

# Institutional Ownership Board Characteristics and Firm Performance: A Contingent Theoretical Approach

Abdul Waheed, Foundation University Islamabad, Pakistan

Qaisar Ali Malik, Foundation University Islamabad, Pakistan

## ABSTRACT

This research study attempts to investigate the moderating role of financial institutions with corporate governance and firm performance variables in the light of a purposely developed contingent theoretical framework. The current study analyzed an unbalanced panel of 287 non-financial sector firms listed on Pakistan Stock Exchange (PSX) from 2005 to 2015 by using the technique Arellano-Bond dynamic panel-data estimation under assumptions of generalized methods of moments (GMM). The contingency framework proposed in this study confirmed the moderating role of financial institutions in corporate governance and performance variables. Empirical evidence revealed that higher level of institutional ownership in firm's ownership structure although discourages the large size board but encourages higher ratio of independent directors in the governing body. To the best of the authors' knowledge, the current study provides a deeper understanding regarding the role of financial institutions in corporate governance and performance mechanism particularly in the context of Pakistani emerging economy.

## KEYWORDS

Arellano Board Size, Bond, CEO Duality, Financial Institutions, Firm Performance, Independent Directors, Pakistan

## INTRODUCTION

In the past two decades institutional investors have become the largest owners in the corporations which are operating in the developed countries such as United States of America and United Kingdom and their market capitalization is rapidly growing in Asia and Latin America (Baker & Jabbouri, 2017). Institutional ownership of Pakistani common stock has increased rapidly over the past period of time. Their presence in the developing countries' firm ownership structure has increased after the fraudulent financial reporting scandals in corporations of developed countries. Unlike the atomistic investors, institutions have larger size, expertise to collect information and ability to monitor the management (Elyasiani & Jia, 2010). Thus this questions arises, whether, these giants of the market can play any effective role in corporate governance and firms performance mechanism. Agency theory states that institutional ownership is an important component of ownership structure which plays a key role in minimizing agency conflicts. Institutional investors can act as a monitoring device, and they will reduce the need for capital markets as an external monitoring system (Jensen & Meckling, 1976). Therefore, the scholars argued that institutional ownership plays key role in enhancing firm's performance by taking control of the firm (Admati, Pfleiderer, & Zechner, 1994; Cornett, Marcus, Saunders, & Tehranian, 2007; Lewellen & Lowry, 2019; Maug, 1998). Signaling theory assumes

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that the firm operations along with ownership structure, capital structure and dividend disbursement policies transmit signals in the market regarding the current and future potential performance of the firm. The presence of institutional ownership in the firm's ownership structure gives a positive signal in the market. Furthermore, institutional ownership minimizes the need for dividend disbursement as a signal of good performance for the firm (Berkman & McKenzie, 2012; Short, Zhang, & Keasey, 2002).

The presence of institutional ownership is a very effective external corporate governance control mechanism (Al-Sartawi & Sanad, 2019; Chen & Keung, 2018; Gillan & Starks, 2003) that not only monitors the management but also plays a very effective role in the construction of governing body through its power of voting (Aggarwal, Saffi, & Sturgess, 2015; Haider & Fang, 2016). The presence of institutional investors in firm's ownership structure has ignited the discussion regarding their role in corporate governance and firm performance (Gillan & Starks, 2003; Karpoff, 2001; Rafique, Malik, Waheed, & Khan, 2017). Ownership and control in the presence of institutional shareholding makes complex phenomena, which has been neglected by economic and organizational theories. Although there are a large number of studies which examined the individual effect of institutional ownership and board characteristics on the firm performance but how these two phenomena interact with each other and affect firm performance is largely inconclusive. The present study examines the impact of a particular type of investors i.e. "Investors Institutions" on the firm's performance and their contingent effect on corporate board characteristics in Pakistan. Thus, the objective of the current study is to explore a topological relationship among institutional ownership, board characteristics, and firms' performance by using a multi-theoretical framework in Pakistani context. This multi theoretical frame work is developed by the amalgamation of agency theory, institutional theory, organizational economics theory, resource dependence theory, signaling theory and stakeholder theory of firm governance mechanism.

In order to achieve these objectives the current study will empirically analyze the relationship among institutional ownership, board size, and board independence with a market based measure of performance i.e. Tobin's Q. Although there are several studies in the developed countries like United States, UK and Japan with inconclusive results, but in the developing countries such as Pakistan little research is done in the area. The socio-economic behavior and institutional settings in Pakistan are different from western world and other countries of this region (Sheikh, Shah, & Akbar, 2018). Majority of the listed companies on Pakistan Stock Exchange (PSX) have bulk of their shares in the hands of controlling or founding family (Javid & Iqbal, 2008; Waheed & Malik, 2019). Although, Chinese firm holds more concentrated ownership by the state (Bryson, Forth, & Zhou, 2014), but their nature of concentration is different from Pakistani firms. This concentrated ownership in Pakistani firms only focuses on self-serving interests and the financial institutions with their expertise, skills and ability to influence the governing body bring equilibrium in the firm's ownership structure.

The unstable democratic system in Pakistan has led a poor political and legal environment (Rehman, Hasan, Mangla, & Sultana, 2012), which harbors corruption and poor governance (Transparency International). World Bank has also reported a lower value in government effectiveness index and regulatory quality index for the last two decades in Pakistan. Thus, these circumstances lead an unethical and opportunistic behavior in the economy (Mahmood, Khalid, Waheed, & Arif, 2019; Mujtaba & Afza, 2011). Based on the above differences the current study provides a unique opportunity to see how institutional ownership, board characteristics and firms' performance interact with each other in the light of agency, institutional, organizational economics, resource dependence, signaling and stakeholder theories. The relationship between ownership concentration, corporate governance and firm performance has been investigated in the developed and emerging economies, such as United States, UK, Italy, Chili, New Zealand, China and India with mixed findings. Therefore, it would be interesting to see how these variables interact with each other in Pakistani context.

The current study has practical implications for corporate directors, regulatory authorities, financial institutions and academicians who are involved in theory formulation and theory building. The review of the corporate finance literature depicts that competing theoretical views regarding

composition of the corporate board and presence of institutional ownership in the firm's equity structure provides inclusive results. However, the current study proposes that the social and economic factors of developed and developing countries are different from each other. Thus, the current study also claims that, the contingency of institutional ownership with other corporate governance proxies (such as board size, independent directors and CEO-duality) changes their predicted theoretical relationships with firm performance mechanism.

## LITERATURE REVIEW

### Institutional Ownership and Firm's Performance

Theoretically the presence of institutional ownership in the firm's capital structure not only reduces agency problems but also gives a good signal about the financial health of the firm. The review of the literature provides mixed results regarding the institutional investors' role in enhancing firms financial performance (Attig, Cleary, El Ghouli, & Guedhami, 2012; Bhattacharya & Graham, 2007; Elyasiani & Jia, 2010; Ghosh & Dutta, 2018; Gillan & Starks, 2003; Hutchinson, Seamer, & Chapple, 2015; Sánchez-Ballesta & García-Meca, 2007). The conflict between owners and management is an important aspect of corporate governance mechanism (Cella, 2019). Agency theory discuss this conflicts, which arises due to the separation of ownership and management i.e. Agency conflict. Agency theory assumes that both parties are rational actors so they act in their best interest. The ownership structure of the firm plays a vital role to mitigate the agency conflict. The presence of institutional ownership in the firm's capital structure not only improves the monitoring mechanism on management but also reduces the need for capital markets as an external monitoring system (Jensen & Meckling, 1976). Signaling theory describes that the presence of financial institutions in the firms ownership structure transmits a positive signal in the market about the firm financial health (Gillan & Starks, 2003) and institutional ownership alleviates the need for other tools (for example dividend disbursement) to signal good performance in the market (Short et al., 2002).

There are a number of empirical findings, which suggested that intuitional investors are excellent monitors of the management. Institutional investors with their expertise, skills and abilities to monitor discipline the management and restrict the managers from opportunistic or self-serving behavior (Elyasiani & Jia, 2010). Moreover, these scholars also argued that only large institutions have significant incentives to monitor the management's performance (Admati et al., 1994; Callen & Fang, 2013). On the contrary (Bhattacharya & Graham, 2007; Sánchez-Ballesta & García-Meca, 2007) proved a negative association between firm performance and institutional ownership. However, Tsai and Gu (2007) established a causal relationship between Institutional ownership and firm performance in OLS and 2SLS models. Institutional investors not only bring stability in firms' internal financial structure and governance practices but also frame stock return less volatile (Dang, Nguyen, Tran, & Vo, 2018; Ghosh & Dutta, 2018; Lin, Fu, Gu, & Song, 2018).

The classical argument regarding the relationship between capital structure and firm performance is that, the concentrated stock ownership by the insider or block ownership by the institutional investors results better firm's performance, because these two groups possess large share wisdom and ability to reduce the agency problems (Belkhir, 2009). Based on the above discussion the current study's hypothesis is:

**H<sub>1</sub>:** Institutional ownership has positive effect on firm's performance in Pakistan.

### Board Size and Firm's Performance

Corporate board is a central element of the corporate governance mechanism, which not only reduces the influence of the management but also takes care of the interests of all the shareholders (Lefort & Urzúa, 2008; Min, 2018). Theoretically, corporate board is supposed to perform both the agency

and resource dependency roles (Ntim, Opong, & Danbolt, 2012). Agency Theory assigns the task of controlling, monitoring, advising and making the management accountable, to the governing body (Jensen & Meckling, 1976). Resource dependent theory assigns the task of accumulating resources and reducing risk of the firm to the governing body, and the stakeholder theory establishes the link between the firm and the external environment to the governing body (Guest, 2009; Ntim et al., 2012; Upadhyay, 2015). Thus, the larger board with more resources can monitor the risk which is concerned to all shareholders, and they can suggest and advise the management different risks tackling strategies (Nakano & Nguyen, 2012; Petrovic, 2008).

Thus, board size is an important determinant of its efficiency but the empirical findings regarding board size and firm performance are mixed. Some researchers (Gaur, Bathula, & Singh, 2015; Henry, 2008; Kiel & Nicholson, 2003; Larmou & Vafeas, 2010) are of this view that a larger board is more capable to perform agency and resource dependence role as compared to a smaller board. Because, the larger board contains higher number of non-executive and independent directors, so they not only effectively monitor the management but also with their exposure and expertise they are in a better position to procure critical resources for the firm (Kiel & Nicholson, 2003). So, as a consequence the large size board brings positive benefits for the firms such as diversity in ideas, skills and critical resources.

**H<sub>2</sub>:** Board size has positive effect on firm's performance in Pakistan.

Study of the empirical literature identified institutional investors one of the key determinant of the board size along with firm's performance, size, debt, age and institutional investors, and the nature of corporate governance reforms of the host country (Guest, 2009). According to Mallin (2004), if the corporate board is inefficient then institutional investors either directly expressing their dissatisfaction to management (the voice option) or adopt an exit option by selling the shareholding (G. F. Davis & Thompson, 1994). However, if the institutional investors have large size of investment then they do not adopt the exit strategy, rather they try to influence the management (McCahery, Sautner, & Starks, 2016).

Institutional investors influence the management by different ways, for example financial institutions directly correspond with the management of their investee companies (E. P. Davis, 2002). Secondly, sometimes different financial institutions in a firm cooperate with each other and make a representative group and this representative group interact with the management on the behalf of the financial institutions (Solomon, 2007). Thirdly, they may file a lawsuit against the governing body if the governing body neglect its duties and violate the principals of corporate governance (Kesner & Johnson, 1990). Fourthly, Institutional investors with their knowledge, skills and ability, unlike individual investors, use the power of vote in a very appropriate way (Aggarwal et al., 2015; Ingley & Van der Walt, 2004; Mallin, 2004). Thus financial institutions gain explicit and implicit powers from voting rights and they use this right while selecting or dismissing the board members during the Annual Share-holders Meeting (David & Kochhar, 1996). Moreover, institutions investors pressuring the management to change the executive compensation so that interests of the shareholders and management are aligned (Elyasiani & Jia, 2010; Gallagher, Smith, & Swan, 2007).

Now, board size is not only an important deterrent of firms performance (Gaur et al., 2015; Henry, 2008; Larmou & Vafeas, 2010), but also an important deterrent of institutional investment and investment efficiency (Abbas, Ahmed, Malik, & Waheed, 2018; Boone, Field, Karpoff, & Raheja, 2007). Bushee, Carter, and Gerakos (2013) concluded that institutional investors prefer to invest in those firms which have a smaller size board with higher ratio of independent directors. Yermack (1996) also identified the active involvement of financial institutions in corporate governance mechanism and in determining the board size. Nkem (2014) researched a negative relationship between board size and institutional investment in the context of developing countries. Moreover, institutional investors prefer to invest in those firms which have smaller boards (Hutchinson et al., 2015). The size and duration

of institutional shareholding is a very important determinant, which influence corporate governance mechanism (Elyasiani & Jia, 2010; Gallagher et al., 2007). Thus, a higher level of institutional ownership enhances their authoritative power, which increases their influence on the governing body i.e. board of directors. This discussion leads us towards the following hypothesis of the study:

**H<sub>2a</sub>**: The higher level of institutional ownership will negatively moderate the positive relationship between board size and firm performance in Pakistan.

### **Independent Directors and Firm's Performance**

Stewardship theory propagates against the presence of independent directors in the board because outsiders are unaware of the strengths and weaknesses of the firm, thus they are unable to provide any useful counsel (J. H. Davis, Schoorman, & Donaldson, 1997). The higher portion of these unacquainted directors not only increases conflict but also makes inefficient decisions (Gaur et al., 2015). Whereas, institutional theory states that the presence of independent directors in the governing body is compliance against institutional pressure and their presence does not ensure the superior performance of the firm.

Demb and Neubauer (1992) researched the roles of the independent directors in the decision making process, in which they concluded that majority of the independent directors are not involved in decision making process and restricted them as watchdogs for the shareholders. But, the roles of the directors are planning, advising and counseling the management. Moreover, Waheed and Malik (2019), also reported a negative relationship between higher portion of independent directors in the board and firm performance. Therefore, with conflicting empirical findings we hypothesize as follow:

**H<sub>3</sub>**: There exists a negative relationship between higher ratio of independent directors in the board and firm's performance in Pakistan.

The presence of institutional investors improves the corporate governance in a firm by increasing the proportion of independent directors and also by strengthening the board by separating the posts of Chairman and CEO with their power of vote (Bansal & Thenmozhi, 2019; Bianco & Casavola, 1999; David & Kochhar, 1996; Kieschnick & Moussawi, 2004). Moreover, institutional investors prefer to invest in those firms which have higher portion of independent directors and separate position of CEO and chairman (Schnatterly & Johnson, 2014). Kieschnick and Moussawi (2004) concluded that board independence shrinks with managerial influence and enhances with institutional influence. Anuar (2015) documented that when institutional investors have more than 5% share in a firm, then they ensure their presence in the governing body in the form of non-executive independent directors or they vote for more independent directors in the board. The institutional investors in the developed countries favor the legal requirement of independent directors in large firms, and in Britain a large number of institutional investors have right and obligation to nominate independent directors in the companies (Monks, 2002). Weak governance in terms of independence of the board leads to the lower level of investment in the firms by the institutional investors. However, institutional investors prefer to invest in those firms which have smaller boards (Hutchinson et al., 2015), but they encourage board independence (Schnatterly & Johnson, 2014). Some research view that independent directors are just economic agents and their decisions revolve around their self-interests and they are influenced by the institutional environment in which they firms operate (Bebchuk & Weisbach, 2010; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000). Thus, on the bases of the above discussion, the current study hypothesizes that:

**H<sub>3a</sub>**: A higher level of institutional ownership will moderate positively the negative relationship between independent directors and firm's performance in Pakistan.

## CEO Duality and Firm's Performance

There exists an enriched theoretical literature explaining the relationship between CEO duality and firm performance. Agency theory and the theory of organizational economics do not favor the CEO duality in firms. CEO duality enhances the authority of the CEO, which aggravates agency conflicts and as a result the performance of the firm decreases (agency theory). As a result the interests of the owners are sacrificed in the favor of management which exasperates managerial opportunism and agency loss (organizational economics theory). On the other hand, stewardship theory describes that CEO duality ensures a unified command and control system in organizations.

Empirically there are mixed results explaining the association between these two variables (Abor & Biekpe, 2007; Efendi, Srivastava, & Swanson, 2007; Ehikioya, 2009; Fama & Jensen, 1983). Abor and Biekpe (2007) reported a positive relationship between CEO duality and firm performance in Ghana by using the panel data of small and medium enterprises. However, Fama and Jensen (1983) concluded that the position of a CEO (i.e. decision management) and chairperson (i.e. decision control) must be separated; otherwise a dominant CEO could make the board ineffective. Ehikioya (2009) found that CEO duality negatively affects firm's performance. CEO duality decreases the board's ability to monitor and control the management, and firms having CEO duality are found to hide information related share options (Forker, 1992). According to Efendi et al. (2007), CEO duality encourages the corporate managers to twist or manipulate the financial statement. Moreover, CEO duality also causes the firms to announce higher return than actual and manipulated earnings (Masulis, Wang, & Xie, 2007). Institutional investors do not prefer to invest in those firms which are notorious to hide or manipulate information about their true financial health (Efendi et al., 2007).

Institutional investors prefer to invest in those firms which possess good governance characteristics (Chiu & Monin, 2003). Empirical results in the developed and emerging economies revealed that financial institutions prefer to invest in those firms that have independent directors and separate positions of Chairman and CEO (Bushee et al., 2013; Chiu & Monin, 2003; David & Kochhar, 1996; Kostova & Marano, 2019; Ozkan, 2007). Institutional investors not only prefer to invest in those firms which have separated the posts of Chairman and CEO (Chiu & Monin, 2003), but also strengthened the board independence by separating these posts if there exists duality in the governing body (David & Kochhar, 1996). Thus, the magnitude and duration of institutional investors in any firm is also related to the quality of governance in terms of CEO duality. Thus on the bases of arguments we reach on the following hypothesis:

**H<sub>4</sub>**: There exists a negative association between CEO duality and firm performance in Pakistan.

**H<sub>4a</sub>**: A higher level of institutional ownership will negatively moderate the negative relationship between CEO duality and firm performance.

## Theoretical Framework

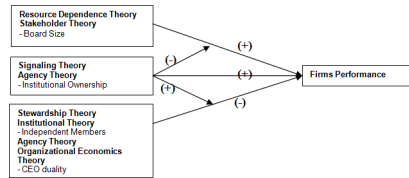
The current study analyses the following multi-theoretical framework among board characteristics, ownership concentration and performance.

## METHOD

### Sample and Data

The current study included all the non-financial firms listed on Pakistan Stock Exchange (PSX). Financial sectors firms have different financial structure and they are uniquely regulated (Klein, 2002), thus they are not included in the sample. Out of 35 sectors 287 firms were finally selected, and companies are dropped on the bases of non-availability of financial reports or missing values. The data set regarding the selected variables are directly computed the company's annual reports

Figure 1. Theoretical framework



obtained from the Securities Exchange Commission of Pakistan (SECP). Data related to corporate governance variables were collected through directors' report. The financial information is obtained through financial statements and ownership concentration data is calculated from the pattern of shareholding report. The sampled data was collected from 2005 to 2015.

### Variables

The current study analyzes the data by using a market based measure of performance i.e. Tobin's Q. Tobin's Q is also widely used in research studies to explain the under study relationship. Institutional ownership, board size, independent directors, CEO duality are included as independent variables in the current study. Institutional ownership is calculated by the percentage of the shares held by financial institutions in the firm. Board size depicts total number of directors in the governing body and board independence is measured with the help of independent directors and separate position of CEO and Chairman in the board. For the analytical purpose, we take natural logarithm of total number of directors and independent directors as a proxy of board size and independence, while CEO duality is used as a binary variable. In order to measure the moderating effect of institutional ownership, the current study measured the higher level of institutional ownership which enables them to influence the corporate governance mechanism (Annuar, 2015). Thus higher level of institutional ownership is defined as the level of institutional ownership in the firms when it is equal to or higher than 5% (Annuar, 2015). In order to control the institutional, governance and performance relationships the current study used firm size, leverage, earning per share, dividend yield, and firm age as control variables (Welch, 2003).

### Model EquationsS

$$\begin{aligned}
 \text{Tobin's } Q_{i,t} = & \alpha_0 + \alpha_1 \text{Tobin's } Q_{i,t-1} + \alpha_2 \text{Institutional Ownership}_{i,t} + \alpha_3 \text{Board Size}_{i,t} \\
 & + \alpha_4 \text{Independent Directors}_{i,t} + \alpha_5 \text{CEO - Duality}_{i,t} + \alpha_6 \text{Firm Size}_{i,t} \\
 & + \alpha_7 \text{Leverage}_{i,t} + \alpha_8 \text{Earnings Per Share}_{i,t} + \alpha_9 \text{Dividend Yield}_{i,t} \\
 & + \alpha_{10} \text{Firm Age}_{i,t} + \alpha_{11} \text{Institutional Ownership} \times \text{Board Size}_{i,t} \\
 & + \alpha_{12} \text{Institutional Ownership} \times \text{Independent Directors}_{i,t} \\
 & + \alpha_{13} \text{Institutional Ownership} \times \text{CEO - Duality}_{i,t} + \mu_{i,t}
 \end{aligned}$$

## RESULTS

### Analytic Procedure

The data in the current study is analyzed by an unbalanced panel of observations. When the data is in this form then it is difficult to satisfy two important assumptions of ordinary least square (OLS) estimation. Firstly, there is a very high probability of correlation between two observations when pooled data is consisted of multiple years. Secondly, there is a very high possibility of different variance

of observations, which violates the assumption of homoscedasticity. Furthermore, our dependent variables are impacted by their lags. So, in order to address the troubles of unobserved heterogeneity, simultaneous and dynamic endogeneity the study employed the technique Arellanno-Bond dynamic panel-data estimation in Stata under assumptions of Generalized Method of Moments (GMM).

### Descriptive Statistics

Table 1 summarizes the descriptive statistics for all the variables used in the study. For conciseness we evade a detailed discussion of the selected variables. In the table, all the variables show a wide range of variations from their means. This indicates that the current sample has been effectively selected to achieve sufficient variation, and which reduces the possibility of bias sample selection. The mean value of Tobin’s Q is 1.332 with standard deviation of 1.36. Tobin’s Q has a minimum value of .128 and maximum value 22.321. The Tobin’s Q measure appears reasonable as most of the values are just above one. The contained sample has the largest board size having 20 members and minimum board size is 4 and on average firms has a board size of 8 members in Pakistan. The mean of independent directors in the sample set is 1.465, which shows lower representations of independent directors in the governing bodies. The data also shows that 20.10% firms have separate persons working on the position of CEO and Chairman.

### Correlation Analysis

Table 2 provides the correlation matrix among Tobin’s Q, institutional ownership, board size, independent directors, CEO duality, firm size, leverage, earnings per share, dividend yield and firms age. The table depicts that there does not exist any issue of multicollinearity among the variables as none of the absolute value of coefficient is greater than 0.7. Institutional ownership is positively correlated with performance variable Tobin’s Q. Board size is positively correlated with Tobin’s and independent directors and CEO duality are negatively correlated with the market value of firms performance measure. Correlation results for the institutional ownership are consistent with the agency theory and signaling theory. The correlation results with board size are in accordance with resource dependence theory and stakeholder theory, whereas board independence results also support the assumptions of theoretical framework.

### Analytical Statistics

Table 3 shows the results of the effect of institutional ownership and corporate governance variables on firm valuation (i.e. Tobin’s Q) by using Arellano–Bond dynamic panel-data estimation under assumptions of GMM. Since the analyzed data in the current study is both cross sectional and time series in nature, so in order to address the troubles of unobserved heterogeneity, simultaneous and dynamic endogeneity Arellano–Bond dynamic panel-data estimation is considered best to obtain robustness and generalizability in results (Arellano & Bond, 1991; Wintoki, 2007). This technique allows the explanatory variables (i.e. institutional ownership, board size, and independence) to be determined on the bases of past and present performance but not from the future performance.

Table 1. Descriptive Statistics

Variables	Min	Maximum	Mean	Standard Deviation
Tobin's Q	0.128	22.321	1.332	1.36
Institutional Ownership	0	0.962	0.101	0.125
Board Size	4	20	7.991	1.677
Independent Directors	0	13	1.465	1.994
CEO Duality	0	1	0.201	0.401
Firm Size	9.055	20.023	15.334	1.624
Leverage	0.007	12.163	0.642	0.561
Earnings Per Share	-222.82	734.72	11.375	38.331
Dividend Yield	0	4.456	0.044	0.16
Firms Age	1.099	5.043	3.459	0.509



Table 2. Correlation Matrix

Variables	1	2	3	4	5	6	7	8	9	10
Tobin's Q (1)	1									
Institutional Ownership (2)	0.072	1								
Board Size (3)	0.082	0.111	1							
Independent Directors (4)	-0.058	0.132	0.206	1						
CEO Duality (5)	-0.028	-0.055	-0.108	0.002	1					
Firm Size (6)	-0.006	0.116	0.335	0.021	-0.057	1				
Leverage (7)	0.287	-0.037	-0.01	-0.011	0.128	-0.226	1			
Earnings Per Share (8)	0.235	-0.006	0.071	0.001	-0.048	0.111	-0.141	1		
Dividend Yield (9)	-0.031	0.046	0.027	0.011	-0.04	0.012	-0.055	0.036	1	
Firms Age (10)	0.031	-0.059	0.069	0.001	0.021	0.06	-0.104	0.126	-0.008	1

Moreover, this method uses lagged value of performance as an explanatory variable as well by taking first difference to remove firm specific fixed effects.

In Table 3, Model 1 provides the basic analysis among institutional ownership, corporate governance variables and firm performance. Model 2, 3, 4 and 5 provides analysis including the interactive terms in a hierarchical manner. Table 3 also provides the un-standardized beta coefficients of variables along with their standard errors (in parentheses) and the results of Arellano-Bond serial correlation tests and instrument validity test. The p-values of Arellano-Bond tests for AR (1) and AR (2) are insignificant, which validates the use of first and seconds lags of dependent variable as instruments. Likewise, p-values of Sargan test statistics also validate the joint validity of the instruments used in the model.

H<sub>1</sub> states that Institutional ownership has positive effect on firm performance, the coefficient of institutional ownership is positive in all the models under study so this confirms our first hypothesis and conforms the narrative of signaling and agency theories. Our result validates the results of (Attig et al., 2012; Elyasiani & Jia, 2010; Ghosh & Dutta, 2018). The coefficient of board size is positive with Tobin's Q in all the models under study, which conforms the second hypothesis of the study i.e. H<sub>2</sub>. But, building on the contingency arguments hypothesis H<sub>2a</sub> explains that the higher level of institutional ownership will negatively moderate the positive relationship between board size and firm performance.

The coefficient of first interactive term is not only negative but also significant in Models 2 and 5 which conforms hypothesis H<sub>2a</sub>. This result explains the mutual interaction of two variables (i.e. Institutional Ownership and Board size) and their combined effect on the firms' valuation in the light of distinct theoretical prospective (i.e. resource dependence, stakeholder prospective and signaling and agency prospective). Since majority of the firms in Pakistan have concentrated ownership in the hands of the controlling families who elect their family members in the governing body (Javid & Iqbal, 2008), as a result the size of the board increases, so higher level of institutional ownership decreases their authoritative powers of the controlling family which brings inconsistency in the policies of the governing body and performance.

The coefficient of Independent Directors is negative with firms' valuation measure of performance i.e. Tobin's Q. and ROE) and it is also statistically significant in all the models under study. This conform our hypothesis H<sub>3</sub> and stewardship theory prospective which states that independent directors are unaware of the strength and weakness of the firm so their presence causes conflict of opinion which slower the decision making process in the governing body. This result supports the findings of (J. H. Davis et al., 1997; Gaur et al., 2015). Hypothesis H<sub>3a</sub> tests the contingency relationship of institutional ownership with independence directors in the governing body and firm performance. The coefficient of second interactive term (Higher Institutional Ownership\* Independent Directors) is positive and significant in both models 3 and 5 and thus conforms the hypotheses. This result also explains the mutual interaction of two variables (i.e. Institutional Ownership and independent directors) and their combined effect on the firms' valuation in the light of distinct theoretical prospective (i.e. Stewardship, institutional prospective and signaling and agency prospective). The descriptive analysis of the data suggests that there is a very low representation of independent directors in Pakistani

Table 3. Results of Arellano-Bond Dynamic Panel Data Model for Tobin's Q

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
Lagged Tobin's Q	0.145***	0.112***	0.155***	0.449***	0.176***
	-0.017	-0.014	-0.014	-0.013	-0.02
Institutional Ownership	0.245**	3.595***	0.133	0.116	3.585***
	-0.142	-0.421	-0.133	-0.149	-0.484
Board Size	0.095	0.564***	0.015	0.101	0.589***
	-0.079	-0.108	-0.07	-0.143	-0.114
Independent Directors	-0.140***	-0.128***	-0.072**	-0.146**	-0.038*
	-0.021	-0.023	-0.023	-0.026	-0.022
CEO Duality	0.01	-0.03	0.01	0.027	-0.032
	-0.04	-0.022	-0.027	-0.047	-0.029
Firm Size	-0.344***	-0.265***	-0.328**	-0.279**	-0.274***
	-0.047	-0.036	-0.029	-0.077	-0.048
Leverage	0.483**	0.148	0.408***	0.500***	0.23
	-0.145	-0.19	-0.12	-0.166	-0.204
Earnings Per Share	0.003**	0.003***	0.005***	0.004**	0.004**
	-0.001	0	0	-0.001	-0.001
Dividend Yield	-0.074*	-0.107	-0.041	-0.13	-0.104
	-0.1	-0.082	-0.073	-0.148	-0.065
Firms Age	0.1	-0.412*	0.088	0.166	0.034
	-0.257	-0.25	-0.178	-0.241	-0.282
Higher Institutional Ownership * Board Size		-1.663***			-1.729***
		-0.18			-0.223
Higher Institutional Ownership* Independent Directors			0.371**		0.430***
			-0.046		-0.075
Higher Institutional Ownership* CEO Duality				-0.122	0.019
				-0.114	-0.162
Observations					
Arellano-Bond					
AR(1) in diff (m1) p-value	0.421	0.845	0.554	0.451	0.554
AR(2) in diff (m2) p-value	0.653	0.95	0.921	0.886	0.642
Over identification test					
Sargan test p-value	0.389	0.625	0.543	0.425	0.271

(\* p ≤ 0.1, \*\* p ≤ 0.05, \*\*\* p ≤ 0.01)

firms and in majority of the firms independent directors are included in the governing body on the pressure of regulatory authorities or to satisfy other shareholders of the firm. The higher stake of Institutional investors in the firm ensures the presence of independent directors in the governing body. Furthermore, the regression results related CEO duality and firm performance are insignificant with Tobin's Q in both hypothesis  $H_4$  and  $H_{4a}$ , so we cannot accept these two set of hypothesis. However, firm level variables show significant relationship with firm performance variables (Tobin's Q) but they are not comparable.

## CONCLUSION

The current study concludes that the presence of institutional ownership in the firm's ownership structure not only reduces agency problems but also gives a good signal in the market which results better market valuation of the firm. Larger size board is not detrimental for Pakistani firms, as larger board brings more resources (resource dependence theory) for the firm and are better capable to interact and deal with all the stakeholders of the firm (stakeholder theory). But, the presence of higher institutional ownership brings conflicts between institutional investors and especially executive directors of the firm, and in the case of large board the clash between the two Titans results in poor performance of the firm. Moreover, the presences of independent directors do not ensure the good valuations of the firms, but the contingency hypothesis conclude that institutional investors encourage the presence of independent directors in the governing body in order to decrease the domination of executive directors. Lastly, the study concludes no significant relations between CEO duality and firm performance even in the presence of higher level of institutional ownership.

The contingency framework proposed in this study help to better explain the relationship between the board size and independence in the presence institutional ownership as a moderating agent. This study also concludes that theoretically predicted relationship between the two variables exists in a certain set of conditions and when the conditions are changed there is no guarantee of the existence of the relationship. Future research should examine these contingencies arising due to other factors of the ownership structure such as managerial ownership, governmental ownership, and foreign ownership.

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*Abdul Waheed did MS (Finance), MBA (Finance) and MSc (Mathematics). He is working as an assistant professor in the faculty of management sciences, at foundation university Islamabad for the last five years.*

*Qaisar Ali Malik is Ph.D (Finance) and currently working as a associate professor in the faculty of management sciences at foundation university.*