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Cultural Diversity of the Corporate Board and Stock Price Informativeness

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Abstract

This study aims to investigate the impact of the cultural diversity of the corporate board on stock price Informativeness. The study provides empirical evidence from Pakistan stock exchange. We examine how cultural dimensions (individualism, masculinity, power distance, and uncertainty avoidance) affect stock Informativeness. Most of the previous studies analyzed culture from an investor's perspective, but in this study, the cultural dimensions of a corporate board are being explored. The study employs the GMM (generalized method of moment) for empirical analysis because this method eliminates the endogeneity concerns.[4] The study considers the companies from Pakistan stock exchange's KSE 100 index from 2009 to 2019. The cultural diversity of the board is computed after analyzing 6451 directors from 43 different countries. The results show that the corporate board's cultural diversity has significant and positive impact on stock price informativeness. Furthermore, the boards having members from high power distance and masculine cultures are negatively associated with stock price informativeness, while the individualistic and uncertainty avoidance cultures are positively linked with stock price informativeness. In conclusion, we suggests that regulators should encourage board diversity as it helps companies and corporate boards in eliminating information asymmetries and consequently enhancing the stock price informativeness. Increase in stock infromativenss helps investors in making better investment decisions.

Keywords: *Cultural diversity, stock price informativeness, individualism, power distance, muscularity and uncertainty avoidance.*

1. Introduction

Corporate boards are used for controlling and directing the affairs of the firm. Due to corporate scandals, market fluctuations and unexpected price movements

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have knocked on the doors of regulators. What are the factors of these variations, and what would be the optimal mix of the boards that can yield more? The **answer is not straight forward** because the corporate board's effectiveness depends on the board of directors' characteristics (Adams, Hermalin, & Weisbach, 2010; Ni, Cheng, Liao, & Huang, 2020). These characteristics vary according to the level of diversity present on board.

Literature highlights that diverse boards are essential and beneficial, but the question arises, which type of diverse board (Carter, Simkins, & Simpson 2003). Rao and Tilt (2016) classify corporate boards into two categories based on diversity. One of those boards is where diversity is clearly evident (gender and age), and the second is where diversity is not easily traceable (cultural diversity). The second category is a highly neglected and under-searched domain and generally overlooked (Alhomaidi, Hassan, Hippler, & Mamun, 2019; Baker, Pandey, Kumar, & Haldar, 2020 ; Chen, Leung, Song, & Goergen, 2019; Dodd, Frijns, & Garel, 2019; Eun, Wang, & Xiao, 2015; Karolyi, 2016; Rao, & Tilt, 2016; Sarhan, Ntim, & Al-Najjar, 2019). However, the importance of a culturally diverse group can't be denied. A culturally diverse board brings different ideas, skills, and experiences, which reduces information asymmetries and lessens agency conflict; hence, stock informativeness is enhanced (Hao, Han, Ning, & Liao, 2020). The study aims to investigate how a culturally diverse board affects stock price informativeness. stock price informativeness is defined as, "The amount of company specific information is being incorporated in prices".

Theoretically, from the perspective of Resource-based View (RBV) (Barney, 1991; Selma, Yan, & Hafsi, 2020) companies can take a competitive advantage by using internal resources that are "valuable, rare, difficult to imitate, and non-substitutable". Therefore, the corporate board is the most important and critical resource that possesses the aforementioned qualities (Kagzi, & Guha, 2018). So, Jhunjhunwala and Mishra (2012) explain that each individual is different based on norms, values, beliefs and perceptions. Xu (2020) also highlights that individuals' attitude towards uncertain situations is modelled through the national culture; moreover, the board of directors belonging to different cultures possess different characteristics. For instance, if a board of director belongs to a collectivistic culture, then group goals, team recognition, and holistic thinking will be preferred instead of individual goals, self-recognition and individual thinking (Todea & Buglea, 2017). Likewise, suppose the board members belong to high power distance culture, then preference is given to authority, hierarchy, power inequalities, and limited information instead of power distribution, decentralization, participative decision-making, and transparent information disclosure (Li, & Harrison, 2008). Whereas, if board members belong to the masculine culture, preference is given to competition, achievement, and success

instead of passivity and subordination (Hofstede, 2001).

In the same way, if directors belong to high uncertainty avoidance index societies, then preference is given to conservatism instead of dynamism. Frijns, Dodd, & Cimerova (2016) declared culture as a "double edged sword" because these characteristics can enhance or reduce efficiency and transparency of corporate board that will directly impact stock price informativeness. Likewise, board members from individualist cultures inculcate public and private information in decisions, reducing information asymmetries and enhancing disclosure that will positively affect stock Informativeness (Nguyen, & Truong, 2013). On the other end, board members from high power distance societies have limited information exposure due to the hierarchical concentration of information (Zarzeski, 1996), which will increase the information asymmetries that negatively affect the stock price informativeness. Similarly, the board members in high masculine cultures are more inclined towards success and superior performance, improving board efficiency and productivity raisng informativeness (Farooq, & Amin, 2017). Also, in high uncertainty avoidance cultures, the board members follow rules which reduce uncertainties (Beugelsdijk, & Frijns, 2010). As a result, there is an increase in informational efficiency, leading to enhanced stock Informativeness (Ullah, Jiang, Shahab, & Zheng, 2020). These characteristics are not being investigated at the corporate board level as frequently as they should be, so this study attempts to fill the existing literature gap.

The current study is significant in Pakistan because in the year 2017 and 2019 Securities and Exchange Commission of Pakistan (SECP) directed companies to encourage diversity, which shows its importance in the present scenario. Pakistan stock market is less explored market in this domain. As per our knowledge, this is the first study that explores the impact of cultural diversity on stock informativeness in the Pakistan stock exchange.

Corporate governance (CG) mechanisms are the essential company-specific factors that affect idiosyncratic volatility (IDV), a measure of stock price informativeness (Morck, Yeung, & Yu, 2000; Roll, 1988; Bradrania, Pea, & Satchell, 2015; Malagon, Moreno, & Rodríguez, 2018; Wu, Tong, & Wang, 2020). Good governance enhances firm disclosure and reduces information asymmetries, positively affecting stock price informativeness (Budsaratragoon, Hillier, & Lhaopadchan, 2014; Rasheed, & Kouser, 2020). These governance practices are mainly dependent upon the structure of the corporate board. This study's significant contribution is examining the impact of cultural diversity and its dimensions, i.e. individualism, uncertainty avoidance power distance, and masculinity, on stock Informativeness. The cultural diversity of the board is computed after analyzing 6451 directors from 43 different countries. Jin and Myers (2006) explained that significantly less information is reflected in stock

prices of those countries where governance structures are weak. Further (Fan, Wong, & Zhang, 2007) added that individuals could also influence corporate policy-making, affecting the board's working. Pakistan's economy and governance structures are at a developing stage. Also, the Pakistan stock market is relatively less explored; therefore, this study will be an addition from a developing country context.

This study's findings indicate that the general increase in cultural diversity improves the stock price informativeness, which proves that an increase in cultural diversity increases the incorporation of firm-specific information in stock price (Karolyi, 2016; Selma et al., 2020; Ullah et al., 2020). However, the board of directors from different regions affect informativeness differently. The study analysis shows that individuals from high power distance and uncertainty avoidance cultures have negative impact on stock price informativeness. While the individuals from individualistic and masculine cultures had a positive effect on stock price Informativeness.

The rest of the paper is organized as follows: Section 2 presents the literature review. We discuss the data and methodology in Section 3. Section 4 discusses the results, followed by the conclusion and implications in Section 5.

2. Stock price informativeness and board cultural diversity

Stock price movements are affected by systematic (market-specific) as well as unsystematic factors (company-specific) (Ferreira, & Laux, 2007; Morck et al., 2000). The volatility caused by market-specific factors is systematic volatility (SV), and volatility caused by company-specific factors is idiosyncratic volatility (IDV). Finance literature indicates that idiosyncratic volatility (IDV) is the more significant part of total volatility (Morck et al., 2000; Roll, 1988; Bradrania et al., 2015; Malagon et al., 2018; Wu et al., 2020). Corporate governance (CG) mechanisms are the most critical company-specific factors that affect IDV. Good governance enhances firm disclosure and reduces information asymmetries, positively affecting stock price informativeness (Budsaratragoon et al., 2014; Rasheed, & Kouser, 2020). These governance practices are mainly dependent upon the structure and composition of a corporate board. Previous literature indicates that board composition is examined chiefly concerning size, independence, director's age, experience, financial expertise and gender (Bonn,Yoshikawa, & Phan, 2004; Kiel, & Nicholson, 2003; Jackling, and Johl, 2009). One particular aspect of the board, which is overlooked despite being of critical importance, is culture. Clarke (2016) mentioned that national culture reshapes capital markets, institutions, investors, regulators and even governance practices. Aguilera and Jackson (2003) further added that managers working in the global environment must develop global cultural skills, but culture is multidimensional and complicated. One's norms, values, attitudes and behaviours take a lot of time to evolve. Changes or adjustments

in those things would be too challenging (Cohen, 2015) because culture shapes social design, affecting one's practices and processes (Carrasco, Francoeur, Labelle, Laffarga, & Ruiz-Barbadillo, 2015) which is difficult to change.

The literature on cultural diversity is divided into two major strands. One strand highlights that the cultural diversity of the board is advantageous because the board possesses multiple skills, expertise and resources that improve board decision making; hence information asymmetry gets reduced leading to higher stock price informativeness (Alhomaidi et al., 2019; Baker et al., 2020; Nederveen Pieterse et al., 2013; Ullah et al., 2020). The second strand of literature points out that in the more diverse group, there are more chances of conflict, the communication process is relatively slow, which inducees an information gap within the board that reduces the effectiveness of the board which will have a negative impact on stock price informativeness (De Wit et al., 2012 ; Rao, & Tilt, 2016). So it is concluded that culture is a double edge sword. While fanaticizing cultural diversity, companies must be cautious in practically developing countries. Cultural aspects are generally neglected (Baker et al., 2020; Chen et al., 2019; Dodd et al., 2019; Eun et al., 2015; Karolyi, 2016; Rao & Tilt 2016; Sarhan et al., 2019; Ullah et al., 2020).

2.1 Hypothesis development

Stock price informativeness and board cultural diversity

The corporate governance literature supports that stock price informativeness is effected by board structure (Berglof, 2011), but the question arises about the optimal board structure. There is no conclusive evidence in the literature. Diverse board structure brings various ideas, perspectives, skills, experiences, knowledge, innovation and creativity on corporate board, which improves board efficiency and effectiveness that reduces agency conflict, enhances information transparency which increases stock Informativeness (Ferrero-Ferrero, Fernández-Izquierdo, & Muñoz-Torres, 2015 ; Harjoto, Laksmana, & Lee, 2015; Abad, Lucas-Pérez, Minguez-Vera, & Yagüe, 2017). On the other end, diversity brings different values, lengthy discussions, delayed decision-making, and weak bonding among board members (Barnett, Dwyer, & Chadwick, 2004) that negatively affect stock price iInformativeness. Diversity is a broader subject; according to RBV (Barney, 1991; Selma et al., 2020), firms can take competitive advantage of internal resources. Therefore, the board of directors are a critical resource that cannot be easily replaced (Ely, Padavic, & Thomas, 2012). Multiple nationalities or diverse culture can be the source of advantage, or it could be a challenge. Hofstede et al., (2010) explain culture as a "software of the mind", which is very difficult to change because cultural norms, values, attitudes, beliefs and perceptions take centuries to build. Overall cultural diversity is crucial, as highlighted by

(Khan, Khan, & Senturk, 2019; Gray, 1988) that culture directly influences governance choices, affecting reporting, disclosure, information flow, and stock Informativeness.

H1: There is a positive relationship between the overall cultural diversity of the board and stock price informativeness.

Power distance culture and stock price informativeness

Individuals with high power distance cultures disclose very limited or selective information because of steep power centers, are negatively linked to stock price informativeness. Farooq and Amin (2017) also confirm that directors from high power distance societies tend to have limited information disclosure, decreasing stock price informativeness. House, Hanges, Javidan, Dorfman, & Gupta (2004) adds that individual decisions are not flexible in high power distance cultures because of strict rules. Whereas, in low power distance cultures, individuals disclose very comprehensive information because of horizontal power centres that reduce agency conflict, positively impacting stock Informativeness (Eun et al., 2015; Zarzeski, 1996). So it can be hypothesized:

H2: There is a negative relationship between board member from high power distance cultures and stock price informativeness.

Masculine cultures and stock Informativeness

In high masculine cultures, people tend to outperform others; therefore, more information contents are being disclosed (Farooq, & Amin, 2017; Jaggi, and Low, 2000). More informed decisions are taken by the board members, which also improves stock price informativeness. On the other side, in low masculine cultures, individuals don't strive for too much comprehensive information. People often avoid conflicts that will have a negative effect on stock Informativeness (Farooq, & Amin, 2017). As a result, it can be hypothesized:

H3: There is a positive relationship between board members from high masculine cultures and stock Informativeness.

Individualistic cultures and stock price informativeness

In individualistic cultures, individuals and board members prefer more disclosure, openness, transparency, and even private information in their decisions, enhancing stock price informativeness (Jessop et al., 2014). On contrary, in collectivistic cultures individuals prefer limited information disclosure, which increases firm opacity; thus, there is an increase in information asymmetry that reduces stock price informativeness (Eun et al., 2015; Jaggi, and Low, 2000; Jessop et al., 2014). Therefore, it is hypothesized:

H4: There is a positive relationship between directors from individualistic cultures and stock Informativeness.

Uncertainty avoidance cultures and stock Informativeness

In those cultures where uncertainty avoidance is high, people don't prefer uncertainties, so that's why information disclosure is restricted, board members can't inculcate all the relevant, particularly private information, into decisions that will have a negative effect on stock Informativeness (Beugelsdijk, & Frijns, 2010;Todea, and Buglea, 2017). Nguyen and Truong (2013) also state that individuals from highly uncertain societies have a conservative and risk-averse approach. Incorporation of new information takes a lot of time which will decrease stock Informativeness. Whereas, in low sceptical communities, individuals have an aggressive approach and risk-taking approach. Incorporation of new information doesn't take too much, which improves decision-making at the board level; hence, stock informativeness increases (Dou, Truong, & Veeraraghavan, 2016 ; Shleifer, and Vishny, 1997). Therefore, it is hypothesized:

H5: There is a negative relationship between board member from high uncertainty avoidance culture and stock price informativeness.

3. Research Methodology and Sample

The population of this study is entire listed companies at the Pakistan stock exchange (PSX). The sample of the study is the companies listed in Pakistan stock exchange 100 index. The reason for the selection of this index is that it is most efficient and captures 85% of the total market capitalization. The final sample consists of 66 companies because 22 companies are financial, and 12 companies' were dropped due to lack of data availability. The study is conducted on 726 firm years' observations in total.

3.1. Data and Analysis Method

The time period for the study is from 2009 to 2019. The reason for selecting this timeframe is that SECP revised corporate governance codes in 2012, 2017 and 2019, respectively. So this study captures the effect of those changes. The data is collected from different sources, i.e. annual reports, Eikon data stream, company's web, and others. The score of cultural dimensions is calculated using the Hofstede's cultural index, but the board of directors' nationalities were taken from multiple sources, i.e. companies' web, annual reports, and social media websites (LinkedIn, Bloomberg). Previous studies also used similar sources for data collection (Frijns et al., 2016).

To estimate the study's econometric model, a generalized method of moment (GMM) is used. This method is more efficient than Pooled OLS, fixed and random effects (Tan, and Liu, 2016), because GMM addresses the statistical issue like endogeneity and auto-correlation (Roodman, 2009; Wintoki, Linck, & Netter, 2012). It is vital to eliminate the concerns of endogeneity. If these apprehensions were not addressed, it leads to biased estimates (Wintoki et al., 2012), which results in incorrect estimations of the econometric model. Hence serious questions were raised on the authenticity of expected conclusions (Ketokivi, and McIntosh 2017; Ullah, Akhtar, & Zaefarian, 2018).

3.2. Dependent Variables

3.2.1. Idiosyncratic volatility

The dependent variable of this study is stock price informativeness, to measure it the Idiosyncratic volatility is used as a proxy of stock price informativeness (Durnev, Morck, & Yeung, 2004; Ferreira, & Laux, 2007). Total volatility is divided into two components, one is systematic volatility, and the other one is unsystematic volatility. The idiosyncratic volatility is unsystematic volatility caused by firm-specific factors (Ferreira, & Laux, 2007).

Idiosyncratic volatility is calculated as the logistic transformation of $1 - R^2$ it:

$$IDV = LN\ (1-R^2_{i,t}/R^2_{i,t}) = \ln\ (\sigma^2_{ie,t}/\ \sigma^2_{i,t} - \sigma^2_{ie,t})$$

R^2: Coefficient of determination from market model; Ln: Natural log; σ^2ie: variance of error term; σ^2i,t: variance of stock

3.2.2. Turnover ratio

The study considers the turnover ratio as a robust proxy of idiosyncratic volatility, as it has been widely used inthe literature. The firm-specific factors also affect the turnover ratio, so it is also considered a proxy for stock price Informativeness (Wang, 2016).

Turnover ratio = "Annual share volume / Outstanding shares".

3.2.3. Independent variables

3.2.4. The cultural diversity of the corporate board

Previous studies have estimated the cultural diversity of board by language, religion, colour or race (Anderson, Fedenia, Hirschey, & Skiba, 2011; Aguilera, & Jackson, 2010). In this study, cultural diversity is measured by cultural distance among

the board of directors, as it has been widely used in the literature (Dodd et al., 2015; Frijns et al., 2016). It is calculated as:

$$CD_{ij} = \sqrt{\sum_{k=1}^{4} \{(I_{ki} - I_{kj})^2 / V_k\}} \; \forall i \neq j$$

"*Cdij*" is the cultural distance between every two directors "(*i,j*)". "*Iki*" is the culture score on dimension *k* for a director "*I*". "*Ikj*" is the cultural score on dimension *k* for a director "*j*". "*Vk*" is the in-sample variance of the score for the specific cultural dimension.

$$CD\,BOARD_{nt} = \frac{\sum_{i,j} CD_{ij,nt}}{\mathrm{m}(\mathrm{m}-1)/2} \forall i < j$$

"CD BOARD nt" is the measure of CD of the board of firm n in year "t". "m" is the number of board members. The measure of CD is scaled by the number of pairs of board members so that the measure is normalized for the size of the board.

The study considers Hofstede's four cultural dimensions, namely "Individualism vs Collectivism (IND), Power Distance (PD), Masculinity vs Femininity (MAS), and Uncertainty Avoidance (UCA). The value of dimensions is taken from Hofstede's cultural index. Most importantly, directors' nationalities were taken from annual reports, companies' websites, different financial webs like Bloomberg, market screeners, and a few social networking sites like LinkedIn. These sources are also used by previous studies (Dodd et al., 2015; Frijns et al., 2016).

3.2.5. Foreign Directors

This study also considers an additional measure of culture, i.e. Dummy variable: Foreign directors = "if there is one foreign director in the board then (1) otherwise (0)". A number of previous studies also used a similar proxy (Masulis, Wang, and Xie, 2012).

The study further considers five control variables, i.e. firm size, firm age, leverage, return on assets and market to book ratio. These variable are in-line with literature (Hasan, Song, & Wachtel, 2014; Sila, Gonzalez, & Hagendorff, 2017; Ferreira, & Laux, 2007). Table 1 provides the operational definitions of all variables used in this study.

3.3. Econometric model of study

The study consists of the following econometric models that are given below. Overall cultural diversity and dimensions are tested separately tested, because the correlation between cultural diversity and dimensions were high. To avoid multicollinearity and biased estimates both models must be testing separately. The study uses idiosyncratic volatility as a proxy of stock Informativeness. Additionally, for robustness,

Table 1: Definitions of variables

Variables	Definitions	References
IDV	Logistic transformation of 1 - R2	Ferreira, & Laux, (2007)
TO	Annual share volume divided by Outstanding shares.	Wang, (2016).
CD	A cultural distance of board member of firm n in year t	Frijns et al., (2016)
FD	If there is at least one foreign director in board then (1) otherwise (0).	(Masulis, Wang, and Xie, 2012).
PD	Power distance score of a board member of firm n in year t	Frijns et al., (2016)
MAS	Masculinity score of a board member of firm n in year t	Frijns et al., (2016)
IND	Individualism score of a board member of firm n in year t	Frijns et al., (2016)
UCA	Uncertainty avoidance score of a board member of firm n in year t	Frijns et al., (2016)
FA	Number of years since the company is incorporated	Ferreira, & Laux, (2007)
FS	Log of total assets	Ferreira, & Laux, (2007)
ROA	Net Income divided by Total Assets	Grassa et al. (2020)
MTB	The market value of equity per share divided by the Book value of equity per share	Grassa et al. (2020)
LEV	Long term Debt divided by Total assets	Ferreira, & Laux, (2007)

Abbreviations: IDV: idiosyncratic volatility; TO: turnover ratio, CD: Cultural diversity; FD: Foreign directors, PD: Power distance, MAS: Masculinity, IND: Individualism, UCA: Uncertainty avoidance, FA: Firm age, FS: Firm size, ROA: Return on assets, LEV: Leverage ratio, MTB: Market to book ratio

the turnover ratio is being considered.

$$IDV_{i,t} = \beta_0 + \beta_1 CD_{i,t} + \beta_2 FD_{i,t} + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 MTB_{i,t} + \beta_7 ROA_{i,t} + \varepsilon_{i,t}$$

$$TO_{i,t} = \beta_0 + \beta_1 CD_{i,t} + \beta_2 FD_{i,t} + \beta_3 FS_{i,t} + \beta_4 FA_{i,t} + \beta_5 LEV_{i,t} + \beta_6 MTB_{i,t} + \beta_7 ROA_{i,t} + \varepsilon_{i,t}$$

$$IDV_{i,t} = \beta_0 + \beta_1 IND_{i,t} + \beta_2 PD_{i,t} + \beta_3 MAS_{i,t} + \beta_4 UCA_{i,t} + \beta_5 FS_{i,t} + \beta_6 FA_{i,t} + \beta_7 LEV_{i,t} + \beta_8 MTB_{i,t} + \beta_9 ROA_{i,t} + \varepsilon_{i,t}$$

$$TO_{i,t} = \beta_0 + \beta_1 IND_{i,t} + \beta_2 PD_{i,t} + \beta_3 MAS_{i,t} + \beta_4 UCA_{i,t} + \beta_5 FS_{i,t} + \beta_6 FA_{i,t} + \beta_7 LEV_{i,t} + \beta_8 MTB_{i,t} + \beta_9 ROA_{i,t} + \varepsilon_{i,t}$$

4. Diagnostics analysis

4.1. Tests of endogeneity

Wintoki et al. (2012) highlight the concerns of endogeneity, particularly in studies related to corporate governance. If the issues relevant to endogeneity are not addressed, that can lead to biased and incorrect results. Therefore, literature (Nadeem, Zaman , & Saleem, 2017; Ullah et al., 2018) suggests that GMM is the most appropriate technique for estimation. GMM is dynamic modelling which is far better than static modelling. In the current study, we tested endogeneity by Wu-Hausman. Table 3 reports the results of endogeneity which confirms its existence. The P.Value of Wu-Hausman and Durbin (score) is significant (p = 0.0000).

Table 2: Endogeneity

Tests of endogeneity	
Durbin (score) chi2(4)	= 68.6812 (p = 0.0000)
Wu-Hausman F(4,716)	= 18.7032 (p = 0.0000)

4.2. Results and Findings

4.2.1. Descriptive Statistics

Table 4 discusses the study's descriptive statistics, which include mean, median, maximum, maximum, standard deviation, Skewness and Kurtosis. The mean value of cultural diversity (CD) is 0.16, whereas the maximum value is 1.39. The minimum value of CD and its dimensions (IND, PD, MAS, and UCA) is 0, and it shows that in few companies there is no cultural diversity. All the board members are local, not international or foreign. The deviation from the mean is 0.26, Skewness is 2.43, and Kurtosis is 10.19. FD is the dummy variable for foreign directors, the minimum value is 0, and the maximum value is 1. The idiosyncratic volatility (IDV) is used as a proxy of stock price informativeness, the mean value is .00027, and the deviation from the mean is .0041. Skewness and Kurtosis are 11.322 and 190.013, respectively. The mean value of the turnover ratio is .45, and the standard deviation is 0.79. The total number of firm year's observations is 726. The results are in line with previous studies (Liu, et al., 2014; Li, et al., 2014; Frijns et al., 2016). The Table 4 also shows that for the estimation of cultural diversity 6451 board of directors are taken as the final sample. The percentage of foreign directors is 14.09%, whereas the percentage

of local board members is 85.90%. Majority of board of directors belong to Pakistan. The foreign board of directors belongs to 43 different countries.

Table 3: Descriptive statistics

Variables	CD	IND	PD	MAS	UCA	FD	IDV	TO	FS	FA	ROA	MTB	LEV
Mean	0.16	0.3	1.84	0.33	0.37	0.42	0.0027	0.45	4.51	36.59	0.10	4.82	1.31
Median	0	0	0	0	0	0	0.0019	0.15	4.44	32	0.08	1.52	0.45
Maximum	1.39	6.21	22.17	3.67	11.11	1	0.0797	6.52	8.88	74	12.16	73.58	54.91
Minimum	0	0	0	0	0	0	-0.0008	0	2.9	2	-0.41	-9.66	0
Std. Dev.	0.26	0.85	5.63	0.51	0.77	0.49	0.0041	0.79	0.77	18.13	0.46	31.85	3.25
Skewness	2.43	5.56	3.29	2.19	5.83	0.34	11.3225	3.29	2.18	0.28	24.7	21.03	9.63
Kurtosis	10.19	37.24	11.96	10.6	62.23	1.12	190.0132	17.25	13.56	1.75	646.44	499.35	130.65
Directors	Total Directors	Local Directors	% Local directors	% of Foreign Directors	Total Countries								
	6451	5542	85.90%	14.09%	43								

IDV: idiosyncratic volatility, CD: Cultural diversity;, FD: Foreign directors, PD: Power distance, MAS: Masculinity, IND: Individualism, UCA: Uncertainty avoidance, FA: Firm age, FS: Firm size, ROA: Return on assets, LEV: Leverage ratio, MTB: Market to book ratio, TO: turnover ratio, LTO: lag turnover ratio.

4.2.2. Correlation Analysis

Table 5 shows the correlation analysis of all variables that are being used in this study. The correlation shows the strength and direction of the relationship. The research shows a positive and robust relationship between overall cultural diversity (CD) with its dimensions IND (0.86), PD (0.44), MAS (0.78) and UCA (0.67), respectively. Due to this particular reason, overall cultural diversity and dimensions are modelled separately. However, idiosyncratic volatility and cultural dimensions IND (-.02), PD (-.03), MAS (-.06) and UCA (-.03) have a negative but weak relationship. Whereas turnover ratio and cultural dimensions have a positive IND (.06) as well as a negative association PD (-.02), MAS (-.001) and UCA (-.07).

Table 4: Correlation Analysis

Variables	CD	IND	PD	MAS	UCA	FD	IDV	TO	FS	FA	ROA	MTB	LEV
CD	1												
IND	0.86	1											
PD	0.44	0.25	1										
MAS	0.78	0.54	0.13	1									
UCA	0.67	0.44	0.30	0.54	1								
FD	0.72	0.42	0.39	0.76	0.57	1							
IDV	-0.04	-0.02	-0.03	-0.06	-0.03	-0.05	1						
TO	0.02	0.06	-0.02	0.03	-0.01	-0.07	-0.03	1					
FS	0.00	0.00	-0.04	0.00	0.03	-0.01	-0.27	0.04	1				
FA	-0.19	-0.17	-0.14	-0.12	-0.12	-0.15	0.00	-0.06	0.02	1			
ROA	0.03	0.02	0.00	0.05	0.00	0.05	-0.04	-0.05	-0.03	0.08	1		
MTB	0.00	-0.01	-0.02	0.00	0.11	0.11	0.02	-0.06	-0.02	0.02	-0.01	1	
LEV	-0.05	-0.03	-0.09	-0.09	0.02	-0.10	0.16	0.06	-0.03	-0.12	-0.08	0.09	1

IDV: idiosyncratic volatility, CD: Cultural diversity;, FD: Foreign directors, PD: Power distance, MAS: Masculinity, IND: Individualism, UCA: Uncertainty avoidance, FA: Firm age, FS: Firm size, ROA: Return on assets, LEV: Leverage ratio, MTB: Market to book ratio, TO: turnover ratio, LTO: lag turnover ratio.

4.2.3. Cultural diversity and stock price informativeness

The Table 6 shows the results econometric of the study's econometric models that are used in this study. In this study GMM is used. GMM is an efficient method because of its dynamic nature and internal transformation of instruments (Wooldridge, 2012). Similarly, Wintoki et al., (2012) highlighted that GMM eradicates the concerns of endogeneity. The results of model 1 show that the board's overall cultural diversity positively and significantly impacts idiosyncratic volatility (IDV). According to RBV, board members from different origins are the source of competitive advantage that enhances firm controls, which reduces information asymmetry; consequently, more specific firm information is being incorporated in prices that increases stock Informativeness (Adler, & Kwon, 2002 ; Barney, 1991; Karolyi, 2016; Selma et al., 2020). Therefore we accept our hypothesis (1). A percentage change in cultural diversity is associated with a 0.616% increase in idiosyncratic volatility. In other words, an increase in cultural diversity enhances stock price informativeness. These results are in-line with the literature as well as with theory. Companies must encourage diverse boards (Frijns et al., 2016; Ferreira, & Laux, 2007).

Additionally, FD results also indicated a positive relationship with IDV, but results are not insignificant with this proxy. Although this proxy lacks comprehensiveness, these results are partially supporting our hypothesis. The presence of foreign directors on the board increases board independence which improves firm performance and Informativeness (Morikawa, 2016). So modern corporations must take advantage of the international exposure of foreign directors. Hansen's (50.94) and Sargan test (117.21) indicated that there is no evidence of serial correlation and heteroscedasticity. Additionally, the Arellano-Bond test shows that there is no evidence of autocorrelation (AR (1) (-5.79) and AR (2) (-0.45) (Arellano, & Bond, 1991).

The second model in table 6 shows the results of the turnover ratio with overall cultural diversity. The turnover ratio is used for robustness. The results are consistent with this measure, as well. A percentage change in cultural diversity is associated with a 0.553% increase in the turnover ratio. So, it can be inferred that due to cultural diversity, more information is being incorporated; as a result the turnover ratio increases (Barroso-Castro, Villegas-Periñan, & Dominguez, 2017). These results are in-line with the hypothesis (1). Additionally, in model 2 no statistical issues found. Hansen's (38.43) and Sargan test (89.86) indicated that there is no evidence of serial correlation and heteroscedasticity. Additionally, the Arellano-Bond test shows that there is no evidence of autocorrelation (AR (1) (-5.08) and AR (2) (-0.44). Previous studies also supported these results (Arellano, & Bond, 1991; Nadeem et al., 2017).

In table 7, Model 3 shows the results of cultural dimensions on idiosyncratic

volatility. The results show that board members from high power distance negatively impact idiosyncratic volatility. In high PD cultures, information asymmetry exists between board members, which makes the board inefficient, so very less company-specific information is being incorporated into prices, which will have a negative effect on stock price informativeness (Carrasco, Francoeur, Réal, Laffarga, & Ruiz-Barbadillo, 2012; Eun et al., 2015; Harrison, 2008). Therefore, hypothesis (2) is accepted. Whereas MAS also have a negative and significant impact on IDV. One percentage change in MAS leads to a -0.043% change in IDV. The possible reason would be that the score of Pakistan at Hofstede index is in the middle, i.e. 50. Thus hypothesis (3) is rejected. But board member from an individualistic culture has a significant and positive relationship with IDV. Board members from individualistic cultures tend to incorporate more information into decisions, which increases transparency and disclosure that will positively affect stock price informativeness (Jessop et al., 2015). Therefore, hypothesis (4) is accepted. Likewise, UCA also has a significant and positive impact on IDV. In highly uncertain cultures; board members must follow rigid rules and regulations (Todea, & Buglea, 2017). Based upon this argument, Pakistan score is high on an index; these results are justified. The findings of the study reject the hypothesis (5). The results of model 3 also report no significant statistical issues because Hansen (51.88) and Sargan test (51.88) shows no serial correlation and heteroscedasticity. Likewise, the values of AR (1) (-3.47) and AR (2) (-0.49) confirm that autocorrelation doesn't exist in this model (Ullah et al., 2018).

In Model 4, the turnover ratio is used for sensitivity. The results of PD and IND are consistent with IDV. In contrast, MAS and UCA results are compatible with the theory. PD has a negative relationship with turnover. One per cent change in PD will lead to a -.005% decrease in turnover. Therefore, board of directors from high PD cultures tend to not work collaboratively; even in those cultures, only relevant information (Li, & Harrison, 2008) is disclosed, which will negatively affect turnover. On the other side, model 4 indicated that MAS has a positive impact on TO. One per cent change in MAS will lead to a .341% increase in turnover. Directors from masculine cultures give more preference to details (Hofstede, 2001), so more information is incorporated in decisions that will increase TO. At the same time, IND has a significant positive impact on turnover. One per cent change in IND leads to a 0.105% increase in TO. Board members from individualistic cultures give preference to improved disclosures (Jessop et al., 2015) which increases TO. Lastly, UCA has a negative impact on TO. One per cent change in UCA will lead to a -0.071% decrease in TO because directors from high UCA cultures use a conservative approach. Therefore, individuals don't explore too many options while making the board inefficient, and resulting in adverse TO. Model 4 also reports no statistical issues (Nadeem et al., 2017).

Table 5: (Two-step System GMM)

	(1)	(2)	(3)	(4)
VARIABLES	**IDV**	**TO**	**IDV**	**TO**
L.IDV	0.211***		0.119***	
	(0.037)		(0.011)	
CD	0.616**	0.553**		
	(0.293)	(0.272)		
FD	0.157	0.252		
	(0.222)	(0.345)		
PD			-0.043***	-0.005***
			(0.003)	(0.001)
MAS			-0.306***	0.341***
			(0.071)	(0.016)
IND			0.273***	0.105***
			(0.023)	(0.024)
UCA			0.720***	-0.071***
	(0.222)	(0.345)	(0.050)	(0.011)
FA	0.006***	-0.002	0.006***	-0.005***
	(0.002)	(0.004)	(0.001)	(0.002)
FS	-0.327***	0.023	-0.419***	0.063*
	(0.088)	(0.062)	(0.081)	(0.034)
ROA	-1.308***	-0.798***	-0.177***	-0.231***
	(0.214)	(0.306)	(0.050)	(0.039)
LEV	0.041***	0.012	0.018***	-0.000
	(0.007)	(0.010)	(0.004)	(0.005)
MTB	-0.001	-0.005***	0.010**	-0.004***
	(0.002)	(0.003)	(0.004)	(0.001)
L.TO		0.721***		0.701***
		(0.038)		(0.008)
Constant	-3.775***	-0.754*	-4.058***	-0.856***
	(0.396)	(0.414)	(0.353)	(0.143)
Observations	660	660	660	660
Number of code	66	66	66	66
Sargan test	117.21	89.86	58.42	101.54

Hansen Test (stat.)	50.94	38.43	51.88	48.89
Test AR(1) (z-stat.)	-5.79	-5.08	-3.47	-4.85
Test AR(2) (z-stat.)	-0.45	-0.44	-0.49	-0.38

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

IDV: idiosyncratic volatility, L.IDV: Lag idiosyncratic volatility, CD: Cultural diversity, FD: Foreign directors, PD: Power distance, MAS: Masculinity, IND: Individualism, UCA: Uncertainty avoidance, FA: Firm age, FS: Firm size, ROA: Return on assets, LEV: Leverage ratio MTB: Market to book ratio, TO: turnover ratio, LTO: lag turnover ratio.

5. Conclusion

This study investigated the effect of board of directors' cultural diversity and cultural dimensions on stock informativeness in a developing market context. We use data of 66 non-financial listed companies at Pakistan stock exchange 100 index. According to the resource-based view, companies can take advantage of their internal resources. One of the critical resources that companies possess is human resource. The hypothesis were tested through GMM regression technique. The findings of the study indicated that cultural diversity of the board improves stock price informativeness in general, but different cultures affect stock Informativeness differently. Board members from high power distance cultures tend to increase information asymmetries. Likewise, directors from individualistic cultures incorporate public and private information, which boosts stock Informativeness. Whereas MAS and UCA are negatively associated with IDV, results with another proxy (turnover) are positive. These findings have important theoretical implications; all resources are essential for the companies, but few resources are of greater importance, and few are of lesser importance. Interestingly, sometimes most critical resources like board members can be useful in one particular culture but not in other cultures, due to differences the board members lack effectiveness. This study has several practical implications. The results of this study can be used by the regulator while setting relevant board standards. Companies must encourage diversity, which will help transmit more transparent information that lowers agency issues and protects the rights of minority shareholders, particularly in developing countries where ownership concentration is very high. The current study only considers the time frame from 2009 to 2019 and only one market, i.e. PSX. In future studies a more extensive time frame would be considered. This study can be re-examined in another developing country. Cultural diversity is an important aspect for companies operating in the global environment, but in developing countries like

Pakistan, most of the directors are of local origin. Therefore, one future direction of this study is that researchers must develop a national cultural scale to capture different cultural aspects. Additionally, future studies can make a comparative analysis between developed and developing countries. Furthermore, future studies would use gauge ethnic diversity index for increase the reliability of the findings. Likewise, in future studies stock Informativeness can be studied with other company specific variables i.e. Financial Reporting Quality, board independence, CEO duality.

References

Abad, D., Lucas-Pérez, M. E., Minguez-Vera, A., & Yagüe, J. (2017). Does gender diversity on corporate boards reduce information asymmetry in equity markets?. *BRQ Business Research Quarterly*, *20*(3), 192-205.

Adams, R. B., Hermalin, B. E., & Weisbach, M. S. (2010). The role of boards of directors in corporate governance: A conceptual framework and survey. *Journal of economic literature*, *48*(1), 58-107.

Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of management review*, *27*(1), 17-40.

Aguilera, R. V., & Jackson, G. (2003). The cross-national diversity of corporate governance: Dimensions and determinants. *Academy of management Review*, *28*(3), 447-465.

Aguilera, R. V., & Jackson, G. (2010). Comparative and international corporate governance. *Academy of Management annals*, *4*(1), 485-556.

Alhomaidi, A., Hassan, M. K., Hippler, W. J., & Mamun, A. (2019). The impact of religious certification on market segmentation and investor recognition. *Journal of Corporate Finance*, *55*, 28-48.

Anderson, C. W., Fedenia, M., Hirschey, M., & Skiba, H. (2011). Cultural influences on home bias and international diversification by institutional investors. *Journal of Banking & Finance*, *35*(4), 916-934.

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The review of economic studies*, *58*(2), 277-297.

Baker, H. K., Pandey, N., Kumar, S., & Haldar, A. (2020). A bibliometric analysis of board diversity: Current status, development, and future research directions. *Journal of Business Research*, *108*, 232-246.

Barney, J. (1991). Special theory forum the resource-based model of the firm: origins, implications, and prospects. *Journal of management*, *17*(1), 97-98.

Barroso-Castro, C., Villegas-Periñan, M. M., & Dominguez, M. (2017). Board members' contribution to strategy: The mediating role of board internal processes. *European research on management and business economics*, *23*(2), 82-89.

Beekes, W., & Brown, P. (2006). Do better-governed Australian firms make more informative disclo-

sures?. *Journal of Business Finance & Accounting*, *33*(3-4), 422-450.

Berglof, E. (2011), "A European perspective on the global financial crisis", Corporate Governance: An International Review, 19- 5, 497-501.

Beugelsdijk, S., & Frijns, B. (2010). A cultural explanation of the foreign bias in international asset allocation. *Journal of Banking & Finance*, *34*(9), 2121-2131.

Bonn, I., Yoshikawa, T., & Phan, P. H. (2004). Effects of board structure on firm performance: A comparison between Japan and Australia. *Asian Business & Management*, *3*(1), 105-125.

Bradrania, M. R., Peat, M., & Satchell, S. (2015). Liquidity costs, idiosyncratic volatility and expected stock returns. *International Review of Financial Analysis*, *42*, 394-406.

Budsaratragoon, P., Hillier, D., & Lhaopadchan, S. (2014). Does Corporate Governance Improve Transparency in Emerging Markets?. *Journal of Financial Management, Markets and Institutions*, *2*(1), 87-104.

Carrasco, A., Francoeur, C., Labelle, R., Laffarga, J., & Ruiz-Barbadillo, E. (2015). Appointing women to boards: Is there a cultural bias?. *Journal of Business Ethics*, *129*(2), 429-444.

Carrasco, A., Francoeur, C., Réal, I., Laffarga, J., & Ruiz-Barbadillo, E. (2012, May). Cultural differences and board gender diversity. In *Comptabilités et innovation* (pp. cd-rom).

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003). Corporate governance, board diversity, and firm value. *Financial review*, *38*(1), 33-53.

Chen, J., Leung, W. S., Song, W., & Goergen, M. (2019). Why female board representation matters: The role of female directors in reducing male CEO overconfidence. *Journal of Empirical Finance*, *53*, 70-90.

Clarke, T. (2016). The continuing diversity of corporate governance: Theories of convergence and variety. *Ephemera: Theory and Politics in Organization, ephemera, 16(1), 19-52*

Cohen, M. S. (2015). Governance as the driver of culture change and risk management. *Journal of Risk Management in Financial Institutions*, *8*(4), 347-357.

De Wit, F. R., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: a meta-analysis. *Journal of applied psychology*, *97*(2), 360.

Dodd, O., Frijns, B., & Garel, A. (2019). Cultural Diversity in the Boardroom and Corporate Social Performance. *Available at SSRN 3389707*.

Dodd, O., Frijns, B., & Gilbert, A. (2015). On the Role of Cultural Distance in the Decision to Cross-L ist. *European Financial Management*, *21*(4), 706-741.

Dou, P., Truong, C., & Veeraraghavan, M. (2016). Individualism, uncertainty avoidance, and earnings momentum in international markets. *Contemporary Accounting Research*, *33*(2), 851-881.

Durnev, A., Morck, R., & Yeung, B. (2004). Value enhancing capital budgeting and firm-specific stock returns variation. *Journal of Finance*, *59*(1), 2013-611.

Ely, R. J., Padavic, I., & Thomas, D. A. (2012). Racial diversity, racial asymmetries, and team learning environment: Effects on performance. *Organization Studies*, *33*(3), 341-362.

Eun, C. S., Wang, L., & Xiao, S. C. (2015). Culture and R2. *Journal of Financial Economics*, *115*(2), 283-303.

Fan, J. P., Wong, T. J., & Zhang, T. (2007). Politically connected CEOs, corporate governance, and Post-IPO performance of China's newly partially privatized firms. *Journal of financial economics*, *84*(2), 330-357.

Farooq, O., & Amin, A. (2017). National culture, information environment, and sensitivity of investment to stock prices: Evidence from emerging markets. *Research in International Business and Finance*, *39*, 41-46.

Ferreira, D., Ferreira, M. A., & Raposo, C. C. (2011). Board structure and price informativeness. *Journal of Financial Economics*, *99*(3), 523-545.

Ferreira, M. A., & Laux, P. A. (2007). Corporate governance, idiosyncratic risk, and information flow. *The Journal of Finance*, *62*(2), 951-989.

Ferrero-Ferrero, I., Fernández-Izquierdo, M. Á., & Muñoz-Torres, M. J. (2015). Integrating sustainability into corporate governance: an empirical study on board diversity. *Corporate Social Responsibility and Environmental Management*, *22*(4), 193-207.

Frijns, B., Dodd, O., & Cimerova, H. (2016). The impact of cultural diversity in corporate boards on firm performance. *Journal of Corporate Finance*, *41*, 521-541.

Grassa, R., Moumen, N. and Hussainey, K. (2020), "Do ownership structures affect risk disclosure in Islamic banks? International evidence", Journal of Financial Reporting and Accounting, Vol. 19 No. 3, pp.369-391

Gray, S. J. (1988). Towards a theory of cultural influence on the development of accounting systems internationally. *Abacus*, *24*(1), 1-15.

Hao, Y., Han, D., Ning, C., & Liao, J. (2020). Culture from overseas and corporate transparency: Evidence from China. *International Journal of Finance & Economics*.

Harjoto, M., Laksmana, I., & Lee, R. (2015). Board diversity and corporate social responsibility. *Journal of Business Ethics*, *132*(4), 641-660.

Hasan, I. , Song, L. and Wachtel, P.A. (2014b), "*Institutional development and stock price synchronicity: evidence from China*", *Journal of Comparative Economics* , Vol. 42 No. 1, pp. 92-108.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Sage publications.

Hofstede, G., & Minkov, M. (2010). Long-versus short-term orientation: new perspectives. *Asia Pacific business review*, *16*(4), 493-504.

House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (Eds.). (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Sage publications.

Jackling, B., & Johl, S. (2009). Board structure and firm performance: Evidence from India's top companies. *Corporate Governance: An International Review*, *17*(4), 492-509

Jaggi, B., & Low, P. Y. (2000). Impact of culture, market forces, and legal system on financial disclosures. *The international journal of accounting*, *35*(4), 495-519.

Jessop, B., Young, B., & Scherrer, C. (Eds.). (2014). *Financial cultures and crisis dynamics*. Routledge.

Jhunjhunwala, S., & Mishra, R. K. (2012). Board diversity and corporate performance: The Indian evidence. *IUP Journal of Corporate Governance*, *11*(3), 71.

Jin, L., & Myers, S. C. (2006). R2 around the world: New theory and new tests. *Journal of financial Economics*, *79*(2), 257-292.

Kagzi, M., & Guha, M. (2018). Does board demographic diversity influence firm performance? Evidence from Indian-knowledge intensive firms. *Benchmarking: An International Journal*, *25*(3), 1028-1058.

Karolyi, G. A. (2016). The gravity of culture for finance. *Journal of Corporate Finance*, *41*, 610-625.

Ketokivi, M., & McIntosh, C. N. (2017). Addressing the endogeneity dilemma in operations management research: Theoretical, empirical, and pragmatic considerations. *Journal of Operations Management*, *52*, 1-14.

Khan, H. (2011). A literature review of corporate governance. In *International Conference on E-business, management and Economics* 25, 1-5.

Khan, I., Khan, I., & Senturk, I. (2019). Board diversity and quality of CSR disclosure: evidence from Pakistan. *Corporate Governance: The International Journal of Business in Society*.

Kiel, G. C., & Nicholson, G. J. (2003). Board composition and corporate performance: How the Australian experience informs contrasting theories of corporate governance. *Corporate governance: an international review*, *11*(3), 189-205.

Li, J., & Harrison, J. R. (2008). National culture and the composition and leadership structure of boards of directors. *Corporate Governance: An International Review*, *16*(5), 375-385.

Liu, B., Di Iorio, A. & De Silva, A. (2014). Do stock fundamentals explain idiosyncratic volatility? Evidence for Australian stock market. 23rd Annual Meeting of the European Financial Management Association (pp. 1-31).

Li, B., Rajgopal, S., & Venkatachalam, M. (2014). R2 and idiosyncratic risk are not interchangeable. The Accounting Review, 89(6), 2261-2295.

Malagon, J., Moreno, D., & Rodríguez, R. (2018). Idiosyncratic volatility, conditional liquidity and stock returns. *International Review of Economics & Finance*, *53*, 118-132.

Masulis, R. W., Wang, C., & Xie, F. (2012). Globalizing the boardroom—The effects of foreign directors on corporate governance and firm performance. *Journal of Accounting and Economics*, *53*(3), 527-554.

Morck, R., Yeung, B., & Yu, W. (2000). The information content of stock markets: why do emerging markets have synchronous stock price movements?. *Journal of financial economics*, *58*(1-2), 215-260.

Morikawa, M. (2016). What types of companies have female directors? Evidence from Japan. *Japan and the World Economy*, *37*, 1-7.

Nadeem, M., Zaman, R., & Saleem, I. (2017). Boardroom gender diversity and corporate sustainability practices: Evidence from Australian Securities Exchange listed firms. *Journal of Cleaner Production*, *149*, 874-885.

Nederveen Pieterse, A., Van Knippenberg, D., & Van Dierendonck, D. (2013). Cultural diversity and team performance: The role of team member goal orientation. *Academy of Management Journal*, *56*(3), 782-804.

Nguyen, N. H., & Truong, C. (2013). The information content of stock markets around the world: A cultural explanation. *Journal of International Financial Markets, Institutions and Money*, *26*, 1-29.

Nguyen, N. H., & Truong, C. (2013). The information content of stock markets around the world: A cultural explanation. *Journal of International Financial Markets, Institutions and Money*, *26*, 1-29.

Ni, Y., Cheng, Y., Liao, Y., & Huang, P. (2020). Does board structure affect stock price overshooting informativeness measured by stochastic oscillator indicators?. *International Journal of Finance & Economics*.

Petra, S. T. (2007). The effects of corporate governance on the informativeness of earnings. *Economics of Governance*, *8*(2), 129-152.

Rao, K., & Tilt, C. (2016). Board composition and corporate social responsibility: The role of diversity, gender, strategy and decision making. *Journal of Business Ethics*, *138*(2), 327-347.

Rasheed, M. S., & Kouser, S. (2020). Corporate Governance and Stock Price informativeness: Evidence from an Emerging Market. *Journal of Accounting and Finance in Emerging Economies*, *6*(2), 593-605.

Richard, O. C., Barnett, T., Dwyer, S., & Chadwick, K. (2004). Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions. *Academy of management journal*, *47*(2), 255-266.

Roll, R. (1988). Presidential address: R2. *Journal of Finance*, *43*(2), 51-566.

Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. *The stata journal*, *9*(1), 86-136.

Sarhan, A. A., Ntim, C. G., & Al-Najjar, B. (2019). Board diversity, corporate governance, corporate performance, and executive pay. *International Journal of Finance & Economics*, *24*(2), 761-786.

Selma, M. B., Yan, W., & Hafsi, T. (2020). Board demographic diversity, institutional context and

corporate philanthropic giving. *Journal of Management and Governance*, 1-29.

Shleifer, A., & Vishny, R. W. (1997). The limits of arbitrage. *The Journal of finance*, *52*(1), 35-55.

Sila, V., Gonzalez, A., & Hagendorff, J. (2017). Independent director reputation incentives and stock price informativeness. *Journal of Corporate Finance*, *47*, 219-235.

Todea, A., & Buglea, A. M. (2017). Individualism and stock price reaction to market-wide information. *Economics Letters*, *160*, 4-6.

Ullah, F., Jiang, P., Shahab, Y., & Zheng, C. (2020). Board of directors' foreign experience and stock price informativeness. *International Journal of Finance & Economics*.

Ullah, S., Akhtar, P., & Zaefarian, G. (2018). Dealing with endogeneity bias: The generalized method of moments (GMM) for panel data. *Industrial Marketing Management*, *71*, 69-78.

Wang, M. S. (2016). Idiosyncratic volatility, executive compensation and corporate governance: examination of the direct and moderate effects. *Review of Managerial Science*, *10*(2), 213-244.

Wintoki, M. B., Linck, J. S., & Netter, J. M. (2012). Endogeneity and the dynamics of internal corporate governance. *Journal of financial economics*, *105*(3), 581-606.

Wooldridge, J. M. (2016). *Introductory econometrics: A modern approach*. Nelson Education.

Wu, X., Tong, X., & Wang, Y. (2020). Managerial ability and idiosyncratic volatility. *International Journal of Finance & Economics*.

Xu, J. (2020). Does culture play a role in the stock market's response to uncertainty?. *International Journal of Finance & Economics*.

Zarzeski, M. T. (1996). Spontaneous harmonization effects of culture and market forces on accounting disclosure practices. *Accounting horizons*, *10*(1), 18.