



An Empirical investigation of the relationship between Corporate Social Responsibility and Financial Performance (Evidence from Manufacturing Sector of Pakistan)

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ABSTRACT

Relationship between Corporate Social Responsibility (CSR) and Financial Performance (FP) has been a very important issue and topic of great interest for researchers since from the origin of business entities. This actually motivates organizations to think broadly about their obligations towards the society in which they operate rather than just maximizing their wealth. Therefore, this study is conducted with the aim to explore the nature of relationship between CSR and FP in the context of Pakistan. Panel data of one hundred non-financial firms for the period of 2006-2009 has been collected from manufacturing sector. These firms are listed at Karachi Stock Exchange and their data has been collected from their annual reports. Statistical tools and techniques such as Correlation and Generalized Least Square Random Effect Regression have been applied to analyze the data. Results revealed that the nature of relationship between CSR and FP is positive in case of Pakistani manufacturing firms.

KEYWORDS: (Corporate Social Responsibility, Financial Performance, shareholders' value, Panel Data, Manufacturing Sector, Pakistan).

INTRODUCTION

Different issues regarding corporate social responsibility (CSR) attained great attention by academicians and managers during last few decades. Different, yet related terms of CSR have been used in the context of academics and corporate sector such as corporate philanthropy, corporate responsibility, corporate citizenship, business ethics, stakeholding, community involvement, socially responsible investment, sustainability, triple-bottom line, corporate accountability and corporate social performance. World Business Council for Sustainable Development defined CSR "the commitment of business to contribute to sustainable economic development, working with employees, their families and the local community and society at large to improve their quality of life" [1, pp. 6]. The concept of CSR is as old as the business organizations. Business is considered as one of the most important agent of changes within society for the last two centuries [2]. After the industrialization in late 1800s, large organizations came up with more control on supplies and other resources and the business objectives were to make money and provide goods and services to the society. Moreover, it is worth mentioning that single organizational decision at that time had potential to affect the lives of stakeholders such as employees, customers, shareholders and surrounding societies. Emerging issues like getting more control on stakeholders and organization-community relationship entail the needs of the social responsibility upon corporate sector. From this point, a furious debate on the antecedents and consequences of CSR with respect to the firm's performance and societal well-being was started.

There is an increase in competition among the national and multinational companies to gain more advantages by establishing goodwill relationship between both the state and the civil society. Only those firms that attain the good will of the general public and behave good corporate citizens will be able to develop these intangible assets into strategic advantages in order to achieve organizational goals and objectives efficiently and effectively. In the 21st century, world great companies confront number of new changes and challenges that will decide the survival and prosperity of these firms. After the world top companies scandals such as Nike, Enron, WorldCom and Parmalat along with the environmental changes due to the climate effect proved CSR as one of the most important challenges among the variety of new millennium challenges [3]. These issues not only forced the businesses to rethink their responsibilities towards their various stakeholders but also instigated the scholars to investigate the role of CSR in firm sustainable performance and what type of relationship exist between CSR

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and firm's financial performance. Numbers of researchers all around the world have investigated the relationship between CSR and FP but conflicting results were found [4, 5] and this enhances the curiosity of researchers to further investigate this relationship. One of the main point of this debate is the nature of relationship between CSR and FP, so far researchers have proved the positive, negative, and no or neutral relationship between CSR and financial performance [6-8]. Major reasons for these limitations and conflicting results are lack of theoretical foundation and methodological problems [9].

Above all most of studies both theoretical and empirical that try to explore the nature of relationship between CSR and FP based on developed economies and very few has been done in the perspective of developing economies ignoring the fact that social issues and societal problems are more common in these economies. Due to the globalization and with the increase in intensity of competition in the business market of World, companies are expanding their boundaries from the country of their origin towards the sprouting markets of developing countries which have been referred as emerging markets. Developing economies are among those economies which are spreading very fastly and therefore growth of their markets is very productive and profitable for businesses [10]. Therefore, establishing good reputation in the emerging markets and establishing fine relationships with the investors, creditors and other various stakeholders of these markets; companies should focus more on their satisfaction and living betterment. For this purpose companies introduce new tools and strategies in order to compete and being stable in the dynamic environment. Among these various tools and strategies CSR (corporate Social Responsibility) is considered one of leading and most effective of them. Moreover, this important issue is still neglected in the context of developing economies in spite of the fact that all around the world socially responsible issues and environmentally related problems are extensively and actually realized in the developing countries [11, 12]. According to the report of World Bank: WB, [13] in developing economies both positive and negative impacts of social and environmental actions are probably most dramatic on globalization, investment patterns, business commotion and on economic growth.

As far as CSR in Pakistani culture is concerned, problem lies at both ends i.e. corporations and general public both are less aware about their rights and responsibilities. Pakistan is far behind developed world in term of CSR awareness among public and industrialists. Secondly, this country is facing problems like continuous inflation, terrorism, natural disasters, and industrial crises, lack of health and educational infrastructure and political, economic instability. There are few multinational and national companies in Pakistan like Pakistan State Oil, Shell, Unilever, Packages, ICI, and Nestle which contribute a portion of their profit into CSR. However, there is still a need to create an awareness of long-term benefits of CSR for firms and general public. CSR has gained vital attention of researchers in western world but little amount of attention has been paid to CSR in developing world [14]. Secondly, CSR has not yet been sufficiently studied in the context of the Pakistan; therefore firms are taking CSR as a liability instead of a source for long term benefits for the firms and general public. Therefore, there is intense need to investigate and study this important issue and understand the socially responsible behavior of companies in case of developing countries like Pakistan

To fill this research gap and to develop the conceptualization of CSR in Pakistan, present study is aimed at exploring this issue of social concern and its relationship with firms' financial performance. Remainder structure of this research has been organized as follows; the second segment of the paper develops hypothesis under the discussion of some previous studies that have been investigated the nature of relationship between CSR and FP. Third part describes the methodology which includes the illustration of data, sample, variables and model specification. Fourth part presented the results and discussion and finally fifth part conclude the overall study.

LITERATURE REVIEW and HYPOTHESIS DEVELOPMENT

In the finance literature we found a lot of studies that attempted to explore the nature of relationship between firm's profitability and its social performance [15]. Different researchers conducted different studies with different methodologies. Some adapted theoretical studies in order to prove that CSR has an impact on the financial performance of a firm like [16] and on the other hand there is also the rich literature of empirical studies that had been done in order to find the relationship between CSR and FP [17, 18]. But we did not find the consensus between the results of researchers on the nature of relationship between corporate social welfare and corporate financial performance of an organization. The main reason is the certain theoretical and empirical limitations that make the relationship of corporate social performance and profitability complex and difficult to examine scientifically [19, 20]. Regarding the relationship between corporate social welfare and corporate financial performance of an organization we have three different school of thoughts negative, positive and no or neutral.

Positive Relationship

First school of thoughts is in favor of positive relationship between the CSR and financial performance of a firm. They are in view that firms have different classes of internal and external stakeholders and in order to satisfy their social demands and avoid their negative confrontations like boycotts, complaints, objections, and protests etc firms have to consider social commitments while taking their decisions [21-23]. Among this group, Freeman, [24] work is considered as a foundation in defining the positive relationship between CSR and FP. He argued in the perspective of stakeholder theory that responsibility of the organization's management now goes beyond the profitability and they must consider the social affairs in their decisions because firm's responsibility is not only to satisfy the shareholders but to consider and satisfy all types of firm's stakeholders. Corporate social behavior and matters are very critical and important for firms in order to achieve long term success similarly like other market aspects and factors [25]. There are various types of CSR issues like environmental issues, relationship with employees, societal welfare, safer products and diversity. These various CSR issues have positive relationship with FP; however, intensity of interaction between these CSR issues and FP varies depending on the demands confronting from firm's different stakeholders [9]. It is easier for those firms that have good relations with their employees and possess good reputation of CSR in the market to recruit better employees which in turn may increase the productivity of firm with relatively incurring low cost and lead to improved financial performance [26].

Hypothesis 1: Financial performance and social activities exercised by a firm have positive association with each other.

Negative Relationship

According to the second school of thoughts there is a negative relationship between CSR and FP. They found that Corporate Social Responsibility is a financial burden for the firms and have negative impact on firm's performance [27]. When we are talking about negative relationship between CSR and FP then we cannot conclude it without discussing the Friedman, [28] work in this regard who started this debate and declared the negative relationship between corporate social responsibility and financial performance. According to the Friedman, [28] generating funds and wealth for the stockholder is the only major and core liability of the firm's management rather than wasting economic resources in socially related obligations. Business management must represent the best interest for the shareholders while taking managerial decisions and that interest must only be the maximizing profit for them; any other social and moral deliberations and intentions of a firm are totally unrelated to the firm's profit [29]. Moreover, decisions regarding these social activities can lead to severe conflict between management and their potential shareholders which further may cause the disturbances in the financial performance [7, 30, 31].

Hypothesis 2: Financial performance and corporate social responsibility of a firm have negative relationship.

No or Neutral Relationship

Last class of researcher found no or neutral relationship between CSR and profitability of a firm. The main reason of founding no relation between CSR and financial performance of firms are large numbers of confusing, complex and difficult factors that might be the important determinants to study the impact of CSR on profit [32, 33] These are remained uncovered for the researchers and this might be the major cause that the researchers failed to conclude any particular correlation between CSR and financial performance and make this relationship complex as well to understand [34-36]. McWilliams & Siegel, [37] tried to find out the relationship between CSR and CFP, the main variable for CSR of this study was R&D and they found no significant result of R&D on enhancing the economic performance of business companies. McWilliams & Siegel, [6] conducted another in order to confirm that weather CSR has any impact on the profitability; this study based on supply and demand models of corporate social responsibility and found the neutral association because the cost of CSR activities and later on profit from them cancel out each other in the market equilibrium.

Hypothesis 3: Financial performance and corporate social responsibility practiced by a firm have no effect on each other.

METHODOLOGY

Data and Sample

In order to investigate the relationship between CSR and FP in the context of Pakistan, present study initially selected 100 non-financial firms from the four manufacturing sectors (chemical, construction and material, automobile, pharma and bio-tech) listed at Karachi Stock Exchange. The panel estimation is done from

the year 2006 to 2009. Only those firms selected in this study which remained listed during the period of 2006 to 2009 and disclosed the data of CSR in their financial reports. After meeting this criteria 62 firms finally selected and there are 248 observations. Manufacturing sector is one of the leading and third largest sectors in Pakistan which accounts for 18.5 percent of Gross Domestic Product (GDP), and 13 percent of total employment (Economic Survey of Pakistan 2009-10, pp. 39). The main reason for selecting manufacturing sector is the fact that it is involved in the production of goods, deals with machines and different types of hazardous materials which require more sensitive health and safety precautions for labor force and surrounding community, therefore it requires being more conscious about CSR [7].

Dependent Variable: Corporate Social Responsibility

Dependent variable of this study is Corporate Social Responsibility (CSR) which is defines as firm's responsibility to perform such activities that help them improving and promoting the societal well-being, protecting the environment and take good care of their employees and different stakeholders like societal groups, consumers, suppliers, shareholders, regulatory authorities and Governments beyond their legal and economical commitments [38, pp.3]. Thus, CSR is a multifaceted construct as different dimensions are used for its measurement. However, Present study used two dimensions Donations and Employee Welfare Fund for the measurement of CSR and used constructive measure of them as a proxy for CSR.

Existing literature on CSR and FP relationship shows that there are large numbers of studies who used donations as a proxy for CSR such as [8, 39-42]. In case of Pakistan almost all companies report their various social activities and concerns like (Charity, Aids, Environment protected projects, Education, Hospitals/health providing services, Community/societal betterment programs) under the head of 'donations' and data is available in their audited financial annual reports. Moreover, under the Companies Ordinance 1984, in compliance with part III, E-1 of schedule 4; Securities and Exchange Commission of Pakistan (SECP) as a regulator made it requirement for all listed companies to inform about their spending on corporate donations in the profit & loss accounts. Taking good care of employees and labor is another dimension that is extensively used for CSR [43]. Almost every study on CSR used this proxy see [9, 43, 44]. In addition, under the Worker's Welfare Fund Ordinance (WWF) 1971, companies should participate and disclose their amounts of spending toward worker welfare in their annual reports. Following the work of Zairi & Peters, [45], Lin et al., [8] and Makki & Lodhi, [42]; the present study used donations as partial measure of CSR. However, an addition is made by introducing employee perspective of CSR in the form of worker's welfare fund. Thus, a combined construct of CSR established on the basis of following method.

$$\text{CSR} = \text{Donations} + \text{Worker's Welfare Fund} / \text{Earnings before Tax}$$

Independent Variable: Financial Performance

Four proxies Return on Assets (ROA), Return on Equity (ROE), Earnings Per Share (EPS) and Firm's Growth (FG) are used as a measure of financial performance. ROA represents return on assets which is calculated as ratio of earnings before tax to the total assets. ROE represents return on equity which is defined as earnings before tax divided by total number of common shares outstanding. EPS represents earnings per share; which is defined as net profit to number of shares outstanding [46, pp.156]. This study used growth in sales as a proxy for growth and is calculated as change (difference) in the annual sales value of firm with reference to its previous year's sales $[(\text{Sales}_t - \text{Sales}_{t-1}) / \text{Sales}_{t-1}]$ [47, pp.149, 48, pp.150]

Control Variables

In previous research studies that investigate the relationship between CSR and FP suggested that leverage, size, risk and age are found to be the important factors that affect the social performance as well as financial performance of a firm, therefore (leverage, size, risk and age) are used as control variables in this study [49-51].

Where

Size is measured as $\text{LOTA} = \text{Log of Total Assets}$ and $\text{LOTS} = \text{Log of Total Sales}$

Leverage is measured as $\text{LVRG} = \text{Long term debt} / \text{Total assets}$

Age (AG) = Total Number of Years after Incorporation to date

Risk is measured as beta

Model specification

Following the studies of [52, 53] Random-effects Generalized Least Square (GLS) regression on panel data is used in this study to examine the given relationship between CSR and FP. As compared to Ordinary Least

Square (OLS), GLS is capable of generating those estimators which are best linear unbiased estimators (BLUE) because it takes into account the variability in the dependant and independent variables explicitly [54, pp.395]. There are basically four models of this study; every model contains CSR as a dependant variable and financial performance as an independent variable with leverage, size, risk and age as control variables. There are four different measures of financial performance (ROA, ROE, EPS, and FG) and every model contains different proxy of financial performance. Each of these models is further subdivided into four sub-models which are differentiated with each other on the basis of control variables used in each sub-model.

When CSR is the dependant variable and ROA is independent variable

$$\begin{aligned} \text{Model 1.1} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{ROA}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{LOTA}_{it} + \varepsilon_{it} \\ \text{Model 1.2} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{ROA}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{LOTS}_{it} + \varepsilon_{it} \\ \text{Model 1.3} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{ROA}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{RISK}_{it} + \varepsilon_{it} \\ \text{Model 1.4} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{ROA}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{AG}_{it} + \varepsilon_{it} \end{aligned}$$

When CSR is the dependant variable and ROE is independent variable

$$\begin{aligned} \text{Model 2.1} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{ROE}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{LOTA}_{it} + \varepsilon_{it} \\ \text{Model 2.2} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{ROE}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{LOTS}_{it} + \varepsilon_{it} \\ \text{Model 2.3} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{ROE}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{RISK}_{it} + \varepsilon_{it} \\ \text{Model 2.4} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{ROE}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{AG}_{it} + \varepsilon_{it} \end{aligned}$$

When CSR is the dependant variable and EPS is independent variable

$$\begin{aligned} \text{Model 3.1} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{EPS}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{LOTA}_{it} + \varepsilon_{it} \\ \text{Model 3.2} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{EPS}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{LOTS}_{it} + \varepsilon_{it} \\ \text{Model 3.3} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{EPS}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{RISK}_{it} + \varepsilon_{it} \\ \text{Model 3.4} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{EPS}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{AG}_{it} + \varepsilon_{it} \end{aligned}$$

When CSR is the dependant variable and FG is independent variable

$$\begin{aligned} \text{Model 4.1} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{FG}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{LOTA}_{it} + \varepsilon_{it} \\ \text{Model 4.2} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{FG}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{LOTS}_{it} + \varepsilon_{it} \\ \text{Model 4.3} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{FG}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{RISK}_{it} + \varepsilon_{it} \\ \text{Model 4.4} \quad & \text{CSR}_{it} = \beta_0 + \beta_1 \text{FG}_{it} + \beta_2 \text{LVRG}_{it} + \beta_3 \text{AG}_{it} + \varepsilon_{it} \end{aligned}$$

RESULTS AND DISCUSSIONS

After the missing data of either financial performance data or CSR data, there are total 62 firms remained in the sample and 248 numbers of observations. Table 1 provides the correlation (Pearson's) results between accounting measures of financial performance (ROA, ROE, EPS and FG) and Corporate Social Responsibility (CSR) with financial control variables size (LOTA, LOTS) leverage (LVRG) risk and age (AG). Table 1 show that three proxies of financial performance (Return on Assets, ROA; Return on Equity, ROE and Earning per Share, EPS) are positively and significantly associated with CSR. However, the association between CSR and FG is positive but insignificant. A positive and significant correlation is observed between ROA and CSR ($p < 0.001$; .276), ROE and CSR ($p < 0.001$; .267) EPS and CSR ($p < 0.001$; .225). This positive association between financial performance and CSR reveals that any increase in any one of these leads to an increase in the other. The correlation coefficient is positive between financial indicators (ROA and ROE) with size (log of total assets) and significant at ($p < 0.05$) significance level. An EPS and FG association is positive but insignificant with size when it is measured in terms of log of total assets. Moreover, when size is measured in terms of log of total sales results are stronger. Significant positive correlation is encountered between ROA, ROE and EPS and log of total sales (.229, .314 and .363) significant at ($p < 0.001$) level. Firm growth is still insignificantly correlated with size. A high negative and significant correlation is observed between all the measures of financial performance and leverage. This is because profitable firms preferred retained earnings over leverage to finance their business projects and fulfill other financial and operational needs. Risk and age is insignificantly correlated with all financial measures. However, firm Growth is negatively and significantly correlated with age (-.162) significant at ($p < 0.05$) respectively. This is because as get older and older the growth opportunities become

stagnant and firms' growth margins become narrower as compared to their early years of age. All the results of correlation matrix are below the harmful limits of 0.09. As Tabachnick & Fidell, [55] explained that harmful multicollinearity can exist between independent variables if the bivariate correlation is 0.90 or greater than this.

Table 1: Pearson's Correlation Matrices: Correlations with CSR, and Financial Performance, and Control variables

Sr. No.	Variable	1	2	3	4	5	6	7	8	9	10
1	CSR	1	.276**	.267**	.225**	.012	-.095	.020	-.276**	.131*	.069
2	ROA		1	.447**	.432**	.147*	.159*	.229**	-.309**	-.043	.043
3	ROE			1	.507**	.200**	.132*	.314**	-.301**	-.041	.019
4	EPS				1	.154*	.051	.363**	-.281**	-.049	.028
5	FG					1	.021	.072	.064	-.106	-.162*
6	LOTA						1	.445**	.148*	-.077	.067
7	LOTS							1	.010	-.079	.009
8	LVRG								1	-.003	.001
9	Risk									1	.000
10	Age										1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed)

In **table-2**, model 1.1 contains variables ROA as an independent variable with Leverage and size (Log of TA) as control variables. In this model ROA has significant positive effect on CSR (0.258, $p < 0.001$) which means that one percent change in ROA leads to 25.8 percent change in firm's CSR. The coefficient of leverage is negative and significantly related to CSR at ($p < 0.001$) level, meaning that one percent increase in leverage results in 13.6 percent decrease in CSR. Size (Log of TA) is an insignificant variable for predicting CSR. Coefficient of determination (R^2) for model 1.1 is 0.124, which means that about 12.4% variation in CSR is caused by the concerned independent variables in model 1.1. A similar story is seen in Model 1.2 where ROA and Leverage both are significant at $p < 0.001$, having a positive (0.262) and negative (-0.138) effect on CSR respectively but size (Log of Sales) has insignificant effect on CSR. R-square for model 1.2 is 0.120 means that independent variables of this model bring about 12% changes in CSR. Model 1.3 includes ROA, Leverage and Risk as independent variables and all these three variables are significant in predicting CSR. ROA is again responsible for a positive change in CSR (0.261), and leverage effects CSR significantly in negative (-0.140) direction. Risk in this model has the highest value of beta coefficient (0.748) which means that one percent increase in firms risk brings 0.748 percent changes in CSR in positive direction. This model has R-square to be 0.141. ROA, Leverage and age are independent variables in Model 4, where age is insignificant. ROA and Leverage behave in the same direction as in model 1.1, 1.2 and 1.3 with a very slight change in their beta coefficients i.e. 0.256 and -0.140 respectively, and this model has R-square to be 0.125. Moreover, in table-2, when ROA is independent, it is seen that all models from 1.1 through 1.4 are significant and confirms the validity and significance of models ($p < 0.001$) which is determined by a significant value of Wald-Chi Square. Durbin Watson values are within the range of 1.5 to 2.5 and rejected the presences of autocorrelation within the independent variables. Further as shown for table-2 when ROA is an independent variable utilized to measure financial performance, the Random Effect (RE) is more precise than the Fixed Effect (FE) since the results of Hausman test are insignificant.

Table 2: Results of Generalized Least Square Random Effect regression analysis using CSR as a dependent variable and ROA as an independent variable with control variables.

Dependent Variable: Corporate Social Responsibility				
Variable	Model-1			
	1.1	1.2	1.3	1.4
Independent Variable				
ROA	(3.52)*** [0.258]	(3.34)*** [0.262]	(3.63)*** [0.261]	(3.50)*** [0.256]
Control Variables				
Leverage	(-2.55)*** [-0.136]	(-3.27)*** [-0.138]	(-2.68)*** [-0.139]	(-2.65)*** [-0.140]
Size (Log of Total Assets)	(-0.47) [-0.557]			
Size (Log of Total Sales)		(-0.09) [-0.633]		
Risk			(2.16*) [0.748]	
Age				(1.19) [0.066]
Year Dummy	Yes	Yes	Yes	Yes
R ²	0.124	0.120	0.141	0.125
Wald-Chi Square	28.97***	28.69***	34.27***	30.14***
P(x ²)	0.0001	0.0001	0.0000	0.0000
Panel Data Model Typ	Random	Random	Random	Random
Hausman Test	3.47	3.25	4.27	6.91
Durbin Watson	1.98	1.98	2.00	1.97

+p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001
 Values inside the small parentheses are z-values
 Values inside the large parentheses are beta coefficients
 P(x²) indicate the significance level of Wald-Chi Square

Model 2.1 of table-3 contains ROE as an independent variable with Leverage and Size (Log of TA) as control variables. ROE has significant positive (0.145, $p < 0.001$) effect on CSR, meaning that one percent change in ROE causes 14.5 percent change in CSR in positive direction. Leverage has a significantly negative relationship with CSR (-0.139, $p < 0.001$) but Size (Log of TA) does not have a significant relationship with CSR. In Model 2.2 treats ROE maintain their significant positive (0.150, $p < 0.001$) relationship with CSR and leverage has significant and negative (-0.143, $p < 0.01$) relationship respectively with CSR but again size in terms of (Log of Sales) is insignificantly related to CSR. ROE, Leverage and Risk are used as predictors for CSR in model 2.3. Here all independent variables have a significant relationship with CSR; that ROE has significant positive (0.146, $p < 0.001$) relationship with CSR and among control variables leverage (-0.139, $p < 0.01$) share a significant negative relationship while Risk (0.741, $p < 0.05$) share a significant positive relationship with CSR. In model 2.4, ROE (0.145, $p < 0.001$) and Leverage (-0.142, $p < 0.01$) are significantly related to CSR but age is found to be insignificant. Overall model fitness exhibits significance for Model 2.1 through 2.4 ($p < 0.001$). Coefficient of determination (R²) of models 1.5 through 1.8 indicate that about 12.2%, 12%, 14% and 12.3% variation in dependent variable (CSR) is caused by the independent variables of each model (2.1-2.4) respectively. Moreover, these models are individually best fitted as $p < .001$ of Wald-Chi-Square statistic for each model is significant. The statistical values of Durbin Watson Test lie between the ranges of 1.5 to 2.5 which confirmed the absence of autocorrelation problem among independent variables. In addition, for all models of table-3 Random Effect (RE) is more suitable as compared to Fixed Effect (FE) which is confirmed by the Hausman test.

Table 3: Results of Generalized Least Square Random Effect regression analysis using CSR as a dependent variable and ROE as an independent variable

Variable	Model-1			
	2.1	2.2	2.3	2.4
Independent Variable				
ROE	(3.47)*** [0.145]	(3.53)*** [0.150]	(3.548)*** [0.146]	(3.48)*** [0.145]
Control Variables				
Leverage	(-2.61)*** [-0.139]	(-2.65)** [-0.143]	(-2.76)** [-0.139]	(-2.698)** [-0.142]
Size (Log of Total Assets)	(-0.55) [-0.654]			
Size (Log of Total Sales)		(-0.13) [-0.231]		
Risk			(2.13*) [0.741]	
Age				(1.31) [0.073]
Year Dummy	Yes	Yes	Yes	Yes
R ²	0.122	0.120	0.139	0.123
Wald-Chi-Square	28.46***	28.15***	33.52***	29.82***
P(x ²)	0.0001	0.0001	0.0000	0.0000
Panel Data Model Type	Random	Random	Random	Random
Hausman Test	4.04	2.41	3.49	6.50
Durbin Watson	1.94	1.94	1.95	1.94

+p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001

Values inside the small parentheses are z-values

Values inside the large parentheses are beta coefficients

P(x²) indicate the significance level of Wald-Chi Square

Taking EPS as a measure of accounting performance and an independent variable in **Table-4** and controlling for leverage, size, risk and age (Model 3.1 through 3.4), it is seen that EPS and Leverage remain significant predictors of CSR in all these models. In all models EPS is positively and significantly related to CSR (0.200, 0.193, 0.195 and 0.189, $p < 0.001$) and Leverage has negative significant (-0.150, -0.160, -0.159 and -0.158, $p < 0.01$) relationship with CSR. These results are evident that an increase in EPS leads a positive change in CSR, i.e. if EPS of a firm increases, firm's ability to perform CSR also raises and contradictory to this an increase in the level of corporate debt leads to decrease in CSR performance. In case of other control variables, Size in terms of both log of total assets and log of total sales in models 3.1 and 3.2 are insignificantly related to CSR. Risk along with ROE and leverage have significant effect on CSR. Here in model 3.3 Risk (0.758*, $p < 0.05$) is positively and significantly related to CSR, it means that increase in risk leads to increase in the CSR activities practiced by a firm. Moreover, in model 3.4 age of a firm is also insignificantly related to social performance of a firm. Coefficient of determination (R^2) for models 3.1 and 3.2 is 0.10 and 0.107 and for models 3.3 and 3.4 it is 0.124 and 0.122. The value of Wald Chi square is significant for all four models which means that the variation explained by the models is not due to chance and hence proved the validity of all models used. Overall model fitness for all models is significant ($p < .001$). In addition to this, the Durbin Watson statistic for all four models lies within the limit of 1.5 – 2.5 confirming that there is no problem of autocorrelation. Moreover for all the models random effect is more precise as the Hausman test is insignificant there for panel data model type is random.

Table 4: Results of Generalized Least Square regression Random Effect regression analysis using CSR as a dependent variable and EPS as an independent variable.

Dependent Variable Corporate Social Responsibility				
Variable	Model-1			
	3.1	3.2	3.3	3.4
Independent Variable				
EPS	(2.66)***	(2.57)***	(2.55)**	(2.50)**
	[0.200]	[0.193]	[0.195]	[0.189]
Control Variables				
Leverage	(-2.81)**	(-3.53)**	(-3.07)**	(-3.00)**
	[-0.150]	[-0.160]	[-0.159]	[-0.158]
Size (Log of Total Assets)	(-1.06)			
	[-1.271]			
Size (Log of Total sales)		(-0.08)		
		[-0.063]		
Risk			(2.16*)	
			[0.758]	
Age				(1.30)
				[0.073]
Year Dummy	Yes	Yes	Yes	Yes
R ²	0.101	0.124	0.122	0.107
Wald-Chi-Square	23.83***	22.42***	27.90***	24.08***
P(x ²)	0.0006	0.0010	0.0001	0.0005
Panel Data Model Typ	Random	Random	Random	Random
Hausman Test	3.48	3.71	3.99	5.24
Durbin Watson	2.00	2.00	1.95	1.97

+p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001

Values inside the small parentheses are z-values

Values inside the large parentheses are beta coefficients

P(x²) indicate the significance level of Wald-Chi Square

In **Table-5** when firm growth (FG) is taken as an independent variable and CSR as a dependant variable with leverage, size, risk and age as control variables it is seen that only Leverage remains negatively significant predictor of CSR in all four models of this table. The negative coefficients of leverage demonstrate the negative relationship between CSR and leverage and all the models are statistically significant at ($p < 0.001$). However, FG (Firm's Growth) has insignificant parameter values in all these models. It indicates that the relationship of CSR with FG is insignificant and hence it is undecided. Moreover, both proxies of Size (Log of TA) and (Log of Sales) in model 4.1 and 4.2 are found to be statistically insignificant as indicated by their p-values. In model 4.3, only the coefficient of Risk is found to be statistically significant at ($p < 0.05$) level and a percent change in risk leads to an increase of 0.753 percent in CSR. In model 4.4 the variable of age is again an insignificant parameter of CSR of a firm. The relationship of FG as a financial parameter with CSR is insignificant in all models but results Wald-Chi-Square statistic is significant ($p < 0.001$) level for each model and proved the validity of all models. The statistical values of Durbin Watson Test lie between the ranges of 1.5 to 2.5 which confirmed that there is no presence of autocorrelation in independent variables. Model data type is Random Effect (RE) which is confirmed by the insignificant value of Hausman test.

Table 5: Results of Generalized Least Square Random Effect regression analysis using CSR as a dependent variable and FG as an independent variable

Variable	Model-1			
	1.13	1.14	1.15	1.16
Independent Variable				
FG	(0.58)	(0.48)	(0.77)	(0.79)
	[0.015]	[0.012]	[0.020]	[0.020]
Control Variables				
Leverage	(-3.67)***	(-3.73)***	(-3.88)***	(-3.78)***
	[-0.191]	[-0.194]	[-0.201]	[-0.196]
Size (Log of Total Assets)	(-0.74)			
	[-0.887]			
Size (Log of Total Sales)		(-0.49)		
		[-0.373]		
Risk			(2.11)*	
			[0.753]	
Age				(1.47)
				[0.085]
Year Dummy	Yes	Yes	Yes	Yes
Industry Dummy	No	No	No	No
R ²	0.085	0.083	0.100	0.086
Wald-Chi-Square	16.56*	16.22***	20.87***	17.91***
P(x ²)	0.0111	0.0010	0.0001	0.0005
Panel Data Model Typ	Random	Random	Random	Random
Hausman Test	3.72	3.82	4.02	7.39
Durbin Watson	1.98	1.99	2.00	1.95

+p < 0.10; *p < 0.05; **p < 0.01; ***p < 0.001

Values inside the small parentheses are z-values

Values inside the large parentheses are beta coefficients

P(x²) indicate the significance level of Wald-Chi Square

Table 2 to 5 presents the results of the Generalized Least Square regression analysis using Corporate Social Responsibility (CSR) as the dependent variable and four accounting measures ROA, ROE, EPS and FG of financial performance as the independent variable, controlling for corporate debt, size in terms of total assets and total sales, risk and age. There are total 16 models in four tables and in all sixteen models, CSR is the dependant variable where as measures of financial performance varies. Models 1.1 to 1.4 present the regression result using ROA as an independent variable. The results reported in the table-2 give a strong indication that the link between CSR and FP is positive as social performance is strongly related to ROA at $p < 0.001$ for all the models and each model is significant at the $p < 0.001$ level. In table-3 ROE is replaced by the ROA, however results remain are highly significant for ROE and CSR link significant at the $p < 0.001$ level. The results are less strong, but still significant at $p < 0.001$ and $p < 0.01$ when EPS is used as a financial proxy in (Models 3.1 to 3.4). Lastly for firm growth as a measure of financial performance the results become insignificant in table-5 (Models 4.1 to 4.4).

The results of random effect Generalized Least Square (GLS) regression analysis give a strong indication that the link between accounting measures of financial performance and Corporate Social Responsibility (CSR) is positive and supports the hypothesis 1. The finding of this research is in line with the findings of many previous studies that predict a positive nature of relationship between CSR and accounting measure of FP [42, 50, 52, 56, 57]. These researchers argue that there is a positive link between social conducts and financial performance because CSR is a source of economic advantage as it helps to attract resources, attract the customer sympathies and attentions, reduces the potential internal and external conflicts like legal lawsuits from Government and other authorities.

In addition to this, firms have different classes of internal and external stakeholders and in order to satisfy their social demands and avoid their negative confrontations like boycotts, complaints, objections, and protests etc firms have to consider social commitments while taking their decisions. Due to this growing attention of firm's different stakeholders for corporate social responsibility not only encouraged but also forced the firms to inform about their social, moral and ecological activities and disclosed their ways of conduct of CSR [8, 9, 58]. Furthermore, society's expectations from corporate world are altered towards reciprocal relationship within ethical human values. Views is being established that with limited and scarce resources of world, only government is not able to meet all the social needs of societies and fulfill all the expenditures of social issues thus, both public and private sector need to join hands and create mutual consensus to address social problems of surrounding [42].

In addition firms who are involving in illegal, irresponsible practices which are unfavorable for social welfare experience financial losses that indicates the significant positive relationship between CSR and FP [57]. In addition, a large number of business managers believe that sound philanthropically practices not only improve company image among customers but may also be a competitive edge for the company [59]. Corporate social giving's always perceived as a key factor to boost company image in competitive business environment. Most of the corporate managers involve their companies in philanthropic practices to improve the relationship with customer and establish a beneficial corporate image, which promotes company to the long term financial achievements [60].

Corporate debt, size risk and age of the firm are used as control variables in this study. Results reveal that there is no significant relationship between CSR and size of a firm in terms of both (total assets and total sales) in any model. In addition age of a firm is also insignificantly related to CSR. However, results strongly recommending the negative effect of corporate debt on the social performance of corporations and positive significant effect of risk on CSR.

Conclusion

Regarding the relationship between Corporate Social Responsibility (CSR) and Financial Performance (FP) the undertaken study has tried to provide the perennial answer of one basic question of this debate: weather there is any relationship exists between FP and CSR and if so then what is the nature of this relationship. In order to evaluate the relationship between FP and CSR more precisely current research used CSR and four different measures of FP. The findings of this study about the nature of relationship between CSR and FP suggest the positive relationship between. This positive relationship between CSR and FP reveals positive social behavior of Pakistani firms. Pakistani firms are contributing in the social wellbeing of society, improving the living standards by promoting education and better health facilities, protecting environment from hazardous changes. They are also taking good care of their employees in order to build their trust and confidence. In turn these social expenditures not only facilitate the firms to attain the continuous and long term sustainable development but also help them to achieve financial benefits as well.

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