

Study on CSR Activities of Indian Pharmaceutical Companies in the Area of Public Health and Impact of CSR on the Market Risk of These Companies

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Abstract

Introduction: Corporate Social Responsibility is one of the key concerns in today's highly competitive business environment. Pharmaceutical companies in India are highly concerned and engaged in various CSR programs specially in the field of public health. Objectives: current study is conducted to study the impact of CSR on market risk of healthcare companies in India and to analyse CSR investment by healthcare companies in the area of public health. Originality: this area of CSR is still very less explored in our country and very less amount of work has been done to find out impact of CSR on market risk. Material & Method: data of CSR, market risk premium and market value at risk is analysed using panel data regression using e-views.

Result & Discussion: There is a significant impact of CSR on market risk premium (Beta) and Market value at risk (VaR) of the company. Coefficient of regression is negative which means increase in CSR will decrease the Beta and VaR of the company. Hence it will reduce overall market risk of the company. Applications: Current study will help in understanding impact of CSR on market risk with reference to pharmaceutical companies in India. It will also help in extracting overall scenario of CSR with reference to public health in India. Conclusion: Pharmaceutical companies in India can reduce their market risk by increasing their involvement in CSR activities. It will help them in improving overall market performance.

Keywords- CSR, Market Risk, Public Health, Value at Risk, Market Risk Premium.

Introduction

Role played by corporate or business world for the upliftment or betterment of society has been debated from time to time. What contribution they should make? What are the responsibilities they should take in charge of are not properly defined and incorporated in various definitions of business world? Basic thought process says that when corporate are running their business in society, they are using various resources of society so it should be their core responsibility to do something for the society which is not profit oriented. Corporate social responsibility is the activity which is fulfilling these criteria to satisfy the core responsibility of these corporate towards the society.

In India companies are doing plenty of work in the area of public

health, social welfare, education, poverty reduction and environment protection. These organizations are working in the areas like gender equality, child health & welfare, women health & welfare and backward development to uplift various sections of society. They are coming with various innovative ideas to fulfil the gap and spread the awareness about these problems. It might be as principal as choosing what social issues and causes to help and which ones to dismiss.

The market is never reasonable, and it isn't for the absence of exertion but since business sectors and purchasers particularly people and their conduct are too unpredictable to possibly be comprehended and what can't be comprehended can't be completely fixed, must be improved. There for social welfare activities of the companies are reflected through sentiments of investors and overall market performance of the company. Numerous studies have shown the impact of CSR on market performance of the company.

CSR Initiatives of various companies in India related to Public Health

In India major areas of social welfare are healthcare facilities to poor, education to needy children, promoting gender equality, healthcare facilities to women and children. Companies are focusing on area like child appetite and malnourishment, neediness and lack of healthy sustenance, and advancing preventive social insurance and sanitation facilities. Companies particularly related to healthcare are doing various activities for improving the quality of drinking water and sanitation facilities for people living in slums and coming under below poverty section of society.

CSR and Market Risk

Company's focus on CSR and investment in CSR related activities can have positive incentive for the company. It can also help the company in terms of positive engagement of various partners of the company and their attachment with the company if it is involved in various social welfare activities. Social welfare program affects market risk of the company in positive way.

Market risk associated with financial performance of the company can be expressed by beta (risk premium) of the company and for more advance measure of market risk (diversifiable risk) of the company we can employ market Value at Risk (VaR) of the company.

Material & Methods

In this study the main concern is the connection between the market risk of Indian healthcare companies & corporate social responsibility of these organizations in India. In

particular, the examination tried to comprehend to the effect of CSR Expenditure on market performance through market risk which is associated with the company's financial performance. The risk on market for the company is to be analyzed through risk premium (Beta) of the company along with market value at risk (VAR) of the company.

Objectives of the Study

The research work aims to enrich the knowledge and understanding of various factors of market risk of the company which gets affected by corporate social responsibility in Indian scenario. Objectives for this study are-

1-“To explore the present scenario of CSR expenditure by healthcare companies in India.”

2-“To study the impact of CSR on the market risk (diversifiable risk) of the company.”

Hypothesis of the Study

On the basis of objective of the study following hypotheses are formulated-

H0: There is not significant impact of CSR on the 'market risk' of the company.

H1: CSR has a significant impact on the 'market risk' of the company.

Research Design

The aim of the study was to dig out the CSR impact over the company's market risk, where company's market risk is represented by market risk premium (Beta) and Market value at risk (VaR) of the firm. This study utilized descriptive research to analyse the data and achieve the objectives of this study.

Data Collection

Data for this study was collected from various authentic database like website of Ministry of Corporate Affairs. CSR expenditure data of selected 12 companies from 2014-15 to 2016-17 and data for market risk of the company for which daily market price data of all 12 selected companies along with daily price data of BSE-Sensex was collected from 2015-16 to 2017-18. Then market risk premium (Beta) and market value at risk (VaR) were calculated on yearly basis for selected 12 companies from 2015-16 to 2017-18 by using daily price data of different companies and BSE-Sensex.

Sample

A sampling unit is an integral constitution of the sample. In this study for evaluating the impact of CSR over the

company's financial performance the sampling unit is 12, which comprises of various healthcare companies which are listed in Bombay Stock Exchange (BSE) and are top contributors of CSR as per the base year of the study i. e. 2014-15..

Data Analysis Tools

The data analysis was performed by utilizing EViews software along with Microsoft Excel. Data of all the variables was converted in panel data form and entered in E

Views. Panel data regression technique was used to analyze the data in E-views.

Results and Discussion

This part of the study deals with analysis of data collected from various sources through various statistical tools used in the study. The sections in this chapter cover stepwise analysis of various objectives of the study and hypothesis testing links with desired targets of the research.

Table 4.1: CSR Expenditures of Pharmaceuticals Companies in India

Year	Prescribed CSR (in INR Cr.)	Actual CSR (in INR Cr.)
2014-15	215	132
2015-16	278	212
2016-17	325	245
2017-18	383	314

Source: Compilation performed by scholar from ministry of corporate affairs (2018) & BSE India (2018)

In pharmaceutical companies in India gap between prescribed CSR and actual CSR spent was very huge, which has been decreased drastically.

In FY 2017-18 gap was almost 18 percent between prescribed CSR and actual CSR spent that means

pharmaceutical companies are showing more awareness in terms of CSR spent and they are utilizing CSR budget much better than other companies in India. One of the reasons behind this could be mandatory requirement and self-consciousness by these pharmaceuticals' companies in various areas of social welfare.

Table 4.2: Sector wise data of Prescribed and Actual CSR Spending in 2018 -19

	Auto and Auto Ancillaries	Computer Software/IT	Power & Energy	Banking & Finance	Metal, Mineral and Mining	Pharmaceuticals
Prescribed CSR	464	1717	572	1254	703	383
Actual CSR	464	1474	657	1091	598	314
% of Actual to Prescribed CSR	100%	86%	115%	87%	85%	82%

Source: Compilation performed by scholar from ministry of corporate affairs (2018) & BSE India (2018)

In sector wise data Power & Energy and Auto & Ancillaries sectors are leading in terms of utilization of prescribed CSR

budget. Pharmaceutical companies are utilizing almost 82% of prescribed CSR Budget.

Table 4.3: Theme-wise number of CSR projects in India

Thematic Area	INR Cr	No of Projects
Education & Skills	2973	1598
Poverty Alleviation, Healthcare and WASH	2131	1260
Rural Development	1091	433
Environment Sustainability	795	433
Protection of Heritage & Art	190	110
Rural Sports and Paralympic	181	115
Gender Equality and Women Empowerment	146	177
Technology Incubation	45	11
Benefits to Armed Forces Veteran	32	17
Others (Projects, Admin, Misc)	862	NA

Source: Compilation performed by scholar from ministry of corporate affairs (2018) & BSE India (2018)

If we look at the theme wise categorization of CSR activities of different Indian companies they are covering each and every aspect of social responsibility, whether it is education or environment protection or healthcare or skill development, they are spending money to improve all these basic areas of corporate social responsibility. Especially in the area of public health very huge number of projects is undertaken by companies and very big share of CSR expenditure budget was allocated to this area.

After presenting the current scenario of CSR in India impact of CSR on various components of market risk of the company was analysed as followings as per the second objective of the study.

To study the impact of CSR on the market risk of the company panel data regression analysis technique is applied on various components of market risk of the company as following-

Impact of CSR on the Market Risk (Diversifiable Risk) of the Firm

To analyse the impact of CSR on the Market Risk (Diversifiable Risk) of the company panel data regression was applied where dependent variables were Market Risk Premium (Beta) and Market Value at Risk (VaR) of the firm.

1- Impact of CSR on the Market Risk Premium (Beta) of the Firm

Table 4.4: Regression Analysis of Impact of CSR on Beta of the Company

Dependent Variable: LBETA				
Method: Panel Least Squares				
Sample: 2015 2018				
Periods included: 3				
Cross-sections included: 36				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.217961	0.093316	-2.335737	0.0202
LCSR	-0.721378	0.026840	-26.87697	0.0291
R-squared	0.592673	Log likelihood		254.9865
Adjusted R-squared	0.483512	Sum squared resid		0.009960

Source: Panel Data Regression performed by scholar on E- Views

Analysis of regression outcome of impact of CSR on the Market Risk Premium (Beta) of the company-

Outcome of regression analysis shows that probability value is 0.0291 which is less than 0.05; it means p-value is quite low and it signifies that Corporate Social Responsibility (CSR) is significantly related to change in the Beta of the company.

Hence, we can say that CSR has significant impact on the Beta of the company. So our null hypothesis is rejected and alternative hypothesis is accepted.

Regression coefficient between CSR and Beta is -0.721378 which represent that mean change in the Beta is significantly negative for one unit of change in the CSR while holding another variable in the model constant.

t- Statistic represents the ratio between estimated coefficient and standard error, in this outcome t-statistic is -26.87697 which is less than -2.7. It represents our regression model is providing significant result. As our regression model is a two-tailed test so direction of t-value will not change the acceptance or rejection of null hypothesis.

Standard error in the regression model comes out to be 0.026840 which is relatively very low. Standard error measures the statistical reliability of the coefficient estimated in the model.

Our value of standard error is 0.026840 which mean there is approximately no noise in the estimated value in the model.

It also represents that most of the values of CSR are fairly

closer to the regression line. Most of the CSR estimates are right on the top of regression line.

Sum square residual value in regression outcome closer to zero is good for regression model. In this case sum square residual value is 0.009960 which means model has very less error and explain most of the data set used in the study.

Log likelihood value in regression outcome should be large as large value represents better fit of data. In this case it is 254.9865 which mean best fit of data set.

R-square value is the statistical measure of how close the data is to the fitted regression line. It is always between 0 to 100 %.

In our outcome R-square value is 59.2673 % which means close to 60 % Change in Beta is explained by CSR. Hence CSR has significant impact on the Beta of the Company.

When our model is having more complexity, we should rely on Adjusted R-square instead of R-square. For positive result Adjusted R-square must be equal to or greater than 19 percent.

In outcome of our regression model Adjusted R-square value is 48.3512 % it means our model accounts for 48.3512 % of the total variability. In simple words 48.3512 percent variability of Beta is explained by CSR.

Adjusted R-square outcome satisfactory as almost 48 percent of the variability in Market Risk Premium (Beta) is explained by our regression model, which is dependent on Corporate Social Responsibility (CSR).

Impact of CSR on the Market Value at Risk (VaR) of the Firm

Table 4.5: Regression Analysis of Impact of CSR on Value at Risk (VaR)

Dependent Variable: LVAR				
Method: Panel Least Squares				
Sample: 2015 2018				
Periods included: 3				
Cross-sections included: 36				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.082301	0.265964	-22.86889	0.0000
LCSR	-0.712979	0.027726	-25.71518	0.0447
R-squared	0.571976	Log likelihood		585.6401
Adjusted R-squared	0.463831	Sum squared resid		0.008974

Source: Panel Data Regression performed by scholar on E- Views

Analysis of regression outcome of impact of CSR on the Market Value at Risk (VaR) of the company-

Outcome of regression analysis shows that probability value is 0.0447 which is less than 0.05; it means p-value is quite low and it signifies that Corporate Social Responsibility (CSR) is significantly related to change in the Market Value at Risk of the company.

Hence, we can say that CSR has significant impact on Value at Risk of the company. So our null hypothesis is rejected and alternative hypothesis is accepted.

Regression coefficient between CSR and Market Value at Risk is -0.712979 which represent that mean change in Value at Risk (VaR) is significantly negative for one unit of change in the CSR while holding another variable in the model constant.

t- Statistic represents the ratio between estimated coefficient and standard error, in this outcome t-statistic is -25.71518 which is less than -2.7. It represents our regression model is providing significant result with two-tailed test statistics.

Standard error in the regression model comes out to be 0.027726 which is relatively very low. Standard error measures the statistical reliability of the coefficient estimated in the model.

Our value of standard error is 0.027726 which mean there is approximately no noise in the estimated value in the model.

It also represents that most of the values of CSR are fairly closer to the regression line. Most of the CSR estimates are right on the top of regression line.

Sum square residual value in regression outcome closer to zero is good for regression model. In this case sum square residual value is 0.008974 which means model has very less error and explain most of the data set used in the study.

Log likelihood value in regression outcome should be large as large value represents better fit of data. In this case it is 585.6401 which mean best fit of data set.

R-square value is the statistical measure of how close the data is to the fitted regression line. It is always between 0 to 100%.

In our outcome R-square value is 57.1976 % which means close to 57 % of Market Value at Risk is explained by CSR. Hence CSR has significant impact on Market Value at Risk of the Company.

When our model is having more complexity, we should rely on Adjusted R-square instead of R-square. For positive result Adjusted R-square must be equal to or greater than 19

percent.

In outcome of our regression model Adjusted R-square value is 46.3831 % it means our model accounts for 46.3831 % of the total variability. In simple words 46.3831 percent variability of Market Value at Risk is explained by CSR.

Adjusted R-square outcome satisfactory as almost 46 percent of the variability in Market Value at Risk is explained by our regression model, which is dependent on Corporate Social Responsibility (CSR).

So conclusively we can say that variables representing market risk (Beta and Value at Risk) of the firm in are significantly dependent on Corporate Social Responsibility (CSR) of the company.

CSR has significant impact on the market risk of the company. Market risk is negatively related to CSR of the company as per unit change in CSR accounts for negative change in various parameters of market risk of the company. Adjusted R-square and coefficient values for both Beta and Market Value at Risk with respect to CSR suggest that CSR has significant impact on these variables.

Conclusion

As per the observation of this study CSR has direct link with the market performance of the company. After the analysis the study showed, that CSR has significant impact on market risk of the company and increase in CSR may result into reduction in market risk of the company. Data analysis showed that for most of the companies which are increasing their CSR budget are getting results in terms of improvement in various market indicators of the organization.

Organizations who are actively involved in social welfare activities they can show their work in public domain so that people can have idea about social responsibility of the company. If people come to know about various welfare activities of the company, it will create positive image of the company and it will have positive impact on people's psyche about the company. If a company is knowingly or unknowingly involved in any act or program which has inverse impact on the society, community and environment that negative word of mouth spread faster than positive one.

Study covered impact of CSR on market risk premium (Beta) and market value at risk (VaR) of the company which are representatives of market risk of the company. Outcome of this study revealed that CSR has negative impact on Beta and VaR of the company so we can conclude that increase in CSR will reduce the overall market risk of the company associated with financial

performance of the company.

This research will help in elevating positive angles identified with CSR and its positive effect on the market performance of the organization. It displays the business points of interest to organizations on the off chance that it is 'key' in nature. The exploration has likewise centred on the moral parts of CSR. Responsibility towards society should not only be a shown to issues when they emerge but should be continuous and ongoing process. Just if organizations incorporate moral worries since its evolvement and should include morals in their day to day procedure and social responsibility, as an idea is coordinated into day to day decision making process.

Conflict of Interest –

This study is an exploratory research based upon secondary data therefore conflict of interest is hard to find out. But the study can be extended for the other variables of financial performance and impact of CSR on other variables as well.

Source of Funding – Not required.

Ethical Clearance –

As secondary data has been used for the research, available on public domain, therefore ethical clearance is not required. However, references required for the data has been mentioned in the study.

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