Impact of Managerial Entrenchment and Organizational Management Practices on Stock Price Crash Risk: Moderating role of Corporate Social Responsibility

Dr. Mah a Mobeen[1], Dr. Qudsia Arshad[2], Dr. Iram Batool[3*]

[1]Lecturer, Department of Management Sciences, COMSATS University, Islamabad, Email: mahamobeen@comsats.edu.pk
[2]Assistant Professor, Department of Management Sciences, COMSATS University, Islamabad, Email: qudsia_arshad@ comsats.edu.pk
[3*]Director (Treasurer Office), Arid Agriculture University, Rawalpindi

*Corresponding author: Dr. Iram Batool
*Email: dir.treasurer@uaar.edu.pk , Iram_batool@hotmail.com

Abstract
Examining stock price crash risk in emerging economies is important due to huge volatility and of weak corporate structure. This study assesses the impact of managerial entrenchment on stock price crash risk and investigates the factors which influence the stock price crash risk of emerging firms, employs the agency framework, and explores the condition which moderates the relation between managerial entrenchment and stock price crash risk by using a moderating variable corporate social responsibility. Concentrating on the extensive BRIC sample for the period of 2010 to 2018, this study finds that the managerial entrenchment significantly increases the stock price crash risk of emerging firms. Further, this study finds that corporate social responsibility weakens the said relationship. This study argues that entrenched managers use CSR for legitimacy purpose and to gain support from key stakeholders. Therefore, this study highlights pivotal managerial and practical implications.

Key words: Managerial Entrenchment, Stock Price crash risk, Corporate Social Responsibility.

JEL Classification: G20, G10, M14.

1.1 Introduction
Managerial entrenchment is detrimental to shareholder wealth, creating risk for stakeholders in the form of insecurity and loss of authority; this insecurity leads different legislative and regulatory agencies to devise laws and tactics to improve stockholders' ability to administer the organisation (Kim & Statman, 2012; Jiao, 2010).
Managers can promote CSR to protect their interests, and this study tries to explain conditions which can enhance/reduce this association. In the short run, this involvement in CSR may protect the managerial interest, but it cannot enhance the firm value. According to Barnea and Rubin (2010), organisations use significant financial resources to pursue CSR. Consequently, in the short term, CSR may not be advantageous for enterprises due to greater economic costs that firms incur due to better management reputation (Hemingway & Maclagan, 2004, Brown & Dacin, 1997).
Strong stockholder's rights minimise managerial entrenchment by empowering stockholders to govern, discipline and replace managers, act and meet stockholders' expectations and make managers accountable for organisational decisions. However, many firms have implemented strict borders on stockholder's rights, leading to more entrenchment (Gomper et al., 2003). Therefore, investors observe higher entrenchment as increased cash flow risk and, thus, negatively value the managerial entrenchment (Erhemjamts et al., 2013; Surroca et al., 2020), leading to stock price crash risk. Nevertheless, no or little empirical evidence presents that a higher level of firm-level managerial entrenchment is related to a higher probability of stock price crash risk. This study has the purpose of filling this empirical gap.
CSR is gaining increased attention from professionals, society, and academics due to unearthed corruption, negligence, and bad praxis cases over the last ten years. There are more than three billion people living in the BRIC nations. Among BRIC countries, the largest country is China, with a population of 1.4 billion people; the second is India, with a population of about 1.1 billion people. The population of Brazil is around 200 million people, and Russia is about 120 million people. In the past ten years. the impact of BRIC countries to economic growth reached 50%, making them the main player globally (Bhatia et al., 2019). Due to the rapid growth of BRIC countries, their companies carried out an increasing percentage in the international market. Nonetheless, representatives from the BRIC nations are working to increase their international legitimacy. BRIC nations are making attempts to accommodate Environmental, Social, and Governance (ESG) global standards of conducting business, and have lately accepted a portfolio of Corporate Social Responsibility (CSR) activities, which will help them achieve their aim of legality. The sample of emerging BRIC countries is selected for this study, considering their importance in the global economy.
In addition, at the moment, these nations are among the most promising in the world. Ethical problems have been a constant problem in several nations throughout the last few decades (Wu et al., 2017). With around 40% of the world's

population and 30% of the world's territory, these nations have a disproportionate share of the problems caused by rapid urbanization and globalization (Yang et al., 2017; Wiedmann et al., 2015).

Past studies largely focused on several firm-level antecedents of crash risk (Hutton et al., 2009; Mamun et al., 2020; Kim et al., 2014); we explore whether the crash risk can be shaped by managerial entrenchment. Previous literature sheds light on the agency problem between shareholders and managers as the cause of stock price crash risk (Hutton, Marcus, & Tehranian, 2009). Prior literature pointed out two main reasons for stock price crash risk. Firstly, mispricing by the investors and secondly, bad news hoarding by the management (Li et al., 2017; Vo, 2020). The entrenched managers sometimes exacerbate and sustain the overvaluation of the stock to guard their say and opportunism and bolster their perceived performance. Consequently, bad news accumulates and hits a threshold where it becomes pricey for such managers to suppress it. At this stage, bad news cascades in the organisational field, leading to the stock price crash.

This study also identifies a boundary condition that shapes the association between managerial entrenchment and stock price crash risk. This study investigates CSR's moderating impact on managerial entrenchment and the stock price crash relationship. The emergent scholarship related to measuring the impact of corporate social responsibility on firm performance has gained massive attention in finance and international business literature (Jeong et al., 2018; Kim & Statman, 2012; Jiao, 2010; Margolis & Walsh, 2001). Barnea & Rubin (2010) identify that firms pursuing CSR utilise firm resources but gain massive support from internal and external stakeholders. Firms are now performing CSR more actively and making it an important part of their corporate strategy (McWilliams et al., 2006). Because of CSR activities, firms enjoy massive support from external stakeholders and gain legitimacy by avoiding institutional and societal pressure (Erhemjamts et al., 2013). Thus, considering the importance of CSR, firms can increase their value and reduce their crash risk (Lee, 2016). Firms create legitimacy in the eye of investors through CSR, which provides them with insurance-like protection and, in the bad times, minimises negative sentiments towards the firm ((Luo & Bhattacharya, 2009). Based on this notion, this study examines whether CSR weakens the association between managerial entrenchment and stock price crash risk or not. This research concludes that managerial entrenchment increases the firms' stock price crash risk, and CSR weakens the positive impact of managerial entrenchment on firms' stock price crash risk.

1.2 Theoretical foundation and Hypotheses Development

Agency theory has extensively dominated the finance literature. Empirically, agency theory has been used greatly when characteristics of managers are used as explanatory factors to explain the corporate outcomes. The central tenet of agency theory is the separation of ownership and control in a business. One of the costliest manifestations of agency conflict is managerial entrenchment (Ji et al., 2019; Jensen & Ruback, 1983). Firms' top executives avail significant benefits associated with managerial entrenchment as they contain the controlling power and possess the ability to chase numerous entrenchment strategies to continue on the corporate board, even if they perform poorly or act miserable in case of crisis (Wang & Memili, 2019; Shleifer & Vishny, 1989).

Various studies examined the empirical association between firm performance and managerial entrenchment and reported mixed findings. The theoretical base of this relationship is defined as managerial entrenchment, which is used by those motivated managers who want to earn private benefits and secure their positions by undertaking profitable projects and attaining support from shareholders (Shleifer & Vishny, 1986; Jensen & Ruback, 1983). This support allows entrenched managers to determine the corporate strategy with more authority (Surroca et al., 2020; Di Meo et al., 2017). Stulz (1988) argues that the authority of managers in determining the corporate strategy is also linked with lower profitable projects and the cost to shareholders. Further, these entrenched managers have the power to avoid the monitoring structures consisting of internal and external mechanisms. Hence, they can adopt certain strategies to enhance and protect their interest at the cost of shareholders (Surroca et al., 2020; Lin et al., 2014). Jensen and Ruback (1983) identify that managerial entrenchment plays a critical part in neutralising the capital market's disciplinary mechanisms and enhancing their control over firms, causing agency problems.

Salehi et al. (2018) find a negative effect of managerial entrenchment on earning management. They argue that entrenched managers are very few who manipulate accrual based on real activities. They also report a positive effect of managerial entrenchment on a firm's innovation. Established managers aim to reduce agency costs by implementing a collaborative strategy and gaining stakeholder support by establishing an innovation culture in their organisations. However, to overcome the negative effect and secure their powers, these entrenched managers hoard the bad news and thus increase the possibility of a crash. This causes information asymmetry in the market (Lee & Wang, 2017; Fan & Wong, 2002).

Similarly, Boubaker et al. (2014) and Gul et al. (2010) highlight that firms face the stock price crash risk due to managerial entrenchment. This crash risk arises either due to hoarding of bad news or because of the risk-taking behaviour of entrenched managers (Hutton et al., 2009). As entrenched managers want to reduce internal and external pressure by investing in those projects which can yield high returns, but at the same time, the risk is also high (Kim et al., 2011). Also, entrenched managers use more resources to support and protect their interests and thus increase the cost on the shoulders of external shareholders (Morck et al., 2000). Therefore, this empirical study also expects a positive association between managerial entrenchment and stock price crash risk based on the above discussion. In other words, this study expects a negative effect of managerial entrenchment on firm performance and thus proposes the following hypothesis:

H1: Managerial entrenchment increases the firms' stock price crash risk.

1.2.1 Moderating impact of Corporate Social Responsibility

An increasing body of literature in the fields of finance and international business seeks to quantify the effect corporate social responsibility has on a company's bottom line (Jeong et al., 2018; Kim & Statman, 2012; Jiao, 2010; Margolis & Walsh,

2001). Barnea & Rubin (2010) identify that firms pursuing CSR utilize firm resources but gain massive support from internal and external stakeholders. As a repercussion of the Global Financial Crisis of 2008, the global and domestic societies started the CSR demand from the corporate world, so they should consider the social and environmental cost of their actions (Laidroo & Sokolova, 2015; Lauesen, 2013). Several studies highlight the importance of CSR by mentioning its impact on the firm's performance, value and risk (Albuquerque et al., 2019; Buchanan et al., 2018; Agyemang & Ansong, 2017). Due to CSR activities, firms enjoy massive support from external stakeholders and gain legitimacy by avoiding institutional and societal pressure (Erhemjamts et al., 2013). Thus, considering the importance of CSR, firms can increase their value and reduce their crash risk (Lee, 2016).

Considering the agency problem and the impact of managerial entrenchment on firms' resources, CSR can lower the firms' financial value (Friedman, 2007). Friedman (2007) argues that CSR can be an agency problem as managers misuse firms' resources to gain personal benefits. Barnea & Rubin (2010) further strengthen this theoretical notion and state that firms face high monetary costs when the objective of pursuing CSR by management is to gain personal benefits. Thus, this theoretical notion is in accordance with agency theory which states that firms conduct CSR at the cost of shareholders. Therefore, it advances the reduction in the firm's value (Pagano & Volpin, 2005; Cronqvist et al., 2009). In contrast, the alternative standpoint of pursuing corporate social responsibility is supported by the stakeholder theory, which states that firms pursue corporate social responsibility to gain support from the stakeholders (Friedman, 1984).

Proponents of this view argue that firms make investments in corporate social responsibility activities to increase shareholders' wealth and attain stakeholders' support by contributing to the social and environmental capital (Jensen, 2001; Freeman et al., 2004). This theoretical notion argues that firms balance the interest between management and stakeholders by investing resources for social good (Freeman & McVea, 2001). CSR helps firms gain legitimacy in the eyes of stakeholders and increase their reputation to keep implicit commitments and ultimately improve the relationship with the stakeholders. Hence, CSR increases firm legitimacy by balancing the interest between management and stakeholders (Chakraborty et al., 2019).

Godfrey (2005) argues that firms create social and moral capital through CSR, which provides insurance to the firms in times of bad events and reduces negative stakeholder evaluations (Luo & Bhattacharya, 2009). Based on this argument, studies report that CSR lessens the stock price crash risk as they find a negative association between CSR and firm risk (Harjoto & Laksmana, 2018; Bouslah et al., 2013). This research also expects that corporate social responsibility negatively moderates the association between managerial entrenchment and firms' stock price crash risk and, therefore, weakens the positive effect of managerial entrenchment on firms' stock price crash risk. It means firms pursue CSR to lower the managerial entrenchment effect and try to ally the interest of management and stakeholders. Therefore, this study proposes the following hypothesis:

H2: CSR weakens the positive impact of managerial entrenchment on firms' stock price crash risk.
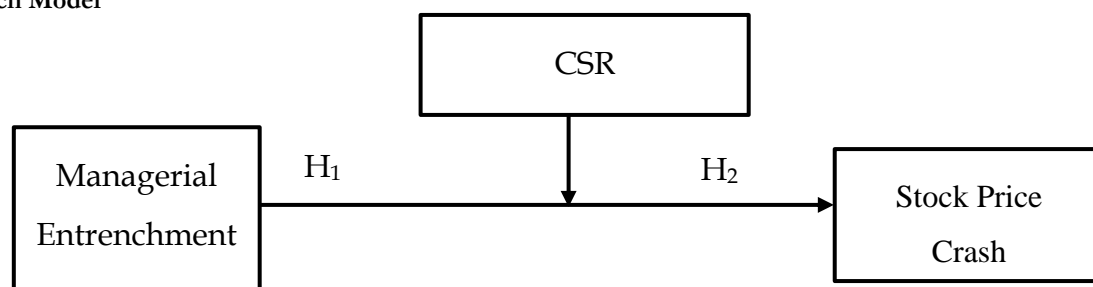
Research Model

Figure 4. 1: Graphical Representation of Empirical Model

1.3. Data and Methodology
1.3.1 Sample
This study emphasises the emerging non-financial firms with the highest market capitalisation in the respective stock markets of "BRIC countries" (Brazil, Russia, India and China). The study period of this research is 2010-2018. This study extracts non-financial and financial information mainly from the Thomson Reuters database. It excludes firms containing important missing information due to high variation in the data availability of emerging firms. Those firms selected in this research possess important required information for four years. Using this selection criterion, the final sample consisted of 560 emerging firms and contained 140 firms from each respective country. However, this sample size is relatively small but collectively sufficient for cross-country analysis likewise the study of Al-Najjar (2013).

This study focuses on BRIC countries because of their significant contributions to the global economy. As argued by Belke et al. (2019), in the post-global crisis of 2008, the BRIC region grew its global share up to 30% (Smirnov & Avdeeva, 2019). Similarly, Wiedmann et al. (2015) state that the growing globalisation of the BRIC region is also shaping the global economy. Different studies, for instance, Wiedmann et al. (2015) and Yang et al. (2017), emphasise that BRIC economies face growing ethical, administrative, and environmental issues following their economic growth. The BRIC region also possesses similar attributes, particularly institutional voids (Khanna & Palepu, 2005) and high consumer demand based on its large population and land (Ranjan & Agrawal, 2011). Moreover, studies such as Suchodolski & Demeulemeester (2018) and Siddiqui (2016) anticipate the superiority of the BRIC region in future regarding their economic cooperation. Thus, it is important to carry out this research in the case of the emerging BRIC region. The essential firm-level information on CSR, corporate

governance, stock prices, and financial variables was gathered from Thomson Reuters annual reports, business recorder, and ASSET 4.

1.4 Operationalization of Variables
1.4.1 Dependent Variable
This study follows Kim et al. (2014) and Al Mamun et al. (2020) to measure sampled firms' stock price crash risk. The down-to-up volatility annual measure is used as a proxy to measure stock price crash risk. This annual measure is based on the weekly stock returns of sampled firms. To calculate down-to-up volatility, first, this study measures weekly stock return by using the residuals of the below mentioned extended market model as stock return by following Al Mamun et al. (2020).

$$R_{i,\tau} = \alpha_i + \beta_{1i}R_{m,\tau-2} + \beta_{2i}R_{m,\tau-1} + \beta_{3i}R_{m,\tau} + \beta_{4i}R_{m,\tau+1} + \beta_{5i}R_{m,\tau+2} + \varepsilon_{i\tau} \quad (1)$$

Equation 1 presents the extended market model. "$\mathbf{R}i$" denotes the stock return of firm "i" in "τ" week, and "$\mathbf{R}m, \tau$" indicates the respective market return on the market index of each sampled country in "τ" week. Next, this research classifies "weekly stock returns" into "down (when the weekly return of a firm is lower than annual average return)" and "up (when the weekly return of a firm is greater than annual average return)" weeks. Finally, this study calculates "down-to-up volatility" by using the natural logarithmic ratio of "standard deviation of down-week returns series" to "standard deviation of up-week returns series" of each firm in each year.

1.4.2 Independent Variables
This study uses managerial entrenchment as a main independent variable. It is measured as a dummy variable based on three criteria: entrenchment index suggested by Bebchuk et al. (2009), managerial ownership, and CEO longevity in the firm. This measure decreases the noise if these measurements are used separately (Larcker et al., 2007). Existing studies (Berger et al., 1997) described that CEO tenure enhances the entrenchment capability of CEOs as longevity brings more skills and power to CEOs. For this reason, a dummy variable is used here with a value of 1 indicating that the CEO has been in their position for more than three years. Bebchuk et al. (2009) developed an entrenchment index ranging from 0 to 6 based on a total of six factors (i.e., "restriction on updating the charter," "Supermajority to approve a merger," "golden parachutes," "poison pills," "limited on revising bylaws," and "staggered boards"). More substantial roots indicate higher importance. If the index is more than 3, then a dummy variable is set to 1.

Existing research (De Miguel et al., 2004) also shows that CEO ownership improves entrenchment at a transitional stage. If the CEO's ownership falls below the minimum threshold, the CEO will be obligated to serve the interests of the other stakeholders. Whereas the manager's interest is more likely to be aligned with the shareholder's interest when the CEO owns more than an upper bond.

To replicate the model given by De Miguel et al. (2004), this research uses the ratio of the number of common shares outstanding to the number of shares held by CEOs as a proxy for management ownership. In this experiment, we employ the factors of investments, leverage, and size as independent variables. The range of CEO ownership is obtained in this research. The entrenchment zone corresponds to the range of manager stock ownership levels between these two extremes. Therefore, a dummy variable is built in this analysis, with a value of 1 when the CEO's share of the firm's total shares is within this range and a value of 0 otherwise. Last but not least, this research defines managerial entrenchment as a dummy variable with a value of 1 if all three entrenchment proxies specified earlier are also 1.

1.4.3 Moderating Variables
In order to assess the moderating power of CSR, this research includes it as a new variable. This research determines a company's CSR using data from Thomson Reuters' "ESG Asset 4" by using the methodology developed by Abdul Rahman & Alsayegh (2021).

1.4.4 Control Variables
Following previous studies, this study includes various firm-level and country-level control variables. Such as lagged stock price crash risk by following Kim et al. (2014) to control serial-correlation, previous annual stock returns (Chen et al., 2001; Al Mamun et al., 2020), leverage as "debt to asset ratio" (Kim et al., 2014), Book-to-Market ratio (Chen et al., 2001), return on asset (Harvey & Siddique, 2000), size calculated as "natural log of firm's total asset" (Harvey & Siddique, 2000), and the natural log of GDP to control the effect of country size (Li et al., 2017). Further, year fixed effect, and country dummies are included to control the country fixed effect.

1.5 Research Model and Instrumentation:
The study introduces the following panel regression model by following the work of Jeong et al. (2018), Buchanan et al. (2018), Noor et al. (2020), and Kim et al. (2014) to determine the effect of managerial entrenchment on firm's stock price crash risk.

$$\text{SPCR}_{it} = \alpha_0 + \beta_1\text{ManagerialEntrenchment}_{i,t} + \beta_2\text{CSR}_{i,t} + \beta_3\text{ManagerialEntrenchment}_{i,t} * \text{CSR}_{i,t} + \beta_4\text{SPCR}_{i,t-1} + \beta_5\text{Return}_{i,t} + \beta_6\text{Leverage}_{i,t} + \beta_7\text{BMR}_{i,t} + \beta_8\text{ROA}_{i,t} + \beta_9\text{Size}_{i,t} + \beta_{10}\text{GDP}_{j,t} + \beta_{11}\text{CountryDummies}_j + \beta_{12}\text{YearDummies}_j + \varepsilon_{i,t} \quad (2)$$

Equation 2 contains the main regression model of this study. Stock price crash risk (*SPCR*) is the dependent variable. Managerial Entrenchment (*ManagerialEntrenchment*) is the main independent variable of this study. To determine the moderating effect of CSR, an individual (*CSR*) and interaction term (*ManagerialEntrenchment × CSR*) is included. This study

includes the following control variables: lagged stock price crash risk, annual past stock returns (*Return*), financial leverage (*Leverage*), Book-to-Market ratio (*BMR*), return on asset (*ROA*), firm size (*Size*), and GDP (*GDP*). To determine the appropriate estimation technique, and as equation 2 is dynamic, this study used a two-step system GMM to estimate model 2. This methodology is selected because of the probable presence of heteroskedasticity due to the diverse nature of sample firms and potential endogeneity. Different studies (Blundell et al., 2001; Roodman, 2009; Abdul Wahab et al., 2017) indicate that the two-step system GMM effectively take care of various econometric issues, for instance, heteroskedasticity, endogeneity, serial correlation and effectively produces the robust standard errors.

When compared to other panel estimating methods like OLS and fixed effect models, GMM provides more accurate estimates and more effectively handles econometric difficulties like serial correlation, endogeneity, and heteroskedasticity (Cuadradon et al., 2017).

Thus, the study used different diagnostic tests to determine such issues, such as heteroskedasticity, a modified Wald test, and an endogeneity test.

Table 1.1 contains the results of these diagnostic tests.
Table 1: 1: Diagnostic Tests

Panel A:	Heteroskedasticity Test
"Modified Wald test for groupwise heteroskedasticity"	
chi2 (560) = 5.8e+08	
Prob>chi2 = 0.0000	
Panel B:	Endogeneity Test
"-endog- option:"	
"Endogeneity test of endogenous regressors:"	0.4700
Chi-sq(1) P-val =	0.4928

Results presented in Table 1.1 indicate the presence of heteroskedasticity because of the significant probability of chi-square in Panel A, which indicates the rejection of the null hypothesis of homoskedasticity.

Result in Panel B presents the insignificant probability of chi-square of the endogeneity test and suggests the acceptance of the null hypothesis of no endogeneity. Therefore, this study uses the two-step system GMM to gain robust results by achieving the asymptotically efficient standard errors.

1.6. Results and Discussion
1.6.1 Descriptive and Correlation Analysis

Descriptive key variables of sampled firms are reported in Table 1.2. These descriptive are consist of minimum and maximum values, mean standard deviations, and several observations. These sampled firms have, on average, 0.24 *SPCR* with a minimum value of 0.0005 and a maximum value of 3.05. The mean value of *Managerial Entrenchment* is 0.395, while the minimum and maximum values are 0 and 1, respectively.

On average, *CSR* is 0.061 and ranges from 0.0001 to 0.6105. These sampled firms have, on average, 0.002 *Return*, while mean values of *Leverage* and *BMR* are 0.345 and 0.596, respectively. On average, these sampled firms have 0.53 *ROA* and 14.12 *Size*. Mean and standard deviation values are quite near to one another, suggesting that the variables have been standardized. Standard deviation measurements reveal how spread apart the data points are.

Table 1: 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
SPCR	5,040	0.247	0.261	0.000	3.053
ManagerialEntrenchment	5,040	0.395	0.489	0.000	1.000
CSR	5,040	0.060	0.063	0.000	0.611
LagSPCR	5,040	0.2447	0.2634	0.0005	3.0526
Return	5,040	0.002	0.002	0.000	0.029
Leverage	5,040	0.596	0.296	0.003	6.328
BMR	5,040	0.345	1.189	-7.872	5.639
ROA	5,040	0.539	0.516	-1.590	1.642
Size	5,040	14.125	1.829	9.450	19.766
GDP	5,040	8.6657	8.3014	6.9471	9.4369

Note: SPCR= Stock Price Crash Risk, CSR= Corporate Social Responsibility, LagSPCR = Lagged Stock Price Crash Risk, BMR = Book to Market Ratio, ROA = Return on Asset

The correlation values of variables are reported in Table 1.3. These values are relatively low, indicating the non-existence of a multicollinearity issue. Regarding correlation, there exists a positive correlation between *ManagerialEntrenchment* and *SPCR*. At the same time, there exists a negative correlation between *CSR* and *SPCR*. These correlations do not identify the causation effect; therefore, the regression analysis is conducted to define the cause and effect.

Table 1: 3: Correlation Matrix

	Variables	1	2	3	4	5	6	7	8	9	10
1	SPCR	1.00									
2	ManagerialEntrenchment	0.02	1.00								
3	CSR	-0.02*	-0.12*	1.00							
4	LagSPCR	0.54*	0.03	0.39*	1.00						
5	Return	0.02	-0.01	0.03	0.01	1.00					
6	Leverage	-0.02	-0.01	-0.01	-0.02	0.00	1.00				
7	BMR	-0.02	0.01	-0.02	-0.01	0.00	-0.09*	1.00			
8	ROA	-0.02	0.03	-0.03	-0.01	0.01	-0.21*	0.11*	1.00		
9	Size	0.03	0.04	0.03	0.03	0.04*	0.07*	-0.19*	-0.20*	1.00	
10	GDP	0.01	0.09*	0.01	0.00	-0.01	-0.03	-0.10*	-0.11*	0.02	1.00

1.6.2 Regression Results

The regression results of the two-step system GMM are reported in Table 1.3 in a hierarchical modelling process to determine the impact of managerial entrenchment on stock price crash risk. Table 4 also contains the results of diagnostic tests such as AR2 and Hansen tests to determine the existence of the serial correlation and over-identification issues. Lack of statistical significance in the likelihood of the AR (2) test against the null hypothesis of no serial correlation. What this implies is that mistakes are not linked in any particular order. Because the Hansen test probability is small, the null hypothesis of no over-identification cannot be rejected, suggesting that the used instruments are reliable. These results validate the robustness of regression estimates.

	(1)	(2)	(3)
VARIABLES	Model 1	Model 2	Model 3
ManagerialEntrenchment	0.170**	0.141*	0.043**
	(0.083)	(0.084)	(0.021)
CSR		-1.418*	-0.164
		(0.824)	(0.415)
ManagerialEntrenchment × CSR			-1.361***
			(0.313)
LagSPCR	0.156***	0.428***	0.655***
	(0.022)	(0.159)	(0.068)
Return	-11.879	-5.008	17.950*
	(10.07)	(15.08)	(9.732)
Leverage	-0.048	-0.261**	0.018
	(0.031)	(0.117)	(0.029)
BMR	0.006	-0.003	-0.005
	(0.011)	(0.017)	(0.010)
ROA	-0.002	-0.022	0.074**
	(0.028)	(0.064)	(0.037)
Size	0.027*	0.028	0.039**
	(0.015)	(0.022)	(0.015)
GDP	-0.00001*	-0.000008*	-0.000007**
	(0.000004)	(0.000004)	(0.000003)
Country Effect	Yes	Yes	Yes
Year Effect	Yes	Yes	Yes
Constant	0.035	0.052	-0.098
	(0.125)	(0.253)	(0.212)
Observations	5,040	5,040	5,040
Instruments	37	38	43
Number of id	560	560	560
AR (1)	0.005	0.012	0.003
AR (2)	0.342	0.226	0.292
Hansen	0.425	0.527	0.228

Note: Standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 1: 4: Regression Results Managerial Entrenchment and Stock Price Crash Risk

Column 1 reports the result of managerial entrenchment and includes control variables. Column 2 shows the result of individual terms of moderator, i.e., CSR, while Column 3 shows the result of the full model, including interactive terms. The coefficient of the main independent variable, i.e., managerial entrenchment (**β**1-- *ManagerialEntrenchment*), is positive and significant at the level of 5%, indicating the support of the first hypothesis (**H1**). It means managerial entrenchment increases the firms' stock price crash risk. The finding is consistent with Boubaker et al. (2014), Gul et al. (2010), and Lin et al. (2019), which show that managerial entrenchment negatively influenced the firm legitimacy. As Jensen and Ruback (1983) argue, managerial entrenchment gives rise to agency problems as their first priority is to protect their interest rather than align with the stakeholders' interests. Entrenched managers hoard the negative news and adopt risky behaviour to ensure their power. Therefore, firms face stock price crash risk due to uncertainty caused them (Hutton et al., 2009).

To determine the moderating effect of CSR, first, an individual term, i.e., *CSR*, is introduced in Column 2, whose coefficient (**β**2-- *CSR*) is negative and significant at the level of 10%. Column 3 shows the result of the interactive term (*ManagerialEntrenchment× CSR*) and independent and control variables. The coefficient of the interactive term (**β**3-- *ManagerialEntrenchment× CSR*) is negatively significant at 1%. CSR initiatives significantly weaken the positive impact of managerial entrenchment on firms' stock price crash risk. This finding supports the second hypothesis (**H2**). It is consistent with Chakraborty et al. (2019) and Freeman & McVea (2001). They argue that firms' involvement in CSR can help reduce the agency problem and increase the legitimacy in the eyes of stakeholders. Entrenched managers use CSR initiatives as a buffer strategy to show their commitment toward social goods and gain the trust of stakeholders. Thus, CSR helps entrenched managers increase investors' confidence and reduce the stock price crash risk Harjoto & Laksmana (2018) highlight that investors value CSR initiatives. Therefore, CSR helps firms reduce their stock price crash risk by increasing the trust of stakeholders even if there exists managerial entrenchment as investors satisfy their inner good by investing in such firms that perform CSR.

Results of the remaining control variables are following: The coefficient (**β**4-- LagSPCR) is positively significant at the level of 1% and consistent with Kim et al. (2014). A firm's stock price crash risk contains an autoregressive process and depends positively on its previous value. The coefficient (**β**5-- return) is positively significant and consistent with Kim et al. (2014). This finding supports the bubble buildup notion, as Kim et al. (2014) highlighted. Returns also fall to their fundamentals, thus increasing the stock price crash risk when prices fall to their fundamentals. The coefficient (**β**6—Leverage) is statistically negative and consistent with the study of (Vo, 2020; Hutton et al., 2009). Firms with high debt financing are less dependent on equity financing and thus face less stock price crash risk. The coefficient (**β**7-- BMR) is statistically insignificant. The coefficient (**β**8-- ROA) is positively significant and consistent with Kim et al. (2014), indicating that firms with higher ROA can face more stock price crash risk due to high volatility. The coefficient (**β**9-- size) is positive, statistically significant, and consistent with Kim et al. (2014). Due to higher volatility, firms with large sizes can face higher stock price crash risk. These findings agree with the study of Elsayed (2021); Habib & Hassan (2017a), and Gao et al. (2017) as they found a significant positive impact of firm size on the crash risk. However, these results do not agree with Safi et al. (2022). Overall, the findings are consistent with existing studies and fully support hypotheses. Countries and year fixed effects do exist.

Robustness Test

Table 1: 5: Robustness Test

	Countries			
VARIABLES	Brazil	Russia	India	China
ManagerialEntrenchment	0.032**	0.111*	0.0421**	0.043**
	(0.023)	(0.089)	(0.033)	(0.222)
CSR	-0.111	-1.121	-0.175	-0.376
	(0.002)	(0.932)	(0.524)	(0.239)
ManagerialEntrenchment × CSR	-1.111***	-1.211***	-1.472***	-0.322***
	(0.329)	(0.221)	(0.110)	(0.333)
LagSPCR	0.234***	0.765***	0.672***	0.872***
	(0.032)	(0.011)	(0.0222)	(0.032)
Return	16.121*	10.021*	13.090*	16.001*
	(9.19)	(11.28)	(10.322)	(12.111)
Leverage	0.042	0.011	0.091	0.221
	(0.001)	(0.010)	(0.022)	(0.01)
BMR	-0.004	-0.032	-0.002	-0.001
	(0.02)	(0.021)	(0.019)	(0.111)
ROA	0.0642**	0.062*	0.087**	0.061**
	(0.012)	(0.092)	(0.047)	(0.342)
Size	0.033*	0.0228*	0.021*	0.033*
	(0.011)	(0.012)	(0.031)	(0.021)
GDP	-0.00001*	-0.00009*	-0.000009**	-0.000001
	(0.000002)	(0.000001)	(0.000002)	(0.000001)
Country Effect	Yes	Yes	Yes	Yes
Year Effect	Yes	Yes	Yes	Yes
Constant	-0.065	-0.077	-0.078	-0.088
	(0.115)	(0.298)	(0.333)	(0.219)
Observations	1,265	1,265	1,265	1,265

Instruments	36	39	39	39
Number of id	140	140	140	140
AR (1)	0.004	0.021	0.004	0.002
AR (2)	0.452	0.337	0.210	0.121
Hansen	0.432	0.478	0.321	0.421

Note: Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

For the validity of results, we perform robustness test by splitting the BRIC data into individual countries, Brazil, Russia, India and China. Regression analysis is carried out. Table 1.5 results of the robustness test are very similar to our main results; supports our hypothesis H1. Managerial entrenchment is significant and positively related to Stock price crash risk. CSR as a moderator is significant and negatively related with managerial entrenchment and stock price crash risk; hence support our hypothesis 2. Control variable results are also in accordance with the findings of Table 1.4 results.

Conclusion
The focus of this study arises from the traditional agency conflict between managers and owners. This paper examines whether managerial entrenchment leads to stock price crash risk. In addition, it examines how CSR shapes the relationship between managerial entrenchment and stock price crash risk. Our findings support the hypothesis that managerial entrenchment is positively related to stock price crash risk, and CSR weakens the relationship. This study concludes that managers use corporate social responsibility (CSR) as a means of legitimizing themselves in the eyes of various stakeholders for the purpose of serving their own self-interests. This sends a signal to the shareholders and creates agency conflict, both of which contribute to the risk of a crash. Moreover, corporate social responsibility acts as insurance-like protection, which minimises the harms of managerial entrenchment by increasing the legitimacy of the organisational strategies among various stakeholders, thus decreasing investors' negative valuation that, results in less probability of stock price crash risk.

This study contributes to the existing body of knowledge in the following ways. First, the study's findings show that investors negatively value managerial entrenchment, leading to stock price crash risk. In doing so, we contribute to the literature that investigates the outcome of managerial entrenchment (Di Meo et al., 2017; Ji et al., 2019; Surroca et al., 2020) and determinants of stock price crash risk (Li et al., 2017; Lee & Wang, 2017; Al Mamun et al., 2020). In addition, we found corporate social responsibility as the boundary condition that shapes the association between managerial entrenchment and stock price crash risk.

This study has many theoretical and practical implications. This study reveals that investors negatively value managerial entrenchment, as they perceive that manager used their discretion to fulfil their profits which decorates shareholders' wealth maximisation.

This paper's practical consequence is an alarming conclusion that should be made by different regulatory authorities and organizational stakeholders impacted by managerial entrenchment policy. Stakeholders looking into the causes of the potential stock market fall and potential solutions may benefit greatly from the discovery. The findings are also useful for regulators and investors who are interested in the negative cost of entrenchment. By reducing the scope for discretionary entrenchment policies, they might limit management entrenchment by increasing rules linked to openness in organizational choices.

Several caveats apply to this research. Only when applied to developing markets was this research successful. Due to this, the study's results should not be extrapolated to the worldwide level. The developed world might be the site of future studies. Additional study may determine if there is a threshold of managerial entrenchment beyond which it causes crash risk, as well as explore other facets of the link between entrenched management and crash risk. The individual impact of entrenched senior management, such as the CEO, CFO, and audit committee members, on crash risk is a potential area for further study. Managerial entrenchment, the potential for a drop in stock price, and corporate social responsibility are all factors that might be studied in connection to the ownership structure of respective organizations, with the latter providing insight into the former.

Abbreviations:
CSR	Corporate Social Responsibility
BRIC	Brazil, Russia, India, China
BMR	Book to Market ratio
CEO	Chief Executive Officer
CFO	Chief Finance Officer
ESG	Environmental, Social, Governance
GDP	Gross Domestic Product
GMM	Generalized method of moments
ROA	Return on Assets

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Description of the variables used in the Study:

Variable	Description	Source
Managerial Entrenchment	This study will use a dummy variable to measure managerial entrenchment based on three criteria namely 1. CEO longevity in firm 2. Managerial ownership 3. Entrenchment index proposed by Bebchuk et al. (2009)	Asset 4 data of Thomson Reuters & Firm's Annual Reports
Stock Price Crash Risk	This study uses proxy i.e. down-to-up volatility measure on annual basis based on the weekly stock returns to determine firm's stock price crash risk yearly. To measure down-to-up volatility, first this study will calculate weekly stock returns by using following extended market model used by Al Mamun et al. (2020) and Kim et al. (2014) to get the "residuals from market model" which will be used as stock returns.	Asset 4 data of Thomson Reuters & Firm's Annual Reports
CSR	This study will use the ESG (Environmental, Social, and Governance) Asset 4 data of Thomson Reuters to measure temporary and permanent corporate social responsibility of the firm (Joeng et al 2018).	Asset 4 data of Thomson Reuters & Firm's Annual Reports
Control Variables	Size (total assets) measured by natural log to total assets Debt measure by debt to equity ratio Profitability measured by return on assets (ROA) as our control variable. Moreover, the study will also add other firm-level and country-level (e.g. GDP) control variables.	Asset 4 data of Thomson Reuters & Firm's Annual Reports