

# Corporate Governance and Firm Performance: The Moderating Role of Directors Demographic Characteristics

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## Abstract

The financial crises of 2007-8, led to some serious 'soul searching' among intellectuals and practitioners about the way financial sector is being regulated and supervised. Similarly, recent mega corporate failures and scandals also warranted scholars and policy makers to re-examine the way companies are governed from more comprehensive and broad perspectives. Hence this study adopts a multidimensional corporate governance index and empirically examines the relationship between corporate governance and firm performance for listed firms on Pakistan Stock Exchange. In addition, we contribute by incorporate governance framework to enrich and enhance the effectiveness of corporate governance mechanisms for Pakistani firms. We select companies listed on PSX-100 index as a benchmark and a representative index to reflect the conditions of Pakistan Stock Exchange over the period of 2010 to 2016. We find positive relationship between firm performance and corporate governance. Whereas, heterogeneity among the demographic characteristics of board of directors such as average age, functional heterogeneity, average tenure and tenure heterogeneity were found to be negatively affecting the same.

*Key Words:* Corporate Governance, Demographic Characteristics, Firm Performance, Moderating Effects.

## JEL Classification: G34, J10, L25.

## 1. Introduction

The modern corporation is characterized by the separation of principals and agents which leads to the separation of ownership and control. This separation results in certain frictions and conflicts of interests between the agents who are actually managing the company and the principals who actually own the company. In order to reduce such frictions arising from agency relationships, agency theory suggests to put forth certain protective covenants to ensure and minimize the divergence between interests of agents and principals. Such control mechanisms are what recently known as *"Corporate Governance"* (Haniffa & Hudaib, 2006; Mitchell & Meacheam, 2011; Tariq & Abbas, 2013).

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Berle and Means (1932) were among the earliest theorists in governance literature who echoed this idea that the objectives of management cannot fully comply with those of the shareholders due to self-interest and the existence of information asymmetries. However, this fundamental notion is not something new and can be traced and attributed to Smith (1776) who posited as "Being the managers of other people's money than of their own, it cannot well be expected that they should watch over it with the same anxious vigilance with which partners in a private co-partner frequently watch over their own". Smith further characterizes managers as stewards who often very easily tend to dispense for themselves instead of their masters' honor. Furthermore, Jensen (2000) argues that the core issue with corporate governance is that most of the times the objectives of the management and those of the shareholders, who actually own the company, are in conflict. In this way, the theoretical foundations for the need of corporate governance stems from the agency theory which stimulates the conflict of interest arising between the managers and shareholders of the corporation (Alchian & Dmsetz, 1972; Jensen & Meckling, 1976). So as to reduce this divergence that arises because of the separation of ownership and control, agency theory suggests to implement certain protective covenants and control mechanisms in the form of corporate governance (Haniffa & Hudaib, 2006). The key aims and purpose of such external controls is to ensure a sense of security to fund-providers (Shleifer & Vishny, 1997) and to exert mechanisms to protect capital providers from selfcentered whims of managers and to reduce the associated agency costs (Gillan & Starks, 2000).

However, a number of high profile corporate failures and corporate scandals like Enron, WorldCom, AIG and more recently of Volks Wagon among others, not only brought the issue of controls and governance (in corporate world) into spotlight but also made the term corporate governance a common phrase and a mainstream of concern and discussions among policy makers, board rooms and academic circles (Lavelle, 2002; Davies & Schlitzer, 2008; Claessens & Yurtoglu, 2013). Furthermore, the recent episode of global financial crisis of 2007 & 2008particularly, the resulting collapse of Lehman Brothers and several other financial institutions, ultimately exposed several of the vulnerabilities of our financial system, resulting in decreased confidence in the global economic system, leaving markets dysfunctional and tightened the credit conditions (Joyce et al., 2010). The unprecedented sharp and dramatic deterioration of the crisis severely increased the risk of downturn on a scale and magnitude not witnessed since the great depression of the 1930s. (Kapetanios et al. 2012; Aleemi & Azam, 2015). And in the light of such events, among others, 'trust' on the corporate managers emerges as the crucial element for financial stability, well-functioning of markets and organizations (Arrow, 1972; OECD, 2007; Carlin et al. 2009; Lins et al. 2015). Resultantly, this financial avalanche led to a serious soul searching among the proponents of corporate governance and yet again led to a heightened focus on the weaknesses in governance mechanisms and forced scholars and practitioners alike to refocus on the increased importance of corporate governance in connection with the failures in firms' performance across the globe (Kirkpatrick, 2009; Guo, 2011; Aleemi & Azam, 2017). Resultantly it became a priority agenda for all stakeholders such as governments and market regulators around the globe (Tariq and Abbas, 2013). Claessens and Yurtoglu (2013), argues that these crises are the manifestation of several structural reasons which renders corporate governance even more important for social and economic development.

Moreover, (as a governance structure) at the heart of any corporate governance system, lies the 'Board of Directors'; who are responsible to safeguard fund providers. However, during the global financial crisis, the then chairman of United States' SECP 'Mary Schapiro' shrewdly questioned the ability of boards in several ways. Schapiro asked the boards to disclose directors' background information and skills to examine what went wrong. Guo (2011)

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identifies these 'directors' background information' as directors' demographic characteristic. Guo, further argued that despite extensive research on corporate boards, the empirical evidence is still inconclusive and by largely yields mixed results; and necessitates that scholars should emphasize and shift their focus towards other significant and intervening variables which might have a considerable influence on the relationship between firm performance and board members' behavior. However, an important question arises that how does directors' demographics could affect firm performance? In this way, Veltrop et al. (2015) poses an interesting proposition by providing a theoretical foundation to address the question of how demographic diversity in boards can affect firm performance. They highlight that social and behavioral scholars have largely linked the said phenomenon to two key areas of information and or decision-making dimensions and the social categorization dimensions. The same idea has also been echoed by other scholars such as Williams and O'Reilly (1998) and Van Knippenberg and Schippers (2007). However, most of the corporate governance practitioners and scholars link the demographic perspectives to information or decision making dimensions with the belief that more demographic diversity leads to better performance (Rice, 2015). The idea is that diverse boards are believed to draw from various resources and pools of information (Walker et al., 2015; Johnson et al., 2013; Miller & Triana, 2009) among several others. However, on the other hand, the social categorization perspectives suggest that diversity in boards could also disrupt board functioning by acting as a source of separation (Harrison & Klein, 2007, Van Knippenberg et al., 2011).

The contemporary literature, under the auspices of Upper Echelon Theory, further provides complementary explanations to strengthen this belief and indicates that directors' demographic characteristics may have relevant and important effects on organizational outcomes. We follow the same line of literature and investigate that how firm performance is influenced by corporate governance? We also see the same relationship by incorporating the directors' demographic characteristics as potential intervening variables for the organizational outcomes.

#### **1.1 Contributions and Research Gap**

Though Pakistan is being a relatively new entrant in the introduction and implementation of corporate governance principles (Akbar, 2015). However, following the US rule based approach, (SECP, 2002)<sup>1</sup> issued the first code of corporate governance and made compliance mandatory for listed companies (Tariq & Abbas, 2013). Since then a number of scholars have tried to explore various dimensions of corporate governance against a number of assorted variables and scopes with various magnitudes and proportions. For instance, Shah et al. (2009) explores the effects of earnings management within the context of corporate governance, Butt and Hasan (2009) documents evidence for ownership structure and capital structure, Sheikh et al. (2013) studies the effects of internal attributes of the board, Yasser et al. (2011) studies firm performance, Tariq and Abbas (2013) in a multidimensional setting explores the effects of compliance to the code of corporate governance. Similarly, Malik et al. (2014) applies Pareto Approach for analyzing firm-performance and corporate governance nexus in a cultural perspective and more recently, Akbar (2015) designs a conceptual model for corporate governance to optimize firm performance. Similarly, Sheikh and Karim (2015) documents evidence for the banking sector of Pakistan and finally, Khan and Tariq (2017) explores the relation of technical efficiency and corporate governance for Pakistani banks.

However, none of the aforementioned studies explored the intervening and interactions of the directors' demographic determinants and contrasted the same against the nexus between

<sup>&</sup>lt;sup>1</sup> Revised by (SECP, 2012).



corporate governance and firm performance to the best of our knowledge, so far. Though most of these studies do incorporate some of the demographic variables as put forth in the current research. Hence this study is particularly aimed to traverse this particular gap in the case of Pakistan. As argued by Veltrop et al. (2015) that demographic diversity is increasingly playing an exceptionally important role in board decision making process and it is becoming crucial to understand the underlying mechanisms which may affect board functioning and organizational performance through demographic compositions of the boards. However, they further argue that literature in this sense is meagerly limited and it is exceedingly needed to understand how demographic traits of the members of the boards affect firm performance and *"the contingencies that weaken or strengthen these potential mediating effects"*. Hence this study aims to examine the effects of corporate governance on firm performance in the economic setting of Pakistan to explore that whether the interactive effects of directors' demographic characteristics affect firm performance of Pakistani listed corporations?

The rest of this study proceeds as follows; in the next section, a brief literature survey is presented, followed by the methodological specification in section three. Section four discusses the empirical findings of the study and finally section five concludes.

#### 2. Related Literature

In the wake of global financial crisis; on 20<sup>th</sup> February, 2009, the Washington Post reported "Securities and Exchange Commission Chairman Mary Schapiro plans to look into whether the boards of banks and other financial firms conducted effective oversight leading up to the financial crisis, according to SEC officials, part of efforts to intensify scrutiny of the top levels of management and give new powers to shareholders to shape boards. As she examines what went wrong, Schapiro is also considering asking boards to disclose more about directors' backgrounds and skills, specifically how much they know about managing risk, said the officials…"

In the light of above, however, an important question arises that how does demographics<sup>2</sup> affect firm performance? In this way, Veltrop et al. (2015) poses an interesting proposition by providing a theoretical foundation to address the issue of how demographic diversity in boards may affect firm performance. They argue that social and behavioral scholars have largely linked the phenomenon to two key areas of information and or decision-making dimensions and the social categorization dimensions. The same idea can also be attributed to (Williams & O'Reilly, 1998; Van Knippenberg & Schippers, 2007). However, most of the corporate governance practitioners and scholars link the demographic diversity leads to better performance (Rice, 2015). The idea is that diverse boards are believed to draw from various resources and pools of information (Miller & Triana, 2009; Johnson et al., 2013; Walker et al., 2015). However, on the other hand, the social categorization perspectives suggest that diversity in boards could also disrupt board functioning by acting as a source of separation (Harrison & Klein, 2007, Van Knippenberg et al., 2011).

Apart from these important theoretical considerations, some analytical frameworks are also proposed such as Hambrick et al. (2008) suggested that corporate governance and firm performance should be considered along with micro and macro dimensions. Where the former is characterized as from within the organization and the latter is organization outward. They

<sup>&</sup>lt;sup>2</sup> What Schapiro, was reported to call "directors' background"



further suggest that corporate governance should be analyzed by three different dimensions namely, "formal structure, behavior structure and behavior process". Similarly, Ariff and Ratnatunga (2008) provides a four dimensional alternative outlook and stress that corporate governance can be looked upon from economic, legal, social and financial perspectives. In addition, numerous scholars have tried to incorporate upper echelon theory in analyzing the demographics and organizational performance along with numerous other dimensions like Kitchell (1997) introduced innovation into the model. R& D spending were analyzed by Barker and Mueller (2002), corporate disclosure was documented by (Bamber et al., 2010), family business (Reyna & Encalada, 2011), cash holdings (Harford et al., 2012; Orens & Reheul, 2013), creditor control rights (Nini et al., 2012), compliance (Tariq & Abbas, 2013), the inclusion of Professor and academics in the boardroom (Francis et al., 2015), audit fees and audit delays (Harjoto et al., 2015), board composition and outreach (Mori et al., 2015), dividend policy (McGuinness et al., 2015) and last but not the least, Political Connectedness (Domadenik et al., 2015).

The aforementioned discussion indicates that a vast and ample amount of empirical literature exists where a number of dimensions of corporate governance are been explored and evidence has been documented, included but not limited to corporate governance and firm performance (for instance, see Boubaker et al., 2012 for recent developments and trends in this regards). However, empirical evidence in this regard is mixed and yields contradictory results (Sheikh et al., 2013). In this way, Walker et al. (2015) argues that upper echelon theory has been emerged as an alternative research agenda whereby the effects of demographic characteristics are investigated for higher management teams against a variety of variables including organizational outcomes such as (Hambrick & Mason, 1984; Wiersema & Bantel, 1992; Kilduff et al. 2000). They further argue that these scholars however investigated diversity in boards more exhaustively as compared to scholars of board researches due to their increasing reliance on demographic proxies that led to neglect in some very important intervening variables like team behavior. Resultantly such practices led to inconsistent and mixed results (Priem et al., 1999; Pitcher & Smith, 2001). A possible reason for such contradiction is primarily neglecting the mediating and or moderating role of processes and behaviors associated with the functioning of corporate boards (Nielsen & Huse, 2010; Elstad & Ladegard, 2012; Walker et al., 2015). This study is resultantly designed to venture that venue.

As it may be clear by now that corporate governance is a designed mechanism to discipline the managers by the board of directors and to place checks on their self-centeredness. Hence good governance may lead to effective and better firm performance and can make managers better stewards of resources they control (Ménard & Shirley, 2008). Numerous scholars have tried to investigate these effects of governance mechanisms like board size, independent directors' ratio, CEO duality, ownership concentration and diversity in the boards among others (Williamson, 1996; Shleifer & Vishny, 1997; Guo, 2011; Sheikh et al., 2013; Sheikh & Karim, 2015; Das & Dey, 2016). However, the results are largely mixed and inconclusive, largely due to relying on a single mechanism of corporate governance (Mallin, 2011). In addition, (Akbar, 2015) argues that in developing countries, including Pakistan, most of the scholars are generally focused on traditional measures of corporate governance merely because such information is easily and publically available in the firms' annual statements whereby other potential determinants are largely ignored. Hence in order to overcome these issues, the current study employs a variety of corporate governance constructs to form a multidimensional composite corporate governance index to assess the effects of corporate governance on firm performance from a multidimensional perspective following (Guo, 2011; Tariq & Abbas, 2013; Akbar, 2015). Furthermore the aforementioned discussion suggests that there is sufficient

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theoretical as well as empirical evidence and conditions exist for corporate governance to stimulate firm performance. Hence to grasp the essence and to get hold of a meaningful theory, the following conceptual framework (Figure 1) has been adopted commensurate with the literature.

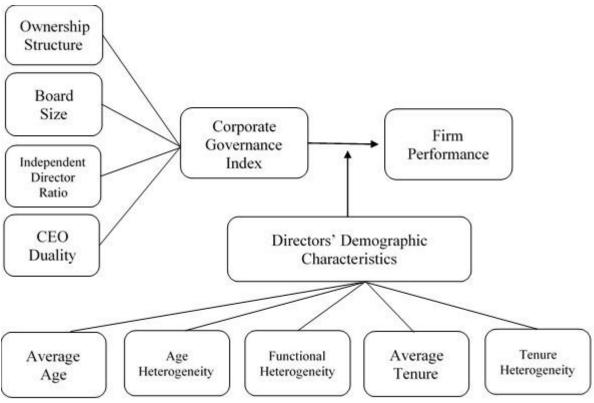


Figure 1. Conceptual Framework

In light of the above framework, we hereby develop a multidimensional index of corporate governance and analyze its effects on firm performance. Furthermore, we introduce some key demographic characteristics of board of directors into the model as potential intervening variables to have insights about the nature of interactions within boardrooms as such that these demographic factors may have a binding influence on the effectiveness of corporate governance. And to do so, it was hypothesized that:

H<sub>1</sub>: There is a positive relationship between firm performance and corporate governance

 $H_2$ : The relationship between corporate governance and firm performance is not stronger when the average age of directors is higher

 $H_3$ : The relationship between corporate governance and firm performance is not stronger when the age heterogeneity of directors is higher

 $H_4$ : The relationship between corporate governance and firm performance is not stronger when the functional heterogeneity is higher

 $H_5$ : The relationship between corporate governance and firm performance is not stronger when the average tenure is higher

 $H_6$ : The relationship between corporate governance and firm performance is not stronger when tenure heterogeneity is higher

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## 3. Methodology

## 3.1 Sample

We select companies listed on PSX-100 index that is a benchmark index and can be considered a representative index to reflect the conditions of Pakistan Stock Exchange<sup>3</sup>. The sample period is from 2010 to most recent 2016. The selection of this sample period is due to the fact that earlier in 2008-09, globally, capital markets were under great amount of pressure due to the global financial crisis of 2007 and 2008. Data for all the variables are gathered from the official financial statements of the companies under study. In cases where data was unavailable, the officials of the company were contacted and requested to provide the required data via email enquiries<sup>4</sup>. The variables included in the final model are constructed and defined subsequently.

## **3.2** Construction of Variables

## 3.2.1 Independent Variable: "Corporate Governance Index"

Measure	Definition
Ownership	Defined by Block Shareholding. A block shareholder is the one who
Structure	holds 10% or more of the firm's outstanding shares. The measure equals
	1 where total holding of block shareholders is larger than 35% and zero otherwise
Board Size	The number of directors on the board. Equals 1 when the board size is from 7 tol 1 and zero otherwise
Independent	The proportion of the independent directors on the board. Equals 1 where
Director Ratio	independent director is present and zero otherwise
CEO Duality	The measure equals 1 when the CEO is also the chairman of the board
	and zero otherwise.

The corporate governance index is created as follows in Table 1;

 Table 1: Measures of corporate governance index.

## 3.2.2 Dependent and Moderating variables

The summary of dependent and moderating variables along with certain control variables and their definitions are presented in the Table 2 below:

<sup>&</sup>lt;sup>3</sup> The interested reader is advised to see (Iqbal, 2012) for an overview of the Pakistan Stock Market.

<sup>&</sup>lt;sup>4</sup> In certain cases, meetings in person were also arranged.



Variables	Definition
Dependent Variab	les
ROE	Proxied for firm performance and measured as net income divided by
	total owners' equity
Profit Margin	Another proxy for firm performance, measured as net income divided by
	revenue
<b>Moderating Varial</b>	bles
Average Age	Mean age of the board of directors
Age Heterogeneity	The coefficient of variation of the average age
Functional	Measured by Blau's heterogeneity index (Blau, 1977)
Heterogeneity	
Average Tenure	Mean tenure of board of directors
Tenure	The coefficient of variation of the average tenure
Heterogeneity	
<b>Control Variables</b>	
Leverage	Total debt by total assets
Firm Size	Natural log of firm's total assets

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Table 2. Summary of variables and their definitions.

#### **3.3 Tools and Methods**

In order to test the proposed hypotheses, we first adopt usual regression procedure to examine the corporate governance and firm performance nexus. The study then follows (Frazier et al., 2004; Hayes, 2013; Dawson, 2014) and adopts 'Hierarchical Regression' approach to determine that whether or not there could be any interactions (moderation) between the corporate governance and demographic characteristics of the board of directors in Pakistan. Hierarchical regression is a variant of multiple regression procedure with the added advantage that it allows us to specify for a certain order of entry for variables in order to control for the effects of covariances or to test the effects of certain predictors independent of the influence of others. The power of the model is that we can treat information about a particular group as evidence relating how that group compares to the aggregate behavior for a particular level. Furthermore, it was found that hierarchical regression procedure retains the true nature of the variables and result in fewer Type-I and Type-II errors for detecting moderator effects relative to procedures that involve cut points (Frazier et al., 2004; Singh, 2010).

We perform hierarchical regression procedure to uncover the moderating effects by first entering the control variables followed by the independent variables and then the interaction terms (the moderators). Simply putting the procedure in specific terms for our study is as follows; we first enter the control (dependent) variables into the analysis in the first step as a block, followed by the independent variable ("corporate governance") and the executives' characteristics ("Average Age", "Age Heterogeneity", "Functional Heterogeneity", "Average Tenure" and "Tenure Heterogeneity") were entered in the second step as another block. Finally, the third step is characterized by entering the potential moderators and interaction terms as another block separately after to the dependent and independent variables were already in place. To ascertain the interaction effect between independent variables and moderating variables in the following way;

Corporate Governance Index \* Moderating Indicator

## 4. Empirical Results and Findings

We started by selecting PSX-100 index as a representative sample for our study, however, we were only been able to collect data for about 89 firms listed on PSX-100. We start off our investigation by first reporting the descriptive statistics in Table 3;

					Std.
Variables	Ν	Minimum	Maximum	Mean	Deviation
ROE	623	-0.3841	0.4321	0.1423	0.2033
Profit Margin	623	-0.3208	1.4983	0.1506	0.1695
Board Size	623	0.0000	1.0000	0.7212	0.4271
Independent Director Ratio	623	0.0000	1.0000	0.3261	0.7843
Ownership Structure	623	0.0832	0.1093	0.6439	0.2146
CEO Duality	623	0.0000	1.0000	0.2649	0.4911
Corporate Governance	623	1.0000	4.0000	3.6553	0.7729
Index					
Average Age	623	51.440	73.550	61.330	4.7300
Age Heterogeneity	623	0.0922	0.2917	0.1877	0.0389
Functional Heterogeneity	623	0.2401	0.6327	0.5441	0.1032
Average Tenure	623	1.0000	7.3321	4.0943	1.1150
Tenure Heterogeneity	623	0.0000	1.1168	0.6501	0.2235
Size	623	4.0116	12.733	8.9116	0.2044
Leverage	623	0.0357	0.9448	0.5991	0.1885

Table 3. Descriptive Statistics.

As discussed, to test the hypotheses, we adopted standard regression procedures to investigate the "relationship between firm performance and corporate governance" indicators. Furthermore hierarchical regression procedure was adopted to uncover the moderating effects of the demographic heterogeneity indicators. The results of these regression analyses are shown below from table 4 to table 9.

The results for the first proposed hypothesis are reported in Table 4 below;



Variables	Dependent Variable: ROE			Dependent Variable: Profit Margin		
	Model-1	Model-2	Model-3	Model-1	Model-2	Model-3
Board Size		0.047** (-2.228)			0.041 (0.762)	
Independent Director Ratio		-0.011 (-1.094)			0.033 (0.543)	
Ownership Structure		0.031** (2.016)			0.022** (1.933)	
CEO Duality		0.007 (0.088)			0.062 (0.654)	
Corporate Governance Index			0.017** (-2.431)			0.033** (1.972)
Size	0.011** (2.411)	0.013** (-2.331)	0.014 (-1.097)	0.031 (1.021)	0.033** (2.166)	0.035** (2.188)
Leverage	-0.0991* (-4.466)	-0.107* (-3.114)	-0.108* (3.544)	-0.224 (-1.011)	0.249* (-6.443)	-0.322* (-7.44)
Constant/Intercept	0.174*** (1.532)	-0.0551* (1.027)	-0.021 (-0.922)	0.0332 (0.882)	-0.0473 (0.092)	0.051*** (1.642)
R-Squared	0.106	0.081	0.047	0.133	0.231	0.201

**Table 4.** Regression Results for Corporate Governance's sub-indexes and Firm Performance. Where \*, \*\* and \*\*\* indicates statistical significance at 1, 5 and 10% levels respectively. t-Statistics are shown in parentheses.

The regression results reported in table 4 represents the relationship between the subindices of corporate governance and firm's performance. The first panel reports results when ROE is used as predicted variable while the second reports when Profit Margin is taken as dependent. In the first panel, Model 1 shows the effectiveness of two control variables where we find that firm size is significantly positively impacting firm performance measured as ROE, while Leverage is found to be significantly negatively associated with the performance measures except in the case of model 2 in the second panel where we find positive and highly significant relationship.

Similarly model 2 exhibits mixed relationships with all variable being statistically different from zero except Independent Director Ratio and CEO Duality which are found to be statistically insignificant. Specifically, Board Size and Ownership Structure are positively related to ROE. Furthermore, as discussed already that "Corporate Governance Index" is a composite measure and has "the ability to reflect the overall quality of a firm's governance mechanism from the perspective of board structure and ownership structure". In this way model 3 represents the effects of corporate governance index on firm performance, the results indicate that corporate governance index is significantly and positively associated with the performance both in the case of ROE and Profit Margin in our case.

In panel 2 where Profit Margin is used as dependent variable, we find that none of the coefficients are significant in the case of model 1. Model 2, again exhibits mixed behavior and reports that ownership structure is positively related to Profit Margin. Model 3 supports our earlier postulations and shows significantly positive relationship between corporate



governance index and Profit Margin. Hence in the light of these results our first hypothesis receives strong support that corporate governance is significantly affecting the performance of the firms under consideration.

## 4.1 Moderating Role of Directors' Demographic Characteristics

In this study, we proposed demographic characteristics of the board of directors to be potential moderators in the relationship between corporate governance and firm performance. In order to test the proposed hypotheses for the potential moderating effects, we adopted hierarchical regression and examined the change in variance by the change in R-Squared to validate the interaction effect of the moderating variables. The results for the interaction effects of Average Age are presented below in table 5;

Variables	Dependent Variable: ROE			Dependent Variable: Profit Margin		
	Model-1	Model-2	Model-3	Model-1	Model-2	Model-3
Corporate		0.022**	0.032**		0.033	0.043
Governance Index (CGI)		(-2.661)	(-2.433)		(0.439)	(0.774)
		0.001	0.006		0.012**	0.016**
Average Age		(-0.138)	(-0.521)		(2.104)	(2.52)
Average Age * CGI			-0.012** (-2.083)			-0.077** (-1.982)
Size	0.012* (3.112)	-0.011 (-1.293)	0.014 (1.0312)	0.078** (2.446)	0.032 (1.033)	0.015) (1.102)
Leverage	-0.207* (-4.116)	-2.08* (-3.811)	-0.210* (4.33666	-0.223* (-4.441)	-0.331* (-6.739)	-0.293* (-8.226)
Constant	-0.033 (-0319)	0.011 (-0.029)	0.099 (-0.056)	-0.022 (-0.443)	-0.101 (-0.821)	-0.027 (-0.392)
R-Squared	0.114	0.132	0.191	0.143	0.221	0.298
R-Squared Change			0.059			0.08

**Table 5.** Moderated Regression Analysis: Average Age as moderator. Where \*, \*\* and \*\*\* indicates statistical significance at 1, 5 and 10% levels respectively. t-Statistics are shown in parentheses.

The results summarized in table 5 and reports that the interaction between average age of the directors and firm performance indicators is significantly negative in both cases i.e. both against ROE and Profit Margin. Again our second proposed hypothesis is strongly supported. These findings are in line with the literature such as (Guo, 2011, Akbar, 2015)

Variables	Dependent Variable: ROE			Dependent Variable: Profit Margin		
	Model-1	Model-2	Model-3	Model-1	Model-2	Model-3
Corporate		0.013**	0.015**		0.010**	0.010***
Governance Index (CGI)		(2.221)	(2.488)		(2.113)	(1.532)
Age Heterogeneity		-3.016 (-0.389)	-0.193 (-0.854)		-0.221 (-0.312)	-0.182 (-1.117)
Age Heterogeneity * CGI			0.032 (0.744)			0.193** (2.331)
Size	0.013** (2.211)	0.014 (1.113)	0.019*** (1.623)	0.014** (2.663)	0.016** (2.522)	0.014** (2.238)
Leverage	-0.221** (2.664)	-0.193* (-4.871)	-0.173** (-2.645)	-0.442* (-9.221)	-0.441* (-8.329)	-0.447* (-14.212)
Constant	-0.033** (1.862)	-0.021 (0.721)	0.030 (0.066)	0.043*** (1.543)	0.035 (0.0762)	0.073 (0.0542)
R-Squared	0.029	0.023	0.036	0.134	0.115	0.137
R-Squared Change			0.013			0.022

**Table 6.** Moderated Regression Analysis: Age Heterogeneity as moderator. Where \*, \*\* and \*\*\* indicates statistical significance at 1, 5 and 10% levels respectively. t-Statistics are shown in parentheses.

Similarly, using Age Heterogeneity as a potential moderator, we found that the interaction between Age Heterogeneity is statistically insignificant as reported in table 6 in both cases. Hence our third hypothesis is not supported and we can infer that relationship between firm performance and corporate governance is not moderated by Age Heterogeneity.

Furthermore, in our 4<sup>th</sup> hypothesis, we proposed the functional heterogeneity of the board of directors to be a potential moderator in the said relationship. The result for the said moderated regression is presented in table 7 below. We found that functional heterogeneity negatively affects firm performance in the case of ROE whereas the same relationship is been found to be statistically insignificant in the case of Profit Margin.



Variables	Dependent Variable: ROE			Dependent Variable: Profit Margin		
	Model-1	Model-2	Model-3	Model-1	Model-2	Model-
						3
Corporate		0.044**	0.041**		0.011	0.010
Governance Index		(2.331)	(2.459)		(0.136)	(1.026)
(CGI)						
Functional		-0.163*	-0.163**		-0.023	-0.018
Heterogeneity		(-2.389)	(-2.584)		(-1.142)	(-1.076)
Functional			-0.206**			-0.007
Heterogeneity *			(-2.401)			(-1.031)
CGI						
Size	0.019**	0.018**	0.019***	0.020**	0.022**	0.022**
	(2.031)	(2.103)	(1.730)	(2.136)	(2.559)	(2.804)
Leverage	-0.021**	-0.019*	-0.017*	-0.291*	-0.401*	-0.37*
c	(2.160)	(-3.781)	(-4.453)	(-10.66)	(-5.619)	(-11.11)
Constant	0.021	-0.033***	-0.014	0.017	0.012***	0.048
	(0.893)	(-1.653)	(-0.301)	(0.430)	(1.673)	(0.9321)
R-Squared	0.031	0.029	0.049	0.147	0.174	0.177
R-Squared Change			0.02			0.003

**Table 7.** Moderated Regression Analysis. Functional Heterogeneity as Moderator. Where \*, \*\* and \*\*\* indicates statistical significance at 1, 5 and 10% levels respectively. t-Statistics are shown in parentheses.

Similarly table 8 reports the results for the moderating role of Average Tenure on the relationship between corporate governance and firm performance. We find that in both case the interaction is significantly negatively moderating the relationship between firm performance and corporate governance. However the R-Square change is very small yet marginal.

Variables	Dependent Variable: ROE			Dependent Variable: Profit Margin		
	Model-1	Model-2	Model-3	Model-1	Model-2	Model-3
Corporate		0.011**	0.013*		0.011***	0.015**
Governance Index (CGI)		(2.33)	(3.22)		(1.671)	(2.217)
Average Tenure		-0.013	-0.009		-0.007	-0.009
		(-0.416)	(-0.441)		(-0.455)	(-0.646)
Average Tenure * CGI			-0.019** (-2.339)			-0.022** (-2.333)
Size	0.011 (0.873)	0.014 (0.743)	0.013 (0.551)	0.019** (2.449)	0.019** (2.133)	0.021** (2.220)
Leverage	-0.118** (-2.441)	-0.122** (-2.276)	-0.121** (-2.339)	-0.226* (-4.756)	-0.302* (-3.775)	-0.331* (-4.331)
Constant	0.112 (0.092)	-0.099 (0.044)	-0.120 (0.073)	0.033 (0.721)	0.042 (0.573)	0.035 (0.692)
R-Squared	0.12	0.17	0.18	0.22	0.18	0.20
R-Squared Change			0.01			0.02

**Table 8.** Moderated Regression Analysis. Average Temure as Moderator. Where \*, \*\* and \*\*\* indicates statistical significance at 1, 5 and 10% levels respectively. t-Statistics are shown in parentheses.

Finally, to ascertain tenure heterogeneity among the board of directors, we adopt the coefficient of variation and tried to examine that whether tenure heterogeneity moderates the said relationship or not. The results reported in table 9 indicates that the interaction effect of tenure heterogeneity is statistically significant and negatively moderating the relationship between firm performance and corporate governance in both cases of ROE and Profit Margin, commensurate with contemporary literature

Variables	Dependent Variable: ROE			Dependent Variable: Profit Margin		
	Model-1	Model-2	Model-3	Model-1	Model-2	Model-3
Corporate Governance Index		-0.013** (2.41)	0.015* (4.02)		0.007 (1.274)	0.008**
(CGI) Tenure Heterogeneity		-0.031 (-0.716)	-0.33 (-0.732)		-0.015 (-0.883)	(1.744) -0.019 (-0.877)
Tenure Heterogeneity * CGI			-0.047** (2.119)			-0.044** (-2.031)
Size	0.012*** (1.873)	0.014 (0.453)	0.017 (0.614)	0.022** (2.185)	0.023** 2.136)	0.022** (2.204)
Leverage	-0.180* (-5.162)	-0.188* (-3.774)	-0.181* (- 12.954)	-0.261* (-7.566)	-0.266* (-11.005)	-0.291* (-7.530)
Constant	-0.012 (0.687)	0.049 (0.741)	0.044 (0.739)	0.038 (0.741)	0.044 (1.053)	0.044 (0.924)
R-Squared R-Squared Change	0.033	0.040	0.047 0.007	0.19	0.19	0.22 0.03

**Table 9.** Moderated Regression Analysis. Tenure Heterogeneity as Moderator. *Where* \*, \*\* and \*\*\* indicates statistical significance at 1, 5 and 10% levels respectively. t-Statistics are shown in parentheses.

#### **5. Discussion and Conclusion**

Alluded to our earlier discussion, Husain (2011), argues that the global financial crises of 2008 that turned into the worst economic recession, led to some serious 'soul searching' among the intellectuals and practitioners about the way the financial sector has been regulated and supervised. The current global financial crisis on the one hand was one of the most severe crises since "The Great Depression" and on the other exposed some serious vulnerabilities of our financial system. Resultantly, fingers were pointed towards the financial community and the practitioners in the market. Their ways of regulating and practicing in the financial arena were questioned-particularly the crises hit the financial world with so much drastic consequences that once again the euphemism of determining the very nature of economics resurfaced among the intellectuals that; Is Economics a Science...? Krugman (2013a), Krugman (2013b) Rosenberg and Curtain (2013), Robeyns (2013), and Chetty (2013). Furthermore, apart from this discussion, some recent corporate failures like Enron, WorldCom, and AIG among others also warranted and forced policy makers and scholars alike to revisit and re-examine the corporate governance-the way companies are governed, from comprehensive and broad perspectives. However, one must realize that only the imposition of the code could not guarantee enhanced governance. Similarly, the promulgation of regulations rules in isolation could not be sufficient in any way to enhance the quality of governance without bringing about structural reforms and ignoring the underlying mechanisms. Therefore, and referring to the conceptual framework in this study, it is necessary to think beyond the bourns of rules and regulation and rethink the ways to improve the corporate governance mechanisms and structures with new dimensions and perspectives. Moreover, referring to the comments made by the then Chairman of SEC, Schapiro regarding the 'background' of the



board of directors, makes it even more plausible to assume that the role of such characteristics cannot be ignored in the said context.

Hence this study aimed to design a comprehensive corporate governance index by incorporating board structure along with ownership structure perspectives. We provide empirical evidence for the governance-performance nexus measured in terms of financial proxies of ROE and Profit Margin for the listed firms on Pakistan Stock Exchange over the period of 2010 to 2016. In addition, this study adopted an integrated conceptual model into the said relationship with the aim to investigate the moderating and or intervening role of the directors' demographic characteristics on the relationship between firm performance and corporate governance for the listed companies on PSX-100 Index. Our results are consistent with most of the empirical literature on the subject particularly with those of Gou (2011). Specifically, first we explored the relationship between firm performance and corporate governance and found it to be significantly positive for Pakistani firms. Second, the results suggest and yield some very interesting propositions regarding the heterogeneity among the demographic characteristics of the board of directors that these have the potential to moderate the said relationship for Pakistani firms. To sum up, we found the relationship between firm performance and corporate governance to be positive for Pakistani firms and found that Average Age is negatively associated in the said relationship. Technically, higher Average Age for board of directors will weaken the relationship between firm performance and corporate governance and vice versa. Similarly, Age Heterogeneity showed mixed results and shows positive moderating effect on the strength of the relationship between firm performance and corporate governance. Moreover, high degree of heterogeneity among the board of directors in terms of functional heterogeneity and tenure heterogeneity results in weakening the relationship between firm performance and corporate governance. Similarly, Average Tenure is also found to be negatively moderating the said relationship.

In the light of the above discussion, this study advances some important contributions to the literature and holds certain guidelines for the policy makers as well. Though Tariq and Abbas (2013) noted that the emphasis and focus of the Pakistani firms on corporate governance is still to comply and most of the firms are simply focused on to fulfil the regulatory requirements of the SECP. Yet they postulate that mere compliance has still some potential benefits. Similarly, in this study, we encourage and recommend listed firms in Pakistan to take a more comprehensive approach towards corporate governance beyond compliance to perfect their governance system which bears potential benefits in terms of financial performance as evident from the results of this study alluded to the adopted framework. Furthermore, this study conducted is an initial probe to incorporate the demographic characteristics of the directors into the corporate governance framework in order to further enhance, augment and perfect the effectiveness of the corporate governance. Which to the best of our knowledge is the first of its kind and indicates certain important and potential areas for implications.

#### **5.1 Future Research**

This study draws most of the critical demographic data from secondary sources which can be considered as a limitation regarding the generalization of our results and limits alternative explanations. However, in future, this can be improved by focusing on more comprehensive and qualitative sources of such data to improve on explanations. Furthermore, we integrated only four demographic variables into our model; however the same can be further improved by incorporating several other crucial demographic and governance indicators. Furthermore, this study has the potential to integrate certain contextual factors such as



specifying industry specific determinants, institutional life cycle considerations and corporate strategy which will be an interesting continuation in this manner.

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