

Ownership Structure Moderates the Relationship Between Corporate Social Responsibility and Firm Performance; an Empirical study of Manufacturing Firms in Pakistan

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Abstract

The study aims to explore the association between corporate social responsibility and firm performance with the moderating effect of ownership structure. The ownership structure is divided into two parts: managerial ownership and ownership concentration. ROA and ROE are used as dependent variables as a proxy for firm performance. CSR, firm size, leverage and asset turnover are independent variables. The sample of the study includes 146 firms that are listed on Pakistan Stock Exchange (PSX) from the manufacturing sector of Pakistan. The sample time period is 6 years from 2016 to 2021. Three different regression models i.e., Fixed Effect model (FE), Random Effect model (RE) and Weighted-Least Square (WLS) have been employed to investigate the association between CSR and firm performance. The results show the following conclusions: first, CSR and firm performance are positively and significantly associated. Second, CSR and firm performance are positive and significantly associated when tested with ROE. Lastly, the interaction of ownership concentration with CSR and ROA is positive and significant indicating a significant moderating effect of ownership structure on the hypothesized relationship.

Keyword: Corporate social responsibility, firm performance, ownership structure.

Introduction

Corporate social responsibility has gained much attention from past few decades (Alshammari, 2015). CSR can be elaborated as the actions of the firm that are beyond profit maximization (Maqbool & Zameer, 2018; Freeman & Hasnaoui, 2011). For a firm to survive for long-term, the purpose of the firm should not be pure economic profit but also to contribute to the welfare of the society (Devis, 1973). Wahba and Elsayed, (2014) elaborated that by investing corporate social responsibility a business could be at a competitive edge over its competitors.

Several researches from developed and rising economies have put light on the relation between corporate social responsibility and firm performance (Adeneye & Ahmed, 2015). Corporate social responsibility has positive impact on firm performance (Javed & Lafen, 2019). There are some researchers that consider CSR as agency problem, because the managers invest in CSR activities for their personal gains (Friedman, 1970). However, Freeman (1984), encourages the managers and other stakeholders to participate in corporate social responsibility activities. On the other

hand, agency theorists consider CSR activities as an expense and leads to lower returns (Friend et al., 1988). A considerable number of studies shed light on the association of ownership structure and firm performance. Managerial ownership has positive association with firm performance (Garas & ElMassah, 2018). Another study found that the managerial ownership and firm performance are positively associated, indicating that incentives drive managers to increase CSR activities. CSR activities are positively associated with firm performance when engaging with ownership concentration (Javed & Lafen, 2019). Therefore, the main purpose of the study is to determine how CSR activities effect the performance of the firm by considering managerial ownership and ownership concentration as moderating variables. In the emerging economy of Pakistan where most of the firms are owned by families it becomes inevitable to ignore the impact of ownership concentration on the CSR initiatives of the firms. Henceforth, this study strives to fill the research gap through evaluating how the owners and shareholders of the firms respond to CSR activities of the firms. In the next section, the past literature has been reviewed pertaining to problem statement of the study. After that methodology adopted and the research findings of the study were elaborated and a conclusion was drawn based on the findings of this study.

Literature Review

According to Bowen (1953) CSR is generally referring to the commitment of the business to pursue those strategies, decisions, choices, course of actions and policies that are beneficial for the society. CSR is often regarded as the business's activities that go beyond financial goals and include those decisions intended to promote social welfare. There is no one static definition of CSR and CSR evolves over time. However, according to Homburg, et al., (2013), the definition emphasizes the broader concept of sustainability by concentrating on corporate social responsibility initiatives toward society's well-being.

CSR activities has attracted a lot of attention in recent years from academics studying business. Researchers from verity of fields such as economics and finance have been putting more spot light on the firm's social responsibilities including the dimension of these responsibilities and the potential financial benefit (Alshammari, 2015). Several researches from developed and raising economies have put light on the association of CSR and firm performance (Adeneye & Ahmed, 2015). To check the relationship between CSR and firm performance, currently there are two different narratives and theoretical foundations. The first foundation is a negative association, because doing charity work, contributing to societal development programs and supporting environmental preservation can be a reason to increase the cost. The second foundation is positive association, because they argue that CSR raises the goodwill of the company and the morale of the staff (Li, Li & Minor, 2016).

Though, the researchers conducted study on emerging economies like China constructed conflicting results on CSR and firm performance (Bai & Chang, 2016). Kim et al (2018) discovered that in U.S CSR improves the companies' financial performance. However, Wan and Liu (2013) discovered after conducting research on 382 Chinese listed companies that their stock value is inversely related to the amount they spent on environment. Businesses that are involve in CSR

activities are more appealing to the investors than those that don't do such activities (Blacconiere & Patten, 1994). Rehman, Baloch and Sethi (2015) in an empirical research carried out on cement sector found that CSR activities are positively associated with firm performance. A 50 companies sample used in another study revealed that there is positive relationship between CSR and firm performance (Ione, Ali & Khan, 2016). Previous researchers have found that CSR activities can increase firm performance (Javeed & Lefen, 2019). Moreover, according to the social impact theory CSR strengthens the social relation of the firm and has good impact on firm performance (Cornell & Shapiro, 1987). According to a research, for CSR and firm performance, return on equity is crucial, and previous studies confirm that return on asset is frequently well-used by businesses as an indicator for the performance (Moskowitz, 1972). CSR and firm performance are commonly investigated by empirical studies using accounting based performance indicators which includes ROE as total assets and sales growth, and their results indicate that CSR activities are positively associated with firm performance (McGuire, Sundgren & Schneeweis, 1988). A research done in Ghana by using structural equation modeling discovered that the association between performance of the firm and CSR is positive (Famiyeh, 2017).

On the contrary, agency theory assumes that shareholders believe that CSR is an expense and it results in lower profit (Cronqvist et al, 2009). However, Friedman (1970) expressed his concerns on negative association of CSR and financial performance of the firm. Another research found that most of the time the relationship between CSR and the performance of the firm is positive but some of the firms show negative relationship because of different industry structure (Feng et al, 2017). A study conducted in Spain on 248 companies found that relation between CSR and firm performance is positive (Casado-Díaz et al, 2014). Numerous empirical researches demonstrate that the well-being of the employee and firm performance are directly connected to CSR activities (Yu & Choi, 2014). Still many researchers have found diverse results in literature, the vast number of earlier researches have shown positive relation between CSR and FP in developed nations. On the other side, the outcomes of studies are still inadequate and diverse in developing nations. By synthesizing the prior literature, the hypothesis of the study is given below:

H1: *Corporate social responsibility has positive and significant association with firm performance.*

Various researches have been conducted on association between CSR and corporate governance. CSR develops a company obligation to its employees and to the society at large, which has relationship with firm performance and structure of corporate governance (Sharma & Khanna, 2014). H demsetz (1983) examined ownership structure for the first time, making the case that ownership structure should be analyzed endogenously. Based on property theory, ownership structure affects firm performance and how well a company operates. Many researchers have examined the association of firm performance and ownership structure but they reported mixed results, some found negative, positive and U-shaped relationship (Ceptureanu et al, 2017). According to stakeholder's theory, the impact of the stakeholders can determine the success of the firm, which includes its workers, government, suppliers, consumers and society. A company

that practices CSR activities to protect the interest of the stakeholder, which might lead to higher profits.

Ownership structure is further sub-divided into 2 major components, managerial ownership and ownership concentration (Garas & ElMassah, 2018). Managerial ownership refers to the total proportion of shares acquired by managers (Rashid, 2016). A study argues that managerial ownership may reduce disagreement between owners and discovered negative association between them, however there is positive correlation between management ownership and corporate performance (Jensen & Meckling, 1976). Those managers who have tradable shares are granted the right to participate in meetings and have right to vote, thus they have more accessibility to the management of the business and power to handle the operation related to CSR. Number of studies discovered relationship between managerial ownership and firm performance which include positive association (Bhagat & Bolton, 2019). When Garas and ElMassah (2018) investigated the impact of managerial ownership on firm performance, his results demonstrated that there is positive association. Utilizing the information above, we came up with the hypothesis bellow:

H2: *Managerial ownership has a significant and positive effect on the association of CSR with firm performance.*

Costs and benefits of ownership concentration were analyzed, it was proposed that percentage of big and small shareholders relies on the characteristics of the company and its agreements (Demsetz, 1983). According to agency theory, additional incentives motivate institutional investor to pay more attention to the disclosure approaches and keep a close eye on management actions due to their resources and expertise (Jensen & Meckling, 1976). A study investigates 203 companies from GCC countries and discovered strong positive and significant relationship (Zeitun, 2014).

Measurement of ownership concentration is referred to the proportion of total shares held by large shareholders (Iwasaki & Mizobata, 2020). To measure ownership concentration, we use top 5 shareholders of the company (Javeed & Lafen, 2019). There is an association between firm performance and ownership concentration is positive (Berle & Means, 1932). Ownership concentration is a crucial element of corporate governance because it gives management and controlling shareholders the chance to take part in preventing theft from small shareholders (Milosevic, Andrei & Vishny, 2015). However, some of the prior literature shows that ownership concentration has negative correlation with firm financial performance. According to Akben-Selcuk (2019), the association between CSR and FP is negatively moderated by an inverse ownership concentration. The ownership Pakistani companies are highly concentrated because family members are generally controlling the firm. To determine the impact of top shareholders on firm performance the percentage of top shareholders was taken. A study conducted by Garas and Bolton (2019) discovered that corporate governance and CSR are positively correlated. In prior literature about corporate governance the association of firm performance and ownership concentration is often positive (Dam & Scholtens, 2013). Following hypothesis was developed by analyzing the above literature:

H3: Ownership concentration has a significant and positive effect on the association of CSR with firm performance.

The next section provides a detailed discussion of the methodology adopted in this study.

Methodology

The dependent variable is firm performance which is proxied by return on asset and return on equity, while staff welfare fund is a proxy of CSR which is independent variable. Ownership

Table 1: Representation of variables

Variable Name	Abbreviation	Measurement
Return on Equity	ROE	EBIT/Total Equity
Return on Asset	ROA	EAT/Total Assets
Corporate Social Responsibility	CSR	Ratio of staff welfare fund to total equity
Managerial Ownership	ME	Total shares acquired by managers to total shares
Ownership Concentration	OC	Proportion of shares held by 5 major shareholders to total shares
Firm Size(Control)	Size	LN of total assets
Leverage(Control)	Lev	Total liabilities divided by total assets
Asset turnover	ATO	Total revenue divided by Total Assets
Property, Plant and Equipment (Control)	PPP	Property, plant & Equipment divided by total sales

concentration is independent variables which is proportion of total shares acquired by large shareholders. Property plant and equipment, firm size, leverage and asset turnover are control variables. Corporate social responsibility is the independent variable chosen for the research (Javed & Lafen, 2019). This study employs staff welfare fund as proxy for CSR. Staff welfare fund is then divided by total equity in order to determine CSR. Return on Assets and Return on Equity is used as proxy for firm financial performance. Control variables considered for the study are firm size, leverage, asset turnover and property, plant and equipment scaled by total assets. The following table provides complete description of the variables of the study.

To check the hypothesis 1, following equations are employed:

$$ROA = \alpha + \beta_1 * CSR + \beta_2 * PPP + \beta_3 * Size + \beta_4 * lev + \beta_5 * ATO + \epsilon \dots \dots eq.1$$

$$ROE = \alpha + \beta_1 * CSR + \beta_2 * PPP + \beta_3 * Size + \beta_4 * lev + \beta_5 * ATO + \epsilon \dots \dots eq.2$$

To check the hypothesis 2 that quotes, managerial ownership has a significant and positive effect on the association of CSR with firm performance. Following equations are used to check the relationship:

$$ROA = \alpha + \beta_1 * CSR + \beta_2 * MO + \beta_3 * CSRMO + \beta_4 * PPP + \beta_5 * Size + \beta_6 * lev + \beta_7 * ATO + \epsilon \dots \dots eq.3$$

$$ROE = \alpha + \beta_1 * CSR + \beta_2 * MO + \beta_3 * CSRMO + \beta_4 * PPP + \beta_5 * Size + \beta_6 * lev + \beta_7 * ATO + \epsilon \dots \dots eq.4$$

$$ROA = \alpha + \beta_1 * CSRMO + \beta_2 * PPP + \beta_3 * Size + \beta_4 * lev + \beta_5 * ATO + \epsilon \dots eq.5$$

$$ROE = \alpha + \beta_1 * CSRMO + \beta_2 * PPP + \beta_3 * Size + \beta_4 * lev + \beta_5 * ATO + \epsilon \dots eq.6$$

$$ROA = \alpha + \beta_1 * MO + \beta_2 * CSRMO + \beta_3 * PPP + \beta_4 * Size + \beta_5 * lev + \beta_6 * ATO + \epsilon \dots eq.7$$

$$ROE = \alpha + \beta_1 * MO + \beta_2 * CSRMO + \beta_3 * PPP + \beta_4 * Size + \beta_5 * lev + \beta_6 * ATO + \epsilon \dots eq.8$$

To check hypothesis 3 that quotes, ownership concentration has a significant and positive effect on the association of CSR with firm performance, following models were used.

$$ROA = \alpha + \beta_1 * CSR + \beta_2 * OC + \beta_3 * PPP + \beta_4 * Size + \beta_5 * lev + \beta_6 * ATO + \epsilon \dots eq.9$$

$$ROE = \alpha + \beta_1 * CSR + \beta_2 * OC + \beta_3 * PPP + \beta_4 * Size + \beta_5 * lev + \beta_6 * ATO + \epsilon \dots eq.10$$

$$ROA = \alpha + \beta_1 * CSROC + \beta_2 * PPP + \beta_3 * Size + \beta_4 * lev + \beta_5 * ATO + \epsilon \dots eq.11$$

$$ROE = \alpha + \beta_1 * CSROC + \beta_2 * PPP + \beta_3 * Size + \beta_4 * lev + \beta_5 * ATO + \epsilon \dots eq.12$$

The data of the study were collected from the financial reports of manufacturing firms that are listed on PSX (Pakistan Stock Exchange). The data of 146 companies of manufacturing sector of Pakistan for the period of 6 years from 2016 to 2021 has been collected.

Empirical Analysis

Following table depicts the summary of descriptive summary.

Variable	Mean	Median	S.D.	Min	Max
ROA	0.0588	0.0458	0.181	-1.44	3.08
ROE	0.246	0.162	2.18	-28.3	53.4
CSR	0.0119	0.00268	0.0515	-0.157	0.779
OC	0.657	0.683	0.201	0.000372	0.989
MO	0.233	0.0844	0.286	0.00	3.05
PPP	1.37	0.406	5.82	0.00	119.
size	22.8	22.8	1.98	14.9	28.0
lev	0.614	0.512	0.807	0.000218	15.0
ATO	1.00	0.855	0.797	0.00	10.3
CSRMO	0.000927	2.56e-006	0.00266	-0.0106	0.0409
CSROC	0.00904	0.00156	0.0421	-0.135	0.628

In the above table of summary statistics, the control variable size shows the highest mean among all other variables which is 22.8. PPP has the highest standard deviation value which is 5.82. It shows that variation in the data is high because of the variation in proportion of PPP to total assets and because of the variation in company size.

Table 3: correlative matrix

CSR	OC	MO	PPP	size	
1.0000	0.1167	-0.1256	-0.0097	-0.0069	CSR
	1.0000	-0.0977	-0.0182	0.0156	OC
		1.0000	-0.0096	-0.3707	MO
			1.0000	-0.1357	PPP
				1.0000	size
	lev	ATO	CSRMO	CSROC	
	-0.0750	-0.0155	0.1683	0.9774	CSR
	0.0445	0.1657	0.0283	0.1601	OC
	0.1988	-0.0396	0.2978	-0.1232	MO
	0.0737	-0.2049	-0.0459	-0.0070	PPP
	-0.2692	-0.0340	-0.0888	-0.0077	size
	1.0000	-0.0821	-0.0500	-0.0722	lev
		1.0000	-0.0097	0.0010	ATO
			1.0000	0.1545	CSRMO
				1.0000	CSROC

The table 3 shows

collinearity between dependent and independent variables. The coefficient of CSR and OC has value of 0.1167 which is showing no collinearity. it suggests that there is no multi-collinearity between CSR and OC. The coefficient of CSR and CSRMO has value of 0.1683 which shows that there is no multi-collinearity between CSR and CSRMO.

Hypothesis 1

Table 4: observational analysis of Model 1, 2

Table 5: Regression Analysis of eq.1 & 2

	Eq. 1			Eq. 2		
	FE	RE	WLS	FE	RE	WLS
Dependent Variable	ROA			ROE		
Independent variables						
Constant	<0.0001*** -1.44	0.0137** -0.21830	<0.0001*** -0.24442	0.7477 1.30997	0.0071*** -2.6084	<0.0001*** -1.79829
CSR	0.608 -0.085	0.2325 0.14971	<0.0001*** 0.18142	0.0277** -5.4343	0.3667 -1.3285	0.5271 0.107847
PPP	0.6111	0.7204	0.4386	0.9700	0.1327	0.0196**

	0.00053	-0.00037	-0.00037	0.00058	0.01975	0.005936
Size	<0.0001*** 0.06397	0.0052*** 0.010479	<0.0001*** 0.01192	0.8184 -0.04062	0.0046*** 0.11563	<0.0001*** 0.07938
Lev	<0.0001*** -0.12955	<0.0001*** -0.04721	<0.0001*** -0.05612	0.5012 -0.10501	0.4892 0.06762	<0.0001*** 0.06278
ATO	<0.0001*** 0.11825	<0.0001*** 0.06551	<0.0001*** 0.05608	0.9668 -0.00826	0.0990* 0.16152	<0.0001*** 0.149804
Durbin-Watson	2.159022	-	-	2.313492	-	-
R ²	0.466945	-	0.448451	0.204169	-	0.460551
F-Statistics	3.82e-39	-	8.0e-110	0.039034	-	5.4e-114
White test for Heteroskedasticity						90.69(0)
Hausman Test			2.73e038*** 186.021			0.01422** 14.2271
Level of Significance: ***p<1%, **p<5%, *p<10%						

The findings of hypothesis 1 and model 1 are shown in the table above. The table shows results of 3 panel regressions i.e., Fixed effect model (FE), Random Effect (RE) model and Weighted Least Square (WLS) model. The Hausman test was significant as shown in the above table demonstrating that FE model is superior choice than the RE model. The possibility for auto-correlation issue was also investigated. To check the auto-correlation in the data Durbin Watson test was employed. On the basis of the Durbin Watson test results the findings of Fixed-Effect model are abrogated. The problem of Heteroskedasticity was also investigated using White test whose significant results again rejected the FE model. The results of the WLS test shows significant and consistent results because this test overcomes the problem of auto-correlation and Heteroskedasticity. Similarly Table 4 shows the results of model 2 of hypothesis 1, the dependent variable was ROE and independent variables were kept unchanged. Here again the most suitable result were provided by the WLS model.

The above table 4 shows that the CSR has statistically significant relationship with firm performance having estimated value of coefficient 0.181422. It suggests that the increase in CSR activities has positive association with firm performance. An increase in CSR activities will bring increase in ROA. It is witnessed that the hypothesis is consistent with the literature of the study and hence, proved that the model 1 for hypothesis 1 is accepted. The findings of the study were also supported by literature. The CSR has positive association with firm performance (Javed & Lafen, 2019), (Li et al, 2016). The table 4 shows that the PPP has insignificant value indicating that there is no association between PPP and company's performance in this model. Size and ATO has significant and positive relationship with firm performance while leverage has negative

significant relationship with firm performance indicating that increasing leverage will decrease the ROA. Weighted-Least Square model has 44.84% R-square value which means that the model is explaining 44.84% of data and the model has significant p-value. Overall the WLS model suggested that the impact of CSR, size, leverage and ATO is statistically significant, indicating that increase in CSR activities, large firm size, low level of leverage and higher turnover are associated with high ROA.

Table 4 is the further extension of hypothesis 1, model 2 also check the relationship between corporate social responsibility and ROE. Selected model depicts that the dependent variable was ROE instead of ROA and independent variables were kept the same. Table 4 shows that the coefficient of CSR was positive but statistically insignificant. The results suggest that the increase in CSR has no significant impact on the shareholder’s equity (ROE). This results contradicts with the literature of the study. Javed and Lafen, (2019) stated that the CSR activities has positive and significant impact on ROA as well as ROE. The table 4 also depicts that the PPP has statistically significant relationship with an estimated positive coefficient of 0.00593687. Suggesting there is positive and statistically significant association between ROE and PPP. Table 4 also shows that the firm size has positive and highly significant coefficient. It suggests that the firms with larger size has higher returns on equity. By looking at the table 4 it is also witnessed that the leverage and ATO also has highly positive and significant coefficient. Overall the table 4 suggests that PPP, firm size, leverage and ATO has positive significant relationship with ROE but the variable CSR has no significant effect on ROE. The value of R-square in the table for WLS is 46.05%, it indicates that the model is describing 46.05% of the data and coefficient shows that the model is highly significant.

Hypothesis 2

Table 6: Regression analysis eq. 3 & 4

	Eq. 3			Eq. 4		
	FE	RE	WLS	FE	RE	WLS
Dependent Variable	ROA			ROE		
Independent variables						
Constant	<0.0001*** -1.41622	0.0202** -0.21972	<0.0001*** -0.241380	0.6767 1.7017	0.0455** -2.1162	<0.0001*** -1.61691
CSR	0.5795 -0.09283	0.1558 0.18093	<0.0009*** 0.15660	0.0219** -5.66333	0.1779 -2.0462	0.9642 0.0116
CSRMO	0.7708 0.810216	0.2615 -2.7591	0.4348 0.5283	0.0510* 79.9570	0.1238 46.6564	<0.0001*** 23.5214
MO	0.2161	0.7313	<0.0001***	0.9603	0.1150	<0.0001***

	-0.06299	0.00927	-0.025	0.0373	-0.4870	-0.2489
PPP	0.5841 0.00058	0.6700 -0.0004	0.4903 -0.00033	0.9637 0.0007	0.1476 0.0190	0.5494 0.00188
Size	<0.0001*** 0.06352	0.0072*** 0.01054	<0.0001*** 0.01204	0.7317 -0.0606	0.0259** 0.0972	<0.0001*** 0.0724
Lev	<0.0001*** -0.12991	<0.0001*** -0.0462	<0.0001*** -0.0584	0.5075 -0.1033	0.3521 0.0919429	<0.0001*** 0.1108
ATO	<0.0001*** 0.11861	<0.0001*** 0.06503	<0.0001*** 0.05653	0.9073 -0.0231	0.1162 0.1544	<0.0001*** 0.1472
Durbin-Watson	2.160528	-	-	2.321162	-	-
R ²	0.468087	-	0.448451	0.208446	-	0.504875
F-Statistics	8.97e-39	-	8.0e-110	0.031842	-	7.0e-128
White test for Heteroskedasticity						90.69(0)
Hausman Test			3.1e-039*** 197.904		0.0331** 15.231	
Level of Significance: ***p<1%, **p<5%, *p<10%						

The above table depicts the results of hypothesis 2 and model 3. The dependent variable of the model was ROA which is proxy of firm performance and independent variables were CSR, MO and other control variables. Another interaction term was created as an independent variable (CSR*MO). Three models were run to check the goodness of the fit i.e., FE model, RE model and WLS model. The WLS model shows significant and logical results because of the addressing the auto-collinearity and Heteroskedasticity problems. Table 5 also depicts the results of 3 regression models for hypothesis 2 and model 4. ROA was replaced with ROE for the firm's performance and rest of the variables were kept the same. Table 5 shows the results of hypothesis 2 and model 3 which investigates the linkage between CSR and performance of the firm with managerial ownership which is acting as moderator. To be consistent with the literature the relationship should be positive and significant. The dependent variable is ROA and the independent variables are CSR, MO and the interaction term(CSR*MO). Table 5 shows that the CSR is significant at 1% level with an estimated coefficient of 0.156603. It is evident that CSR has positive and statistically significant relationship with ROA, accepting the hypothesis that CSR has positive impact on ROA. MO has coefficient value -0.0259463 and highly significant at 1% level of confidence interval (depicted in table 5). It suggests that the increased managerial ownership is associated with lower level of ROA. Most of the firms in Pakistan are owned by families and the managerial ownership is almost negligible. Furthermore, the table 5 indicates that the interaction term (CSR*MO) has coefficient 0.528351 and is highly insignificant. It suggests that there is no association among CSR

and ROA when managerial ownership is acting as moderator. PPP has no substantial association with ROA (table 5). Leverage, size and ATO has positive and highly significant relationship with ROA. The R-square for the WLS model is 44.84% and the coefficient of the test demonstrate that the test is quite significant (see the table 5 above).

Model 4 is the further investigation of hypothesis 2. In this model dependent variable ROA was replace with ROE and independent variable were kept the same for the data. The coefficient for CSR is 0.0116837 and highly insignificant (depicted in table 5). The Table depicts that the CSR has no impact and has no relationship with ROE. Managerial ownership has negative coefficient with highly significant level. Implies that the increased MO are associated with low level of ROE. Furthermore, the study investigates the moderating hypothesis. The interaction term (CSR*MO) has positive coefficient 23.5214 and highly significant at 1% level. This indicates that there is positive and significant relationship of interaction term with association of CSR and performance of the firm. Hence, results were also supported by literature. Managerial ownership has positive impact on relationship between CSR and firm performance (Garas & ElMassah, 2018; Javed & Lafen, 2019). PPP has insignificant p-value, suggest that there is no existence of any relationship between PPP and ROE. findings of the above table show that the firm size, leverage and ATO has positive and highly significant association with ROE. Overall, the CSR has no significant impact on ROE with moderating effect of interaction term. The interaction term shows highly positive and significant relationship with ROE. The R-square for the WLS model is 50.48% and the coefficient of the test demonstrate that the test is quite significant.

Table 7: Regression Analysis eq. 5 & 6						
	Model 5			Model 6		
	FE	RE	WLS	FE	RE	WLS
Dependent Variable	ROA			ROE		
Independent variables						
Constant	<0.0001*** -1.44445	0.0224** -0.2057	<0.0001*** -0.247	0.7459 1.3214	0.0044*** -2.782	<0.0001*** -1.929
CSRMO	0.9081 0.3181	0.4115 -1.931	0.0208** -1.286	0.0627* 75.746	0.3480 26.66	<0.0001*** 13.191
PPP	0.6139 0.0005	0.7152 -0.000	0.4061 -0.0004	0.9787 0.0004	0.1181 0.0205	0.0138** 0.0062
Size	<0.0001*** 0.0641	0.0078*** 0.0101	<0.0001*** 0.0123	0.7992 -0.045	0.0032*** 0.1208	<0.0001*** 0.0847
Lev	<0.0001*** -0.1294	<0.0001*** -0.049	<0.0001*** -0.059	0.5236 -0.099	0.4067 0.0811	<0.0001*** 0.0847

ATO	<0.0001*** 0.11768	<0.0001*** 0.0658	<0.0001*** 0.054	0.7799 -0.055	0.0904* 0.1659	<0.0001*** 0.1343
Durbin-Watson	2.160566	-	-	2.3245	-	-
R ²	0.466762	-	0.434835	0.202650	-	0.434835
F-Statistics	4.20e-39	-	3.1e-105	0.046016	-	3.1e-105
White test for Heteroskedasticity						90.69(0)
Hausman Test			1.05e-036*** 178.625		0.0330** 12.1286	
Level of Significance: ***p<1%, **p<5%, *p<10%						

The above *table 6* contains the results of three different regression models i.e., FE, Random-Effect and WLS model for hypothesis 2 and model 5 and 6. For further investigation of hypothesis 2. The study removed CSR and MO independent variables to check the association of interaction term with ROA. The WLS model were used to investigate the relationship. The interaction term (CSRMO) has negative coefficient and statistically significant at 5% level (*depicted in table 6*) of interaction term (CSR*MO). Suggesting that the interaction term has statistically significant and negative association with ROA. It implies that the combine impact of CSR and MO is significant and negative on firm performance (ROA). The managerial ownership does not enhance the CSR activities in relation with firm performance. The *table 6* also depicts that the PPP has no association with ROA. Firm size has positive coefficient and highly significant. It implies that the higher the firm size higher will be ROA. Leverage and ATO are also positively high significant in relation to ROA. Overall the term CSRMO is negative and statistically significant in relation with ROA. It implies that the association of CSR and ROA weakens by interaction of CSRMO. The WLS model has an R-square of 43.48% and the coefficient is indicating that the model's significance is good. Investigating the hypothesis 2 further, the only dependent variable was changed to ROE and independent variables remained the same from *table 6*. For hypothesis to be accepted and consistent with the literature, the interaction term must depict positive and significant relationship. By looking at the *table 6*, the coefficient of interaction term is 13.1917 highly significant. It suggested that the CSRMO has positively and significantly associated with return on equity. This Implies that the connection of CSR with MO has positively and significant relationship with return on equity. The results of the study were supported by several other researches. Several studies demonstrated that there is an association between CSR activates and performance of the firm with interaction of management ownership (Javed & Lafen, 2019; Garas & ElMassah, 2018). PPP also has positive and significant coefficient. Firm size, leverage and ATO shows that they are substantially and statistically significant related with return on equity. The R-square for the WLS model is 43.48% and coefficient shows that the model is highly significant (*table 6*).

Table 8: Regression analysis of eq. 7 & 8

	Eq. 7			Eq. 8		
	FE	RE	WLS	FE	RE	WLS
Dependent Variable	ROA			ROE		
Independent variables						
Constant	<0.0001*** -1.42295	0.0288** -0.210	<0.0001*** -0.226	0.7522 1.2910	0.0311** -2.262	<0.0001*** -1.685
CSRMO	0.7921 0.7316	0.4016 -2.040	0.0588* 1.2392	0.0670* 75.163	0.1979 38.162	<0.0001*** 21.005
MO	0.2218 -0.062	0.8820 0.0040	<0.0001*** -0.0338	0.9070 0.0877	0.1751 -0.410	<0.0001*** -0.2282
PPP	0.5876 0.0005	0.7137 -0.0003	0.4197 -0.0003	0.9816 0.0003	0.1391 0.0194	0.3819 0.0027
Size	<0.0001*** 0.0637	0.0100** 0.010	<0.0001*** 0.0116	0.8014 -0.044	0.0190** 0.1017	<0.0001*** 0.0748
Lev	<0.0001*** -0.129	<0.0001*** -0.049	<0.0001*** -0.061	0.5261 -0.099	0.3170 0.0985	<0.0001*** 0.1059
ATO	<0.0001*** 0.1180	<0.0001*** 0.0657	<0.0001*** 0.0565	0.7780 -0.056s	0.1050 0.1589	<0.0001*** 0.1535
Durbin-Watson	2.162227	-	-	2.324513	-	-
R ²	0.467861	-	0.462295	0.202665	-	0.479540
F-Statistics	4.89e-39	-	1.7e-113	0.052248	-	1.3e-119
White test for Heteroskedasticity						90.69(0)
Hausman Test				5.51e-037*** 183.714	0.07563* 11.442	
Level of Significance: ***p<1%, **p<5%, *p<10%						

The above table 7 shows results of regression for model 7 and 8 under hypothesis 2. The dependent variable was ROA as proxy of firm performance and interaction term (CSR*MO), MO and control variables as independent variables. The regression results depict that the interaction term has positive and significant p-value at 10% level. It Suggests that the relationship between interaction term and ROA is positive and significant. MO has coefficient of -0.0338282 and highly significant at 1% level. It implies that the high level of managerial ownership associated with lower level of ROA. Firm size and ATO shows positive while leverage shows negative coefficients and

significant at 1% level. However, PPP has no relationship with firm performance (ROA). The R-square for the WLS model is 46.22% and coefficient shows that the model is highly significant (depicted in table 7).

Table 7 investigates the hypothesis 2 further. In model 7 the dependent variable was ROA and in model 8 it is changed to ROE as a proxy of firm performance. The coefficient of the interaction term is 21.0055 and p-value less than 1%. It suggests that the relationship between interaction term of CSR and MO is highly positive and significant with return on equity. The coefficient of MO shows negative relationship and statistically high significant relationship with return on equity (depicted in table 7). It implies that the high level of shares held by managers are associated with low level of ROE. Looking at the p-value of PPP, it indicates that there is no significant association between PPP and ROE (table 7). Leverage, firm size and ATO shows the positive coefficient and significant p-values. Suggesting that the leverage, size and ATO are positively associated with firm performance (ROE) (table 7). Overall the interaction of CSRMO with ROE is not statistically significant. However, the MO is significant and negatively associated with ROE. It suggests that MO have detrimental effect on ROE. The R-square for the WLS model is 47.95% and coefficient shows that the model is highly significant (depicted in table 7).

Hypothesis 3

Table 9: Regression analysis of eq. 9 & 10

	Eq. 9			Eq. 10		
	FE	RE	WLS	FE	RE	WLS
Dependent Variable	ROA			ROE		
Independent variables						
Constant	<0.0001*** -1.376	0.0183** -0.214	<0.0001*** -0.2461	0.7929 1.1140	0.0033*** -2.897	<0.0001*** -1.8851
CSR	0.6523 -0.075	0.2292 0.1520	<0.0001*** 0.1807	0.0274** -5.465	0.2793 -1.602	0.0415** 0.4584
OC	0.4273 -0.061	0.8245 -0.007	0.7773 0.0020	0.8680 0.1906	0.1335 0.5847	<0.0001*** 0.2242
PPP	0.5998 0.0005	0.7280 -0.0003	0.4230 -0.0003	0.9728 0.0005	0.1395 0.0194	0.1198 0.0045
Size	<0.0001*** 0.0629	0.0052*** 0.0105	<0.0001*** 0.0119	0.8329 -0.037	0.0055*** 0.1130	<0.0001*** 0.0771
Lev	<0.0001*** -0.129	<0.0001*** -0.047	<0.0001*** -0.0562	0.5025 -0.104	0.5617 0.0568	<0.0001*** 0.0531

ATO	<0.0001*** 0.1179	<0.0001*** 0.0658	<0.0001*** 0.0556	0.9702 -0.007	0.1705 0.1360	<0.0001*** 0.1466
Durbin-Watson	2.162077	-	-	2.313401	-	-
R ²	0.467409	-	0.448941	0.204200	-	0.511811
F-Statistics	6.19e-39	-	6.8e-109	0.044423	-	1.2e-131
White test for Heteroskedasticity						90.69(0)
Hausman Test			1.44e-037*** 186.446			0.0405** 13.1604
Level of Significance: ***p<1%, **p<5%, *p<10%						

To test the hypothesis 3, eq. 9 was developed. The *table 8* above indicates that CSR has coefficient value of 0.180791 and highly significant at 1% level. Indicating that the CSR has positive and significant association with firm performance, implies that increase in CSR activities are positively associated with ROA. The result of the study was supported by several other studies. CSR has positive association with firm performance (Javed & Lafen, 2019; Maqbool & Zameer, 2018). However, ownership concentration exerts insignificant p-value in relation with ROA. This finding were not supported by the literature. PPP has coefficient value of -0.0003931 and insignificant p-value, which indicates that there is no relationship between PPP and ROA. Firm size and ATO has positive coefficients and also depicting significant p-value, indicating that the firm size and ATO has positive association with ROA. While leverage has negative coefficient and highly significant. Overall, the CSR has positive and statistically significant impact on ROA. MO has no significant association with ROA. The R-square for the WLS model is 44.89% and coefficient shows that the model is highly significant (*depicted in table 4.7*).

The above *table 8* shows the result of eq. 10 under hypothesis 3. To investigate the hypothesis 3, the study used ROE as a dependent variable and CSR, OC and control variables as independent variables. The coefficient of CSR shows value of 0.458450 which is highly positive and weakly significant. Indicating that the relationship between CSR and ROE is positive and significant at 5% level. The results also exert that the OC has positive and highly significant association with ROE. The results were also supported by literature. Ownership concentration has positive and significant relationship with CSR and firm performance (Javed & Lafen, 2019). By looking at the p-value of PPP indicating that there is no association of PPP with firm performance (ROE). Firm size, leverage and ATO has positive and significant association with firm performance (ROE). Overall the impact of CSR on ROE is positive but relatively weak. Ownership concentration has positive and statistically significant impact on ROE. The R-square for the WLS model is 51.18% and coefficient shows that the model is highly significant (*depicted in table 8*).

Table 10: Regression analysis of eq. 11 & 12

	Eq. 11			Eq. 12		
	FE	RE	WLS	FE	RE	WLS
Dependent Variable	ROA			ROE		
Independent variables						
Constant	<0.0001*** -1.4403	0.0138** -0.217	<0.0001*** -0.244	0.736 1.371	0.0072*** -2.6029	<0.0001*** -1.786
CSROC	0.6231 -0.099	0.2200 0.1877	<0.0001*** 0.2358	0.0141** -7.341	0.2769 -1.958	0.5081 0.1617
PPP	0.6076 0.0005	0.7138 -0.0003	0.4435 -0.0003	0.9477 0.0010	0.1320 0.0197	0.0205** 0.0058
Size	<0.0001*** 0.0639	0.0052*** 0.0104	<0.0001*** 0.01195	0.8048 -0.043	0.0047*** 0.1154	<0.0001*** 0.0789
Lev	<0.0001*** -0.129	<0.0001*** -0.047	<0.0001*** -0.0567	0.4964 -0.106	0.4964 0.0664	<0.0001*** 0.0626
ATO	<0.0001*** 0.1183	<0.0001*** 0.0653	<0.0001*** 0.0558	0.9942 0.0014	0.0963* 0.1628	<0.0001*** 0.149
Durbin-Watson	2.159217	-	-	2.310800	-	-
R ²	0.466930	-	0.448413	0.205470	-	0.462429
F-Statistics	3.85e-39	-	8.3e-110	0.033782	-	1.2e-114
White test for Heteroskedasticity						90.69(0)
Hausman Test			2.99e-038*** 185.92			0.01026** 15.0237
Level of Significance: ***p<1%, **p<5%, *p<10%						

Table 9 further investigates hypothesis 3. In this model we removed the CSR and only investigated the interaction term (CSR*OC) because of the high collinearity between CSR and interaction term. The coefficient of CSROC shows value of 0.235836 and highly significant at 1% confidence level. It suggests that the CSROC has positive and statistically significant association with ROA. Those firm who are engaging in CSR activities tend to have higher ROA. Garas and ElMassah (2018), and Javed and Lafen (2019) confirmed our results by stating that OC positively impact firm performance when engaged in CSR activities. PPP shows insignificant p-value, suggesting that there is no relationship between PPP and ROA. Firm size, leverage and ATO shows highly positive and statistically significant association with firm performance (ROA). The R-square for

the WLS model is 44.84% and coefficient shows that the model is highly significant (*depicted in table 4.8*).

Table 9 investigates the results of hypothesis 3 and model 12. The coefficient of CSROC has value of 0.161781 and insignificant p-value. It indicating that there is no much evidence to suggest that there is an association between CSROC and ROE. The coefficient of PPP has value of 0.00589091 and significant at 5% confidence level. It suggests that there is a positive and statistically significant association between PPP and ROE. It Implies that the increase in PPP will bring increase in return on equity. Size shows the positive coefficient value and highly significant p-value. Implies that the greater the firm size greater the ROE. Leverage and ATO both are positively and statistically significant associated with ROE (*table 9*). The R-square for the WLS model is 46.24% and coefficient shows that the model is highly significant (*depicted in table 4.8*).

Conclusion

The purpose of the study is to look at the link between CSR activities and the performance of the business. The results of the study show that CSR and firm performance are positively associated because CSR activities polish and enhance the morale of the firm, the findings of the study are found to be consistent with the past literature (Javed & Lafen, 2019; Li et al, 2016).

Furthermore, the relationship of CSR and firm performance with interaction of managerial ownership was also investigated. The results depict that there is a favorable and statistically significant link among the company's profitability when combined with manager's ownership. The results were supported by numerous studies (Bhagat & Bolton, 2008), (Javed & Lafen, 2019), (Garas & ElMassah, 2018). It maybe because in every firm the managers hold shares of the company for the purpose of profit maximization. For that reason, the managers are interested in increased CSR activities. There is a considerable positive relationship between the performance of the firm and manager's ownership. Moreover, this study looks into the relationship of CSR activities and firm's financial performance with interaction of ownership concentration. When interacting with ownership concentration, the results depicts that CSR activities and business financial performance are positively and statistically associated, the results were supported by (Garas & ElMassah, 2018) and (Javed & Lafen, 2019). The reason is that the shareholders want to maximize their profit and CSR activities boost the morale of the firm, hence increase in efficiency which in turn leads to improved performance.

Research Gap

The purpose of the study was to better understand linkage between CSR and performance of the business. This research was based in Pakistan only. And the data was collected through convenience sampling. The data was collected for manufacturing firms listed on Pakistan Stock Exchange. The timeframe for the study was 6 years from 2016 to 2021. For future research it is recommended that more improved proxies of CSR should be included. Moreover, the relationship of CSR must also be checked with other firm specific variables to explore its impact on other dimension of business as well. The research can be conducted outside Pakistan. Furthermore, the

data could also be collected from other sectors. Lastly, further study might be conducted on association of the firm's financial performance and CSR activities after COVID-19.

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