

Determinants of Stock Price Crash Risk: Evidence from BRICS Countries

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Abstract

This study examines the impact of firm-level financial and governance factors on stock price crashes (SPCR) in the emerging markets of the BRICS (Brazil, Russia, India, China, and South Africa) countries. To overcome the problems of endogeneity, this study uses the GMM model, which is based on a panel dataset of 5,350 firm-year observations from 446 non-financial firms between 2012 and 2023. To measure the risk of a crash, this study uses negative conditional skewness (NCSKEW) and down-to-up volatility (DUVOL). The study finds that companies with high past returns and large weekly price volatility are more likely to experience price crashes later because of withholding bad news. Additionally, when a company handles more trades and is larger in size, it often sees a rise in crash risk; however, the opposite happens when a company's independent directors make up a larger proportion of the board. When debt rises, SPCR falls, meaning that more use of leverage encourages greater openness and efficient disclosure. This study adds to the existing literature on financial risk in emerging economies by showing how a company's structure and actions in the market affect the risk of a crash. These findings are useful for investors, policymakers, and company leaders who want to increase visibility and lower risks in capital markets.

Keywords: Stock Price Crash Risk, Down-to-Up Volatility, Negative Conditional Skewness.

Introduction

Research on determining Stock price crash risk (hereafter crash risk) has gained significant focus in recent years. Bad news hoarding is the primary cause of crash risk (Hutton et al., 2009). Managers reveal unfavorable information for individual gains, which include bonus payments, stock options, and career progression benefits (Kothari et al., 2009). When negative information reaches a particular limit, managers give up their attempt to conceal it and disclose every detail at once to the market, which in turn leads to a stock crash that causes substantial crashes (J.-B. Kim et al., 2011a).

Researchers have studied many elements that cause stock price crash risk (SPCR) at the global level through extensive literature. However, these studies report inconsistent and conflicting results because SPCR is difficult to evaluate. While many crash risk factors have been identified in previous research, they seldom explain what causes drivers to behave differently in emerging markets. Therefore, this study examines firm-related factors such as past returns, stock volatility, trading turnover, and firm size, while also measuring the independent director ratio and board size. By focusing on the BRICS countries, this research intends to contribute helpful insights to the

knowledge developed so far and offer research-based directions for those involved in policymaking and business in these emerging economies.

The BRICS countries have shared features from quickly expanding economies and shifting governance standards to diverse market efficiency levels, although they show substantial political stability, investment protection, and financial development differences (Larionova & Shelepov, 2022). These diverse characteristics of the BRICS countries represent both research obstacles and investigation opportunities for uncovering the risk factors between country environments and organizational structures (Shashnov & Kotsemir, 2018). The peculiarities of the emerging economies introduce situations that increase the likelihood of obscurity in financial reporting and managerial manipulation subjecting companies to drastic price drops. In this matter, therefore, the area of concern will require a comprehensive, one-to-one research.

The results show that the past returns (Ret) correlate with an increased risk of decreasing the price of the stock, which is consistent with Chen et al. (2001), Andreou et al. (2016), and Jebran et al., (2020). This in turn leads to firms seeking to cover up bad news when the returns are good and when the news is announced, it will cause the shares to fall drastically. Weekly return volatility (sigma) is found to be positively related with SPCR, just like daily returns. This implies that the risk propensity of more volatile stocks is likely to crash in case of hidden risks at the time when a trader lacks enough market data ((Kothari et al., 2009); Jebran et al., 2020; Chen et al., 2015; Hutton et al., 2009; Jin and Myers, 2006). The negative effect of the ratio on the SPCR is that independent directors minimize the risk of crashes, specifically by adequately overseeing the decisions of the managers and risks (Hutton et al., 2009; Chen et al., 2015). Moreover, stock trading turnover (Dturn) is positively correlated with the decrease in SPCR because the greater the liquidity on the market, the easier it is for all people to utilize up-to-date information, which, in its turn, increases the non-uniformity of crashes (Hutton et al., 2009; Chen et al., 2015; Zhang et al., 2015). Their research also determined that the larger the size of the board, the better the SPCR is since it assists the company to effectively address the risks as evidenced in the earlier studies (Chen et al., 2015; Kim et al., 2011; Zho et al., 2016). Conversely, the bigger firms tend to exhibit SPCR, as per past studies (Jin and Myers, 2006; Hutton et al., 2009; Chen et al., 2015; Kim et al., 2001) due to the fact that manager in larger firms will tend to be overconfident. These results contribute to the thesis that debt increases make managers responsive and prompt in bad news disclosure and consequently contribute to avoidance of the default risk (Hutton et al., 2009; Jiang et al., 2011).

The current paper focuses its research on the BRICS countries since these emerging economies have not been scrutinized appropriately as to the crash risk factors despite their significant economic position. The paper investigates the elements of risk of crashes by surveying Brazil, Russia, India, China, and South Africa to bring about a broader world-based insight into determinants of crash risks. Another contribution of the study to the existing literature is the analysis of various variables based on the individual firms such as past returns, weekly return volatility, independent director ratio, trading turnover, board size, firm size, and leverage among others. The study design will allow examining the compounding effects of the governance factors and those of the market aspects on the SPCR in an in-depth manner.

The study also demonstrates that internal governance structures influence crash risk levels through independent director ratio and board size measurement variables. This study strengthens the expanding knowledge base on how company boards influence transparency and investor confidence through organizational design and oversight practices. This research uses an extensive panel data collection consisting of multiple countries over multiple years to establish strong empirical standards. Cross-country research simultaneously discovers shared factors that affect crash risk and reveals unique national patterns that build theoretical understanding while analyzing the environment.

The rest of the paper consists of Literature review, hypothesis development, Theoretical framework, Methods, finding and discussion and conclusions.

Literature Review and Hypotheses Development

Theoretical Perspectives

A stock price crash is the risk of a firm suffering an unexpectedly large loss over a short period. Many studies argue that preventing managers from learning about bad news can lead to a higher risk. It often comes from wanting to save their wages, the stock market value, or the company's reputation; thus, when all the bad information finally appears, stock prices fall significantly. This research is based on agency theory (Jensen & Meckling, 1976) and information asymmetry theory to study the role of control factors in bad news hoarding and the consequences this has on the risks of crashing company stock prices. Each factor plays a role in forming the motivation for managers or influencing transparency in the firm, which can lead to hiding bad news.

Jin and Myers (2006) suggest that managers are prone to hiding bad news after their company's stock performs well, hoping to maintain its growth. This fits the "career concern" model, in which managers prevent their standing from dropping in the short term. If returns in the past were extremely high, managers delay sharing negative information because it disappoints investors. Therefore, better past performance of stocks is thought to make a crash more likely. The standard deviation of weekly returns for a stock is commonly used as an indicator of the amount of information it lacks. In such unpredictable times, managers can keep negative developments hidden from others. According to Hutton et al., (2009), a high level of volatility in returns suggests that a company could be at a higher risk of a crash due to unclear financial records.

In agency theory, independent directors help oversee how managers manage an organization. If a company has more independent directors, it offers better control and clearer reporting of its financials. Gul et al., (2011) found that having an independent board of director's helps to prevent managers from hiding bad information which may lead to a crash. Therefore, the independent director ratio should be associated with a lower risk of stock price crashes. According to agency theory, managers withhold information to protect their interests. If the trading turnover in stocks is high, investors watch more closely, there is stronger feedback from the market, and executives have greater reasons to behave appropriately. A high trading turnover can signal increased investor attention and speculative trading. However, it may also reflect short-termism, where transient investors are less focused on the firm's fundamentals. This may reduce the perceived cost of withholding bad news in the short term, as management expects lower accountability from a rapidly changing shareholder base to absorb losses.

There is no clear relationship between the size of a board and crash risk. One advantage of larger boards is that they introduce people with a variety of skills and keep an eye on all the operations. Alternatively, they may struggle to coordinate and make all staff responsible. According to Yermack et al., (1996), a small board is better for supervision, while Colares et al., (2016) believe that a larger board can be an advantage for difficult-to-manage companies. If a board is too big, it might fail to challenge managers sufficiently, helping to hide anything negative from investors.

When a company grows large, it typically becomes easier to spot, has more analysts writing about it, and its regulations are more closely examined. Although these motivations might help lessen the collection of bad news, larger firms are built in a way that makes hiding details much easier. According to Francis et al., (2015), a high level of complexity across a large firm can lead to higher chances of a crash. In this situation, companies with more employees may face a greater crash risk than smaller companies. Highly indebted firms must work hard to avoid problems with their loans. This may cause managers to cover up bad news to keep the

Past Return (RET) and Stock Price Crash Risk

Past returns are an important factor in understanding whether a stock price crash occurs. Jin and Myers (2006) suggest that it is common for managers to withhold bad information when performance is high. They are motivated to do this so that the firm continues to enjoy a good reputation, which could positively affect executives' pay and job security. However, concealing bad news causes negative information to accumulate over time. When the truth comes out, it can lead to a massive and sudden decline in stock prices.

Many studies have supported the view that people hold onto negative news. In their study, Kim et al. (2014) discovered that firms with a history of gains in the stock market are at a higher risk of a stock price crash. It happens a lot when good numbers are not bought in good places since it implies that people put too high an expectation level, further enhancing the effect of bad news secluded. Hutton et al, (2009) also note that crisis can be avoided through greater disclosure of earnings. Scholars have discovered that the stock prices of such companies face a higher risk of plummeting at a very high rate. In case reports are not transparent, the managers can evade or postpone reporting bad news easily. The roles of corporate governance in this area are also analyzed. Among other things, Habib et al. (2017) found that, in case of a weak governance, the previous performance of a firm exposes it to increased risks of a crash in the future. In the cases where boards or oversight systems are weak, the managers will be able to make decisions that conceal disheartening information with ease. Lastly, Callen and Fang (2015) observe that the extended information environment of a firm is relevant. They argue that an organization is more likely to be crashed once its stock has increased due to a less revealing environment in which it is less covered or only poorer disclosures are made by analysts. As the discussion above shows, our hypothesis is as follows:

H₁: Higher past returns create more stock price crash risk than lower past returns.

Stock Return Volatility (Sigma) and Stock Price Crash Risk

Volatility is normally measured by the standard deviation of returns of the stock of an organization and usually to represent the risk incurred in that stock. When the volatility in returns is high, it is an indication that the company is not performing very well, making incoherent updates as well as leaving investors with incomplete information. Due to the fact that the environment is not predictable, the managers have a chance to conceal the negative information. Studies have established that in case of volatility of stock returns, the probability of price crashing is higher. According to Hutton et al, (2009), bad news tends to be withheld in firms which have high volatility. As a consequence of the non-disclosure of earnings, businesses facing this issue will draw investment on forecasts but not the business outcomes. In the study, it is also observed that in the uncertain returns, managers will be able to cover bad news, and disclose all at once, this normally results in the market producing strong and rapid selling when they are finally disclosed. According to Callen and Fang (2015), the volatility of shares of companies may serve as an indicator of the degree of clarity of financial information that is skewed. They find that high-volatility businesses are highly prone to loss in the occurrence of low internal control, particularly when a low level of concentration is by the analysts on their stocks. Volatility also reveals a broader information setting for the company. Similarly, researchers such as Kim et al. (2014) include the volatility of a company's stock price in their examination of how managers behave and the likelihood of a price crash. The findings suggest that before crashing, these firms experience more significant and often violent changes over a period. This means that volatile periods may show which companies could potentially hide negative reports from the public. Chen et al, (2001) found that the further effects of volatility can be affected by the actions of speculators and investor feelings. Some believe that when markets are driven by speculation, the increased volatility from

herding noise traders can lead to crashes. In these cases, volatility adds to uncertainty and destabilizes the market. From the above discussion we conclude the following hypothesis.

H2: Higher stock return volatility causes more stock price crash risk than lower stock return volatility.

Independent Director Ratio and Stock Price Crash Risk

Independent directors on the board result in less earnings management and a lower risk of negative surprises (Kleineret et al. (2022); Gul et al, (2011)). Essentially, independent directors act to avoid the collection of bad news by demanding that bad news be reported quickly. Liuz et al, (2009) also prove that board independence has a negative link to crash risk. The research points out that the involvement of independent directors tends to reduce earnings management, which usually precedes corporate crashes. Kleineret (2022) showed that companies whose audit committees mainly consist of independent directors are more successful at stopping and discovering attempts to falsify earnings, one of the ways bad news hoarding occurs. Kim et al, (2001) view board independence as a factor in their crash risk model. From the above discussion we conclude the following hypothesis.

H3: A Higher Board independent director ratio creates more stock price crash risk than a lower ratio.

Stock Trading Turnover and Stock Price Crash Risk

Zhang et al, (2013) find that increased activity on the stock market makes share prices more accurate and reduces the chances for planned self-serving acts by managers. When a firm has a strong trading environment, bad news is processed slowly, which helps prevent a sudden drop in prices. According to Li et al. (2022), more frequent and significant trading increases the efficiency of finding accurate prices. Due to better efficiency, managers find it difficult to hide significant news because modern markets pick up on even small signals and trends. Roulstone et al., (2004) noted that as activity and trading volume increase in the market, information diffusion also increases. When markets are alert and engaged, managers must reveal information faster to help reduce the risk of anything unexpected. He et al., (2024) points out that high DTURN increases the chance of early discovery of risks by investors. As a result, management is discouraged from developing a long history of bad press. From the above discussion we conclude the following hypothesis.

H5: There is a negative relationship between stock trading turnover and stock price crash risk.

Board Size and Stock Price Crash Risk

According to Andreou et al., (2016), larger boards are connected to an increased ability to control and supervise, decreasing the danger of a stock crash. They argue that more board members help companies with complex activities gather and process information and oversee risks. Alternatively, Zhang et al. (2013) prove that a board's size and effectiveness at challenging executives are linked to a greater risk of crashes. According to their results, the presence of coordination problems and free riders on big boards may result in less effective governance. In their research on why managers keep negative news secret, Kim et al., (2001) address board size as a control variable. They suggest that the role of having a large board is possibly connected to features of the company's corporate governance, such as the independence of directors or who controls the majority of shares. Brooks et al., (2014) argue that having too few or too many directors may indicate problems in managing the board and the company. Liu et al., (2009) argue that the right size for a board depends on the specific industry and how the firm is growing, so a general solution cannot be used to judge its safety influence. From the above discussion we conclude the following hypothesis.

H4: There is a negative relationship between board size and stock price crash risk.

Firm Size and Stock Price Crash Risk

According to Francis et al., (2015), organizations with complex strategies and activities may find it simpler for their managers to hide relevant information. As information may be easily hidden within this complicated structure, the market runs the risk of sudden correction once those details are revealed. This is also the case with other forms of art. Habib et al., (2017) suggest that if internal governance is lacking and a company is small, the chances of a crash increase. It appears that larger firms have oversight difficulties because their board members are spread thin and their managers are deeply rooted in their positions, which increases the risk of opportunistic behavior.

According to Zhang et al. (2011), a higher probability of a stock price crash is reported for larger firms, especially if their governance is ineffective. They claim that handling large and complicated organizations delays the disclosure of important information. According to Andreou et al. (2017), although analysts pay more attention to big companies, their observation does not always boost a firm's transparency. Rather, analysts often accept and spread information from the company's management, while managers of large firms seek to shape the market's attitude and hide any bad news. Chen et al, (2015) note that in times when investor moods and speculation are up, large firms may acquire unrealistic positive expectations from investors. When good news is delayed and then revealed, it sharply drops the stock and increases its crash risk.. From the above discussion we conclude the following hypothesis.

H5: Firm size and stock price crash risk are positively related.

Leverage and Stock Price Crash Risk

In their analysis, Kim et al. (2011) examine the impact of financial leverage on the chances of a crash and find a negative result. It is argued that indebted companies often choose not to report bad news because it endangers their financial situation. According to Hutton et al. (2009), banks with higher leverage have stronger links between poor earnings transparency and the risk of a crash. If earnings are left unclear, managers are tempted to hold back information and delay facts that might lead to crashing earnings. Francis et al, (2015) state that companies with generous debt loads are often tempted to engage in earnings management so they can hold back bad news. According to their research, debt often increases the risk of abrupt declines in stock prices when corporate management is weak. Leuz et al. (2009) take a closer look at the effects of short-term debt. According to this study, businesses with more short-term debt are more likely to face crises, which could show that they are more hesitant to report recent failures early. From the above discussion we conclude the following hypothesis.

H6: Leverage and stock price crash risk are negatively related.

Sample, Variables and Methods

Our sample consists of 446 companies from the five BRICS countries. The analysis period spanned 2012 to 2023 due to data availability. To ensure data quality and accuracy, this study selected the sample using the following criteria. First, the study excluded financial firms because of their distinct accounting procedures and regulatory requirements. Second, firm-year observations with insufficient stock return data (< 30 trading weeks), that is, those with stock return data for less than 30 trading weeks, were also removed. Third, we eliminated firms listed for less than one year and finally removed observations with missing control variable data. Further refinements during the calculation of key variables, such as independent variables and future crash risk, resulted in a final sample of the study with 5,350 firm-year observations across 446 firms during the sample period. There was the use of DataStream to collect financial and accounting data in this study. The stock price data were obtained at the Yahoo Finance and various stock markets in the countries of interest. There were also additional variables that were gathered through other sources that included annual reports, corporate websites, financial databases and business press websites

among others to make sure that all the information is comprehensive and accurate. Data on Chinese firms were collected from the CSMAR database.

Variables Description

Stock Price Crash Risk

This study used two proxies for the measurement of SPCR based on the works of Jin and Myers (2006) and Hutton et al. (2009). One proxy is the negative conditional skewness of firm-specific weekly returns, which is calculated in two steps. To estimate the weekly returns for each firm, we first undertake an index model regression.

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

In the above equation, $r_{i,t}$ is the return of firm i at time t , α_i is a constant term specific to asset i , and β_{1i} to β_{5i} are coefficients that measure the firm return sensitivity to market returns at different time periods. $r_{m,t}$ is the market return at time t ; $r_{m,t-2}$ and $r_{m,t-1}$ are market returns from two and one periods before t ; $r_{m,t+1}$ and $r_{m,t+2}$ are market returns from one and two periods after t ; and $\varepsilon_{i,t}$ is an error term. The firm-specific weekly returns for firm i in week t (denoted as $W_{i,t}$) is calculated using the natural logarithm of one plus residual returns ($1 + \varepsilon_{i,t}$). To generate our initial measure of crash risk, called negative conditional skewness (NSKEW), we used the values from $W_{i,t}$ in Equation (1). For firm i in a given year t , the calculation of NSKEW involves dividing the firm-specific weekly returns' standard deviation by the negative value of their third moment. Both components are derived from the firm-specific weekly returns.

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

Down-to-up volatility ($DUVOL_{j,T}$) is the second measure of the crash risk. This is measured as downward volatility divided by upward volatility (Chen et al. (2001) and Kim et al. (2011a); Kim et al. (2011b)). We calculate $DUVOL_{j,T}$ as follows

$$DUVOL_{j,t} = \log \left\{ \frac{(N_U - 1) \sum_{Down} W_{j,t}}{(N_D - 1) \sum_{Up} W_{j,t}^2} \right\} \quad (3)$$

Variables Definition

Variable	Abbreviation	Definition
Stock return	RET	The average weekly stock return during the year (Chen et al., 2001).
Standard deviation	SIGMA	Standard deviation of weekly returns for year t (Chen et al., 2001; Kim et al., 2011b).
Independent director ratio	IND_RATIO	Number of independent directors on the board (Zhang, 2015).
Stock Trading Turnover	DTURN	mean monthly stock turnover in year T less mean monthly stock turnover in year $T-1$. Kim and Zhang (2014)
Board Size	B_SIZE	Total number of directors on the board (Chen et al., 2015).
Firm Size	F_SIZE	Natural logarithm of total assets (Hutton et al., 2009; Chen et al., 2001).
Leverage	LEVERAGE	Total liabilities divided by total assets (Chen et al., 2001; Kim et al., 2011b)

Source: Author's review (2025)

Model Specification

To study the impact of SPCR determinants (stock return, standard deviation, independent director ratio, board size, firm size, and leverage) on SPCR. The following model was used:

To check the relationship between SPCR determinants and SPCR, the following model was developed.

$$NCSKEW = \beta_0 + \beta_1 RET + \beta_2 SIGMA + \beta_3 INDRATIO + \beta_4 BSIZE + \beta_5 LEVERAGE + \epsilon_{it}$$

$$DUVOL = \beta_0 + \beta_1 RET + \beta_2 SIGMA + \beta_3 INDRATIO + \beta_4 BSIZE + \beta_5 LEVERAGE + \epsilon_{it}$$

Table 2: Descriptive Statistics

Variable	N	Mean(M)	Standard Deviation (SD)	Min	Max	Skew	Kort
RET	3846	0.204	0.998	-5.31	5.254	-.378124	14.09431
SIGMA	3846	0.130	1.1290	0	0.354	2.336	6.212
IND_RATIO	3846	0.4117	0.1242	0	.875	.5481597	4.157159
DTURN	3846	-1.028	.61451	-2.075	.09842	0.1820845	2.271908
B_SIZE	3846	5.008	3.137	-5.963	9.69	-1.227986	4.262497
F_SIZE	3846	9.523	2.258	0	21.476	.2880952	4.60864
LEVERAGE	3846	0.3420	.2092	0	0.98953	.3703826	2.456961

Table 3: Correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) NCSKEW	1.000								
(2) DUVOL	0.353*	1.000							
	(0.000)								
(3) RET	0.070*	0.167*	1.000						
	(0.000)	(0.000)							
(4) SIGMA	0.014	0.014	-0.061*	1.000					
	(0.320)	(0.316)	(0.00)						
(5) IND_RATI	-0.008	-0.340*	-0.008	0.005	1.000				
	(0.545)	(0.000)	(0.538)	(0.713)					
(6) DTURN	-0.024	-0.051*	-0.031*	0.148*	-0.094*	1.000			
	(0.083)	(0.000)	(0.024)	(0.000)	(0.000)				
(7) B_SIZE	-0.107*	0.076*	0.011	-0.040*	-0.079*	0.218*	1.000		
	(0.000)	(0.000)	(0.432)	(0.005)	(0.000)	(0.000)			

(8) F_SIZE	-0.019	-0.234*	0.048*	0.022	0.173*	-0.232*	-0.211*	1.000	
	(0.189)	(0.000)	(0.001)	(0.121)	(0.000)	(0.000)	(0.000)		
(9) LEVERAG	-0.042*	-0.110*	0.013	-0.011	-0.038*	-0.091*	0.011	0.086*	1.000
	(0.004)	(0.000)	(0.348)	(0.440)	(0.009)	(0.000)	(0.441)	(0.000)	

Note. The variable definitions are provided in Table 1. ***, ** and * denote $P < 1\%$, 5% and 10%

Table 3 presents the Pearson correlation coefficients of the main variables used in this study. The measures of stock price crash risk, $NCSKEW_{t+1}$, and $DUVOL_{t+1}$ exhibit significant positive correlations with each other. Despite their distinct construction methods based on firm-specific daily returns, these measures appear to capture similar data. The correlation coefficient between $NCSKEW_{t+1}$ and $DUVOL_{t+1}$ was 0.653, which aligns with the findings of Li et al., (2022). Furthermore, in line with the existing literature, all future crash risk measures demonstrate significant negative correlations with independent director ratio, board size, firm size, and stock return show a significant positive association with Sigma and Leverage at the 5% significance level.

Table 4: Regression Result Using GMM Model

VARIABLES	NCSKEW	DUVOL
RET	0.162***	0.281***
	(0.0125)	(0.0142)
SIGMA	0.00139**	-0.000179**
	(0.00807)	(0.00903)
IND_RATIO	-0.00212***	-3.2305*
	(0.000209)	(0.000250)
DTURN	-0.00250**	-0.00200*
	(0.00172)	(0.00188)
B_SIZE	-0.0310***	-0.0294***
	(0.00386)	(0.00444)
F_SIZE	0.242***	0.194***
	(0.00856)	(0.00999)
LEVERAGE	-0.155**	-0.0907***
	(0.0987)	(0.0123)
Observations	3846	3846
Number of firms	446	446
Year fixed effect	Yes	Yes
Firm fixed effect	Yes	Yes
AR(1)	0.0970***	0.0478***
	(0.0163)	(0.0174)
AR(2)	0.122	0.156
	(0.0151)	(0.0160)
Hansen test	0.182	0.213

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

Finding and Discussion

The table 5.7 presents the regression of the determinants of SPCR. The coefficient of past returns (Ret) is positive and is significant at the 1 percent. This suggests that historical returns enhance SPCR. Such an outcome is also comparable to the already existing literature where it is stated that the past returns are positively correlated with the SPCR because the accumulation of the hidden risks creates a certain positive dependency (Chen et al., 2001; Andreou et al., 2016; Jebran et al., 2020). This can also indicate that high past stock returns indicate a time when good news is concealed or postponed upon by firms. Once such information emerges, it causes the crash of the stock prices. This result confirms hypothesis one of this paper.

Weekly return volatility (σ) is another variable at the firm-level, which has a positive correlation to both variables measure. This implies the stocks that are more volatile result in higher stock price crashes and consequently, higher volatility reduces higher probability of occurrence of stock price crash. Opaqueness of information often accumulates volatility or bad news is not disclosed to the market. With time, this information may cause the correction of the price which may lead to crashes. Volatility often builds up when information is opaque or when bad news is withheld from the market. Over time, this information can lead to price corrections, resulting in crashes. This is particularly true in cases where volatility is high on a short-term basis, such as on a weekly scale. This finding is consistent with the available literature (Kothari et al., 2016; Jebran et al., 2020; Chen et al., 2016). This result is also supported by (Hutton et al. (2009), Chen et al. (2001), and Jin and Myers (2006). Periods of high volatility indicate uncertainty in the market, which can lead to overreactions, mispricing, and the accumulation of hidden risks (Brooks et al., 2014) as once these risks are revealed, they can result in a sharp stock price crash.

The second variable is the board independent director ratio. The results reveal that as the number of independent director's increases, SPCR decreases. The results of the study affirm the third hypothesis of the study, as a company has board independence, which means its directors have no key involvement with the company other than being a board member. This research finding is consistent with the available literature (Chen et al., 2015) that states that independent directors can provide their decisions without forced efforts on the part of the management, which will enable them to represent shareholders more accurately. It is also in alignment with the same result by Chen et al. (2001), who concluded that independent directors contribute to the role of challenging management and controlling the risk reporting.

Another variable of this study is the stock trading turnover. Figure 1 demonstrates the findings of the research to indicate that the variables of stock trading turnover and SPCR yield a negative correlation that also supports the fourth hypothesis of the study. The observed results may be also compared to the results of the previous research (Hutton et al., 2009; Chen et al., 2015) since stocks traded fast are less prone to a crash due to the money and time they contribute to the smooth work. The result of the study is also in line with the existing literature of Zhang et al. (2013), which indicates that greater liquidity supports clear pricing and efficient markets, decreasing the odds of snowballed bad information leading to a market collapse. The results confirm that board size is negatively linked to a sharp drop in stock prices. The results of this study are consistent with those of previous studies (Chen et al., 2016; Kim et al., 2001) as larger boards do a better job of monitoring and managing a company. More directors help monitor corporate leaders better and decrease the chances of harmful management choices. Better observation can stop activities that could create unnoticed risk. The results of this study also affirm the results of the previous study by Zho et al. (2016), which indicates that large boards are better at sharing information; they tend to have lower SPCRs.

Firm size is another variable in this study. The results indicate a positive correlation between SPCR and firm size and which verifies the sixth hypothesis of the research. This study has also yielded

the expected results that align with the current forms of literature (Jin and Myers 2006; Hotton et al. 2009) since large organizations experience greater SPCR as a result of overconfidence in managers. The research findings are also consistent with the available literature (Chen et al., 2015; Kim et al., 2001), which point towards the large companies as having governance systems and risk management procedures in place. They possess superior internal controls, more elaborate auditing and more explicit corporate reporting and all this can help in alleviating the risks associated with the crash of stock prices. Leverage is another firm-level control variable in the research study. The results of this paper indicate that the variables of financial leverage and SPCR are negatively correlated. This finding aligns with the sentiments of (Hotton et al. (2009) because the companies with high financial leverage have to pay periodical interest and principal payments. This obligation of debts drives the managers to be more prudent and to tell bad news on time because the inability to do it may lead to the financial distress, default, or bankruptcy. The findings demonstrate that the existence of debt lessens the chances of crashing of the stock prices since the managers have fewer chances to conceal bad news.

We made the use of diagnostic tests in our models to determine the validity and reliability of the results. Hansen test proves that the used instruments are exogenous and valid, and AR (2) test shows no signs of the secondary autocorrelation of the residuals (stating the fact of the serial correlation as absent). Moreover, F-test shows the joint significance of the coefficients at the 1% significance level which shows that the models are well-specified and the variables are jointly significant. Such diagnostic tests gives a confirmation that our models are healthy and the results are sound.

Conclusion

The researchers analyze the aspects of the SPCR causes in BRICS countries Brazil, Russia, India, China, and South Africa in the context of business features and corporate governance in an emerging market. Since research on the risk of this crash in developing countries is deficient, this research project will fill this gap by considering the 5,350 firm-years of 446 companies as 2012-2023. The researchers contribute to the current research on the SPCR by presenting the results of their analysis of the panel data, which also considers the variables of finance and governance to determine the reasons why the BRICS markets experienced such severe losses.

The findings show that when managers keep bad news from investors, this hoarding is still an important reason for crashes in stock prices (Jin & Myers, 2006; Hutton et al., 2009). The results suggest that firms with past returns are at a higher risk of a future crash because they delay the release of unfavorable news. Weekly return volatility (σ) also shows a positive link with crash risk, suggesting that greater short-term changes indicate a consistent lack of transparency. Proper governance structures help a great deal to significantly reduce the risk of crashes. A bigger size of the board as well as higher number of independent directors (high IND_Ratio) are associated with smaller crash risk indicating that good oversight and independence are an added advantage to transparency and avoidance of negative events being covered. Moreover, this is associated with increased trading of stocks turnover (Dturn) and reduced risk of crash due to improved market liquidity and increased participation by investors. Another finding of the research is also that firm sizes, as well as financial leverage, has a significant, but complicated influence on the determination of the crash risk. Despite that, the results indicate that bigger companies may also have a smaller probability of financial crash due to better corporate governance although overconfidence among the managers may increase the likelihood of such a crash in the large company. At the same time, the higher leverage is associated with the worse SPCR, which proves that more leveraged firms are under the pressure to report the negative information produce within the shortest possible time.

This research serves a great purpose to the discipline by analyzing SPCR in various perspectives in developing countries. That is why the threat of crisis within the BRICS economies depends on the interdependence between corporate Governing, financial system and the structuring of their markets. The Hansen and AR (2) diagnostic tests on the models are strong because they have been run successfully.

Practical Implications

These results indicate that risks of crashing the system can be avoided in case of better governance, increased isolation between the government and business and transparency. The visibility of information and increased safeguarding to investors would help prevent the managers concealing the news implications of their company in bad light. The research indicators including historical returns, market stability and the management approaches can benefit investors and analysts to predict the occurrence of a crash and manage the risks appropriately in investment within the emerging markets.

Limitations

This paper has some limitations. The study does not analyze any macroeconomic and institutional conditions that are important to the behavior of individual firm such as political stability, good enforcement of law, and protection of investor, which may influence crash risk. Second, despite the GMM enhancing the endogeneity, it might be an ineffective solution to all biases arising due to the omission of variables or wrong measurements. The second factor is that the market being considered does not involve any financial institutes and works with secondary data, so its findings cannot be applied to all locations and be accurate. In addition, the two proxies (NCSKEW and DUVOL) are only sufficient to capture crucial aspects of crash dynamics in measuring SPCR.

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