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Exploring The Nexus Between Corporate Governance Mechanism and Stock Price Crash Risk: An Empirical Evidence of Emerging Economies

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The purpose of this study is to check the relationship between corporate governance and stock price crash risk. This study has been done in the context of Pakistan and India. The data was collected from two different economies, i.e. India and Pakistan. The reason for selecting these economies is these both economies are part of the SCO, and they are neighboring countries with similar investment culture. The data was collected for 13 years from 2011 to 2023. The results show that corporate governance has a negative effect on stock price crash risk. When including information asymmetry as a control variable, the sign converts to positive, it shows that corporate governance itself doesn't effect stock price crash. This study contributed in the literature in such a way that this is one of the studies where direct and indirect relationships have been tested.

1. Introduction

The importance of agency theory as driving factor in corporate governance has received much attention in recent years (Chang & Noorbakhsh, 2006; Chang et al., 2014; Mallin et al., 2015; Salama & Putnam, 2013; Sami et al., 2011; Arora & Gaur, 2022). Chairman or CEO of the organization has a crucial role in organizational performance (Cerbioni & Parbonetti, 2007; Chandren et al., 2021), while deciding CEO compensation, shareholders consider these important factors which ultimately increases R&D investment of the organization (Herrmann et al., 2010; Doruk, 2023). They need to give compensation in shape of stock options, when they are given stocks, they try to increase the performance of firm, that ultimately positively affected the stock market (Conyon & He, 2011). This cycle continues in positive side, when firm perform better, shareholder increases the compensation of the executive, whereas control level of institutional investor negatively affect the executive compensation (Lina et al., 2011; Arora & Gaur, 2022). Economic goal prevails over non-economic goals and increase R&D investment due to type-II agency problem in family firms (Massis et al., 2018). In Indian context, top 50 groups analyzed, and found that family ownership controlled the possible endogeneity, and likely to overcome institutional underdevelopment and increases the innovation activities of family owned firms (Lodh et al., 2014; Doruk, 2023).

In contrast, board with external experience may bring their experience in the organization and play the role of the counceller in the board meetings (Arora & Gaur, 2022). Moreover, smaller board size effectively monitor the mechanism of corporate governance when high free cash flow is there and it is related to organizational complexity (Chi & Lee, 2010; Mensah et al., 2025). Compensation differes in different board size (Wang, 2012; Arora & Gaur, 2022). Small board size provides high incentives to CEO and also have to bear more risk due to larger control on the organization (Lin & Chang, 2012; Fernandes et al., 2021). While examining relationship between board size and risk incentives of pay, and yes it affects managerial risk incentives inversely, managers with smaller board size receives higher remuneration (Wang, 2012; Mensah et al., 2025). There are studies, which show insignificant effect of board size (Dang et al., 2018). Similarly smaller board heavily invest in risky investment and give higher pay performance to CEO (Wang, 2012; Cao et al., 2021). CEO duality reduces quality of information due to reduce in amount of forward looking information (Cerbioni & Parbonetti, 2007; Choudhary, 2025). Dual CEO perceive reduction in monitoring function of board, which make him easier to avoid short term riskier investment and also reduce the amount of investment in R&D (Herrmann et al.,2010; Lin et al., 2023).

The objective of this study is to check the relationship between corporate governance mechanism and stock price crash in emerging economies. The remainder of the paper is literature review followed by methodology and results and discussion.

2. Literature review

Corporate governance is a full-fledge discipline of an organization that explains its proactive structure, regulations, and procedures through which an organization is managed. When

a company is involved in problematic management practices or unfavorable operations, they are affected by agency problems, so they tend to delay the announcements to prevent negative effects on investor's returns (Cheng et al., 2022; Kim & Zhang, 2016). It is further elaborated and categorized by Habib, Hasan and Jiang (2018) into managerial characteristics and incentives, financial reporting and corporate disclosure, capital market transactions, informal institutional mechanisms, corporate governance mechanisms CEO age (Andreou et al., 2017), CEO Power (Shahab et al., 2020), analyst coverage (Chowdhury et al., 2021), Religiosity (Callen & Fang, 2015), CEO overconfidence (Kim et al., 2016), retail investor attention (Wen et al., 2019), CSR (Kim, Li, & Li, 2014), IFRS adoption (Lim et al., 2016).

It suggests that information asymmetry between managers and shareholders stimulates self-interest to hold bad news. This lack of transparency increases the conceals of negative information. However, their ability to conceal negative information is limited and comes out at once, which leads to a stock price crash (Chen et al., 2023; Choi & Pae, 2011). The return of the Investors is subjected to two risks, systematic and unsystematic risk. systematic risk is related to the market, so the company cannot avoid systematic risk unless they separate themselves from the market. Whereas unsystematic risk relates to the performance, characteristics and relevant information of the organization and this can be reduced by investing in portfolios. According to Ross (1988), the asset pricing model (which describe the change in individual stock due to macro factors) explain 20%-40% explain the stock price variation which means that it is insufficient to explain and needs to be inquired and identifies firm-specific factors such as firm size; the larger firm should report larger R^2. He suggested that firm-specific factors should be explored. According to him, less than 40% means there is firm-level, frenzy, or behavioral information in stock prices (Grewal et al., 2017; Jin & Myers, 2006), also confirm that stock prices not only reflect macro (market-specific) but also reflect firm-specific information. When the effect of systematic risk is excluded, the drop in the stock price of a particular organization is due to the operations and management decisions (Wu et al., 2020).

One of the effective ways to control manipulation by an agent is the audit. An audit is one of the best solutions to information asymmetry. Audit act as a monitoring mechanism and decreases managerial discretion in a firm's accounting statements and detect earning manipulation (Siala & Jarboui, 2019). An audit of the organization provides an independent monitor on the agents and provides information, it also helps to maintain and confidence and build trust. Audit quality plays an important part in a financial statement from where problems are identified by the investor may want to know. Audit quality is a widely debatable topic of accounting in particularly after the Enron failure, which raises some questions on monitoring efficiency (Crockett & Ali, 2015). The auditor and the audit quality is the key to decrease stock price crash. Moreover, a highly-skilled auditor ensures adequacy of information and its alignment with accounting standards reduced agency cost and (SPCR) (Becker et al., 1998; Robin & Zhang, 2015).

Moreover, a highly-skilled auditor ensures adequacy of information and its alignment with accounting standards reduced agency cost and stock price crash risk (Becker et al., 1998; Robin &

Zhang, 2015). Chae, Nakano and Fujitani (2020) have examined the relationship between audit quality and crash risk. None of them has examined the effect of audit quality in the relationship between corporate governance, financial reporting quality, and stock price crash risk. From previous literature, it is known that none of them have examined the moderating role of audit quality between corporate governance, financial reporting quality and (SPCR). The current study will extend the literature by examining the firm specific (SPCR). The firm specific determinants of (SPCR) are tax avoidance; executive compensation and false reporting (see for example Jin and Myers, 2006; Hutton et al., 2009; Kim et al., 2011a, 2011b; Kim et al., 2014; Chang et al., 2017; Kim et al., 2019). Past literature mentioned many economic consequences of auditor quality. When auditor quality increased investors get advantages, they receive appropriate accounting information, reducing information asymmetry, similarly, high auditor quality high monitoring activities of the firm increase (Kim et al., 2011; Lim et al., 2016). For the evaluation of a firm in such an environment, where a complex governance mechanism is applied, one should consider audit quality and disclosure quality (Saeed & Saeed, 2018). Therefore, the current study will contribute to the literature by examining the impact of corporate governance, and information disclosure on SPCR.

3. Methodology

The population of the study consist of Bombay stock exchange and Pakistan stock exchange from 2011 to 2023. In the initial sample data of 300 organizations data were collected and further treatment of the data was employed which includes missing values, late registration of the firms; also, to ensure reliability while measuring stock price crash risk less than 26 week of data was excluded from the dataset. The sample size of the data was then squeezed to 100 firms from each economy, similarly, all the variables were winsorized at 1% and 99%. This study follows the quantitative technique while analyzing the data.

3.1 Measurement of Variables

3.1.1 Stock Price Crash Risk

The dependent variable of the study was measured using negative skewness (NSKEW), but before measuring, a regression analysis for each company was done through following regression model:

$$\boldsymbol{r_{i,t} = \alpha_i, + \beta 1_i r_{m,t-2} + \beta 2_i r_{m,t-1} + \beta 3_i r_{m,t} + \beta 4_i r_{m,t+1} + \beta 5_i r_{m,t+2} + \varepsilon_{i,t}}$$

After running the above equation, the residual value of the equation then taken and applied natural log through following equation

$$W_{it} = \ln (1 + \varepsilon_{it})$$

Once the data was finalized through the above equation, now the data is ready for further analysis.

3.1.2 Measure of Stock Price Crash Risk

After getting the dataset from the above equation, the data was then put into the following equation to measure stock price crash risk.

$$NSKEW = -\frac{\left[n(n-1)^{\frac{3}{2}}\sum w_{i,t}^{3}\right]}{\left[(n-1)(n-2)(\sum w_{i,t}^{2})^{3/2}\right]}$$

3.1.3 Measure of Corporate Governance

Corporate governance was measured using index by applying principal component analysis. Different items where corporate governance was taken and applied the PCA, and through weights of PCA, each construct was measured and then sum of all those constructs made a corporate governance index.

$$CGI_{i,t} = \omega_1 CEOD_{i,j} + \omega_2 CEOG_{i,j} + \omega_3 BS_{i,j} + \omega_4 BI_{i,j} + \omega_5 BA_{i,j}$$

CGI=corporate governance index, ω=weight of each company taken from PCA

3.2 Regression Model

$$SPCR_{i,t} = \alpha + \beta_1 CGI_{i,j} + \beta_2 IA_{i,j} + \beta_3 Control_{i,j} + \varepsilon_{i,j}$$

4. Empirical analysis and discussion

The data of the study analyzed based on panel data. First of all, descriptive statistics was employed.

4.1 Descriptive statistics

Table No 1: Descriptive statistics

	India				Pakistan			
Variable	**Mean**	**SD**	**Min**	**Max**	**Mean**	**SD**	**Min**	**Max**
	-8.49951	4.62106	-19.4686	0.90864	-9.72951	3.39106	-20.6986	-.321359
CEOG	.012925	1.005106	-3.33245	3.877325	0.025265	1.017446	-3.32011	3.889665
CEOD	.505384	.5001634	0	1	0.517725	0.512503	0.01234	1.01234
BI	5.75717	1.499343	-50.136	-16.3628	7.00381	2.745983	-48.8895	-15.1162
BA	3.38942	9.889658	17.5873	88.5273	4.63606	11.1363	18.83397	89.77395
BS	25.1667	4.94134	9.90243	40.9655	26.4134	6.187981	11.14908	42.21218
MTB	2.503546	7.311217	-79.55	93.68	-4.08085	84.16992	-995.87	684.28
Size	14.4566	1.440557	8.824531	19.18791	15.25706	.877563	12.49627	19.29436
Age	21.62	7.019509	1	33	17.96	0		31

COEG= ceo gender, CEOD=CEO duality, BI=Board independence, BA=Board activeness, BS=Board Size, N=1300

The above table shows the descriptive statistics of the data, all the constructs were separately checked, so that each construct should be validated by checking the data volatility. As

we see the value of each construct lies in normal range, the standard deviation also shows promising results, where the values lie less than 5 according to the dataset. The mean value of NSKEW is-8.4 and 9.7 respectively for both countries, whereas the mean value of board independence was 5.7 and 7.0 respectively.

4.2 Correlation Analysis

Table No 2: Correlation Matrix for India

	NSKEW	CEOG	CEOD	BI	BA	BS	MTB	Size
CEOG	-0.2866*							
CEOD	-0.2240**	0.5948						
BI	0.4628*	-0.5912*	-0.7160**					
BA	-0.2866*	0.5351*	0.5948*	-0.5912*				
BS	-0.2879*	-0.0044	-0.0021	-0.2613*	-0.0044			
MTB	0.0348	-0.0413	-0.0281	0.0476	-0.0413	-0.0076		
Size	0.0028	0.0179	0.0209	-0.0258	0.0179	-0.0014	-0.0390	
Age	0.0065	0.0202	0.0026	-0.0174	0.0202	0.0052	0.0194	0.3448

**p<0.01, *p<0.05, COEG= ceo gender, CEOD=CEO duality, BI=Board independence, BA=Board activeness, BS=Board Size, N=1300

Table No 3: Correlation Matrix for Pakistan

	NSKEW	CEOG	CEOD	BI	BA	BS	MTB	Size
CEOG	-0.3721*							
CEOD	-0.3024*	0.4291*						
BI	0.3902*	-0.7012*	-0.1921					
BA	-0.1053*	0.4901*	0.4439*	-0.1123*				
BS	-0.0545*	0.229*	0.2313*	-0.0279	0.229*			
MTB	0.2602	0.1931*	0.2063*	0.251*	0.1941	0.2358*		
Size	0.2372	0.2553	0.2543	0.2076	0.2513	0.242	0.1934	
Age	0.2399	0.2596	0.226	0.296	0.2586	0.2346	0.2568	0.5722

**p<0.01, *p<0.05, COEG= ceo gender, CEOD=CEO duality, BI=Board independence, BA=Board activeness, BS=Board Size, N=1300

Table 2 and Table 3 represent the correlation matrix of both the countries, the values lies between -1 to +1, if the value of any variable greater than the .7, it means there is an issue of multicollinearity, but in all the variables there is not a single value that crosses .7, it means there is no multicollinearity issue. For crosscheck, variance inflation factor was also checked, where the value was 1.08 and 1.34 respectively. For example the correlation between NSKEW and COED, COEG, BA and BS has a significant negative relationship with the value of r=-0.2866, -0.2240**, -0.2866* and -0.2879* and p<-.05 respectively.

4.3 Diagnostic Test

Table 4 shows the results of Hausman test, where it indicates that the results of random effect model as compare to fixed model would be appropriate.

Table No 4: Hausman Test

	India				Pakistan			
	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))	(b)	(B)	(b-B)	sqrt(diag(V_b-V_B))
	fe	re	Difference	S.E.	fe	re	Difference	S.E.
CGI	-.09827	-.10176	.0034878	.0030966	-.0986928	-.095352	-.0033404	.002854
MTB	.01366	.01109	.0025734	.0042135	.0007045	.0003854	.0003191	.0022393
Size	-.04363	.01308	-.0567244	.1549306	-.0510072	.0520456	-.1030527	.1210923
Age	-.03303	.00499	-.0380301	.0226755	-.0117609	-.020027	.0082667	.0175975
χ^2= 5.01		Prob>chi2 =	0.2865		χ^2= 2.05		Prob>chi2 =	0.7266

4.4 Random Effect Model

After the diagnostic test, where it was suggested to employ random effect model, the following Table shows the results of random effect models for each of the country.

Table No 5: Random Effect Model

	India		Pakistan	
NSKEW	β	Std. Err.	β	Std. Err.
CGI	-.1017613**	.0094829	-.0953524	.0091623
MTB	.0110939	.0128413	.0003854	.0010816
Size	.013089	.0693629	.0520456	.1084473
Age	.0049919	.0142279	-.0200276	.0225197
Cons_	-4.8501**	1.055744	-5.342337	1.645619
R^2	0.4828		0.5379	

=, **p<0.01, *p<0.05, COEG= ceo gender, CEOD=CEO duality, BI=Board independence, BA=Board activeness, BS=Board Size, N=1300

Table 5 shows the results of random effect model of the study; the results suggests that corporate governance has a significant negative effect on stock price crash risk. It means that strong corporate governance can mitigate the stock price crash risk. In both the cases though the study uses the index of corporate governance by constructing them from different constructs i.e. coe duality, ceo gender, board size, board independence and board activeness. To further elaborate the hypothesis the results are in line with previous study of Habib, Hasan and Jiang (2018), where they elaborated that managerial characteristics and incentives, financial reporting and corporate disclosure, capital market transactions, informal institutional mechanisms, corporate governance mechanisms CEO age (Andreou, Louca, & Petrou, 2017), CEO Power (Shahab et al., 2020), analyst coverage (Chowdhury, Faff, & Hoang, 2021), Religiosity (Callen & Fang, 2015), CEO overconfidence (Kim, Wang, & Zhang, 2016), retail investor attention (Wen et al., 2019), CSR (Kim, Li, & Li, 2014), IFRS adoption (Lim, Kang, & Kim, 2016). It suggests that information asymmetry between managers and shareholders stimulates self-interest to hold bad news.

The results of the study also in line with the agency theory, which suggests that the importance of agency theory as driving factor in corporate governance has received much attention in recent years (Chang & Noorbakhsh, 2006; Sami, Wang, & Zhou, 2011; Salama & Putnam, 2013;

Chang, Chou, & Huang, 2014; Mallin, Melis, & Gaia, 2015). Chairman or CEO of the organization has a crucial role in organizational performance(Cerbioni & Parbonetti, 2007).

5. Conclusion

This purpose of this study was to check the relationship between corporate governance and stock price crash risk in India and Pakistan. The results suggested that strong corporate governance can mitigate the stock price crash risk. In both the cases though the study uses the index of corporate governance by constructing them from different constructs i.e. coe duality, ceo gender, board size, board independence and board activeness.

The limitations of the study include, data availability; there are so many variables, that can be clutch into corporate governance, but due to data availability issue especially for India due to restricted access. Similarly, this study uses non-financial firms due to fundamentals differences in financial reporting make this study only for non-financial firms, we can not generalize this study for financial firms. The future study may consider these limitations while doing research on stock price crash risk.

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