms of CSR activities and corporate financial performance.

In order to flourish and get benefited a firm must have the stability on concentration to its stakeholders, i.e., shareholders, employees, consumers, community and suppliers. It may help to divert the satisfaction in to financial gain of the firm possibly. Thus the firm can able to draw the finest attention to the labor force. It also enhances maintaining them. The community, investors and the personnel for the firm's products help to create awareness, constructive image as well (Mishra and Suar, 2010).

Barnett (2016) states that it is easier for the firms to sell their products further and get fewer contributions, particularly who have strong support of their stakeholders. The author also mentions that apart from this, these sorts of firms are less submissive to the attack of stakeholders. Later if the attack is conducted they can improve the situation. The implementation of CSR should direct to elevate the financial performance of such firms. Hence this theory considers it strongly. According to a number of empirical studies, it is found that there is significant relation between CSR and financial performance of firms (Mahbuba and Farzana, 2013; Xu and Zeng, 2015; Lee and Jung, 2016; Choongo, 2017).

## 3. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### 3.1 CORPORATE SOCIAL RESPONSIBILITY

If and how CSR contributes to firm performance have attracted lots of attention from both academia and practitioners. Besides, a prominent opinion in the CSR literature recommends the following four-part definition for CSR: "...business's social responsibility incorporates the legal, ethical, economic, and discretionary expectations that society has of organizations..." (Carroll et al., 1979). Particularly, was one of the first who persisted that profitability and public accountability were harmonious and recommend that corporations confirm their societal duties as commercial prospects. (Byun et al., 2017).

### 3.2 CSR AND FIRM FINANCIAL PERFORMANCE

Empirical studies have generated mixed results regarding the CSR-firm performance relationship. Margolis et al. (2009) conducted a meta-analysis of 251 studies on the link between corporate social performance (CSP) and corporate financial performance and found that the overall effect is positive but small. Peloza (2009) reviewed 128 studies on CSR and financial performance and reported that 75 studies (about 58.6 percent) found a positive association between CSR and financial performance, 34 studies (about 26.7 percent) found a mixed or neutral association, and 19 studies (about 14.7 percent) found a negative association. However, some studies found a negative association between CSR and firm performance. Firms may face a trade-off between social responsibility and financial performance, placing them in a disadvantageous cost position. CSR initiatives may also incur agency costs as managers obtain private benefits from building the reputation as good social citizens (such as a good career outcome) at the expense of shareholders. Actually, successful strategic integration of sustainability

initiatives requires good understanding of both market needs and social needs that a specific industry's business activities can satisfy (Ballou et al., 2012; Alonso-Almeida et al., 2014).

In accordance with the concept of stakeholder theory, which assumes that the company must be responsible to various groups in society that have influence on the company because the decisions and behaviour made will affect the welfare of the society. Good relationships between society and a company will create support from the society that affects the company's survival. Such support is reflected in customers who are loyal to the company, and employees who work optimally for the benefit of the company so as to improve financial performance. Research that proves that CSR has a positive effect on financial performance, includes research conducted by Ghelli (2013) and Ahamed et al. (2014). The research conducted by Aras and Crowther (2009) and Fan (2013) found empirical evidence that CSR has no effect on financial performance. Based on the description, the proposed hypothesis is:

$$H_1. \text{ CSR affects the firm financial performance}$$

### 3.3 EARNINGS MANAGEMENT

Earning management, which can be defined in the perspectives of managing intention, is a purposeful intervention for obtaining some private gain in the external financial reporting process (Amidu and Kuipo, 2014) by means of, for instance, disguising the accurate consequences of organization's judgements (Alali, 2010); the practice of the advantage might be management gain or/and organisation's value (Reverte et al., 2016). According to Scott (2003), there are several motivations to do earnings management: bonuses; contractual motivation; political motivation; tax motivation; CEO turnover; initial public offering/IPO; and inform investors. In order to measure earnings management, there are several models that can be used, such as Healy model, industrial model, de Angelo model, Jones model and modified Jones model (Dechow et al., 1995).

### 3.4 THE EFFECT OF CSR ON FIRM FINANCIAL PERFORMANCE THROUGH EARNINGS MANAGEMENT

Disclosure of CSR activities can help companies gain support from a conducive society environment in order for the company to operate calmly. The disclosure of social responsibility will make financial reporting transparent, encouraging managers to reduce earnings management practices. In addition, through CSR the company will improve employees' morale and maintain good relations with investors (Waddock and Graves, 1997). The low practice of earnings management within the company will create investor confidence so as to improve the company's financial performance. Based on the description, the proposed hypothesis is:

$$H_2. \text{ CSR affects firm financial performance through earnings management.}$$

## 4. RESEARCH METHODS

### 4.1 DATA COLLECTION PROCEDURES AND PERIOD OF THE STUDY

The sample consists of 14 commercial and nationalized pharmaceuticals companies scheduled in the DSE of Bangladesh over the period of 2013 to 2019. In this study, sample is comprised of 98 firm-year observations. The data were derived from the many sources of secondary data mainly from the annual reports. To assess the extent of CSR reporting, this study uses content analysis. Table 1 shows the final sample size of this sector, which selected as fact finding of this research.

**Table 1: Sample description**

Sample Size	
Number of listed Pharmaceuticals companies of the DSE in Bangladesh	14
Less: Corporations without required information (expected)	0
Total Number of Pharmaceuticals companies	14
Total firm-year observations (14× 7)	98

### 4.2 OPERATIONAL DEFINITION AND VARIABLE MEASUREMENT OF FIRM FINANCIAL PERFORMANCE

Financial performance is defined as the company's ability to manage and control its resources (IAI, 2007). There are two financial performance proxies used for this research: (1) Return on asset (ROA) (2) TOBIN Q. Return on assets (ROA) is used as the proxy of corporate financial performance. This ratio shows the capability of the firm's holdings in making profits, measures the return for each dollar invested in total assets, indicates the efficacy of firm's assets in growing shareholders' wealth, the productivity of firms' assets and how efficient the executive management is in utilizing these assets. According to Fodio et al. (2013), Tobin's Q (TQ) is the ratio of market value of a firm to the replacement cost of its assets.

### 4.3 MEASUREMENTS OF THE INDEPENDENT VARIABLE: CSR REPORTING INDEX

Following Ullah et al. (2015) and Muttakin et al. (2015) the CSR reporting index score is calculated in equation (1) as follows:

$$CSRR = \sum_{i=1}^n d_i$$

Where,

$d_i = 1$  if the item  $d_i$  is disclosed;

$d_i = 0$  if the item is not disclosed; and

$n$  = number of items.

To assess the reliability of the index, this study applies Cronbach's alpha coefficient (Cronbach, 1951) to measure the internal consistency and reliability (Muttakin et al., 2015; Belal et al., 2015). This CSR index is shown in Appendix A.

#### 4.4 MEASUREMENTS OF THE MODERATING VARIABLE: EARNINGS MANAGEMENT

In this thesis, the first measure of EM is the discretionary accruals which are measured from the Jones (1991) model modified by Yasuda in 2004.

$$ACCR_t = \beta_1 (1 / (TA_{t-1})) + \beta_2 (\Delta OI_t / TA_{t-1}) + \beta_3 (PRE_t / TA_{t-1}) + \varepsilon_t$$

where,

ACCR	=	Total accruals assessed as the variance between net incomes and operating cash flows;
TA	=	Total assets;
$\Delta OI$	=	Variation in the firm's revenue from operation between t-1 to t;
PRE	=	Firm's premises and equipment;
$\varepsilon_t$	=	An error term.

All variables and the intercept are scaled with lagged total assets that help to reduce the heteroscedasticity effect (Taktak et al., 2010). In Equation (2), the residuals are indicated as the discretionary part (DACC) of total accruals which is reliant on executive discretion and is our key variable of interest.

#### 4.5 EMPIRICAL MODELS AND MEASUREMENT OF THE VARIABLES

The following models are used to test our hypotheses:

$$FFP = \beta_0 + \beta_1 CSRR_{it} + \beta_2 FSIZE + \beta_3 DPRatio + \beta_4 LEV + \varepsilon_{it} \quad (1)$$

$$FFP = \beta_0 + \beta_1 CSRR_{it} + \beta_2 EM + \beta_3 CSRR \times EM + \beta_4 FSIZE + \beta_5 DPRatio + \beta_6 LEV + \varepsilon_{it} \quad (2)$$

Variables are defined in Table 2.

**Table 2: Variables Definition**

Variables		Measurement
FFP	=	Measured by ROA and TOBINQ
EM	=	Earnings management (Proxied by earnings management is the scale of discretionary Accruals);
CSRR	=	CSR reporting score/ index over the fiscal year (the CSR disclosures provided in the annual report);
<b>Control Variables:</b>		
Leverage (LEV)	=	The ratio of total debt to the total value of assets;
Firm Size (SIZE)	=	Natural logarithm of total assets;
DPRatio	=	The ratio of the market value of firm equity and book value of firm equity
<b>Moderating Variable:</b>		
CSRR×EM	=	Interaction of CSRR and EM
$\varepsilon_{it}$	=	An error term.

#### 4.6 DESCRIPTIVE STATISTICS AND CORRELATION MATRIX

Table 3 and 4 show the results of descriptive statistics and correlation matrix respectively. Table 3 shows that all variables were normally distributed. This study employed various transformation tools such as LnLEV, LnFSIZE, and two stage transformation to satisfy normality assumptions (Templeton, 2011). Table 4 shows that the Variance Inflation Factors (VIFs) for all correlated variables did not exceed 10, which is the cut-off point recommended by Hair et al. (2013). Therefore, there were no multicollinearity issues in this study.

**Table 3 Descriptive Statistics**

Variables	Mean	Median	Standard Deviation	Minimum	Maximum	Skewness	Kurtosis
CSRR	0.579	0.570	0.105	0.417	0.775	-0.184	0.545
DACC	0.000	0.000	0.057	-0.140	0.140	0.045	0.175
DPRatio	4.947	4.477	4.450	0.550	17.140	0.549	0.197
LEV	0.945	0.914	0.154	0.570	1.777	1.779	1.784
FSIZE	44.445	44.445	0.775	41.510	45.150	0.045	0.184
ROA	0.009	0.010	0.014	-0.041	0.051	-0.058	0.144
TOBINQ	4.777	4.770	4.047	-4.750	15.100	0.014	1.048

Notes: Variables are defined in Table 2



**Table 4** Pairwise correlation matrix (N=150)

		1	2	3	4	5	6	7
1	ROA	1	.459	.754	.597	.555	-.149	-.144
2	CSRR		1	.487	.477	.447	-.008	.050
3	LEV			1	.444	.754	-.507	-.197
4	FSIZE				1	.545	-.458	-.075
5	DPRatio					1	-.094	.094
6	DACC						1	.545
7	CSRR*DACC							1

Notes: Variables are defined in Table 2.

## 5. RESULTS AND DISCUSSION

### 5.1 THE EFFECTS OF CSRR ON FFP

Consistent with prior research, we predict a positive association between CSR and financial performance. As shown in Table 5, the interaction between CSR and financial performance (ROA) is positive and statistically significant ( $p, 0.0001$ ), supporting a positive relation between CSR and financial performance. This suggests that firms have better financial performance also do better in CSR activities.

The results showed that the CSR variable has a positive effect on financial performance as evidenced by the  $\beta$ -value of 0.18. This shows that the improvement of CSR conducted by the company through the improvement of environmental performance can improve company performance. In addition, environmental improvement efforts will get a positive appreciation from investors and impact the image enhancement for the company. Positive appreciation as well as the improvement of corporate image will provide company benefits in an effort to improve company performance. The results of research also prove  $H_2$  that CSR impact positively on FFP.

The results of this study support the research conducted by Saleh et al. (2011), Rajput et al. (2012), Palmer (2012); Ghelli (2013) and Ahamed et al. (2014) which states that CSR has a positive and significant effect on financial performance. This is in accordance with the concept of stakeholder theory which assumes that the company must be responsible to various groups in society that have influence on the company because the decisions and behavior will affect the welfare of society. Good relationships between societies and companies will create support from society that affect the company's viability. Such support is reflected in customers who are loyal to the company and employees who work optimally for the benefit of the company so as to improve financial performance. The results of this study are inconsistent with the study of Aras and Crowther (2009), Fan (2013) and Mwangi and Jerotich (2013) stating that CSR has no effect on financial performance.

### 5.2 THE EFFECTS OF CSRR ON EM

The results of this study indicate that CSR has a significant negative effect on earnings management. The result of the research shows that the improvement of CSR done by the company through the improvement of environmental performance can improve the management's earning management action. CSR gives the impact of increasing the company's operating expenses so as to reduce the company's profit. Reduced profits is a bad news for companies, it can be interpreted negatively by investors. Therefore, an effort is needed to increase the company's profit through the accounting policy by management. This study supported the study of Gargouri et al. (2010), stating that CSR has a positive and significant impact on earnings management. This is due to the high costs that companies spend on CSR activity which results in decreased financial performance. Decline in financial performance then stimulates management to take earnings management action.

CSR is also considered to create collusion between managers and employees who aim to share the profits from the action of earnings management (Gargouri et al., 2010). The results of this study are inconsistent with the research of Chih et al. (2008) and Gras-Gil et al. 2016, which states that CSR has a negative and significant effect on earnings management. The negative relationship is because companies that engage in CSR activities maintain long-term relationships with investors so that companies will try not to practice earnings management in order to maintain long-term relationships with investors.

### 5.3 MODERATING EFFECT OF EM ON THE CSRR AND FFP

The results of this research show that there is a positive and significant effect between CSR on earnings management, while for earnings management on financial performance there is a negative and significant effect. The results of research also prove  $H_2$  that earnings management can moderate (full mediation) the effect of CSR on financial performance. Management can perform accounting policies in the form of income maximization or income minimization. When management forecasted earnings in the first and second quarters of a period increase exceeding the expectations, it would cause concern for investors, so there was an effort not to recognize the profit. Efforts are made by the management of CSR activities that funding is the profit held last year. This suggests that an increase in environmental and social performance activities will have an impact on the improvement of management's earnings management. Earnings management is done by allocating unrecognized profits to cover earnings of the previous year. Not professing earnings ultimately impacts on the decline in financial performance. Research conducted by Fitriyani et al. (2014) finds empirical evidence that accrual earnings management practices affect the firm's performance over a period.

Our findings support prior work in finding a positive and significant relationship between financial performance and CSR. This improved financial performance can result in access to slack resources and further investment in CSR activities. Organization and stakeholder theory

support our findings that there is a motivation to build corporate reputation and close relationships through CSR. The results also support the mimetic and normative mechanisms of institutional isomorphic change. The results reveal that CSR objectives can be part of the core domain of organizations and help accomplish objectives for social and corporate goals. CSR objectives, including the consideration of realistic goals, quick delivery process, six sigma quality programs, reduction of production waste align with improvements in sustainable development (Seliger et al., 2007). CSR strategic objectives can be associated with organizational efforts to achieve stakeholder's sustainability with a focus on environmental, social, financial and economic performance (Baumgartner and Rauter, 2017). Corporate advantage, access to innovation, and implications include attempts to improve CSR can be a driver of improved financial performance (Inoue and Lee, 2011).

We were able to assess some intangible benefits/assets likely to be influenced by CSR. While the influence of CSR on financial performance is a widely researched area, its influence on non-financial performance still needs further investigation. This study examines the influence of CSR on non-financial performance of Bangladeshi companies. This study contributes to the literature building on stakeholder, legitimacy and social exchange theories with a focus on the CSR-firm performance link outside of prior studies in mostly developed countries by investigating the impact of the CSR on firm performance in Pharmaceuticals in a new country context.

**Table 5: GMM Regression Results for ROA Models (1-2) (N=150)**

Variables	Coefficient (t-statistics)	
	Dependent Variable ROA	
	Model 1	Model 2
Intercept	6.736 (0.006)***	10.137 (0.001)***
ROA <sub>t-1</sub>	0.161 (0.000)***	0.136 (0.001)***
CSRR	0.706 (0.000)***	0.107 (0.000)***
FSIZE	1.117 (0.000)***	0.111 (0.016)**
LEV	0.666 (0.000)***	1.607 (0.011)**
DPRatio	17.671 (0.001)***	11.073 (0.000)***
EM (DACC)		-17.711 (0.011)**
CSRR* EM		-1.360 (0.036)**
Time-dummies	Yes	Yes
Bank-dummies	Yes	Yes
Adjusted R <sup>2</sup>	0.661	0.631
Endogeneity test (p-value)	0.100	0.116
Obs. (Pharmaceuticals companies)	110	110
No. of Pharmaceuticals companies	14	14
<b>Diagnostic tests</b>		
AR(1) (p-value)	(0.001)	(0.103)
AR(1) (p-value)	(0.116)	(0.366)
Sargan test (p-value)/ Hansen test	0.116	0.111
No. of instruments	16	17
<b>Econometric tests</b>		
Endogeneity test (p-value)	0.036	0.016
LM serial auto correlation test (p-value)	0.000	0.000
White test (p-value)	0.000	0.000
Hausman F/R test (p-value)	0.000	0.000

Note: Detailed definitions of all variables are given in Table 2. The numerical figures in parentheses are t-values. \*, \*\* and \*\*\* indicate significance at the 10%, 1% and 1% levels, respectively.

## 5.4 ROBUSTNESS TEST

Table 6 reports our results of the regression analysis on the association between the overall CSR practices and firm financial performance (measured by TOBINQ) across the ten GICS industry sectors. Applying Model 1, we conduct the OLS analysis with robust standard errors, and report the results on the entire sample in column 1. The coefficient on Overall CSR (coeff = 0.0706 (0.00) loads positively, supporting that firms with more engagement on CSR activities have greater firm performance and the firm involves in EM practices that ultimately negatively impact on the firm's financial performance. The above inferences remain unchanged when using Tobin's Q as additional measures of firm financial performance. The results are shown in Table 6.

**Table 6: OLS Regression Results for Tobin Q Models (1-2) (N=150)**

Variables	Coefficient (t-statistics)	
	Dependent variable (Tobin Q)	
	Model 1	Model 2
Intercept	0.165 (0.000)***	0.126 (0.001)***
CSRR	0.706 (0.000)***	0.307 (0.000)***

LEV	0.669 (0.000)***	1.607 (0.035)**
DPRatio	27.625 (0.000)***	26.771 (0.000)***
FSIZE	6.726 (0.009)***	10.127 (0.001)***
EM (DACC)		-17.731 (0.015)**
CSRR* EM		-1.260 (0.026)**
Time-dummies	Yes	Yes
Bank-dummies	Yes	Yes
Adjusted R <sup>1</sup>	0.696	0.733
Obs. (Pharmaceuticals companies)	98	98
No. of Pharmaceuticals companies	14	14
Mean VIF	1.32	2.66

Note: Detailed definitions of all variables are given in Table 2. The numerical figures in parentheses are t-values. \*, \*\* and \*\*\* indicate significance at the 10%, 5% and 1% levels, respectively.

## 6. CONCLUSION

We have developed an empirical framework to measure how the adoption of CSR activities influences firm performance in the pharmaceuticals sector of Bangladesh. Our collection and analysis of panel data find a significant association between CSR practices financial performance. Testing and analysis results show that the CSR have a positive effect on financial performance and have proven to be significant. Meanwhile, the test results and analysis show that earnings management negatively affects the financial performance and proved significant. Then, the test results and analysis indicate that earnings management can moderate the effect of CSR to financial performance with full moderation.

The results are important for business professionals, as well as researchers and policymakers in understanding the importance of CSR in developing countries and pharmaceuticals sectors globally. Contributions of this study include building on the existing stock of knowledge regarding entrepreneurship and pharmaceuticals sector, and suggests that CSR activities help achieve improved financial performance and potential competitive advantage. Further, we have established new insights within the context of Bangladesh. In our current global world, CSR strategies can be used in national and multinational firms to enable organizational slack, ensure survival over time, and even be a market leader as organizations invest in environmental and social programs and community relations. The long-term survival of firms and available lack resources should continue to enhance CSR engagement with many important implications for practitioners and researchers. This study has important implications for entrepreneurs, researchers, and policymakers which can encourage pharmaceuticals companies to adopt CSR activities in Bangladesh and elsewhere. We next, expand on the political dynamics of this country to better set an agenda for CSR. To this end, a synchronized effort is needed to develop CSR in the Bangladeshi Pharmaceuticals sector that delivers a shared value to stakeholders and society at large.

## 7. LIMITATIONS AND FUTURE RESEARCH DIRECTION

The results should be interpreted with caution and some limitations. Due to the limiting nature of the data set (the study was carried out on selected firms on the DSE for only five years spanning from 2013 to 2019, a sample of 98 firms-year observations was obtained. It is therefore very problematic to generalize the findings to a larger population over a long period of time. This is more limiting, especially on our individual sector studies where our sample has further shrunk to a smaller sample. As a result of the smaller sample size, we were unable to explore some other sectors which could have given more revealing findings. We recommend that future research should explore other data sets or use primary data approach that can allow for more sample size and elongated time period for a more holistic view and for easy generalization of the findings. Another limitation of our study is that we did not measure CSR scores of firms in many different ways. For example, one can calculate scores for CSR strengths and concerns, give different weights on different CSR categories or use advanced software that can recognize the tone of CSR disclosure. The quality of CSR disclosure in annual reports can be more credible if there is assurance from a third party, such as an auditor. CSR effects on financial performance are more viable if CSR activities are related to firms' core strategy, which may be measured by the internal control system, such as the presence of a CSR department, CSR-related certification or implementation of CSR-related global standards (e.g. ISO26000). Our research warrants further work on examining the moderating role of corporate governance in affecting the CSR-firm performance relationship. Our study on the moderating effect of corporate governance can be extended internationally by using a global sample. CSR and corporate governance are shaped by a country's economy, political system and culture. It would be interesting to investigate these cross-country and cross-culture variations in this moderating effect. We also identify an important lacuna necessitating further research effort. It would be interesting to empirically examine the threshold point of a firm's size beyond which CSR damages the firm's performance. Knowledge of this will guide managers of firms in their strategic CSR decision.

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#### APPENDIX A

CSR Reporting Index (Total = 35)

Items no.	Economic Dimension
1	Infrastructural and institutional development
2	State of domestic economy
3	Capital structure
4	Time contributions such as staff volunteering in paid time
	Environmental Dimension
5	Energy saving policies
6	Information concerning energy consumption
7	Energy Indirect Greenhouse Gas Emissions
8	Issues concerning climate change
9	Corporate environmental policies
	Social Dimension
10	Importance of community development
11	Granted fund for blind education and rehabilitation;
12	Grants to public universities
13	Sponsoring competitions
14	Scholarships for physical disable students;
15	Engaged in treating cleft lips, cataract, cancer and leprosy
16	Reward/ Promotion and recognition for better performance
17	Freedom of association for collective bargaining
18	Employee compensation, welfare or donation
19	Entry level wage compared to local minimum wage
20	Basic salary of men to women by employee category
21	Male-female ratio in employment
22	Rehabilitating the disabled
23	Creating Job opportunities

24	Tourism development
25	Nature of training attended by the employees
26	Healthy and safe workplace for staff
27	Support to the foreign victims
28	Vaccinations or other health programme of employees
29	Research and development for products and services
30	Use of Solar panel in office
31	Good customer relation
32	Mosque construction
33	Donation to prime minister fund/Relief fund
34	Financial contribution to the victims in accident or other tragedies
35	Heritage preservation

**Sources:** Adapted from GRI (G3; G3.1; G4); GRI - FSS; Sobhani et al., 2012; Ullah et al. (2015) Belal et al. (2015); Khan et al. (2013); Muttakin et al. (2015).

