

**The moderating role of firm size between Corporate
Social Responsibility and firm financial performance:
an empirical evidence of Pakistani non-financial firms**



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A thesis submitted in partial fulfillment of the requirements for the Degree of Master of
Philosophy/Science in Management with specialization in Finance at

the Faculty of Management Sciences

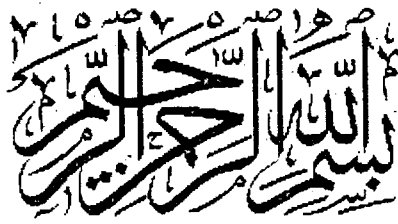
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05 January, 2017



In the name of Allah, the most merciful and beneficent

DEDICATION

I dedicate this thesis to my parents, friends, teachers and especially to my
supervisor whose support has enabled me
to complete this research study successfully.

(Acceptance by the Viva Voice Committee)

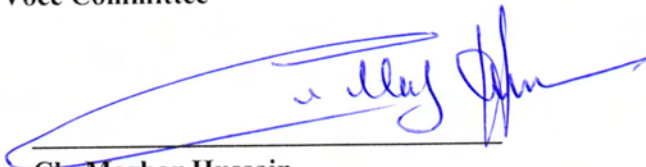
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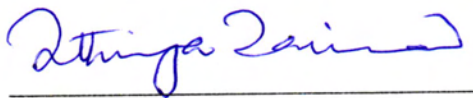
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ABSTRACT

The aim of this study is to investigate the moderating role of firm size between corporate social responsibility and firm financial performance of non-financial Pakistani firms. Sample of this study have taken from 100 non-financial firms listed on Karachi Stock exchange for ten years of period (2005-2014). In the present study investigation of the analysis, have run in two stages: first on hundred firms for ten year (2005-2014), then reduced the sample size to 57 and selected those firms which have started CSR activities from 2012-2014. For precise and accurate result, different statistical tools are used: descriptive statistics, correlation analysis, panel unit root test. For data analysis Stata 14 has used. In the first step, direct impact of CSR on firm financial performance has checked and significant impact is found between CSR and firm financial performance. In the second step moderation analysis, has run and the result shows that firm size moderate the relationship between CSR and firm financial performance. Result of the explanatory variables is in line with the previous studies and support signaling theory. Result of the study concluded that CSR generates good signal in the market and reduce the risk. Thus, increase firm financial performance. It also concluded that firm size moderate the relationship between CSR and firm financial performance.

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APPRECIATION AND GRATITUDE

No words of gratitude will ever be sufficient for the Allah Almighty who made me capable of learning, blessed me with the knowledge & intellect and facilitated me with the finest of the mentors all through my academic years.

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Mr. Najeeb Ullah

FORWARDING SHEET

The thesis entitled "The moderating role of firm size between Corporate Social Responsibility and firm financial performance: an empirical evidence of Pakistani non-financial firms." submitted by Mr. Najeeb Ullah as partial fulfillment of MS degree in Management Sciences with specialization in Finance, has completed under my guidance and supervision. The changes advised by the external and the internal examiners have also been incorporated. I am satisfied with the quality of student's research work and allow him to submit this thesis for further process as per IIU rules & regulations.

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List of abbreviations

CFP: Corporate Financial Performance

CSR: Corporate Social Responsibility

EBDITA: Earning before depreciation interest taxation and amortization

FP: Firm Performance

FFP: Firm Financial Performance

FS: Firm size

LEV: Leverage

Ln: Natural Logarithm

MV: Market Value

NGO: Non-government organization

PB: Profitability

ROA: Return on assets

ROE: Return on equity

VIF: Variance Inflation Factor

WBCSD: World Business Council for Sustainable Development

Chapter [1]

Introduction

1.1 Background of the study

The idea of CSR was first developed in 1950's and was known as social responsibility. In 1953 Howard Brown published his first book on "Social corporate responsibility" in the market.

Corporate social responsibilities are those activities in which an entity along with its commercial goals also fulfils ethical and moral beliefs of the society by considering itself a responsible entity of the society. Per the definition of World Business Council for Sustainable Development (WBCSD) CSR is all about to improve the quality of human source of an organization along with their families and society by continuing process of economic development" Fadun & Solomon, (2014) suggest Carrol model. According to this model goals are divided on the basis of priority. In their goals hierarchy, economic goal is the first goal for an organization to achieve, the second one is legal contracts, third is ethical, and the 4th one is humanitarian. Cochran & Wood, (1984) defined CSR that a "good business should be committed towards ethical behavior, to improve economic development, to improve the quality and standard of life style of human force, their families and society at all". CSR is the integration of environmental and social concern with the business (Roshima, Yuserrie, & Hasnah, 2009). They have divided the concern into four groups: work place, market place, community and environment. In Market the

company makes relationship with their suppliers, customers, and competitors. By having such policy employee's confidence and holding rate will go up thus, customer will attract more and will have support from community. Due to this productivity, will goes up and will have the same rate improvement in the profit of a firm. CSR is to understand the societal actual needs, to run business in favor of society, to provide favorable environment to workers, work place protection to the workers, and to build relationship with the management and employees to achieve its objectives (Gul, Shahzad, Danish, & Adnan, 2012). Corporate social responsibilities are neither a firm interest nor legal requirements but these are voluntary in action to promote a social well (Abigail & Donald, 2010). The aim of corporate social responsibility is to give benefit to the stakeholders: employees, environment, customers, society, and shareholders of the firm (Srivastava, 2012). The word corporate social responsibility revealed the firm responsibility towards its stakeholders and its commitments towards firm overall activities (Fasnya & Onakoya). Corporate actions are not binding actions but these are the actions to support the societal good (McWilliams & Siegel, 2001). European Communities, (2006) defined CSR as "To address needs of the society and to go beyond the legal requirements and obligation

According to Hopkins, (2003) CSR is the treatment of all shareholders in responsible and ethical manner. The basic of CSR is to understand the obligation of an organization towards the society where the organization performs their functions.

For both researcher and practitioners, the topic of CSR received much more attention over the past few decades thus the practice of CSR has become conventional

business activities (Markus & Jay, 2012). CSR is a broad word which covers the entire activities of an organization: Input, process and output” (Margarita & Tsoutsoura, 2004). In the era of global competition, for sustainable and competitive advantages CSR is an important part of planning.

The role of financial performance is very important to carry out the CSR activities because when a firm has strong financial performance it will have necessary funds and investment to perform their social activities. Along with a firm’s social value and reputation corporate social responsibility also increase a firm’s profitability (Kanwal, Khanam, Nasreen, & Hameed, 2013). Due to engagement in CSR activities a firm can gain great benefits (Kotler et al., 2005). Therefore, CSR have an impact on financial performance of an entity, financial performance means to measure and to analyze the firm financial objectives, whether they are achieved or not.

Firm size significantly affects the firm level (Aguinis & Glavas.,2012; Samuel & Waddock.,1994, Ven Andrew.,1986). For research purpose firm’s financial performance has its own importance. In the US restaurants industry, a research has been done to examine the moderating impact of firm size between CSR and CFP. The result found that the firm size moderate the relationship between the dependent and independent variable (Seoki Youna, Hua, & Lee, 2015). In this study, we are investigating the role of firm size as a moderator between CSR and firm financial performance, as aim of this study seeks to examine the moderating role of firm size between CSR and firm financial performance of Pakistani non-financial firms.

1.2 Gap Identification

The studies of (Gul, Shahzad, Danish, & Adnan .,2012; Iqra Ali, Naeem, Ijaz, & Aysha .,2014; Tsoutsoura & Margarita.,2014) found that CSR have significant impact on FFP and the relationship is positive. However, the study of, (Sukanya, Rebekah.,& Yudhvir2015; Lopez et al.,2007), have concluded that the connection between CSR and firm financial performance is negative. The studies of (Uwuigbe.,2011; Georgeta & Florinita.,2013; Udayasankar.,2008) have founded that size of the firm affecting the association between CSR and firm financial performance. Similarly, the study of Hyewon, Nan, & Seoki (2015) concluded that, size of the firm moderate the association between CSR and corporate financial performance. A gap exists of the moderating impact of firm size between CSR and FFP which is previously not explored in Pakistan and this study pointed out the gap which is existed in the literature and an attempt to bridge this gap. Moreover, there are other studies conducted regarding the effect of CSR on firm financial performance, but these studies are conducted either without a moderator or neither country and market specific. So, there is a need to carry out this study to examine the moderating role of firm size between corporate social responsibility and firm financial performance of Pakistani non-financial firms.

1.3 Theoretical Framework

Akerlof & Arrow studied the concept of signaling for job and product market. Spence, (1973) developed this concept into signaling equilibrium theory. This theory says that only a signal distinguishes a good firm from the bad one. Moreover, a good firm will distinguish itself from the bad one based on signal generation, the firm will generate

credible signal about its quality in capital market and the bad one will be unable to generate the same quality signal in the market. Ross, (1977) says that in the market information is asymmetric at one time both managers and investors have different information. For a good firm the cost of the generation of a signal will be lower than a bad one. The study of Miller et al., (2009) concluded that by filling institutional gaps and considering society at large CSR generates a signal to its stakeholders about unseen traits. Similarly, the studies of (Portes & Kramer, 2006; Rivoli & Waddock, 2011) found the same conclusion that CSR generate a signal to the stakeholders by considering society and filling the institutional gaps. Moreover, the studies of (Ramchander et al., 2012; Spence, 1973) concluded that stakeholders provide premium to firms when they value the unseen traits. CSR reduce the uncertainty and increases the firm value (Connelly et al., Mohny, 2012). The studies of (Gupta, 1969 ; Johnson & Greening, 1999) concluded that larger firms have more resources than smaller one so, they investing more in CSR activities than smaller one. Their response to stakeholder on different issues is better than the smaller one (McGurie et al., 1988). Similarly, the study of Brammer & Millington, (2006) found that smaller firms do not have much resource as compare to larger one so they are unable to exercise such behavior.

A small firm tries to improve his firm performance by utilizing the available resources (Udayasankar, 2008). Moreover, larger firm have enough resources such as multinational companies. They can easily implement CSR activities to interact with civil society. Larger firms can easily implement CSR activities because they have sound conventional system, well clear goals, methods and processes and they can easily handle

both internal and external issues (Chen & Hambrick,1995; Donaldson,2001; Miles.,1987)

Moreover, the resources and capabilities of larger firms are more than the smaller firms. To CSR firm performance will be different for larger and smaller firms. So, size of the firm affecting the association between CSR and FFP thus signaling theory justify our model.

A moderator variable can be qualitative or quantitative that will: strengthen or weaken the association between the independent variable and dependent variable (Reuben & David A, 1986). According to Hayes, (2013) that moderator is predicted by M and it will have an impact on the relationship between X and Y. Moreover, the Moderator (M) is said to be a moderator of X's effect on Y or we can simply say that M and X interact and it will have an influence on Y. As shown in the model of the study, firm size moderating the association between CSR and FFP. Andrew, 2013 concluded from the study of Vijayakumar & Tamizhselvan, (2010) that moderator variable affects the relationship between CSR and FFP. The researcher has found significant relationship between size and firm performance. Beside independent variable size is also being an important moderator variable (Rauch et al.2009).

1.4 Problem Statement

In the light of empirical literature on CSR and firm financial performance of (Hopkins, 2003; Gul , Shahzad, Danish, & Adnan,2012; Sukanya, Rebekah, & Yudhvir,2015; Iqra Ali, Naeem, Ijaz, & Aysha,2014; Tsoutsoura & Margarita, 2014;Olayinka & Temitope,2012; and Mubeen & Arooj, 2014) it has been found that

there is significant relationship between CSR and FFP. After revision of the literature of, (Hyewon Nan & Seoki, 2015; Udayasankar ,2008; Georgeta & Florinita,2013; and Uwuigbe,2011) it has concluded that size of the firm moderating the relationship between CSR and FFP. This study is grounded on Pakistani non-financial firms which are operating in developing economy so, the impact of CSR on firm performance and the moderating role of firm size between CSR and FFP will be different as compared to the developed economy. But the question is, is there an influence of CSR on FFP and whether firm size moderate the association between CSR and FFP. To answer these questions, this study explored the key research problem *“Whether CSR increase firm financial performance or not. Furthermore, whether there is a role of firm size as a moderator between CSR and firm financial performance of Pakistani non-financial firms or not”*

1.5 Significance of the study

The study of (Munaza, Farida, Shagufta, & Shahid, 2013; Hopkins , 2003; Gul , Shahzad, Danish, & Adnan,2012; Sukanya, Rebekah, & Yudhvair,2015; Iqra Ali, Naeem, Ijaz, & Aysha ,2014; Tsoutsoura & Margarita, 2014; Olayinka & Temitope, 2012;and Mubeen & Arooj,2014) concluded that there is positive and momentous association between CSR and FFP.

And the study of (Chin, Ruei Yuan, & Van Thac, 2015; Udayasankar, 2008;Georgeta & Florinita, 2013; Uwuigbe, 2011) show that firm size moderate the association between CSR and FFP. Similar work has been done by Hyewon, Nan, & Seoki, (2015) and concluded that, size of the firm moderate the association between CSR

and CFP. In the epoch of global recession sustainable development is the most important objective for corporations. In this connection, Corporate Social Responsibility has become the most popular and dominant theme both in the business and academic field. Corporations are in constant pressure from stakeholders to issue CSR reports. Latest research emphasized on the welfare of the community. It suggests that ample resources should be assigned for the welfare of the community and spending on CSR should be consider as investment rather expenses. In different countries, different social scientist has investigated the topic "the moderating role of firm size between CSR and firm financial performance". However, no such studies have been investigated in Pakistan yet. Therefore, the current study will be of great significance. The study will analyze situation of CSR in Pakistani non-financial firms. The current study will make available the data for researchers and policy makers.

1.6 Contribution

1.6.1 Theoretical contribution

Theoretical contribution of this study is the empirical testing of Signaling theory and moderation theory in Pakistani context. The second contribution of this study is to enrich the existing literature of Corporate Social Responsibility, by investigating the moderation role of firm size between corporate social responsibility and firm financial performance in Pakistani context, which is not studied yet.

1.6.2 Practical Contribution

This study is contributing for both managers and investors; they will make decisions as per their requirements by knowing the role of firm size as a moderator between CSR and FFP. Moreover, the managers can improve the financial performance of a firm by choosing environment and the community as a social activity. Investors will make rational decisions while making investment. Furthermore, this study is also important for regulatory bodies, the regulatory bodies should design policies and regulation which encourage firms to participate in CSR activities.

1.7 Objectives of the study

- ❖ To examine the impact of CSR on firm financial performance
- ❖ To investigate the moderating role of firm size between CSR and firm financial performance of Pakistani non-financial firms.

1.8 Research questions

- What is the impact of CSR on firm financial performance?
- Is firm size moderating the association between CSR and firm financial performance?

1.9 Organization of the Study

This study consists of five chapters. It has been started from chapter one which has been divided into sub sections: introduction of the study, gap identification, theoretical framework: stakeholder theory, signaling theory, and Moderation theory, problem statement, significance of the study, contribution, which has sub divided into

two sections, Theoretical contribution and practical contribution. Then objective of the study and research questions have been developed at the end of chapter one. Chapter two consist literature which has been divided into two classes: the impact of CSR on firm financial performance and the moderation role of firm size between CSR and firm financial performance of non-financial Pakistani firms. And at the end of chapter of two conceptual frameworks has been developed. Chapter three include methodology of the study which has been divided into research approach, population and sample, type of data, variables which has been divided into dependent variable, explanatory variable, moderator variable, and control variable then measurement of the variables, econometric model, Multicollinearity and Variance Inflation Factor. Chapter four consists of data analysis and discussion and chapter five consist of conclusion, limitation and future research direction of the study.

Chapter [2]

2.1 Literature Review

2.1.1 CSR and FFP

The relationship between CSR and FFP is positive (Shoukat & Muhammad, 2014). Data have collected from the Bank sector of Pakistan during the year 2008-2012 and regression model have used to for data analysis. Similarly, the study of Ana Casado et al., (2014) concluded that in service firms CSR significantly influences firm financial performance. The correlation between CSR and firm performance is strong which indicate that the relationship between the variable is significant (Gul, Shahzad, Danish, & Adnan, 2012) data were used of pharmaceuticles companies of Peshawar city and regression analysis have used for data analysis. The study of Olayinka & Temitope, (2012) concluded that between CSR and FFP the association is positive and momentous. They have studied forty (40) audited financial statements of Nigerian listed companies. CSR has positive and momentous association with FFP and wealth of the shareholders (Mubeen & Arooj, 2014). They have studied ten (10) CSR firms and ten (10) non-CSR firms and for data analysis they have used regression analysis. Moreover, the study of Weiqiang et al (2010) shows that Asian firms have positive and significant relationship with CSR and Asian firms have been rewarded by the market for improving corporate social responsibility practice. They have studied Asian firms for the period of 2001 to 2004.

However, Sukanya, et al (2015) studied South African firms for the period of ten years (2004-2013) and concluded that CSR does not have any influence on FFP. They have used regression analysis for data analysis. Similarly, Farah & Belina, (2016) studied 30 companies which were listed on Indonesian Stock Exchange for the year of 2010-2013 and came into the conclusion that CSR does not have momentous relationship with FFP. For data analysis they have used SPSS. Tahmina, (2016) studied 30 Bangladesh Banks and concluded that CSR does not have significant relationship with FFP and for data analysis she has used linear regression analysis. Moreover, Mohammad Mazbir, et al (2014) Studied CSR and FP of Jamuna Bank limited for the time period of ten years and found insignificant relationship. Regression analyses were used for the analyzation of the data.

Similarly, the study (Sandhu & Kapoor2005) concluded that association between CSR and FP is insignificant. They have used simple of 20 leading companies if India, listed for the year 2000-2003 and have used correlation and regression analysis for data analysis. The association between CSR and FP is positive but not momentous (Mwangi & Jerotich, 2013). They have studied ten (10) manufacturing and construction companies listed on Nairobi Securities Exchange from the year 2007 to 2011 and regression analysis have used for data analyzation. Similarly, the study of Jean, Alison & Thomas (2001) found that the relationship between CSR and FP is insignificantly positive. They have collected data from fortune magazine for the period of five years (1982-1986) of 25 Industries and regression analysis has run for data analysis.

However, amongst other researcher Iqra, Ali, Naeem, Ijaz, & Aysha ,(2014) they have found that the relationship between CSR and CFP is positive. They have used sample of Pakistani food industry, from 1990-2013 and regression analysis have used for data analysis. Similarly, Krishnan (2012) studied CSR and FFP of 500 listed companies of Bombay Stock Exchange for the period of four years (2008-2011) and concluded that the relationship is positive. And adopted Pearson coefficient, Percentile, one sample t-test, Cronbach' s Alpha for analysis of the study. Platonova et al., (2016) have studied Islamic Banks of Gulf Cooperation Council for the period of 2000-2014 and found the momentous impact of CSR on firm financial performance. They have generated data from the annual reports of 24 Islamic Banks located in different countries: Bahrain, Qatar, Kuwait, Saudi Arabia, and UAE. Oman was not selected in the sample because there was no Islamic Bank in Oman. Similar study has conducted by Islam & Rahaman, (2016) of Bangladeshi Banks and concluded that the association between CSR and firm performance is momentous and positive. They have used Multivariate analysis in the form of Bi-variates regression.

However, the study of Lin, Yang, & Liou., (2009) found the insignificant impact of CSR on FP. They have studied 1000 Taiwanese firms for the period of 2002-2004. Similarly, the study of Chetty, Naidoo, & Seetharam, (2015) found that activities of CSR have no momentous impact on FP. They have collected data from Johannesburg Securities Exchanges for the period of 2004-2013.

But the study of Wua & Shen, (2013) found the significant impact of CSR on FP. Similarly, the study of Rheman et al., (2015) concluded that the association between CSR

and FP is positive and momentous. They have studied of 15 firms for the period of 6 years which was listed on KSE. Correlation analysis and GLM random effect regression have used to analyze the data. CSR activities have momentous impact on FP (Afsheen, 2015). Data have been taken from 101 selected firms workers of private and public firms via questionnaire. Along with SPSS MS-Excel is also used to analyze the data. Furthermore, the study of Bohlin & Wiebe, (2016) found that the impact of CSR on performance of SMEs is significant and positive.

Similarly, the study of Robret et al., (2016) concluded that CSR and firm performance are positively correlated and the impact is momentous. They have studied 49 firm listed on Nairobi Securities Exchange. Data were collected from financial statements of the respected firms and for data analysis SPSS have used. Mehralian et al., (2016) concluded that association between CSR and FP is momentous and positive. Data were collected through structural questionnaire of 993 pharmaceuticals companies of Iran. The study of Cornetta et al., (2014) concluded that CSR is positively correlated with ROA, ROE. However, the study of Nag & Bhattacharyya, (2016) found that the association between CSR and FP is not momentous. They have examined the annual reports of 30 firms listed on Indian National Stock Exchange for the period of 2007-2011. But the study of Samra, Shahid, & Farzana (2015) found that the relationship between CSR and profit is positive but CSR have negative relationship with total assets and the impact of CSR on profitability is insignificant. They have used data of Oil and Gas companies for ten years which were listed on KSE for the period of eight years. And MS-Excel has used for regression and correlation analysis.

However, the study of Tsoutsoura & Margarita (2014) showed that there is a positive and momentous association between CSR and FFP. They have collected data from S&P 500 for the period of 1996-2000 and empirical method have used for testing the relationship. Similarly, the study of Munaza, Farida, Shgufta, & Shahid (2013) found that the relationship is positive between CSR and FP. They have used data of fifteen (15) listed companies on Karachi Stock Exchange and correlation analysis has used for data analysis. The study of Lopez et al. (2007) concluded that there is negative association between CSR and FFP. The study used 110 European companies listed on Dow Jones Sustainability Index (DJSI). Gulbaz et al., (2015) studied CSR and FFP of 125 listed companies on KSE for the period of five years (2009-2013) and concluded that this relationship is insignificant. Panel regression have used for data analysis. Furthermore, Nadeem, Numan, Naveed & Muhammad (2012) have studied CSR and FFP of 156 companies which were listed on KSE for the period of two years (2010-2011) and concluded that the relationship is not significant.

H1: *There is a significant impact of corporate social responsibility on firm financial performance*

2.1.2 Firm size, CSR and firm financial performance

There is positive and significant relationship of firm size between Positive CSR and financial performance but firm size does not moderate the relationship between negative corporate social responsibility and corporate financial in the U.S restaurant context (Hyewon, Nan, & Seoki, 2015). They have analysed data of 264 restaurants for the period of 1991-2011 and regression analysis have used for analyzation. Hyewon et

al., (2015) analysed the data of 264 listed restaurants of USA for the period of 21 years (1991-2011) and concluded that firm size has momentous and positive association with CSR and FP but firm size does not moderate the association between NCSR (Negative Corporate Social Responsibility) and FP. Similarly, the study of Udayasankar, (2008) found that both large and small firms have influence on CSR and firm financial performance while the mid-sized firms have the least participation.

Moreover, the study of Georgeta & Florintia, (2013) found positive relationship of company size and corporate social responsibility towards firm's profitability. They have used sample of different firms for the year 2008. They have collected data from publically available information and CSR information of Romania. Furthermore, the study of Parsa & Deng (2008) shows that company size is positively correlates to CSR disclosure. Data have taken from London stock exchange of 246 companies for five years.

Larger companies spent more amount of CSR disclosure as compare to small companies, because stakeholders have greater expectation from larger companies as compared to smaller one (Branco & Rodrigues, 2008). They have examined the Brazili listed internet (Corporate web pages) and annual reports for the year 2003-2004). Similarly, the study of (Uwuigbe, 2011) there is a positive association between CSR and size of the firm and the level of corporate social disclosure. Firm size plays a Vital role, if a firm have larger size will be more willing to invest in CSR. They have used judgmental sampling technique and on market capitalization and direct financing base of

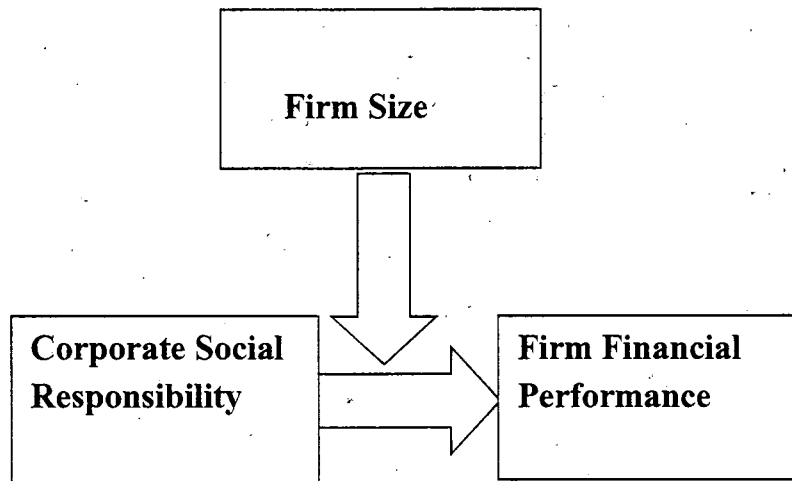
manufacturing industry they have select 31 companies from total sample and regression analysis have used for data analyzation.

There is a positive relationship between profitability and CSR but CSR have insignificant relationship with firm size (Ebiringa, Yadirichukwu, Chigbu, & Ogochukwu, 2013). Content analysis have used in the study of the audited financial reports of the selected companies for the year 2011 and OLS regression have used to analyze the data. The insignificant association were also found by Rahman & Widyasari, (2008) and concluded that CSR is a management concern.

CSR is positively correlated with CFP but firm size not confounding the association between corporate social responsibility and CFP (Orlitzky, 2011). Orlitzky has used Meta-analysis to analyze the relationship amongst the variables.

H2: Firm size significantly moderates the relationship between CSR and firm financial performance.

2.2 Conceptual Framework



Chapter [3]

Methodology

3.1 Research Design

This study has used quantitative research method with deductive approach. According to Wilson, (2010) a deductive approach is an approach in which studies are based on theories and then test those theories that how much these studies support it. So, this study is based on Signaling Theory, and Moderation Theory. Validity of this study is checked in Pakistani context because this is an explanatory study. An explanatory study explains phenomena which already been studied.

3.2. Population and Sample

Population of this study is 578 listed firms of Karachi Stock Exchange. Sample of this study comprise of 100 non- financial firms for the period of ten years (2005-2014).

3.3. Type of Data

In this study, secondary data of non-financial firms listed on Pakistani stock exchange is used. Access to secondary data is easy and it less time consumable. Data is obtained from annual reports of the respected firms, Business Recorder, and from State Bank of Pakistan. Panel data is used in this study. In panel data various cases are observed for two or more than two time periods of the same population. Panel unit root test have applied to check stationarity of the data.

3.4 Variables

3.4.1 Dependent Variable

Objective of this study is to investigate the moderating role of firm size between CSR and FFP of Pakistani non-financial firms. A dependent variable is a variable that what a researcher want to measure in his/ her research so, the dependent variable of this study is firm financial performance. Performance of firms is measured with Tobin's Q Chung & Pruitt (1994). Tobin's Q measure the firm performance dividing total market value of firm by total assets value of the firm.

3.4.2 Explanatory Variable

Independent variable affects the dependent variable. This study examined the moderating role of size of the firm between CSR and firm financial performance of Pakistani non-financial firms. CSR is used as explanatory variable in this study. Amongst the researcher measurement of CSR is a constant problem (Waddock & Graves, 1997). According to Margolis & Walsh, (2003) in the literature different approaches are used to measure the CSR and there is lack of uniformity. Such difficulty in measuring corporate social responsibility may be due to the deficiency in obtaining data as in the case in Pakistan. Corporate social responsibility index is used to measure the CSR. The index is based on the amount spent on six social actions: amount spent on employee's social actions relationship, community, customer, environmental, education, and health social actions, and external social actions Dr. K.K. Tnilaksiri,(2015). CSR index refers to the

average of employee's social actions relationship, community, customer, environmental, education, and health social actions.

3.4.3 Moderator

Moderator variable affect the relationship of dependent and independent variable. As far as in this study firm size is used as a moderator to measure the relationship between CSR and firm financial performance. Firm size is measured by taking natural log of total assets (Abdulhadi et al.,2012; Qayyom.,2014; chaipron & Jittima.,2015; Hyewon et al.,2015)

3.4.4 Control variables

A control variable is a variable that affects the dependent variable. When a variable is controlled, the effect of that variable between subjects and groups is balanced so that this variable can be ignored. The present study use Profitability, and leverage as control variables which are also used by Hyewon et all.,2015; Qayyom.,2014.

3.5. Measurement of Variables

For variable measurement, the following proxies are used

Variables	Measurement	References
(Abbreviations)		
Dependent Variable		
Firm Performance (FP)	Financial Tobin'Q = Total Market value/total assets value	(Hyewon et al., 2015, Kashif et al 2011, Musibah et al, 2014)
Independent Variable		
Corporate social responsibility (CSR)	Average of amount spent on six social actions: Employee, community, environment, customer, education, and health	Dr. K.K. Tnilaksiri, (2015), Mattingly & Berman, (2006)
Moderating Variable		
Firm Size (FS)	Natural log of total assets	(Qyüum, 2014)
Control variables		
Leverage (LEV)	LEV = Total Debt/ Total Assets	(Hyewon et al., 2015)
Profitability (PB)	PB= EBIDTA/Total assets	(Hyewon et al., 2015)

3.6 Econometric Model

Two stages regression is used to analyzed the data. First regressed the dependent variable on the independent variables and then regressed the dependent variable on both the independent variables and moderator (Hyewon, Nan, & Seoki, 2015; Qayyoun.,2015)

$$\text{Tobin-Q} = \beta_0 + \beta_1(\text{CSR}) + \beta_2(\text{PB}) + \beta_3(\text{LEV}) + \epsilon$$

$$\text{Tobin-Q} = \beta_0 + \beta_1(\text{CSR}) + \beta_2(\text{PB}) + \beta_3(\text{LEV}) + \beta_4 \text{CSR} * \text{FS} \ln(\text{total assets}) + \epsilon$$

Where

LEV = Total debt divided by total assets

PB= Dividing earnings before interest, depreciation, tax, and amortization on total assets

CSR= average of amount spent on six social actions: employee's relationship, community relationship, environmental relationship, customer relationship, educational relationship, and health relationship:

FS= Firm size measured as natural log of total assets

ϵ = Error term

3.7 Multicollinearity and Variance Inflation Factor (VIF)

This is a statistical term which means that in a model two or more than two explanatory variables are highly correlated, amongst them one can be projected from the rest. Variance Inflation Factor (VIF) is used to test multicollinearity in the explanatory variables. According to (Tabachnick & Fidell, 1996) if VIF value is less than the critical value 10 then there is no multicollinearity in the data.

$$VIF = \frac{1}{1 - R_i^2}$$

Chapter [4]

4. Results and Discussions of the study:

This study has used panel data. Panel data is the data which consist of time series and cross sections. Data of this study consist of 100 firms for ten years, so, it includes ten years' time series and cross section of 100 firms. The current study has investigated the analysis in two phases: first on hundred firms for ten years' period (2005-2014), in the second phase selected 57 firms which have initiated CSR activities from 2012-2014. Different tools of statistics are used: descriptive statistics, correlations, and panel regression to examine the moderating role of firm size between CSR and firm financial performance. In the given below tables the results of these statistical tools are discussed.

4.1 Descriptive Statistics

Descriptive statistics summarize a given data set, which can be either presentation of the whole population or sample. Descriptive statistics has broken down into measures of variability and central tendency. Measures of variability consist of standard deviation or variance while central tendency consist of mode, median, and mean, the maximum and minimum variables, and the kurtosis and skewness.

Table 1: Descriptive Statistics

Variables	Dimension	Mean	Standard Deviation	Skewness	Kurtosis
Firm	Tobin's Q	3.020841	8.171232	0.71083	3.0080
Financial performance					
CSR	CSR Index	0.492754	0.219849	0.731207	2.2423
Profitability	EBDITA/Total Assets	0.338253	0.338519	0.30006	2.9867
Leverage	Total Debt/Total Assets	0.509266	0.245616	0.10001	2.9905
Size	<i>Ln of total assets</i>	14.8801	1.720242	0.06008	2.9543

4.2 Correlation analysis:

One of the statistical tool which not only shows the relationship between the variables but also shows strength of the relationship between these variables. When variables are positively correlated, it shows that change of the variables are in the same direction. In case of negative correlation, changing in variables are in opposite direction. Value of correlation coefficient ranges from +1 to -1.

Table 2: Correlation Analysis

	Tobin's Q	CSR	PB	LEV	FS
Tobin's Q	1.0000				
CSR	0.0708 (0.206)	1.0000			
PB	0.5952* (0.0000)	0.0774 (0.149)	1.0000		
LEV	0.28685* (0.0000)	-0.1340 (0.0149)	-0.5030* (0.0000)	1.0000	
FS	0.1976* (0.0000)	0.1594* (0.0000)	0.1723* (0.0000)	0.3908* (0.0000)	1.0000

No Observation=1000.** Correlation significant level 0.01 (1%) * Correlation significant level 0.05 (5%)

Panel regression analysis:

Before running of the regression analysis, assumptions of the OLS (Ordinary Least Square) have tested. Discussions of the tested assumptions are below.

1. Panel Unit Root Test:

Levin, Lin & Chu (2002) test have used for stationarity in the data. The Null and Alternate hypotheses for Levin, Lin and Chu (2002) are

H0: Panel contains unit root (Panel are not stationary)

H1: Panel does not contain unit root (Panel are stationary)

Result of the Liven, Lin, & Chu test concluded that all variables in this study have significant p value 0.05. So, based on the Levin, Lin & Chu (2002) test result rejected the H0 and have accepted the H1. Thus, the result implies that the data is stationary.

Table 3: Panel Unit Root Test

Tobin's Q (tqs)		
	Statistic	p-value
Unadjusted t	-62.56	
Adjusted t*	-62.080	0.0000
Corporate Social Responsibility (CSR)		
Unadjusted t	-932.504	
Adjusted t*	-861.704	0.0000
Firm profitability (PB)		
Unadjusted t	-20.2164	
Adjusted t*	-27.255	0.0483
Firm size (FS)		
Unadjusted t	-32.68	
Adjusted t*	-34.21	0.0000
Leverage (LEV)		
Unadjusted t	-24.100	
Adjusted t*	-14.28	0.0000

2. Multicollinearity:

For multicollinearity, Variance of Inflation Factor (VIF) is used. The VIF value 0.8456 is less than critical value 10 which is acceptable (Tabachnick & Fidell, 1996). The result shows that the data does not have any multicollinearity.

Table 4: Multicollinearity

Variables	VIF	1/VIF
CSR	1.002	0.9980
PB	1.477	0.6770
Leverage	1.345	0.8620
Mean VIF	0.8456	

This study has both: time series of ten years and cross sections of 100 firm's data. To test the impact of CSR on FFP Panel regression is used. To check this relationship, the below equation is used.

$$\text{Tobin-Q} = \alpha + \beta_1(\text{Corporate social responsibility}) + \beta_2(\text{Firm profitability}) + \beta_3(\text{leverage}) + \epsilon$$

$$\text{Tobin-Q} = \alpha + \beta_1(\text{CSR}) + \beta_2(\text{PB}) + \beta_3(\text{LEV}) + \epsilon$$

Durbin Watson test has used for the selection of best model between pooled regression and alternatives: fixed and random effect model. Gujarati, (2004) suggests in his book that Durbin Watson should be used for selection of the appropriate model to analyze the data. The higher the value of the Durbin Watson test is the indication of a

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better model. Fixed effect model and common effect model have Durbin Watson 0.989018 and 1.354548 respectively. So, based on the result of Durbin Watson fixed effect model have higher value thus fixed effect model is appropriate model. Hausman, (1978) test has used to select the best model between fixed effect model and random effect. Null and alternate hypotheses of the Hausman specification test are

H0: "Random effect model is appropriate"

H1: "Fixed effect model is appropriate"

If the p value of chi square of the Hausman specification test is significant 0.05 (5%) then to reject the null and must accept the alternate hypothesis. Hausman test has P value 0.010 thus, rejected the null and accepted the alternate. So, fixed effect model is best model to analyze the data.

The below table five (05) shows that results of the panel regression but in table six (06) the results produced by the fixed effect model have discussed.

Table 5: Panel Regression

Independent Variables	Coefficients		
	Common Model	Effect Fixed Effect Model	Random Effect Model
CSR	0.08176 (0.7838)	0.026177 (0.5889)	0.014651 (0.6847)
Profitability	.591791 (0.0000)	.660620 (0.0000)	.621340 (0.0000)
Leverage	0.558456 (0.5710)	.528341 (0.0240)	.544025 (0.2526)
R Square	0.354551	0.510156	0.333004
Durbin-Watson test	0.989018	1.354548	1.1739
F Statistics	180.5398	9.156647	164.0896
P value (F)	0.00000	0.00000	0.00000
Hausman Test	0.0010		

Table 6: Fixed Effect Model

Dependent Variable = Firm financial performance			
Independent Variables	Coefficients	t-value	p-value
CSR	0.026177	0.497981	(0.5889)
Profitability	.660620	1.44173	0.0000
Leverage	.528341	1.185919	0.048
R Square	0.510156		
Adjusted R Square	0.454443		
F Statistics	9.156647		
Prob (F-Statistics)	0.0000		

Main explanatory variable of the study is CSR and its sign of coefficient is positive and having coefficient and P value respectively 0.026177 and 0.5889. Result of the variable shows that keeping other variables constant CSR will bring a positive change in the financial performance of the firm. But p value of the relationship is 0.5889 which is greater than 0.05 which indicates that this relationship is insignificant.

Then selected those firms which have been started CSR activities since 2012 and applied different tools of statistics: descriptive statistics, correlations, and panel regression details of these tests and tables are below.

Table 7: Descriptive Statistics of selected firms

Variables	Dimension	Mean	Standard Deviation	Skewness	Kurtosis
Firm Financial performance	Tobin's Q	2.9841	6.02341	0.81083	3.0020
CSR	CSR Index	0.722549	0.160071	0.731207	2.2423
Profitability	EBDITA/Total Assets	0.353497	0.409866	0.15086	3.045
Leverage	Total Debt/Total Assets	0.513032	0.234956	0.312549	2.8905
Size	<i>Ln of total assets</i>	13.12987	1.65087	0.09708	2.8276

Firm financial performance measured by Tobin's Q is the dependent variable has mean value of 2.9841 and standard deviation value 6.0234. The mean and standard deviation value of sample chosen from Karachi stock exchange shows that the firms have worth more than their book value because their average value is greater than 1. The main independent variable corporate social responsibility has the mean and standard deviation value of 0.722549 and 0.160071 respectively. The values show that from 2012 onward the selected firms have been paying attention to CSR and making investment in CSR

activities. The mean and standard deviation values for firm profitability are 0.35497 and 0.409866 respectively. The profitability ratio depicts that the average assets value of Pakistani firms is greater than its operating income (EBIT). Leverage has the mean value 0.513032 and standard deviation value 0.234956. The mean and standard deviation value shows that mostly Pakistani firms are highly levered. The moderator variable (Firm Size) has mean and standard deviation value 13.12987 and 1.65087 respectively. Which depict that mostly Pakistani firms have more worth than their book value because the mean value is greater than one. All variables in this study have skewness value less than one which shows that the data does not have skewness. The kurtosis values of all variables are closer to three which shows that there is no peak and flatness in the data.

Table 8: Correlation Analysis of selected firms

	Tobin's Q	CSR	PB	LEV	FS
Tobin's Q	1.0000				
CSR	0.0616* (0.0426)	1.0000			
PB	0.5221* (0.0000)	0.1275* (0.0975)	1.0000		
LEV	0.4073* (0.0000)	0.0666 (0.3884)	0.5281* (0.0000)	1.0000	
FS	0.2705* (0.0004)	0.2011* (0.0085)	0.2112* (0.0057)	0.5572* (0.0000)	1.0000

No Observation=1000. ** Correlation significant level 0.01 (1%) * Correlation significant level 0.05 (5%)

The correlation analysis of the dependent and explanatory variables of selected firms is shown in the above table [08]

The correlation between Tobin's Q and CSR is positively significant which shows that change in variables are in the same direction, means that while investing in CSR firm performance will increase. The correlation between Tobin's Q and firm size is momentarily positive. The correlation between Tobin's Q and Profitability is momentarily positive. Result of the profitability shows that with the increase in profitability the firm performance also increases. Leverage also has momentarily

positive correlation with Tobin's Q. This shows that mostly Pakistani non-financial firms financed through leverage and leverage have positive correlation with firm performance.

Table: 09 Variance Inflation Factor of selected firms

Variables	VIF	1/VIF
CSR	1.043	0.9587
PB	1.440	0.6944
Leverage	1.423	0.7027
Mean VIF		2.355

Result of the VIF shows that there is no multicollinearity in the data because VIF value is less than the critical value 10.

To select appropriate model between common effect and alternative: fixed and random effect model Durbin Watson test has used. Common effect and fixed effect model have Durbin Watson values 0.455549 and 1.859732 respectively. So, based on Durbin Watson value alternative: fixed effect and random effect models are appropriate. To select best model between fixed effect and random effect Hausman test have applied. Value of the Hausman test is 0.0489 which shows that fixed effect model is best model for data analyzation.

The below table nine (09) shows that results of the panel regression but in table ten (10) the results produced by the fixed effect model have discussed.

Table 10: Panel regression of selected firms

Independent Variables	Coefficients		
	Common Model	Effect Fixed Effect Model	Random Effect Model
CSR	0.796081 (0.7599)	0.996321 (0.0024)	1.2376 (0.0160)
Profitability	1.437349 (0.0000)	2.128943 (0.0585)	4.18058 (0.0007)
Leverage	0.76321 (0.0175)	.603487 (0.0428)	1.3265 (0.0215)
R Square	0.297016	0.843898	0.333004
Durbin-Watson test	0.455549	1.859732	1.1993
F Statistics	23.37875	10.07911	13.78079
P value (F)	0.00000	0.00000	0.00000
Hausman Test	0.0489		

Table 11: Fixed Effect Model of selected firms

Dependent Variable = Firm financial performance			
Independent Variables	Coefficients	t-value	p-value
CSR	0.996321	3.105264	0.0024
Profitability	2.128943	1.912102	0.0585
Leverage	.603487	1.465238	0.0428
R Square	0.843898		
Adjusted R Square	0.76071		
F Statistics	10.07911		
Prob (F-Statistics)	0.0000		

The above table [10] shows the result of the study of the first model. R square has value 84%, F-statistics have 10.07911 and P value is 0.0000

CSR is the main explanatory variable of the study its sign of coefficient is positive and having coefficient and p values respectively 0.996321 and 0.0024 respectively. Which shows that keeping other variables constant CSR will bring positive change in firm financial performance. So, based on result of the study have accepted first hypothesis of the study that "CSR have significant impact on firm financial performance". Result of the study is consistent with the previous studies of (Shoukat & Muhammad, 2014; Gul, Shahzad, Danish, & Adnan, 2012; Mubeen & Arooj, 2014; Weiqiang et al., 2010; Iqra, Ali, Naeem, Ijaz, & Aysha, 2014; Krishnan, 2012; Platonova

et al., 2016). Along with previous studies this study also support signaling theory that information is asymmetric in the market and there is a risk in the market but a good firm will distinguish itself from the bad one based on signal generation, the firm will generate credible signal about its quality in capital market. when a firm invest in CSR activities it generates good signals in the market thus, reduce the risk and increases the firm financial performance. The same conclusion has drawn by Miller et al., (2009) that, by filling institutional gaps and considering society at large CSR generates a signal to its stakeholders about unseen traits. Portes & Kramer, (2006), Rivoli & Waddock, (2011) found the same conclusion that CSR generate a signal to the stakeholders by considering society and filling the institutional gaps. Moreover, the studies of (Ramchander et al., 2012; Spence., 1973) have concluded that, stakeholders provide premium to firms when they value to the unseen traits. CSR reduce the uncertainty and increases the firm value (Connelly et al., Mohny., 2012). Result of the explanatory variables are also in line with the previous studies (Hyewon, Nan, & Seoki, 2015; Munaza, Farida, Shgufta, & Shahid, 2013; Olayinka & Temitope, 2012).

Moderation Analysis:

According to Hayes, (2013) that moderator is predicted by M and it will have an impact on the relationship between X and Y. Moreover, the Moderator (M) is said to be a moderator of X's effect on Y or we can simply say that M and X interact and it will have an influence on Y. As shown in the model of the study, firm size moderating the

relationship between corporate social responsibility and firm financial performance. To check this relationship, moderation analysis is used.

$$\text{Tobin-Q} = \alpha + \beta_1(\text{Corporate social responsibility}) + \beta_2(\text{Firm profitability}) + \beta_3(\text{leverage}) + \beta_4(\text{Corporate social responsibility}) * (\text{Firm size}) + \epsilon$$

$$\text{Tobin-Q} = \alpha + \beta_1 (\text{CSR}) + \beta_2 (\text{FP}) + \beta_3 (\text{LV}) + \beta_4 (\text{CSR}) * \text{FS} + \epsilon$$

To choose the best model for moderation analysis, between pooled regression analysis and alternative of panel data (Fixed effect model and random effect model). First checked the Durbin Watson values, fixed effect has 1.824432 and common effect's 0.463221. Then Hausman test have applied to choose the best model between fixed effect model and random effect model, Hausman test have p value 0.0604 which is less than 5% so, rejected the null hypothesis and accepted the alternate one. Based on the result of the Hausman test result and Durbin waston value fixed effect model is used for analyzation of the data.

Table 12: Panel regression

Independent Variables	Coefficients		
	Common Model	Effect Fixed Effect Model	Random Effect Model
CSR	0.99270 (0.1509)	0.89195 (0.0584)	1.5231 (0.15432)
Profitability	4.513668 (0.0000)	3.183605 (0.0497)	4.224137 (0.0006)
Leverage	0.873982 (0.1967)	.919044 (0.0360)	1.4432 (0.1128)
CSR*Size	-0.673982 (0.3916)	1.494244 (0.03601)	0.510527 (0.0396)
R Square	0.307688	0.85098	0.202879
Durbin-Watson test	0.463221	1.824432	1.191975
F Statistics	18.33296	9.9112206	10.49876
P value (F)	0.00000	0.00000	0.00000
Hausman Test	0.0604		

Table12. Moderation regression analysis:

Variables	β Coefficient	Significance (p-value)	(p- Rsquare	Rsquare change
<u>1st Step</u>				
CSR	0.996321	0.6186	0.84%	1%
PB	2.128943	0.0585		
LEV	0.603487	0.0428		
<u>2nd Step</u>				
CSR	0.891952	0.0584	0.85%	
PB	3.183605	0.0497		
LEV	0.5387	0.0281		
Size*CSR	1.4942	0.0361		

Two stages regression have run to find the moderation impact of firm size between corporate social responsibility and firm financial performance. In the first step R^2 (Model fitness) have checked without the moderation, which having value 84% shown in the above table number 12. In the second step, incorporated the moderation and again checked the fitness of the model R^2 which was 85% and 1% change was reported as shown the above table 12.

The interacting term Firm size*Corporate social responsibility has been reported significant. So, the result indicates that the firm size moderate the relationship between corporate social responsibility and firm financial performance. Similarly, the R square change also shows that firm size moderate the relationship. Result of the studies are in line with the previous studies of (Hyewon, Nan, & Seoki, 2015; Udayasankar, 2008; Georgeta & Florintia, 2013). Moreover, the study also support signalling theory that information is asymmetric in the market, there is a risk in the market, but larger firms have more resources than smaller one so, they are investing in CSR activities more than smaller firms. While investing in CSR activities it produces a good signal in the market which reduce the risk and increases firm financial performance. MC Gurie et al., 1988; Brammer & Millington, (2006) also having the same conclusion that larger firms have much resources, can attract media attention, and are more capable than smaller firms.

Chapter [5]

5.1 Conclusion

Basically, the present study has tried to explore the relationship between CSR, FFP and to investigate the moderating impact of firm size between CSR and FFP.

The motivation to conduct the present study has mainly come from Hyewon et al.,(2015) they have found the moderating impact of firm size between CSR and FFP in US restaurants. In this study Panel data of 100 non-financial firms have used for ten (10) year of time (2005-2014): first analysed the data of hundred firms for ten years and insignificant impact of CSR have found on firm financial performance then reduced the sample size and selected 57 firms which have been started CSR activities since 2012 and again investigated the analysis. For accurate and precise result, statistical tools: descriptive statistics, correlation analysis, variance inflation factor is used. Two hypotheses were developed in this study (H1 and H2) to investigate the direct relationship between CSR and FFP and to investigate the moderating impact of firm size between CSR and FFP of non-financial Pakistani firms. The result of hypothesis (H1) shows that association between CSR and FFP is momentous and positive. The results are in line with the signalling theory that CSR reduce risk in the market and increases firm financial performance. This study also complements with the previous studies of

(Shoukat & Muhammad, 2014: Gul, Shahzad, Danish, & Adnan, 2012: Mubeen & Arooj, 2014: Weiqiang et al., 2010: Iqra, Ali, Naeem, Ijaz, & Aysha, 2014: Krishnan, 2012: Platonova et al., 2016).

To check the moderation impact of firm size between CSR and firm financial performance, moderation analysis has run. Result of hypothesis shows that firm size significantly moderate the relationship between CSR and firm financial performance. This result is in line with the previous studies of (Hyewon, Nan, & Seoki, 2015: Udayasankar, 2008: Georgeta & Florintia, 2013) and support the signalling theory that larger firms have much resources, capabilities, and can attract media attention easily as compare to smaller one. Thus, they can invest in CSR to reduce the risk and increases firm performance.

5.2 Managerial Implication

This study has implication for both managers and investors; they will make decisions as per their requirements by knowing the role of firm size as a moderator between CSR and FFP. Moreover, the managers can improve the financial performance of a firm by choosing environment and the community as a social activity. Investors will make rational decisions while making investment. Furthermore, this study is also important for regulatory bodies, the regulatory bodies should design policies and regulation which encourage firms to participate in CSR activities.

5.3 Limitations of the study and Future Research directions:

Size of the sample is the first limitation of this study. The sample consists of 100 non-financial firms with ten (10) years of panel data. To reduce biasness in odd ratios and to generalize the result should employee large simple size. Second, this study focused on the moderating impact of firm size between CSR and FFP of non-financial Pakistani firms. The future studies can also study the financial Pakistani firms. One limitation is that our data is compromise of panel data of non-financial firms so future studies can study the time series data of the non-financial Pakistani firms. For firm financial performance, there are other proxies so, future studies can use these proxies in Pakistani context. There are other proxies for measuring CSR so, future studies should use those proxies than to check the relationship amongst the variables in Pakistani context.

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