

Corporate Governance and Capital Structure: Moderating Effect of Gender Diversity

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Abstract

This paper investigates the effect of corporate governance on capital structure, and moderating impact of board gender diversity on this nexus. Using a sample of 2062 firm-year observations of 226 non-financial firms listed on the Pakistan Stock Exchange (PSX) from 2008 to 2019, we have conducted multiple regression analysis, and found that larger and independent board positively affect firm leverage, whereas, the negative impact of CEO duality was observed on this relationship. Moreover, we found that gender diversity is associated with better corporate governance quality and positively impact firm's leverage. Additionally, the Generalized Method of Moments (GMM) estimation was applied for the robustness and the results obtained confirmed the main findings of the study. The study provides support for the mandatory placement of female directors on the corporate board by Code of Corporate Governance (CCG) regulations Pakistan, and needs for implementation of corporate governance mechanism in the listed firms to gain lender's confidence.

Keywords

corporate governance, gender diversity, agency theory, Pakistan

Introduction

The failure of Lehman Brothers, followed by the historical corruption scandals such as Maxwell, Enron, and Worldcom, elevated the concern among the investors and other stakeholders regarding governance mechanism, especially; the functioning and composition of the corporate Board. The Sarbanes Oxley Act 2002, formulated for the protection of investors from the management fraudulent practices and safeguard shareholder's wealth, also turned the academic debate toward the demographics and other characteristics of the Board composition (Wu et al., 2020). Advancing further, the composition of gender diverse board was made mandatory by Norway, India, and Spain (Carter et al., 2003; Terjesen et al., 2009). Effective boards and board gender diversity are considered as a signal for a firm's future performance by investors (Aman & Nguyen, 2013). Additionally, they react positively to the independent and female directors' inclusion on the board. Being a significant component of governance mechanism, the board of directors ensure that interest of shareholders and managers are similarly aligned and agency problems are minimized (Barnhart et al., 1994). Consequently, an active board can mitigate the principal-agent conflict, through effective monitoring and communication, and enhance the lender's confidence (Easterbrook, 1984; Jensen et al., 1992; La Porta et al., 2000).

In a similar manner, gender diversity is considered an important characteristic of an effective board (Milliken & Martins, 1996). In contrast to males, female members on the board are found to be more independent, diligent, and responsible (Li & Li, 2020). Their presence increases the discussion and exchange of ideas among the group (Schippers et al., 2003). They dislike the fraud more than their male counterparts and do not like to be associated with firms with fraudulent practices (Gao et al., 2017). Due to their empathetic and cooperative behavior, they are considered more effective leaders (Eagly et al., 2007). Prior research has found female directors as an independent and tough monitor, and their presence ensures better attendance and low agency conflicts (Adams et al., 2010; Carter et al., 2003). Collectively, these studies support that due to better decision making, effective

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communication skills, and their propensity to support the interest of shareholders, their inclusion in the board resolve the agency problems and effectively increases the investor's credence on the firm.

While, the extensive literature discussed corporate governance and its impact on various dimensions such as; firm performance (Arora & Sharma, 2016; Bhagat & Bolton, 2019; Bhatt & Bhatt, 2017; Ciftci et al., 2019), risk taking (Abou-El-Sood, 2019; Koirala et al., 2020), and corporate social responsibility (Lone et al., 2016; Ullah et al., 2019), little empirical evidence is available on its effects on capital structure. Similarly, the wide literature discussed the board gender diversity and its impact on various dimensions such as firm performance (Adams & Ferreira, 2009; Al-Shaer & Zaman, 2016; Usman et al., 2018), dividend payout (Chen et al., 2017; Ye et al., 2019), and corporate social responsibility (Al Fadli et al., 2019; Yang et al., 2019), but its impact on capital structure gained limited attention. We believe that this study is the first in literature, which analyzes the moderation impact of gender diversity on the linkage between corporate governance and capital structure, in perspective of Pakistan.

Making headway, in line with the global efforts to strengthen the corporate governance mechanism in Pakistan, the best corporate governance practices were introduced by the Securities and Exchange Commission of Pakistan (SECP) through the promulgation of Code of Corporate Governance (CCG) 2012 (Tariq & Abbas, 2013). The regulations paved the way for the implementation of a strict governance mechanism by introducing provisions regarding board size, independent directors, CEO duality, female directors, board meetings, etc., and encouraged the companies to have a balanced board composition (Wang et al., 2019). The Code mandated the firms to have at least one independent director and restricted the maximum number of executive directors to one-third of elected directors including the CEO. In addition, the Code required that the Chairman and the CEO shall not be the same persons (SECP, 2014). Later, the CCG 2017 and CCG 2019, increased the minimum requirement of independent directors on the board to two members or one-third of the total members of the board, whichever is higher. The mandatory requirement of having the maximum number of executive directors, one-third of the elected board, and Chairman and CEO as separate person remain unchanged. Regarding gender diversity while, CCG 2012 does not mention the requirement of a female director's placement on the board, the CCG 2017 and CCG 2019, compel the listed firms to appoint at least one female director on the Board (SECP, 2017, 2019).

Although, the mandatory application of inclusion of female director on the board forced the listed companies to place female director on their board, however, there is little empirical research concerning the corporate governance effects of the appointment of female directors on capital structure and reducing principal-agent conflict in non-financial listed firms

in Pakistan. We, therefore; consider it necessary to further investigate and explore the female's role on the board of companies. Similarly, the implications of agency theory on this nexus are the unexplored area, which this study attempts to address.

This study provides empirical evidence of the linkage between corporate governance, board gender diversity and capital structure in the case of non-financial firms listed on PSX. We employed a panel regression analysis on our sample consisting of 2062 firm-year observations over the period 2008 to 2019 to test our hypotheses. Consistent with the literature, we used leverage as a proxy for capital structure (Chow et al., 2018) and used board size, board independence, and CEO duality as a proxy for corporate governance (Haris et al., 2019; He & Luo, 2018). In line with the prior studies, we measure gender diversity using the female director's proportion out of total directors on the board (Nekhili et al., 2020; Yang et al., 2019). The financial data was extracted manually, from the financial statements of the companies and the corporate data was obtained from the annual report of the respective company. Our findings support the extant literature and indicate the positive relationship between corporate governance and capital structure, and additionally; we found that the presence of females on the corporate board positively moderates this relationship. Our results are consistent with the prior literature (Bokpin & Arko, 2009; Kyereboah-Coleman & Biekpe, 2006; Zaid et al., 2020) in this context.

This study extends contribution to the literature in following ways. First, the study responds to the future directions call by Zaid et al. (2020). The author mentioned the need to examine the impact of corporate governance mechanism on capital structure in the context of emerging economies. This study, therefore; analyzes this relationship in the perspective of Pakistan, which is an emerging economy. Second, our study extends the work of Sheikh and Wang (2012) in context of PSX listed firm by exploring the moderating impact of gender diversity on this nexus and by using a larger sample for the increased time period 2008 to 2019. Third, the study supports the reforms introduced by the CCG 2019 by making the placement of female director mandatory on the board. The formulation of gender diverse board has resulted in increased investor's confidence and, hence, added to the more debt availability for non-financial listed firms. Finally, it supports the empirical literature on corporate governance by showing that female presence on the board mitigate agency conflict and result in wealth maximization of the firm. Thus, our findings explain the potential benefits of the corporate governance mechanism and diverse boards in improving the funds availability for the firms.

The rest of the articles proceed in the following manner. Section 2 discusses the literature review and hypotheses development. Section 3 presents the research methodology. Section 4 presents and discusses the results, while Section 5 concludes the study.

Literature Review and Hypotheses Development

Agency Theory

Jensen and Meckling (1976) define an agency relationship “as a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent.” The maximization of interest by the managers at the expense of shareholders due to separation of control and ownership give rise to the agency problems (Fama & Jensen, 1983). While, the owners are primarily concerned about diversifying away the firm specific risk, the managers, on the other hand, are more inclined to pursue their personal interest which conflicts with the stockholders’ interests (Crutchley & Hansen, 1989). Consequently, the managers opt for short run operating decisions, which benefit themselves without considering the high-risk appetite of shareholders, which may yield better profits and increase shareholders wealth. Hence, giving rise to principal-agent conflict and agency cost (Berger & Di Patti, 2006).

The agency cost can be reduced in different ways under the framework of agency theory. One of them being the choice of capital structure (Kester, 1986). The theory postulates that the choice of capital structure may help in reducing this cost (Jensen, 1986). The theory mentions that the high agency cost of outside equity can be reduced through high leverage or low equity ratio, as the managers are forced to act in the interest of shareholders, resulting the increase in firm value. The increase in debt level reduces the cash flow availability for the managers and increase the risk of bankruptcy and job loss (Grossman & Hart, 1982). Further, the high debt level forces the managers to invest in profitable ventures to ensure the sufficient cash flow for interest and principal repayment (Vo & Nguyen, 2014). The increased debt, therefore; reduces total equity financing, thus; reducing principal-agent conflict (Jensen & Meckling, 1976).

Conversely, the adverse effects of high leverage are also inevitable. The high leverage level increases the chances of financial distress and bankruptcy, resulting in the higher agency cost to minimize the conflict between shareholders and debtholders (Berger & Di Patti, 2006). The optimal leverage level is, therefore; desirable to reduce agency cost and enhance firm value. In a similar manner, Bajagai et al. (2019) argued that corporate governance variables such as; board size, board independence, and CEO duality directly affect the firm’s capital structure decision. Relatedly, the effective corporate governance mechanism increases the investor’s confidence, resulting in more debt availability for the firm (Chow et al., 2018). The presence of effective board guarantees the lenders about the safety of their investment and cash flows, as they consider such firms financially stable and worthy of advancing credit (Chen & Hsu, 2009).

The primary role of corporate governance is to resolve agency issues between the shareholders and the managers, arising from the separation of ownership and control of the firm (Fama, 1980). Consistent with the literature (Chow et al., 2018; Zaid et al., 2020), we consider the agency theory as the basic theory to discuss the nexus between corporate governance and capital structure and argue that effective corporate governance mechanism increases the firm’s ability to acquire more debt.

Board Size

The board of directors are considered an important tool of corporate governance mechanism for the alignment of interest between shareholders and managers (Li et al., 2015). Federo et al. (2020) grouped board functions into three main categories: monitoring, provision of resources, and strategic involvement. In this context, the larger board size can enhance firm value and mitigate principal-agent conflict through adequate monitoring and reduce the agency issues (Easterbrook, 1984; Jensen et al., 1992; La Porta et al., 2000; Said et al., 2009). Relatedly, Alves et al. (2015) mentioned that managers of the firms that generate substantial cash-flows are more likely to maximize their personal objectives, such as high salaries and bonuses, and focus on short-run profits instead of undertaking the high return seeking long-term projects, desired by shareholders. The stringent monitoring and alleviation of information asymmetry by the larger board, therefore; facilitate the firm to use more debt and choose the best possible options in line with the interest of shareholders by influencing the manager’s decisions, and ties managers to pay out future cash flows, reducing the cash flow available for spending at their discretion which ultimately increases firm value (Cheng & Courtenay, 2006). Similarly, Abor (2007) and Feng et al. (2020) mentioned that large boards are well-anchored and through stringent surveillance they tend to embrace a high debt policy to maximize the firm value. From the creditor’s perspective, the larger board is considered an effective monitor of firms’ operations and hence; increases the firms’ credibility and financial stability in the eyes of debt providers (Zaid et al., 2020). The increased credibility, thus; assures the debtholders for the safety of principal and interest payment, which result in smooth flow of debt to the firm and resultantly; the firm enjoy a lower cost of debt financing (Anderson et al., 2004).

Moving ahead, the empirical literature argues that the larger board may result in increased monitoring cost in listed firms (Raheja, 2005) and may outweigh the benefits of stringent monitoring (Reddy et al., 2013). In a charitable organization, the directors are rarely paid and their voluntary participation on the board mitigates this problem (Fontes-Filho & Bronstein, 2016). The larger board in such firms tend to become symbolic and a source of social interaction which ultimately results in larger charitable contributions for the organization (Brown et al., 2006). In this context, Naciti

(2019) also reported positive relation between board size and the social objectives such as community, diversity, environment, etc., that a firm pursues.

The literature provides mixed results on linkage between board size and capital structure. Some studies (Abobakr & Elgiziry, 2016; Berger et al., 1997; Butt & Hasan, 2009; Meah, 2019) mentioned the negative impact of board size on capital structure and argued that the larger board reduces the decision-making power of managers and prefer to include more equity in firm's capital than debt, resulting in low leverage and reduced default risk in future. On the other hand, some studies highlighted that larger board prefer higher debt level (Gill et al., 2012; Saad, 2010). We argue that the presence of large number of directors on the board provide a better surveillance of firm operations, which increase the financial stability and credibility of the firm in the eyes of debtholders, thus; resulting in more inflow of debt for the firm. We, therefore; hypothesize that:

Hypothesis 1: *Larger board size is positively related to firm's leverage level*

Board Independence

Considering agency theory perspective, the presence of independent directors on corporate board is considered an effective corporate governance mechanism (Fan et al., 2019) and their knowledge, broad vision, and independence from management enable them to rigorously monitor the top management actions in order to take effective governance decisions (Weisbach, 1988). Moreover, their presence on the board reduces the information asymmetry, and enhances the quality and the frequency of public information released by the executive management (Kanagaretnam et al., 2007). Similarly, the independent board increases the financial transparency, which results in more capital availability for the firm due to higher credit rating (Chen & Hsu, 2009) and also serves as a guarantee that debtholders interest will be protected (Zaid et al., 2020). Consequently, the dominating role of independent directors in monitoring top management improves the confidence of lenders regarding the safety of their principal and interest amount, and thus; result in the uninterrupted supply of debt to the firm (Bokpin & Arko, 2009).

Contextually, the Cadbury (1992) report recommends that the board of directors should include at least two independent directors who are able to influence the board's decision. In line with the global initiatives aimed at reforming corporate governance mechanism, the best corporate governance practices were introduced by the SECP through the promulgation of CCG 2012. While, the CCG 2012 recommend the listed firms to have at least one independent director, the CCG 2017 and CCG 2019 increased the minimum requirement of independent directors on the board to two members or one-third of the total members of the board, whichever is

higher (SECP, 2017, 2019). The change in the number of independent directors suggests that policy makers and regulators are well aware of the importance of independent directors which not only bring the fresh perspective and resources for the firm but also reduce the power of executive directors and increase the board's independence.

Like other emerging and developing countries, most of the non-financial firms listed on PSX are owned and controlled by families (Yasser & Mamun, 2017). The concentration of ownership provides the incentive for management monitoring, but it may also result in the owners extracting private benefits at the expense of minority shareholders, especially; in a country with weak investor's regulations (Purkayastha et al., 2019). The appointment of independent directors by the controlling shareholders, in the former case, may result in better firm value and low agency conflicts (Nadeem, 2020). From the steward's theory perspective, the controlling function in the hands of family owners in the family firms results in the economic benefits for the firm since, they intend to identify themselves with the organization and are more inclined toward the objectives of the firm rather than maximization of their personal interest at the expense of minority shareholders (Davis et al., 2018). Their pro-organizational behavior results in the alignment of interest, which further lead to lower agency conflicts and wealth maximization (Corbetta & Salvata, 2004).

Overall, the presence of independent directors in the family owned and controlled firm strengthen the corporate governance mechanism and reduce agency conflict (Altaf & Shah, 2018). Relatedly, the academic literature presents the positive effects of female presence on the corporate board in terms of better control and enhancement of board's decision-making process (Ararat et al., 2015). The gender diverse board in family-owned firms, therefore; improve the credibility of firm and provide better monitoring (Milliken & Martins, 1996). From the lender's perspective, the debt holders may view family ownership as protective of their interests by ensuring continuity and stability (Ramalho et al., 2018). The concern exhibited by family owners about firm due to commitment and family reputation is positively recognized by banks and other lending institutions, and therefore, result in more favorable lending to the firm. In this scenario, Crespi-Cladera and Martín-Oliver (2015) provides evidence that family ownership is associated with greater availability of credit and Anderson et al. (2003) and Ma et al. (2017) found a lower cost of debt financing for family firms.

The empirical literature provides mixed results on the relationship between board independence and firm leverage. Berger et al. (1997) found low debt level in firms with less independent directors on the board. Some studies (Abor, 2007; Bokpin & Arko, 2009) reported a positive impact of board size on leverage level. Wen et al. (2002), on the other hand, reported negative relationship between the two variables and argued that increased governance measures result in managers opting for less leverage. We argue that due to

tough and independent monitoring, the presence of independent directors on the board increases the debt provider's confidence and results in more debt availability for the firm. We, therefore; hypothesize that:

Hypothesis 2: *Greater proportion of independent directors on board is positively related the firm's leverage level*

CEO Duality

Generally, CEO of the firm is entrusted with the task to manage the business and handle day to day operations while, the Chairman is responsible to steer the board and set the strategic goals of the firm. CEO duality exists when the same person is appointed as a chairman and CEO, simultaneously (Sheikh & Wang, 2012). The proponents of CEO duality argue that wider powers held by an individual are advantageous for the firm as they result in quick response to any opportunity or threat (Salancik & Pfeffer, 1978). On the contrary, agency theory stresses the separation of both roles to ensure effective corporate governance mechanism and reduce agency problems (Fama & Jensen, 1983). The academic literature provides that the boards, which are independent of CEO perform their monitoring task more effectively (Goyal & Park, 2002). Moreover, due to withholding of key information from other board members, the CEO duality results in conflict of interest (Detthamrong et al., 2017) and may lead to friction with outside parties (Cornett et al., 2007). The clear separation between policy making and management control is, therefore; desirable.

Additionally, the CEO duality reduces the monitoring power of the board, which may result in high agency costs (Dey et al., 2011) and result in ineffective corporate governance mechanisms (Simpson & Gleason, 1999). The delegation of both tasks (decision making and operational) to a single individual, may result in abuse of power, which negatively affects firm performance and consequently; debt paying capacity of the firm (Duru et al., 2016). Consequently, the lenders hesitate to invest in the firm with CEO duality to avoid the financial risk of their investment. The Maxwell case in UK and the collapse of Enron in USA gained worldwide attention of the policy makers (Cohen et al., 2010). Several corporate governance problems emerged from the wreckage of two giants. Unfettered power in the hand of Chief Executive was an obvious problem (Stiles & Taylor, 1993). Soon after, in order to improve the shareholder's confidence and protect their interest, the Cadbury report (1992) in UK and Sarbanes Oxley Act (2002) in USA provided various corporate governance mechanisms to safeguard the interests of shareholders (Solomon, 2020). While, the Cadbury report provides the need for the separation of role of Chairman and Chief Executive in UK, the separation of both roles is not common in USA (Kakabadse et al., 2006). Relatedly, the Cadbury (1992) report recommended that there should be segregation of power between the board

members such that no individual should have "unfettered" control of the decision-making process.

As a result, in Europe and UK listed companies, the chairman led the board whereas the CEO leads the executive team (Goyal et al., 2019). On the other hand, in USA, the CEO (usually also the company Chairman) enjoy excessive power and has ultimate control over decision making. Although, the board of directors in USA are criticized for not attaining a balance of power and reducing the board effectiveness, nevertheless; the appointment of senior independent directors, in the light of Sarbanes Oxley Act 2002, substitute for the split roles to some extent on American boards (Solomon, 2020). The impact of CEO duality on firm leverage has been discussed in the literature and produced mixed results. Abor (2007) and Dimitropoulos (2014) mentioned that firms with CEO duality have high leverage. Kyereboah-Coleman and Biekpe (2006), on the other hand, found that in firms where CEO and Chairman are the same persons are less leveraged. Consistent with the agency theory, we argue that firms with CEO duality face agency issues and are considered riskier by the lenders, which result in less availability of debt to these firms. We, therefore; hypothesize that:

Hypothesis 3: *CEO duality is negatively related to firm's leverage level*

Gender Diversity

Among the other facets of corporate governance, the board of directors of the firm play a primary role in developing the mechanism to align the interest of owners and managers (Weisbach, 1988). Gender diversity is considered as one of the important characteristics of an effective board (Milliken & Martins, 1996). In contrast to males, females on the board are found to be more independent, diligent, and responsible (Li & Li, 2020) and their presence increases the discussion and exchange of ideas among the group (Schippers et al., 2003). Bass (2019) mentioned that the female representation in the top management team expands the collective knowledge of the group by reducing systematic biases, and offers distinctive social networks and cultural experience by challenging the assumptions held by males. Prior research has found that the female directors are independent and tough monitors than their male counterparts, and their presence ensure better attendance and low agency conflicts (Adams et al., 2010; Carter et al., 2003). Similarly, Chen et al. (2017) mentioned that the active participation of female directors in complex decisions evaluation provide more significant benefits to shareholders. The effective monitoring of the gender diverse board, therefore, mitigate principal-agent conflict and increase debtholders confidence.

The relationship between the gender diversity and capital structure has been debated in the literature but provides contradictory findings. In this context, Maxfield et al. (2010) reported that women are more risk averse than men and their

presence on the corporate board negatively affect the debt ratio. The author argued that women take low risk decisions as compared to their male counterparts. In a similar vein, Loukil et al. (2016) and Schicks (2014) also reported higher risk taking by men resulting in using more debt. On the other side, Virtanen (2012) mentioned that women take more active role in decision making and influence decision making process in the board. Due to their active participation and tough monitoring, their presence in the board room alleviates the managerial opportunistic behavior and information asymmetry (Usman et al., 2019). Consequently, their presence in the board provides positive signals to debt providers regarding the repayment of debt and interest, which ultimately result in more availability of debt for the firm.

Since gender-diverse board is more conscious about potential reputation risk (Bernardi & Threadgill, 2011; Zhang et al., 2013), therefore; the presence of women on the board provides positive signals to debtholders (Kaur & Singh, 2017). Similarly, Elmagrhi et al. (2018) argued that in a bid to reduce the opportunistic behavior of managers that may arise due to weak monitoring, the firm with gender diverse boards use more debt to mitigate this behavior. From another perspective, the trade-off theory suggests that firms will target for an optimal level of mix between equity and debt, which maximizes the difference between the benefits and costs of issuing debt (Adusei & Obeng, 2019). The benefit of debt is the tax advantage of interest payments to debt holders (Miller, 1977; Modigliani & Miller, 1963). Therefore, the use of debt by the firm, in contrast to equity, provides the tax benefit to the firm, which ultimately result in higher firm value. Relatedly, in pursuance of their desire to increase the firm value, the presence of female on the board, therefore; result in use of more debt by the firm (Dhaliwal et al., 2006; Li & Zhang, 2019). From the agency theory perspective, the board is entrusted with the task to provide strategic directions and to monitor the managerial activities to safeguard the interest of shareholders and enhance firm value. Contextually, a larger board can provide better monitoring of management action and better expertise (Said et al., 2009). Relatedly, a more diverse board is considered an effective monitor of management's action by creditors and such companies are perceived as more financially stable and worthy of investment due to better monitoring and low agency conflicts (Zaid et al., 2020).

Therefore, the board characteristics are considered as an important determinant of a firm's capital structure and a larger board with female representation result in the availability of more debt to the firm (Sheikh & Wang, 2012). In a similar manner, the presence of independent directors, not related to managers, is considered effective in reducing the agency conflict between shareholders and managers. Under the framework of agency theory, a gender diverse board is considered more independent as it provides better monitoring of management's action (Carter et al., 2010). The prior studies, for example, Adams et al. (2010) and Carter et al.

(2003) also found that the female directors are more independent and tough monitors, and their presence on the board reduce agency conflict. The presence of females on the board, therefore; decreases the information asymmetry between managers and investors and therefore, make it easier for the firm to access more debt (Kanagaretnam et al., 2007). The agency theory suggests that the agency conflict between the shareholders and managers can be reduced if the task for the decision making and controlling are entrusted to different persons. In this context, the Cadbury report recommended that there should be a balance of power between board members, with a clear division of responsibility at the top of the company, such that no individual could gain 'unfettered' control of the decision-making process. In this scenario, Klein (2002) mentioned that a board more independent of CEO is more effective in monitoring the financial accounting process and reduce the information asymmetry.

On the contrary, the board with the same person as chairman and CEO is considered less independent due to high concentration of power and adverse conditions for outsiders to effectively monitor the executive members (Coles et al., 2008). Relatedly, due to high independence (Adams et al., 2010) and better participation in decision making (Konrad et al., 2008) the presence of females on the board reduces unfettered power in the hand of the CEO, and improve the board independence and reduce agency conflicts, which ultimately increase the investor's credence on the firm. (Lucas-Pérez et al., 2015). Considering *Pakistan*, the overall culture and corporate environment in Pakistan is significantly male dominated, which does not allow females to climb ladders to corporate boards and restricts their participation in decision-making (Mirza et al., 2012). Consistent with the global corporate governance reforms and the efforts to reduce gender gap, CCG 2017 and CCG 2019 entailed the listed firms to place at least one female director on corporate board (SECP, 2017, 2019). Pakistan is an emerging economy with a weak governance structure and ownership concentration as the majority of listed firms are family owned (Shahzad et al., 2018). The literature in this context suggested that family control firms in emerging economies, characterized by the weak investor's regulations, is associated with the misuse of firm assets, extraction of private benefits, and avoidance of internal controls (Morck et al., 2005). On the contrary, experience and commitment of family owners along with their appetite for long term wealth maximization may result in better monitoring and low agency conflicts (Chen et al., 2014).

The independent board can ensure transparency and face undue management pressure, as they are more cautious about their reputation and prestige (Nadeem, 2020). Relatedly, due to better monitoring, high independence, and diligence (Li & Li, 2020) the females' presence on the board increases the discussion and exchange of ideas among the board members (Schippers et al., 2003), and their inclusion in the top management team reduces systematic biases and extend social

networks (Bass, 2019). Empirical literature provided contradictory results on the moderating effects of gender diversity in family-owned firms. While, Ararat et al. (2015), for example, reported positive effect of gender diversity on board monitoring in family-owned firms. Adams and Ferreira (2009), on the contrary, mentioned that if boards are already good monitors, the female presence on board may not result in better monitoring. Overall, we consider the presence of women beneficial in strengthening the corporate governance mechanism in the presence of family owners.

On the basis of these arguments, we argue that due to high independence and better monitoring of management's action, the presence of female directors on board, meet the desired level of governance and supplement the board characteristics, which increase the debtholders confidence and consequently; increase the debt availability to the firm. We, therefore; hypothesize that:

Hypothesis 4: *The relationship between board size and firm's leverage level (Ha), board independence and firm's leverage level (Hb), CEO duality and firm's leverage level (Hc) is stronger in firms with female presence on the board.*

Research Methodology

Sample

To construct our sample, we gathered the data from different sections of the published annual reports of the companies available on PSX website and the respective websites of the companies. Our initial sample consists of 5,952 firm-year observations from 2008 to 2019. Firms from the financial industry are excluded from the sample because these firms are subject to different regulations that affect their financial characteristics. After excluding the financial firms and firms with missing information the final sample consists of unbalanced panel data of 226 firms and 2062 firm-year observations. Table 1, depicts the summarized information of the sample selection procedure.

Variable Measurement

Based on the hypotheses, capital structure is a dependent variable in our study. Consistent with the prior literature, we used leverage as a proxy to measure capital structure (Chow et al., 2018). The leverage is calculated as ratio of total debt to total assets of a company. In order to determine the effect of corporate governance, following Haris et al. (2019) and He and Luo (2018), we used three proxies: Board Size, Board independence, and CEO duality. Board Size is measured as the total number of directors on the board. Board independence is measured using the total number of independent directors on the board divided by total number of directors

Table 1. Sample Description.

Panel A: Selection procedure		
Initial observations of all listed firms for the period 2008 to 2019		5,952
Less: Firm observations of financial firms		1,344
Less: number of firm-year with missing observations		2,546
Final sample		2,062
Panel B: Industry-wise composition		
	Number	Percentage
Automobile assembler	125	6.06
Automobile parts and accessories	67	3.25
Cable and Electrical goods	57	2.76
Cement	184	8.92
Chemical	208	10.09
Engineering	100	4.85
Fertilizer	64	3.10
Food and personal care products	161	7.81
Glass and ceramics	37	1.79
Leather and tanneries	20	0.97
Miscellaneous	98	4.75
Oil and gas exploration companies	44	2.13
Oil and gas marketing companies	80	3.88
Paper and board	65	3.15
Pharmaceuticals	81	3.93
Power generation and distribution	116	5.63
Real estate investment trust	4	0.19
Refinery	48	2.33
Sugar and allied industries	148	7.18
Synthetic and rayon	32	1.55
Technology and communication	114	5.53
Textile composite	92	4.46
Textile spinning	28	1.36
Textile weaving	8	0.39
Tobacco	23	1.12
Transport	41	1.99
Vanaspati and allied industries	10	0.48
Woollen	7	0.34
Total	2062	100
Year-wise composition		
	Number	Percentage
2008	116	5.63
2009	159	7.71
2010	157	7.61
2011	164	7.95
2012	175	8.49
2013	178	8.63
2014	178	8.63
2015	182	8.83
2016	196	9.51
2017	206	9.99
2018	204	9.89
2019	147	7.13
Total	2062	100

Table 2. Variable Measurement and Definition.

Nature	Variable	Symbol	Expected sign	Measure	Source
Dependent variable	Leverage	Lev	±	Total debt/total assets	Chow et al. (2018)
Independent variable	Board size	BS	+	Number of directors on the board	Haris et al. (2019)
	Board independence	PID_BD	+	Independent director on the board divided by total directors on the board	He and Luo (2018)
	CEO duality	CEO_DUAL	+	Dummy variable, 1 if CEO is also a chairman, 0 otherwise	He and Luo (2018)
Moderator	Proportion of female director on board	FD_PBD	+	Number of female directors on the board divided by total board size	Nekhili et al. (2020)
Control variable	Firm size	BS	+	Number of directors on the Board	Chow et al. (2018)
	Firm age	F_AGE	+	Number of years since the firm is listed on Stock Exchange	Chow et al. (2018)
	Return on assets	ROA	+	Net income/total assets	Chow et al. (2018)

Note. The table reports nature, symbol, expected sign, measurement, and source of all the variables used in the study.

on the board. CEO duality is a dummy variable coded 1 if the chairman also holds the position of CEO, 0 otherwise. Consistent with the study of Nekhili et al. (2020) and Yang et al. (2019) we measure gender diversity, our moderator, using the proportion of female directors on the board.

In order to address the endogeneity problem that might lead to biased results, in line with the study of Chow et al. (2018), we employed three control variables: Firm size, firm age, and return on assets. Firm size is measured as a log of total assets of the firm, firm age is considered as the time period since the firm is listed on stock exchange, and return on assets is measured as percentage of net income to total assets. Table 2, depicts the nature, symbol, expected sign, measurement, and source of all variables used in the study.

Econometric Model

In accordance with the hypotheses, we developed the following model:

$$\begin{aligned}
 Lev_{it} = & \alpha + \beta_1 BS_{it} + \beta_2 PID_BD_{it} \\
 & + \beta_3 CEO_DUAL_{it} + \beta_4 FD_PBD_{it} \\
 & + \beta_5 FD_PBD_{it} * CG_{it} \\
 & + \beta_6 FS_{it} + \beta_7 F_AGE_{it} + \beta_8 ROA_{it} \\
 & + \beta_9 industrydummy + \beta_{10} yeardummy + \varepsilon_{it}
 \end{aligned}$$

Leverage (Lev) is the proxy for our dependent variable, capital structure. The proxies for the explanatory variable Corporate Governance (CG) are Board Size (BS), Board Independence (PID_BD), and CEO Duality (CEO_DUAL). β_1 is the coefficient of BS, β_2 is the coefficient of PID_BD, and β_3 is the coefficient of CEO_DUAL. Proportion of

female directors on board (FD_PBD) is a proxy for moderator, gender diversity, and β_4 is its regression coefficient. FD_PBD*CG is the interaction term and β_5 is its regression coefficient. The study also includes control variables: Firm Size (FS), Firm Age (F_AGE), and Return on Assets (ROA). β_{6-8} are the regression coefficients of the control variables. To study the industry and year effect, industry and year dummy variables are added to the models. β_9 is the coefficient of industry and β_{10} is the coefficient of year. ε is the error term whereas i represents the firm. In order to decide the appropriateness between fixed effects and random effects models, Hausman (1978) test was conducted. In all the cases the p -value was significant ($p < .05$), therefore, fixed effects model was used. The panel data regression was run in Stata 15 using fixed effects to obtain the results.

Empirical Results

Descriptive Statistics

The data was analyzed and descriptive statistics were obtained as depicted in Table 3. The table shows the number of observations (N), mean (M), standard deviation (SD), minimum (Min), and maximum (Max) for all the variables. The table depicts that mean of leverage (Lev) is 21.10%. It is noteworthy that leverage fluctuates greatly between the firms as the minimum leverage is 3% and maximum is 58%. The high variation represents that some firms are much hesitant to include debt in their capital structure. The Board size (BS) fluctuates between 7 and 13 with a mean of 8. Board Independence (PID_BD) has a mean of 11.45%, which shows that independent directors hold approximately 11% of the proportion on the board. CEO duality (CEO_DUAL),

Table 3. Descriptive Statistics.

Variable	N	M	SD	Min	Max
Lev (%)	2,062	21.102	17.51	3.200	58.261
BS (number of directors)	2,062	8.010	1.279	7.000	13.000
PID_BD (%)	2,062	11.450	14.64	0.000	56.100
CEO_DUAL (dummy)	2,062	0.016	0.126	0.000	1.000
FD_PBD (%)	2,062	8.165	5.780	0.000	37.500
FS (log of total assets)	2,062	22.881	1.541	19.03	26.560
Firm_age (number of years)	2,062	26.389	15.967	1.000	70.000
ROA (%)	2,062	6.510	3.041	-28.510	36.140

Note. The table reports number of observations (N), mean (M), standard deviation (SD), minimum (Min), and maximum (Max) of all the observations used in the study.

Table 4. Pearson Correlation Matrix.

	Lev	BS	PID_BD	CEO_DUAL	FD_PBD	FS	Firm_Age	ROA
Lev	1							
BS	0.037*	1						
PID_BD	0.117***	0.135*	1					
CEO_DUAL	-0.081***	-0.051*	-0.039	1				
FD_PBD	0.075***	0.226**	0.266**	-0.013*	1			
FS	0.074*	0.040	0.036	0.064*	0.019	1		
Firm_age	0.022	0.011	0.071**	0.045*	0.119*	0.072**	1	
ROA	0.054*	0.002	0.011	0.001	0.089*	0.103**	0.020	1

Note. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively.

our dummy variable has a mean of 0.016, which shows that in some companies the same person serves as CEO and chair, simultaneously. The proportion of female directors on the board (FD_PBD) range between 0% and 38%, which shows that few companies in our sample do not have any females on their board and some companies have approximately 38% female representation on their board. Since, our sample includes the firms' data before the introduction of mandatory provision of placement of female directors on the board, by CCG 2017, therefore; non-availability of even a single female director on the corporate board is not surprising. The mean of Firm size (FS), Firm age (F_AGE), and Return on Assets (ROA), are 22.881%, 26.389%, and 6.51%, respectively.

Correlation Matrix

Table 4, shows the Pearson correlation analysis of all the variables. The table depicts various degrees of correlation among different variables. In line with our hypothesis, a statistically significant positive correlation (.037) was found between Lev and BS. Similar results were found in the case of Lev and PID_BD (.117). As expected, we found a significant negative correlation in the case of Lev and CEO_DUAL (-.081). We also found significant positive correlation in case of FD_PBD in conformity with our hypothesis. One of the assumptions used in ordinary least squares regression

method is the absence of a strong relationship between independent variables. The presence of multicollinearity makes the model to have a large variant, which may result in the spurious regression (Sheikh & Wang, 2012). In this context, Gujarati (2009) mentioned that if the correlation coefficient is $>.8$, then it is suspected that multicollinearity occurred in the model. Since all the correlation coefficients were below this level, therefore; this problem did not exist in our data.

Regression Analysis

Table 5, depicts the regression results of our hypotheses H1, H2, and H3. In line with our hypotheses, we take BS, PID_BD, and CEO_DUAL as our independent variables. The results show a significant positive relation between BS and Lev (.148), and PID_BD and Lev (.141). Additionally, we found a significant negative association between CEO_DUAL and Lev (-.181). All the results were significant at 1% and 5% level of significance, which shows that our hypotheses H1, H2, and H3 are supported.

We argued that larger board and placement of independent directors on the board increases the confidence of debt providers and, therefore; result in more leverage for the firm. We further, argued that CEO duality is considered as a risk by stakeholders and result in low availability of debt for the business. The results provide theoretical support for our arguments as we found significant positive association in

Table 5. Regression Estimates of Corporate Governance and Capital Structure.

Variables	Leverage		
	Model 1	Model 2	Model 3
BS	0.148*** (0.018)		
PID_BD		0.141*** (0.041)	
CEO_DUAL			-0.181** (0.068)
Firm size	0.021 (0.013)	0.020 (0.014)	0.020 (0.013)
Firm_Age	0.003 (0.003)	0.002 (0.002)	0.003 (0.002)
ROA	0.006 (0.001)	0.004 (0.002)	0.007 (0.002)
Constant	0.968* (0.335) *	1.233 (0.296) *	1.387* (0.298) *
Year effect	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes
Observations	2,062	2,062	2,062
Adjusted R ²	.281	.265	.255
F-statistics	13.42	12.49	17.25
Hausman χ^2	18.12	16.27	15.24

Note. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Robust standard errors in parenthesis.

Table 6. Impact of Corporate Governance on Capital Structure—Moderating Role of Gender Diversity.

Variables	Leverage		
	Model 4	Model 5	Model 6
BS	0.146** (0.022)		
PID_BD		0.183* (0.024)	
CEO_DUAL			-0.129* (0.015)
FD_PBD	0.204* (0.018)	0.189* (0.021)	0.115*** (0.018)
BS*FD_PBD	0.222* (0.064)		
PID_BD*FD_PBD		0.152*** (0.103)	
CEO_DUAL*FD_PBD			0.179* (0.046)
Firm size	0.018 (0.013)	0.021 (0.013)	0.019 (0.013)
Firm_Age	0.013 (0.002)	0.012 (0.002)	0.012 (0.002)
ROA	0.017 (0.002)	0.016 (0.002)	0.017 (0.002)
Constant	0.794** (0.065)	1.230** (0.047)	1.321** (0.018)
Year effect	Yes	Yes	Yes
Industry effect	Yes	Yes	Yes
Observations	2,062	2,062	2,062
Adjusted R ²	.254	.312	.298
F-statistics	22.15	25.27	23.57
Hausman χ^2	18.21	20.54	19.27

Note. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Robust standard errors in parenthesis.

case of our hypotheses H1 and H2, and negative association in case of hypothesis H3. Empirically, our results are consistent with the study of Alves et al. (2015) and Zaid et al. (2020) who mentioned that Board size and board independence positively affect the firm leverage, whereas, the CEO duality negatively impact the debt creation.

In order to test our hypotheses H4a to H4c, we run the regression analysis using FD_PBD as a moderator. The estimation results are depicted in Table 6. We hypothesize that gender diversity on board improves the association between board characteristics: board size, board independence, CEO

duality, and firm leverage. The results show that our hypotheses H4a to H4c were supported, as we found significant positive relationship in all cases. We argued that the presence of female on the board is considered an effective corporate governance measure by the stakeholders. The larger board with the diverse set of knowledge and skills, when supplemented by creativity and new knowledge of female directors, improve the confidence of lenders, resulting in more debt creation. The results support our notion in this regard. The results are consistent with the findings of Bokpin and Arko (2009) and Zaid et al. (2020) who mentioned the positive

Table 7. The System GMM Regression Results.

Variables	Model 1		Model 2		Model 3	
	BS		PID_BD		CEO_DUAL	
	Coefficient	t-test	Coefficient	t-test	Coefficient	t-test
Lag Lev	0.417***	8.31	0.482***	9.41	-0.515***	-10.08
BS	0.051	0.62				
PID_BD			0.422*	1.46		
CEO_DUAL					-0.628***	-8.61
Firm size	0.140	1.52	0.116	2.08	0.011	-0.6
Firm_Age	0.014	0.65	0.016	1.61	0.013	1.03
ROA	0.013	0.44	0.011	1.31	0.018	1.48
Constant	3.401*	1.63	8.025**	2.10	1.101**	3.27
Industry effects	Yes		Yes		Yes	
Observations	1,828		1,828		1,828	
F-statistics	28.75		30.74		31.23	
Arellano-Bond test AR (1) (z, p-value)	-3.25 (0.000)		-3.14 (0.000)		-3.95 (0.000)	
Arellano-Bond test AR (2) (z, p-value)	1.45 (0.147)		1.35 (0.184)		1.48 (0.138)	
Sargan test (χ^2 , p-value)	46.43 (0.105)		38.53 (0.355)		44.52 (0.421)	
Hansen test (χ^2 , p-value)	43.78 (0.321)		39.18 (0.156)		41.27 (0.116)	

"Note. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Robust standard errors in parenthesis."

association between board size and firm leverage, and positive moderation effect of board gender diversity.

Similarly, we argued that the presence of independent directors on the corporate board are considered as a sign of transparency and tough monitoring by the outsiders. The inclusion of female directors further strengthens the lender's confidence and result in more debt availability for the firm. Our argument was supported as we found significant results of gender diversity on board independence and firm leverage. The results are in line with the study of Alves et al. (2015) and Zaid et al. (2020) who reported the positive effect of gender diversity on board independence and firm capital structure.

Moving ahead, the moderating effect of gender diversity on our third measure of corporate governance, CEO duality, was significant and positive. Our hypothesis H4c was supported. Although, we found negative association between CEO duality and leverage under our hypothesis H3, however; the interaction with FD_PBD revealed positive results. We argued that CEO duality, where same person is serving as a Chairman and CEO, is not desired by stakeholders as it may result in abuse of power. The undesirable effects of CEO duality are mitigated by the inclusion of female directors on the board, which is confirmed by the change of sign from negative (in case of direct effects) to positive (in case of indirect effects). The gender diversity, therefore; improves the credibility of firm in the eyes of lenders. Empirically, our results are consistent with the findings of Alves et al. (2015) and Zaid et al. (2020) who mentioned the positive impact of female presence on the CEO duality and capital structure.

Robustness Tests

In order to check for the robustness of our results, we used one step generalized method of moments (GMM) to examine our model. Table 7, depicts the results of the effect of corporate governance on capital structure, whereas; Table 8 shows the interaction effect of gender diversity on our model. Our findings remain the same even after controlling for the endogeneity issues. We found positive association in case of board size and board independence, and negative association in case of CEO duality. Similarly, consistent with earlier findings, we found positive impact of gender diversity on the nexus.

Summary and Conclusion

This study attempt to investigate the effects of corporate governance on capital structure of the firm using the panel data comprising of 2062 firm-year observations for the period 2008 to 2019. Contextually, we used three measures: board size, board independence, and CEO duality, as a proxy for corporate governance, and firm leverage as a proxy for capital structure. The study seeks to extend as well as make number of contributions to the extant literature. First, although most studies have investigated the impact of corporate governance on firm performance, risk taking, and corporate social responsibility, amongst others, our study adds to the limited literature on effects of corporate governance on capital structure. Second, we respond to the call by Zaid et al. (2020) to analyze the association between corporate governance and capital structure by focusing on an emerging

Table 8. The System GMM Regression Results (Interaction Effect).

Variables	Model 4		Model 5		Model 6	
	BS		PID_BD		CEO_DUAL	
	Coefficient	t-test	Coefficient	t-test	Coefficient	t-test
Lag Lev	0.454***	8.15	0.472***	8.96	-0.326***	-6.22
BS	0.070*	0.46				
BS × FD_PBD	0.204*	0.24				
PID_BD			1.240*	0.96		
PID_BD × FD_PBD			8.211*	1.32		
CEO_DUAL					-0.461*	-0.46
CEO_DUAL × FD_PBD					12.42**	1.37
FD_PBD	1.324*	0.17	1.058*	0.54	6.187**	2.66
Firm size	0.136	1.22	0.432*	1.87	0.013	0.47
Firm age	0.119	0.66	0.133	1.28	0.104	0.53
ROA	0.113	0.43	0.221	1.57	0.112	1.31
Constant	3.964*	1.86	9.713**	2.12	0.32	0.58
Industry effects	Yes		Yes		Yes	
Observations	1,828		1,828		1,828	
F-statistics	17.85		18.25		70.09	
Arellano-Bond test AR (1) (z, p-value)	-4.00 (0.000)		-3.75 (0.000)		-3.82 (0.000)	
Arellano-Bond test AR (2) (z, p-value)	1.39 (0.164)		1.31 (0.189)		1.28 (0.202)	
Sargan test (χ^2 , p-value)	55.17 (0.121)		35.49 (0.816)		58.03 (0.076)	
Hansen test (χ^2 , p-value)	41.79 (0.567)		47.80 (0.321)		33.61 (0.872)	

Note. *, **, and *** indicate significance at the 10%, 5%, and 1% level, respectively. Robust standard errors in parenthesis.

economy, and also extends the work of Sheikh and Wang (2012) in context of PSX listed firm by adding moderating impact of gender diversity and including larger sample for the increased time period 2008 to 2019.

Third, this research provides novel evidence of moderating impact of gender diversity on the linkage between corporate governance and capital structure in the perspective of Pakistan. Fourth, the results contribute to the literature by showing that gender-diverse boards improve the corporate governance mechanism and therefore, result in availability of more debt for the firm. Finally, the study supports the CCG 2019 reforms by making the placement of female directors' mandatory on the corporate board by highlighting their economic benefits for the listed firms. Overall, the results suggest that gender-diversified boards benefit the firm by improving the debt holder's confidence and, therefore, facilitate the firm in establishing an optimal capital structure.

Based on agency theory, we hypothesized that better board characteristics result in increased debt creation. We hypothesized that larger and independent board positively influence the firm leverage level, and CEO duality negatively impacts on capital structure. We argued that, due to the diverse skills of majority directors, supplemented by their independence, lender's confidence is improved and, therefore, more debt is available for the firm. Further, the CEO duality is considered as a negative signal for the stakeholders and owing to the risk of abuse of power by a single

individual, the lenders feel hesitant to invest in such firms. Our hypotheses H1, H2, and H3 were supported showing the support for our argument. Our results are consistent with the results of Alves et al. (2015) and Zaid et al. (2020) in this context.

Additionally, we hypothesize that due to strong monitoring skills, better decision making and effective leadership, the female presence serves as a guarantee for the lenders as to the safety of their investment, and result in more debt creation for the firm. In this context, our hypotheses H4a to H4c were supported, showing support for our argument, as we found significant positive moderating impact of gender diversity on board characteristics and capital structure. The findings of our study is in line with the agency framework and also provide support for the prior studies (e.g., Abor, 2007; Alves et al., 2015; Anderson et al., 2004; Bokpin & Arko, 2009; Zaid et al., 2020) who mentioned the positive effect of gender diversity on this nexus. Further, we used GMM estimation approach to check for endogeneity and robustness of our results, and found support for our earlier findings.

Pakistan is an emerging country with weak investor's regulations and mostly the firms listed on PSX are family owned and controlled (Mirza et al., 2012). We based our notion on the stewardship theory and argued that due to firm commitment and socio-emotional wealth attached, the owners' exhibit steward's behavior and consequently, their presence

reduces the agency conflicts. Further, under the framework of tradeoff theory, we argue that due to tax advantages of the debt, the use of more debt by the firm result in higher firm value. In pursuance of their desire to increase the firm value, the owners, therefore; in contrast to equity prefer more use of debt in their capital structure (Alves et al., 2015). Our empirical results provide support for our argument and highlight that presence of family owners on the board of listed firms provide better monitoring of management and result in wealth maximization. Their presence, therefore; provide positive signals to debt holders as to the safety of their investment and interest payments.

The global efforts to increase the women's participation and their appointment on the board of listed firms resulted in introduction of gender quotas for firms' boards by different countries (Amin et al., 2022; Terjesen et al., 2009). For instance, federal legislation in Norway mandated the listed corporations to appoint not less than 40% of women as directors on the board. In a similar vein, the French law passed in 2011, demanded the presence of 40% female directors on firm's boards by 2017. Moreover, fair representation of women directors was also recommended by National Association of Corporate Directors Blue Ribbon Commission in USA.

In line with the global efforts, in Pakistan, the CCG 2019 makes it mandatory for the listed firms to place at least one female director on their board (SECP, 2019). The major challenge in having women on boards include perceptions that they lack business dynamics, are unable to achieve work-life balance, and possess aggressive and emotional attributes. On the flip side, the biasness in favor of male exhibited by the employers, lack of opportunities for career progression, and inequitable pay restrain the females from progressing their career resulting in a dearth of professional female workforce. Consequently, in most countries, women are underrepresented at different level in corporate sector. In order to bridge this gender gap, the executives are making efforts to make their business more attractive for female talent. Relatedly, the study made by Flood (2017) highlighted the perception of female talent from each of the four generations: Generation Z, Millennials, Generation X, and Baby boomers. Overall, their study reports that a significant thrust exists among both employers and modern female workforce to drive change that fosters gender-inclusive recruitment. Since, female talent is considered more valued and beneficial, therefore; once this talent has been hired, retaining this talent is even more critical. The cultural and corporate environment is significantly dominated by male in Pakistan, which does not allow females to climb the ladder on corporate boards (Mirza et al., 2012). The disparity, therefore; exists between the male and female reaching the highest echelons of the organization. The achievement of a top position in firms by females, therefore; by defying such biases, exhibits compelling evidence of their leadership capabilities in particularly challenging situations (Rosette & Tost, 2010).

The recent trends, however, highlight a significant change in the attitudes toward gender. With more women entrepreneurs running businesses and majority of females employed in IT and large multinationals, the increased women empowerment in Pakistan is observed. Similarly, while the CCG 2019 mandated the listed firms to place at least one female director on the board, the presence of 38% female directors on corporate boards in PSX listed firms shows the increased participation of females in corporate sector. Moreover, in order to address the concerns related to stereotypes associated with gender, the fourth generation talent pool is being attracted by organizations by offering opportunities for career progression, flexible work arrangements, and a culture of work life balance, and competitive pay (Flood, 2017). In addition, CCG 2019 recommended the listed companies to arrange training for at least one female director every year under the Directors' Training program (SECP, 2019). Overall, the organizational support and conducive environment for career progression along with the professional training programs, result in the availability of qualified female director's pool for the firms.

The study has some practical implications for investors. Pakistan is a developing country and challenged with political instability during the past. In order to gain the confidence of investors and attract foreign investment, the implications of corporate governance mechanism are inevitable. The implementation of strict corporate governance measures in listed firms will help in improving the confidence of debt holders and guarantee the safety of their investment. In addition, the presence of a gender-diverse board further increases the satisfaction level of investors resulting in more funds availability for the firm. The findings, thus; serve as a guidance for investors to evaluate better avenues for their investments.

With respect to policy implications, the results of this study provide insight into how firms can acquire more debt. The results indicate that the presence of independent board and placement of female's on boards result in the availability of more debt supply for the firm due to improved confidence of debtholders. Moreover, the results suggest that firms with more independent directors are likely to issue more debt. The inclusion of independent directors on the firm board result in the strengthening of financial markets. In addition, the study confirms the reforms made by CCG 2019 by making the placement of female director mandatory on board. The study, therefore; indicates the need for undertaking further corporate governance reforms in this direction to reduce the agency conflict and improve the investor's confidence. Moreover, the economic benefits of female in the top management team urge the professional institutes and business schools to help women improve their professional skills and market themselves for these positions.

Like other studies, this study is not without some limitations. First, the study was restricted only to the firms listed on PSX. The results, therefore, should be attributed to

Pakistan's business environment only. Future research can focus on panel and time-series studies of other regions and countries. Second, we restrain our study to non-financial listed firms only. The study of this nexus in context of financial firms is also an important gap that needs to be addressed. Third, the study only considered one characteristic of board diversity, that is, gender. The examination of other characteristics of board diversity such as age, qualification, and ethnicity of directors, on capital structure also serves as an important gap that future studies can address. Finally, future studies could analyze the moderating impact of other variables such as ownership concentration and foreign ownership on this nexus.

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