

Corporate Social Responsibility Performance, Corporate Risk and Moderating Role of Firm Life Cycle: Evidence from Pakistan

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Abstract

The purpose of this article is to examine the relationship between corporate social responsibility (CSR) performance and corporate financial risk while using firm life cycle stages as a moderating variable. OLS regression and fixed effect models are used. The sample data consists of 323 non-financial companies listed on the Pakistan Stock Exchange during the period from 2008 to 2019. The OLS regression results of our study suggest a negative association between CSR performance and financial risk, that is, positive CSR performance of the firm substantially decreases the firm's financial risk. The firm life cycle moderates the relationship between CSR performance and corporate financial risk. This research used legitimacy theory and stakeholder theory to link CSR and the firm life cycle with corporate financial risk. The most crucial stage for a corporation is its state of maturity. Managers and owners are advised to pay attention to their corporations during this period to avoid expulsion or failure. This means that greater emphasis should be placed on enhancing the operations and overall health of the corporation during this stage. By doing so, the corporation can maintain a sustainable and successful trajectory.

Keywords: Corporate Social Responsibility Performance, Corporate Financial Risk, Firm Life Cycle

Introduction

Corporate Social Responsibility (CSR) is considered a “planned” instrument for organizations as it can increase their competitive advantage by influencing key stakeholders (Hossain et al., 2015).

Achieving CSR in the face of major changes in the global economy and environment enables companies to develop their businesses and share sustainable values with stakeholders (Liu et al., 2020).

Song et al. (2020) clearly expressed that when a business or an organisation goes after CSR activities or programmes that are strongly connected with the proclivity and inclination of stakeholders and distributes funds and other resources in a strategic and appropriate way, the reputation and performance of the CSR reforms and that of the company become better, which results in the effective and efficient performance of the company.

We can say that CSR can be contemplated as how an organisation takes part in the economic, ethical, social and financial aspects of its business so that it can easily cope with the new and advanced environment. This is very important for the organisation in this fast-paced society because, in this way, it works better and prospers. CSR is one of the most important strands and components for the success and continuity of any business (Krasnikova & Malki, 2022).

Any firm or business is not only important for the owners or employees of that firm or business but also for the stakeholders, and general public at large. If the financial position of the firm is not strong and stable, then it is dangerous for all of them, and in the case of financial instability, they will all be affected. So, for this reason, the stability of the business is very important (Iotti & Bonazzi, 2022).

Any business that incorporates CSR campaigns efficiently has a great advantage because CSR is one of the most important phenomena in the existing corporate world.

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Businesses with a CSR concept have easy access to the capital market, financial market and stock market. They can earn more profits because of an increase in sales, cut down on their costs, increase customer happiness and satisfaction, increase customer retention and risk management techniques (Kunjukunju, 2020).

The growing concept of CSR in collaboration with corporate risk management and the corporate life cycle is very useful for the company's management because management can make the right decisions, and make the right choices (Frederiksen, 2018).

Karagiorgos (2010) gave a brief definition of CSR: "CSR is a spectacle that any company should adopt and take advantage of to solve the economic, technical and legal issues that narrow the scope of the company and make it impossible for the company to take any competitive advantage that is the requirement of the company."

Many studies show that the financial performance of the company is affected by variations in the company's life cycle. These variations directly affect the performance of the company, not only in the short run but also in the long run. So, the managers should take serious steps in order to enhance the financial performance of the company (Yahaya & Onyabe, 2020).

A business with positive CSR activities can run flexibly and smoothly, whereas a business with no CSR activities cannot run smoothly and has to face a lot of problems in its life cycle (Mulia & Joni, 2019).

Lee and Choi (2018) suggested that companies have broad and distinct CSR programmes according to the nature of work and operations they are involved in.

There was a study carried out by Wanis (2020), and he discovered that the participation of CSR in the maturity stage of the business life cycle is very prominent, and there exists a positive relationship between these two. We can say that in the maturity stage, the positive CSR activities are in full support of the business. Many studies have been conducted in order to see the relationship between CSR and the mature life cycle, and it can be claimed that there is a positive link between CSR and the mature life cycle stage of the business (Hasan & Habib, 2017).

Al-Hadi et al. (2019) did research on CSR; they examined the relationship between CSR performance and financial distress and used a moderator to see this effect more

clearly. The moderator used was the firm life cycle. The study was conducted on Australian companies that were publicly listed. A total of 651 companies were taken into account for this study for the years 2007–2013. The overall results of this study show that CSR performance has a strong positive impact on firms' financial distress. When a business is involved in more and more positive CSR activities, the financial risk of the company decreases because it is involved in activities that are good for the growth and development of the business. On the other hand, businesses that are not engaged in CSR activities face increased financial risk, which results in poor performance and increased chances of liquidation. A very strong relationship has also been seen between CSR and the mature firm life cycle stage because, in the mature phase of the life cycle, the business has invested more in positive CSR activities due to an abundance of capital and funds.

Zhao and Xiao (2019) conducted research in which they studied the impact of different firm life cycle stages on CSR. The life cycle of a firm has different stages, which include the initial, growth, maturity, and decline stages. They take data from 7 years, which approximates 11,865 firm-year observations. The results of this study show that firms at each stage of the corporate life cycle have different impacts on CSR performance and financial activity related to it. Each stage of the firm's life cycle shows a different result.

Businesses that perform CSR programmes have a competitive advantage over others due to their positive reputation and image and their effective and efficient work in order to make their surroundings better (Boukattaya et al., 2021).

CSR is an effective instrument as it increases the profit of the company, reduces its risk and strengthens its relationship with its clients (Tangngisalu et al., 2020).

CSR captivates more investors, and more investors invest in businesses, reducing the chances of risk and liquidation. Business risk is caused by inappropriate functions in the company's day-to-day operations. Market risk is caused by external factors that include unstable politics and unstable market situations, that is, an increase in demand and a decrease in supply of any product (Kolk, 2021).

CSR projects might include forestry, decreased emissions, reduced global warming, solid waste management, natural

resource protection and the preservation of soil, water and air quality. Initiatives to promote the interests of those who are the least fortunate members of society, rural development and participation in nation-building amid natural disasters. Recreational activity promotion can also be done as part of CSR (Chauhan & Dawra, 2017).

Corporate financial risk or financial distress, is a condition in which a company experiences a period of financial deterioration before it goes bankrupt.

Financial distress can be defined as a condition in which the total liabilities of the company exceed the total assets of the company, the company has not generated the indispensable revenue to meet the obligations of the company, and a time comes when the company shall not be able to meet even the day-to-day operations and the petty cash expenses of the company (Akbar et al., 2022).

Financial distress and its effect on firm value were studied by Modigliani and Miller (1958, 1963), who claimed that corporate value has nothing to do with capital structure or debt in a perfect capital market. Financial distress takes place when a company fails to meet its financial obligations on a loan. Based on trade-off theory, companies can either reduce the cost of financial distress or develop operational strategies to reduce the likelihood of encountering costly financial distress (Zheng et al., 2019).

Previous studies show that improving CSR leads to lower corporate risk and better funding conditions, with the hope of reducing FDR (Boubaker et al., 2020).

Systematic and non-systematic risk are both types of corporate risk. Systemic risk can be defined as a market risk because this risk has an impact on assets, liabilities, sales, revenue, profit, and retained earnings. Non-systematic risk is defined as “company risk,” as they involve only company-related aspects when taken into account. When a company is unable to fulfill its needs, incapable of managing its day-to-day activities in a proper manner, and not able to follow the policies, rules and regulations, it goes into financial trouble. When any company goes into financial trouble, it sells its assets at a very low price so that it can manage its liabilities and payments to creditors. When a company goes into financial trouble, it has to face a large amount of risk; its financial position suffers very badly; the company loses all of its potential

clients; loses all of its trained and well-equipped staff; and loses its name, fame, goodwill and reputation. So a company should take all the precautionary measures at the start so that there are no chances of any type of risk (Khan et al., 2021).

Businesses or firms also have their own lifecycle, just like products. Their lifecycle is the same as others, from their creation to their decline. At the start, it's a small startup, and with the passage of time, it expands, grows and reaches its peak position and then it starts declining. The life cycle of a business has the following phases:

- Startup
- Growth
- Maturity
- Decline

Many researchers claim that the life cycle of businesses and human beings are similar. Both have a startup phase, then they grow and mature and finally, they start declining after a specific time period. The life cycle theory implies that the life cycle of a business is not motionless or immobile; it is mobile. There is mobility in the life cycle of a business or firm. Just like living beings, they are born, become adults, mature and then die. These are the different phases of the firm's life cycle, and each phase consists of different schemes and patterns (Amiri & Saeedi, 2022). Each stage of the firm's life cycle has its own importance and has an impact on the performance and decisions of the company. Different phases of the firm's life cycle have decisions related to the day-to-day operations of the company, investment policies, dividend policies and expansion of business. Each phase has its own credibility for the business (Akbar et al., 2022). Advancement and transformation in business are due to both internal and external factors. Internal factors include available resources, funding, management decisions and different strategies adopted by management; external factors include fluctuations in the market and economy (Chhillar & Lellapalli, 2022).

An interaction is a term that is basically obtained by multiplying the moderator and the independent variable (also called the variable of interest). The moderator influences the impact of the independent variable on the dependent variable.

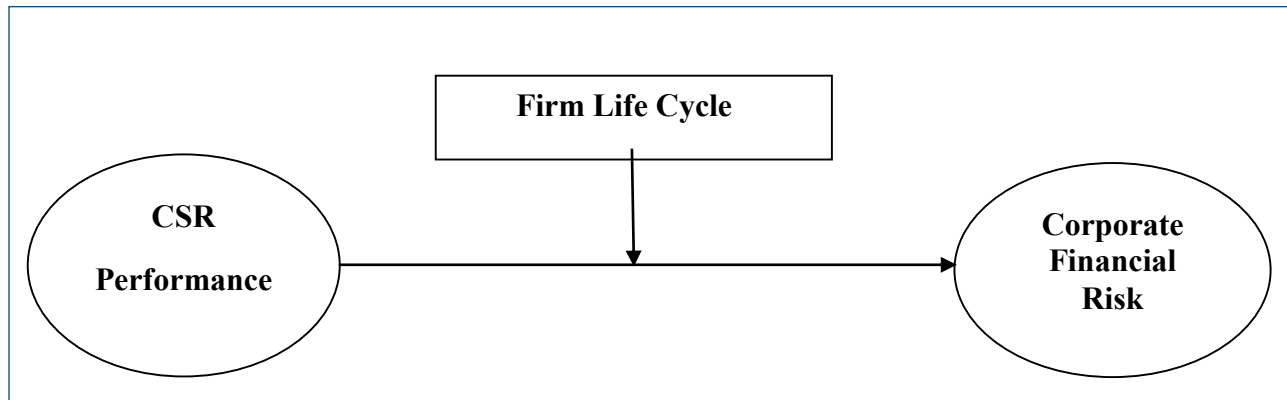


Fig. 1: The Relationship between Corporate Social Responsibility and Corporate Risk by using Firm Life Cycle as a Moderator

The legitimacy theory states that companies make sure to follow certain policies so that they can take part in activities and programmes that are beneficial for the general public. The policies and strategies of the company should be appropriate, profitable, worthwhile and expedient and should be in accordance with the norms, customs and culture to support the general public and the community at a larger level. Companies' operations and nature of business should be in accordance with the community's conjecture, and they should not be against any culture. When companies act in accordance with government rules and regulations, the chances of financial risk are reduced, the reputation of the company increases and the performance of the company also improves day by day. There is another theory called the "stakeholder theory," which says that every company should pay special attention to its stakeholders because they are the backbone of the company. The future of the company depends on its stakeholders. Cui (2021) states that CSR nurtures the interrelationship between the company and stakeholders because it is a corporate strategy. The relationship between the company and its stakeholders is of great importance because they play a significant role in the financial performance of the company. According to stakeholder theory, CSR programmes provide benefits to the company because these activities minimise the chances of risk and maximise the chances of profit. Involvement in CSR activities has a positive impact on the company's stakeholders. CSR activities increase the profitability of the company, increase reputation, goodwill and customer loyalty and improve staff attitudes and stakeholders' interests. CSR activities minimise the risk to businesses.

Corporate organisations think that CSR is a risk management technique and they are true in this regard because with the help of CSR, companies are capable of minimising their risks.

The companies involved in CSR programmes are more profitable as compared to other companies (Cheng et al., 2014).

Involvement in CSR programmes creates a good and long-lasting link between a company and its customers, thus increasing trust and loyalty, protecting the company's reputation and reducing business risk. CSR reduces business risk to a greater extent, and the company works effectively and efficiently (Kong et al., 2020).

The study of Sewpersadh (2022) showed that it is not compulsory for a business that is facing financial difficulty to be in a position to back out. But it is a possibility that a business that is backsliding has suffered from financial difficulties and the economic crisis.

CSR contributes to stronger interactions with clients, staff inspiration and retention and risk reduction that would not otherwise be possible (Bird et al., 2007).

Financial risk is more prevalent throughout the beginning and declining periods of the firm's life cycle. Financial risk becomes less frequent during the firm's development and maturation phases. In the context of how it impacts the effect of financial risk on the company's future success, we observe that financial risk adversely impacts future performance during the firm's early (introduction) and decline phases but improves throughout the firm's growth and mature stages.

There are many theories about the firm's life cycle. According to life cycle theory, each sector or industry has a different response to the stages of the life cycle. These responses depend on the type of sector or industry to which the company belongs. The effect is different for different sectors around the globe. According to a recent study, the business life cycle affects the whole business, including financial performance, dividend policies, investment decisions, the purchasing power of the company and profit maximisation (Irvine et al., 2015). Every company makes large investments to maximise utilisation of the resources available in the startup stage of the business, and in the mature and growth stages, their main purpose is to safeguard, control, manage and handle the old investments and resources available at that time (Richardson, 2006).

Karagiorgos (2010) and Chang and Ma (2019) explore how the life stages of different companies affect a company's performance and maturity, as well as how it affects its financial performance.

The main aim and purpose of the whole life of a corporation are rooted in a way of doing things in the business, which also influences its profitability and purposeful desires. Day-to-day business operations and procedures, capital funding, the payment of announced dividends as per the dividend policy, the financial framework, monetary support from the higher authorities, development and diversification are the possible courses of action in any business. Mechanisms, facts and figures, along with fear of risk, are the leading certainties that become the foundation of shifts among different phases of the business life cycle (Akbar et al., 2022).

Research Methodology

Sample and Data

There are 540 listed companies on the Pakistan Stock Exchange (PSX). Our final sample consists of 323 companies (3,876 companies' year observations) over the period 2008–2019, after excluding financial companies and companies with missing data. Data related to dependent, independent and control variables of the study were collected from the financial statements of PSX-listed non-financial companies retrieved from the PSX data portal.

Dependent Variable

The study's dependent variable is corporate risk. Corporate risk can be broadly defined as the potential of losing firm value as a result of uncertainty about future outcomes (Aderin & Amede, 2022). We use three statistical parameters from the accounting and finance literature to boost the validity of our findings. Each model is described in Appendix I. Higher values of our financial distress proxies indicate reduced levels of financial distress for all of these measures.

Independent Variables

CSR performance is our independent variable, and it serves as a proxy for CSR sales. We define CSR sales as the total amount of money spent on CSR activities from the total sales of the firm.

Life Cycle Variable

The firm life cycle variable uses the DeAngelo et al. (2006) model, this model is basically retained earnings scaled by total assets or retained earnings scaled by total equity. This model is used to determine the growth and development of the company in each stage of the company life cycle.

Control Variables

Many control variables are used in our research. Our regression model uses control variables that are compatible with this study and also with other variables used in this study. Control variables used are firm size, that is, the natural log of all assets, firm size depends on the asset utilisation, access to funds whether internal or external and proper management of revenue generating options. Leverage, that is, book leverage or market leverage, anyone that is suitable for the study. Leverage (LEV), is calculated as short-term and long-term debt divided by total assets, leverage tells us about the total debt a company is bearing due to its inefficiencies. Research and development expense, that is, the amount spent on research and development purposes, cash in hand, liquidity ratio, the profitability of the companies of various sectors under consideration and the industry sector of each company, it can be a dummy variable having the value of "0" and "1"

and year effects, that is, the total number of years taken into account for this study, this can be used to control and manage the time trend series.

Over and above that, we use return on assets denoted by (ROA) as a control variable and loss denoted by (LOSS) in order to see the relationship between independent and dependent variables. We also include liquidity or QUICK ratio in order to see the financial position of the companies.

Method Used

Our research is based on Pakistani companies and we established a panel data for our study. We analysed it by using OLS regression and a fixed effect model. STATA software was used for data analysis.

Research Models

The model used in this study is OLS regression model and fixed effect model. This model is used to check out the relationship between CSR performance and corporate risk. The estimated relationship is as follows:

$$CR_{it} = a_{0it} + b_1 CSR_{it} + b_2 SIZE_{it} + b_3 LEV_{it} + b_4 CASH_{it} + b_5 ROA_{it} + b_6 R\&D_{it} + b_7 QUICK_{it} + b_8 LOSS_{it} + b_{9-18} IND_{it} + b_{19-24} YEAR_i + e_{it}$$

In this equation: *i* = firms, (the total number of Pakistani firms used in the study), *t* = financial years 2008–2019 (the total number of years taken into account), CR = corporate risk and the proxies used for the estimation of corporate risk: AC_Dis, BOS_Dis and AltmanZ; CSR = corporate social responsibility and the proxy used for the measurement of CSR is: annual CSR sales of companies; SIZE = the natural logarithm of total assets (of all the companies of all industries); Leverage: LEV = short-term and long-term debt divided by total assets (estimates the total debts of the company); CASH = cash holdings by the firm defined as cash and marketable securities scaled by total assets; ROA = return on assets; R&D = R&D expense (the research and development expense of a company during the year); QUICK = cash plus receivables/current liabilities (quick ratio); LOSS = Dummy variable (loss of a company during the financial year) and is estimated by 1 if the firm is suffering from loss in a financial year; Industry: IND = industry sector is a dummy variable, and

it is also estimated by “1” if the firm belongs to a particular sector otherwise it is “0”; YEAR = year dummy variable, and estimated as “1” otherwise “0” for a particular year, and *e* = the error term.

The connection between corporate risk and CSR performance is estimated by using the OLS regression model. This connection is also seen by taking into account firm life cycle phases and the equation is as follows:

$$CR_{it} = a_{0it} + b_1 CSR_{it} + b_2 Life\ Cycle_{it} + b_3 CSR_{it} * Life\ Cycle + b_4 SIZE_{it} + b_5 LEV_{it} + b_6 CASH_{it} + b_7 ROA_{it} + b_8 RDINT_{it} + b_9 QUICK_{it} + b_{10} LOSS_{it} + b_{11-20} IND_{it} + b_{21-26} YEAR_i + e_{it}$$

Where CR is the corporate financial risk of the company, CSR is the corporate social responsibility measured by annual CSR sales of a company, the life cycle is a moderator and the interaction between CSR and the life cycle is CSR * Life Cycle = an interaction term consists of the firm life cycle of the company (moderating variable) multiplied by CSR (independent variable).

Results

Summary Statistics

Table 1 reports descriptive statistics for the dependent variable, independent variable, moderating variable and control variables. AC_Dis, BOS_Dis and AltmanZ have been used as proxy for measuring financial distress having mean and (standard deviation) of 0.476 (0.096), 784043.8 (634276.2) and 2.074 (0.937) respectively. Our CSR performance measures Cash_Sales have mean of 0.001 and standard deviation of 0.00503. The mean and standard deviation of our firm life cycle stages represented by RE_TA are 0.758 and 1.3211, respectively. The mean value of Cash_TA is 0.039, with a standard deviation of 0.063. The mean value of toubin is 8.962, with a standard deviation of 40.182. The mean value of research and development is 0.048, with a standard deviation of 0.215. The mean value of firm size is 14.764, with a standard deviation of 1.984. The mean value and standard deviation of the loss dummy variable, leverage, and ROA are 0.319 (0.466), 0.123 (0.150) and 0.034 (0.055), respectively. Subsequently, each of the variables has an appropriate range of variation, and there is an acceptable degree of consistency between the means and standard deviations, indicating that the distributions of all variables are normal.

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
AC_Dis	3,876	0.476213	0.096218	0.34951	0.605414
BOS_Dis	3,876	784043.8	634276.2	158978.4	1784084
AltmanZ	3,876	2.074909	0.937655	1.001618	3.503884
CSR_Sales	3,876	0.001293	0.00503	0	0.040977
RE_TA	3,876	0.758664	1.3211	0.012552	5.331259
Cash_TA	3,876	0.039964	0.063596	0.000114	0.367982
Toubin	3,876	8.96256	40.18297	0.307833	1550.428
Rd	3,876	0.048762	0.215397	0	1
Size	3,876	14.76403	1.984685	0	20.25692
loss_d	3,876	0.319917	0.466505	0	1
Leverage	3,876	0.123442	0.150266	0	0.748341
Roa	3,876	0.034121	0.055685	-0.0375	0.1139

Correlation Analysis

Table 2 represents the results of correlation statistics. The correlation coefficient tells us about the degree of relationship between two variables. The correlation coefficient is denoted by "r." It may be positive (direct relationship) or negative (inverse relationship). The higher the value of the correlation coefficient, the stronger the relationship between the two variables. All of the values in the following table are within reasonable boundaries, and

variability is not a matter of concern. There is a positive relationship between CSR_Sales and RE_TA as shown from their "r" value (0.035). This means that there exists a positive relationship between CSR performance and firm life cycle at some stages during the life of a firm. But they are weakly correlated. Results also disclose that the relationship between CSR_Sales and Cash_TA is negative which means that the higher the CSR performance of the firm, the lower the cash in the firm will be.

Table 2 : Correlation Statistics

Variables	1	2	3	4	5	6	7	8	9
(1) CSR_Sales	1								
(2) RE_TA	0.035*	1							
(3) Cash_TA	-0.021	0.007	1						
(4) toubin	-0.025	0.169***	0.102***	1					
(5) rd	0.014	-0.035**	-0.039**	0.136***	1				
(6) size	-0.035*	-0.632***	0.073***	-0.139***	0.096***	1			
(7) loss_d	0.057***	0.182***	-0.219***	0.021	0.058***	-0.224***	1		
(8) leverage	0.067***	-0.047***	-0.285***	-0.131***	-0.017	-0.087***	0.361***	1	
(9) roa	-0.058***	-0.148***	0.315***	0.040**	-0.049***	0.226***	-0.774***	-0.427***	1

*** p<0.01, ** p<0.05, * p<0.1

Regression Analysis

Table 3 represents the OLS regression and fixed effect model for AC_Dis Model of financial distress. The table reports the coefficients, standard errors and R-squared values for the model. Dummy variables are included in the regression to control for year and industry differences.

*, **, *** indicate two-sided significance at the 1%, 5% and 10% levels, respectively.

Firstly, we have run the OLS regression and then we run the fixed effect model. The results of both the models are almost same. Result of the OLS model suggests that regression coefficient for CSR is positive for financial distress and statistically significant ($P < 0.05$). Higher

values of our financial distress proxies represent lower levels of distress. We also find that some of the control variables are significantly associated with financial distress. The value of R-squared is 0.663 which means that 66.3% of the variation in financial distress is attributed to the variation in CSR performance. R-squared value basically specifies the variation between two variables used in the research. It stipulates that how much of the discrepancy has been seen in one variable, that is, the dependent variable by keeping into account the other variable, that is, independent variable. The concept of R-squared value comes up with a judgement of robustness and resistance of the interrelation between regression model and the variable under consideration.

We further discuss our findings on the relationship between CSR performance, firm life cycle and financial distress. This table shows that regression coefficient for RE_TA is positive and significant for financial distress ($P < 0.01$). The results of this study demonstrate that the stage of the life cycle, as well as the degree of positive CSR involvement, has an influence on enterprises' financial health. The regression coefficient of the interaction term between CSR_Sales and RE_TA (i.e., CSR_Sales *

RE_TA) is negative and statistically in-significant. After running the OLS regression we run fixed effect model to see the difference between the results of both models.

Fixed effect model suggest that regression coefficient for CSR is positive for financial distress and statistically significant ($P < 0.05$). This table also shows that regression coefficient for RE_TA is positive and significant for financial distress ($P < 0.05$). The regression coefficient of the interaction term between CSR_Sales and RE_TA (i.e., CSR_Sales * RE_TA) is negative and statistically insignificant ($P < 0.05$).

The value of R-squared is 0.192 which means that 19.2% of the variation in financial distress is attributed to the variation in CSR performance. Our findings suggest that the degree of positive CSR engagement correlates to our hard financial times measurement metrics. As a result, organizations that participate in more extensive positive CSR activities can lower their level of financial challenges. Moreover, our regression results are worth considering. Larger businesses are less likely to experience financial trouble since they have greater economic and political influence than smaller firms.

Table 3: Effect of CSR Performance on Financial Distress through AC_Dis Model

	(1)	(2)	(3)	(4)
Variables	OLS	OLS	FE	FE
CSR_Sales	0.848**	1.182***	0.848**	1.182**
	(0.338)	(0.403)	(0.425)	(0.540)
RE_TA		0.0181***		0.0181**
		(0.00326)		(0.00913)
RE_TA_CSR		-0.453**		-0.453
		(0.216)		(0.286)
Cash_TA	0.471***	0.465***	0.471***	0.465***
	(0.0288)	(0.0286)	(0.0376)	(0.0385)
Toubin	-0.000185*	-0.000208**	-0.000185*	-0.000208*
	(0.000104)	(0.000103)	(0.000101)	(0.000118)
Rd	0.00481	0.00532	0.00481	0.00532
	(0.0102)	(0.0102)	(0.00989)	(0.00980)
Size	-0.00964***	-0.00706***	-0.00964**	-0.00706**
	(0.00140)	(0.00147)	(0.00401)	(0.00335)
loss_d	-0.00729	-0.00955*	-0.00729	-0.00955
	(0.00504)	(0.00503)	(0.00640)	(0.00621)
Leverage	-0.00366	9.92e-05	-0.00366	9.92e-05
	(0.0169)	(0.0168)	(0.0237)	(0.0238)

	(1)	(2)	(3)	(4)
Variables	OLS	OLS	FE	FE
Roa	-0.243***	-0.256***	-0.243***	-0.256***
	(0.0456)	(0.0454)	(0.0560)	(0.0567)
Constant	0.607***	0.567***	0.635***	0.585***
	(0.0253)	(0.0262)	(0.0592)	(0.0529)
Observations	2,535	2,535	2,535	2,535
R-squared	0.663	0.668	0.192	0.203
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Number of codes			240	240

Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Table 4 represents the OLS regression and fixed effect model for AltmanZ model of financial distress.

Results of the OLS model suggest that the regression coefficient for CSR is positive for financial distress and statistically insignificant. It indicates that business organisations that adopt CSR considerably might reduce the risk they face financially. Organisations that exhibit favourable performance in CSR and stability in their life cycle phases are far less likely to encounter financial challenges in the future.

The value of R-squared is 0.835 which means that 83.5% of the variation in financial distress is attributed to the variation in CSR performance. We further discuss our findings on the relationship between CSR performance,

firm life cycle and financial distress. This table shows that the regression coefficient for RE_TA is positive and significant for financial distress ($P < 0.01$). The regression coefficient of the interaction term between CSR-Sales and RE_TA (i.e., CSR_Sales * RE_TA) is positive and statistically insignificant.

The fixed effect model suggests that the regression coefficient for CSR is negative for financial distress and statistically insignificant. This table also shows that the regression coefficient for RE_TA is positive and significant for financial distress ($P < 0.01$). The regression coefficient of the interaction term between CSR-Sales and RE_TA (i.e., CSR_Sales * RE_TA) is positive and statistically insignificant.

Table 4: Effect of CSR Performance on Financial Distress Through AltmanZ Model

	(1)	(2)	(3)	(4)
Variables	OLS	OLS	FE	FE
	0.259	-3.235	0.259	-3.235
	(2.281)	(2.663)	(3.153)	(3.486)
		(0.0216)		(0.0812)
RE_TA_CSR		1.523		1.523
		(1.428)		(2.338)
Cash_TA	0.772***	0.704***	0.772***	0.704***
	(0.194)	(0.188)	(0.213)	(0.243)
toubin	0.00409***	0.00363***	0.00409***	0.00363***
	(0.000701)	(0.000682)	(0.00126)	(0.00125)
rd	0.0755	0.0920	0.0755	0.0920
	(0.0691)	(0.0672)	(0.0616)	(0.0598)
size	-0.0959***	-0.0602***	-0.0959***	-0.0602**
	(0.00948)	(0.00973)	(0.0361)	(0.0257)

	(1)	(2)	(3)	(4)
<i>Variables</i>	<i>OLS</i>	<i>OLS</i>	<i>FE</i>	<i>FE</i>
loss_d	0.0840**	0.0559*	0.0840**	0.0559
	(0.0340)	(0.0332)	(0.0403)	(0.0382)
leverage	-0.653***	-0.600***	-0.653***	-0.600***
	(0.114)	(0.111)	(0.180)	(0.163)
roa	6.274***	6.141***	6.274***	6.141***
	(0.308)	(0.300)	(0.468)	(0.459)
Constant	2.363***	1.802***	3.260***	2.567***
	(0.171)	(0.173)	(0.538)	(0.414)
Observations	2,540	2,540	2,540	2,540
R-squared	0.835	0.845	0.398	0.432
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Number of codes			240	240

Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

Table 5 represents the OLS regression and fixed effect model for BOS_Dis Model of financial distress.

Results of the OLS model suggests that regression coefficient for CSR is positive for financial distress and statistically insignificant.

The value of R-squared is 0.714 which means that 71.4% of the variation in financial distress is attributed to the variation in CSR performance. We further discuss our findings on the relationship between CSR performance, firm life cycle and financial distress. This table shows that regression coefficient for RE_TA is positive and significant for financial distress ($P < 0.01$). The regression coefficient of the interaction term between CSR-Sales and RE_TA (i.e., CSR_Sales * RE_TA) is positive and statistically insignificant.

The fixed effect model suggests that regression coefficient for CSR is negative for financial distress and statistically

insignificant. This table also shows that regression coefficient for RE_TA is positive and significant for financial distress ($P < 0.01$). The study demonstrates that favourable CSR achievements have a greater impact on lowering the financial strain for enterprises with high RE/TA or RE/TE ratios. The regression coefficient of the interaction term between CSR-Sales and RE_TA (i.e., CSR_Sales * RE_TA) is positive and statistically insignificant.

The value of R-squared is 0.612 which means that 61.2% of the variation in financial distress is attributed to the variation in CSR performance. This illustrates how organisations who involve themselves in CSR initiatives can reduce their level of financial difficulty. It implies that businesses are less susceptible to economic downturn due to the fact they are operating in a more stable monetary and political environment.

Table 5 : Effect of CSR Performance on Financial Distress through BOS_Dis Model

	(1)	(2)	(3)	(4)
<i>Variables</i>	<i>OLS</i>	<i>OLS</i>	<i>FE</i>	<i>FE</i>
CSR_Sales	0.315	-3.123	0.39	-3.245
	(3.138)	(2.453)	(3.053)	(3.166)
RE_TA		0.233***		0.212***
		(0.0245)		(0.0822)
RE_TA_CSR		1.612		1.663
		(1.471)		(2.118)
Cash_TA	0.761***	0.723***	0.717***	0.714***
	(0.191)	(0.155)	(0.256)	(0.223)

	(1)	(2)	(3)	(4)
Variables	OLS	OLS	FE	FE
toubin	0.00415*** (0.000725)	0.00356*** (0.000531)	0.00459*** (0.00139)	0.00312*** (0.00136)
rd	0.0615 (0.0789)	0.0812 (0.0763)	0.0877 (0.0759)	0.0811 (0.0681)
size	-0.0997*** (0.00968)	-0.0651*** (0.00962)	-0.0961*** (0.0352)	-0.0610** (0.0117)
loss_d	0.0821** (0.0319)	0.0528* (0.0351)	0.0819** (0.0412)	0.0561 (0.0272)
leverage	-0.691*** (0.194)	-0.621*** (0.123)	-0.612*** (0.173)	-0.601*** (0.151)
roa	6.178*** (0.316)	6.211*** (0.300)	6.361*** (0.451)	6.912*** (0.431)
Constant	2.163*** (0.181)	1.851*** (0.163)	3.190*** (0.512)	2.513*** (0.311)
Observations	2,540	2,540	2,540	2,540
R-squared	0.714	0.654	0.698	0.612
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
Number of codes			240	240

Standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1.

The results of our research are the same as that of results of previous studies. Chollet and Sandwidi (2018) determine the relationship between CSR activities and financial risk faced by different companies. In the study, they used sample of all the international countries except Indonesia from 2003 to 2013. They examined that the connection between CSR activities and financial risk faced by different companies has been negative.

Discussion

To explore the impact of CSR performance on corporate financial risk while using the firm life cycle as a moderator, we conducted a study. For analysis, this study uses OLS regression and a fixed effect model. From the results obtained, it is evident that positive CSR performance is negatively associated with financial distress, which means that there is a negative relationship between the CSR performance of a firm and its financial risk. The better the CSR performance of the firm, the lesser the chances of the firm getting involved in any sort of financial crisis.

Our finding is consistent with both legitimacy and stakeholder theories, suggesting that organisations' risks can be reduced when they actively consider social norms and their stakeholders.

According to the outcomes of the aforementioned investigation, firms with extensive levels of CSR participation have low levels of financial obstacles. It is reasonable to say that getting involved with CSR initiatives contributes to a healthier corporate environment. It additionally promotes financial security and helps to avert financial disasters. So, the results of our study are in line with the hypothesis, that is, H₁: There is a significant relationship between CSR performance and corporate financial risk.

Our findings suggest that the firm's life cycle has a major impact on its corporate financial risk. The relationship between corporate financial risk and CSR performance is anticipated to be enhanced by firm life cycle stages, which means that our hypothesis has been accepted, that is, H₂: Firm life cycle moderates the relationship between CSR performance and corporate financial risk.

The relationship between businesses and their users becomes very strong and full of trust when that business invests more in CSR programmes. When a company participates in CSR programmes, its corporate financial risk drops to a very drastic level, and as a result, its stability and performance improve. Businesses that neglect the aspect of CSR in their business are not able to gain the confidence of the public, whereas, on the other hand, individuals can place their confidence very easily in businesses that are engaged in CSR campaigns.

At different phases of business development, economic flexibility and applicability are found to be very rigid. When the companies are in the introduction and decline stages, they are facing financial trouble, but when they are in the growth and mature stages, they are enjoying financial freedom. There are many drivers of financial trouble, which include financing through debt at a large level, imbalances in information, inappropriate data, a low return on investment, etc. In Pakistan, the businesses that are developed and established are not in crisis. However, startup businesses are facing a lot of crises. These results have many practical implications.

Managers and executives should not adopt the same standard policy and strategy for all stages of the firm's lifecycle; they should make decisions, implement rules and regulations and give recommendations in accordance with the stage of the firm's lifecycle.

Conclusion

The outcome of this study investigates the relationship between CSR performance and financial distress as well as the moderating impact of firm life cycle stages on that association. For this purpose, this study undertakes a sample of 323 listed companies from the PSX with 3,876 firm-year observations from 2008 to 2019. Our results show that CSR performance drastically reduces the firm's financial distress. In a nutshell, we can say that companies with outstanding CSR programmes can lower their financial risk or the likelihood of default.

Furthermore, the negative relationship between effective CSR efforts and financial risk gets worse for enterprises in the mature stage of their life cycle. A favourable CSR performance in mature-stage organisations is connected with lower levels of financial difficulty.

Business entities with higher levels of CSR performance have significantly fewer financial troubles, which means that CSR involvement additionally helps to avoid financial failures. As a result, it is reasonable to say that participation in CSR initiatives contributes to a better business atmosphere. It also promotes financial stability and helps to avert financial disasters. The findings also imply that legislative reforms are needed to support CSR practices in Pakistan, as CSR is an outcome that benefits everyone. Engaging in CSR initiatives will not only assist in the improvement of society but will also allow businesses to stay out of monetary challenges and boost their performance. To prevent financial risk, governments should pay attention to CSR-related methodologies.

The relationship between positive CSR performance and life cycle advancement has been experimentally linked to financial risk.

The start-up period is critical to the business's persistent survival; therefore, a successful organizational approach might assist the firm in getting through the difficult time.

It is very important for individuals or investors to use economic growth and development and return on investment as benchmarks whenever they are trying to make financial investment decisions (Nguyen et al., 2020). All the decisions that the corporate world makes about potential expansion, growth and development are based on historical performance. Companies must have a solid and strong financial foundation as well as productive and lucrative operating methods in order to excel in their market or industry (Hasanul et al., 2021).

Practical Implications

According to the study, the most crucial stage for a corporation is its state of maturity. Managers and owners are advised to pay attention to their corporations during this period to avoid expulsion or failure. This means that greater emphasis should be placed on enhancing the operations and overall health of the corporation during this stage. By doing so, the corporation can maintain a sustainable and successful trajectory.

There are many effects of the results of this research on corporate business. With the help of these findings, higher authorities get help in finding out the true

value of CSR and they try their level best to persuade businesses to involve themselves in more and more CSR-related programmes in order to become more efficient and effective. Engaging in CSR programmes is of great importance for every business because CSR programmes play an essential role in improving the company's economic situation, its working conditions and achieving global goals.

We can observe that economic and governmental demands on how to run businesses efficiently and effectively increase because now the government wants every business to implement CSR programmes in order to excel in the business world. These sorts of government initiatives raised hopes among financiers that, in the coming future, there would be revenue growth and expansion of businesses.

If businesses want to improve and strengthen the connection between CSR performance and corporate financial risk, then they should work on some tasks for this purpose. Businesses should become flexible in their work because rigid businesses fail to work in this fast-paced environment, they should make use of CSR activities and communicate freely and openly with the general public and interested parties about their work and duties towards others (Baldassarre & Campo, 2016).

Limitations

The current study has a few limitations that should be considered. Firstly, the sample population is limited to non-monetary business enterprises that are listed on the PSX. Unfortunately, the banking and finance industries could not be included in the research sample due to certain reasons. It should be noted that financial sector firms differ from non-financial sector organisations in several ways, such as reporting standards, accounting periods and other factors that could impact the findings of the research.

In analysing a firm's life cycle stage, there are various proxies that can be utilised, and two of these are firm size and firm age. These parameters can provide valuable insights into a firm's current position and prospects.

Recommendations for Future Research

Considering the conclusions, what was found exhibits that managers or executives decide to take additional

measures to enhance productivity, efficiency, output, profitability, functioning and growth during the maturity era so as to prevent their organisation from entering a period of disruption or diminishing mode.

To ensure the truthfulness of the outcomes, corporate governance should be included as a moderating variable.

A future study might concentrate on additional aspects of CSR and take into account other significant mediating variables in the association between CSR and FR. A future study may investigate different proxies of financial risk; an attempt might also be required to establish a new model for measuring financial distress to attain a more precise projection of the possibility of default. A future study might use a broader set of information based on emerging nations to allow for further exaggeration of findings. Future research might look at both the financial and non-financial sectors to discover whether comparable conclusions hold true in the financial and non-financial sectors.

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Appendix I. Variable Definitions and Measurement

Variables	Definition and Measurement
Dependent variables	
BOS_Dis	Financial distress model of Berger, Ofek and Swary (1996) calculated as $(0.715 * \text{Receivable} + 0.547 * \text{Inventory} + 0.535 * \text{Net PPE}) / \text{Total Assets}$
AltmanZ	Altman (1968) predicting bankruptcy as a financial distress measures calculated as: $(1.2 * \text{Working Capital} / \text{Total Assets} + 1.4 * \text{Retained Earnings} / \text{Total Assets} + 3.3 * \text{Earnings Before Interest and Taxes} / \text{Total Assets} + 0.6 * \text{Market Value of Equity} / \text{Book Value of Total Liabilities} + 0.99 * \text{Sales} / \text{Total Assets})$
AC_Dis	Financial distress model of Almeida and Campello (2007) calculated as $((\text{Cash} + 0.715 * \text{Receivable} + 0.547 * \text{Inventory} + 0.535 * \text{Net PPE}) / \text{Total Assets})$
Independent variables	
CSR_sales	CSR sales defined as the total amount of cash spend on CSR activities from total sales generated by the firm in a year.
RE/TA	Retain Earning/Total Assets, a proxy for corporate life cycle
SIZE	Natural log of the firms' total assets at the beginning of year
LEV	Leverage, measured as long-term debt (and short-term debt) scaled by total assets
CASH	Cash holding for firm, defined as cash and marketable securities scaled by total assets
ROA	Profitability of the firm, measured as operating income scaled by total assets
TOUBIN / QUICK	The quick ratio, calculated as $(\text{cash} + \text{receivable} / \text{current liability})$.
R&D	Dummy variable that takes a value of 1 if there is any research and development expense in a year, otherwise 0.
LOSS	Dummy variable that takes a value of 1 if net income is negative in a given year, 0 otherwise
YEAR	Dummy variables to control for year effects
IND	Dummy variables to control for industry effects