

CORPORATE GOVERNANCE AND FINANCIAL LEVERAGE OF NIGERIAN LISTED OIL AND GAS COMPANIES

Surajudeen Tihamiyu

Department of Banking and Finance, Osun State University, Osogbo, Nigeria.

isholasurajudeen26@gmail.com

Julius Agwu Ogar

Department of Banking and Finance, Osun State University, Osogbo, Nigeria.

ogarjully@yahoo.co

Israel Adebawale Agunbiade

Department of Banking and Finance, Osun State University, Osogbo, Nigeria.

agunbiadeadebowale98@gmail.com

Aderemi Adetunji Abdulazeez

Department of Accounting, Osun State University, Osogbo, Nigeria.

azeezgoodness@gmail.com

ABSTRACT

The viability of any business depends on the capital structure choice made by the organization. Consequently, it is imperative to contemplate multiple considerations when choosing an organizational structure for capital. This paper examines the relationship between corporate governance (CG) and firm financial leverage (FL) for oil and gas firms listed on the Nigerian Exchange Group. This research is conducted utilizing a sample of seven different companies listed on the Nigerian Exchange Group from 2013 to 2023, using purposive sampling. The study results shows that all the variables used to proxy CG (board independence, board size, and board gender diversity) are significantly inversely correlated with all forms of FL (total debt ratio, short-term debt ratio, and long-term debt ratio). It also demonstrates that in the selected organizations, short-term debt is more frequently employed as an operating source of financing than long-term debt. The study, therefore, recommends that firms should include females as their board members and similarly have a sizable proportion of autonomous directors on their company boards so they can obtain loan finance on advantageous conditions.

Keywords: Corporate Governance and Financial Leverage.

INTRODUCTION

In any business entity, investment and financing are two of the most crucial issues that have to be dealt with in terms of ensuring success. The manager is obsessed with identifying the most appropriate source of capital or financing mix for the business they are managing when making a financial choice. An organization's selection of capital structure influences the ratio of borrowing to shareholder equity it utilizes for financing its operations (Birru, 2016). This choice is essential because the company needs to achieve maximum income and it will affect the degree to which it survives in a competitive market. The ratio of borrowing to shareholder equity is completely up to the company. Either greater borrowing or lesser borrowing as well as additional equity might be issued. Any organization's capital structure selection is crucial since it has an impact on business viability. As a result, due consideration must be submitted while choosing an organizational structure for capital. The decision about finances has remained an important research area in the field of

accounting since the moment Modigliani and Miller demonstrated in 1958 that the financing structure option for the company is insignificant given unimpeded markets, and uniform perceptions. The "Theory of Irrelevance" is a subsequent name for this concept. No capital structure composition is superior when compared to the idealized realm of MM. MM's Proposition II made an effort to explain why the expected rate of return grew as the proportion of debt elevated. No matter what combination of financing was determined, it was asserted that the higher anticipated rate of return brought on by debt financing is precisely compensated for by the risk taken. The most appropriate debt-to-equity ratio that will keep the company out of bankruptcy is also supported by trade-off theory. In the opinion of researchers, inadequate financing through debt by corporations combined with recklessly high levels of leverage was the primary factor contributing to the crisis of finances (PeiZhi & Ramzan, 2020). Managers are granted complete freedom while deciding on the optimal financial system while carefully balancing the costs of the financial crisis and interest tax shielding.

Owners of businesses (principals) appoint managers (agents) to operate in their ideal circumstances and make decisions that enhance the wealth of shareholders. According to agency theory, managers are responsible for making decisions and operating in the greatest benefit of the organization's finances, regardless of their own interests (Jensen & Meckling, 1976). Additionally, they contended that it falls under the mandated responsibility of managers (agents) to make financial decisions based on relevant and logical facts in order to accomplish an established business objective while exhibiting professionalism. Due to information misunderstandings and opportunity-seeking, certain agents might fail to act in the greatest benefit of the holders of shares, and this might develop into an issue of contention among them. As a result of this, the agency relationship degenerates into an agency issue (conflict), which causes substantial losses for the organizations. Because a consequence of the separation of managerial and ownership roles in the company's operations, management now bears full accountability for all choices since they must possess excellent knowledge to meet the objective of enhancing the value of shareholders. In order to ensure that there is no disagreement of interest between executive management and the company owners, the agency framework recommended that businesses establish a board of directors to oversee the conduct of company executives on behalf of shareholders (Muniandy & Hillier, 2015). In accordance with the notion, management does not have any significant stake in the business, thus they are always driven by monetary benefits to act in the major owners' interests (Fama & Jensen, 1983).

Literature Review and Hypotheses Development

The agency theorist underlined the need for corporate boards to have more autonomy and external members. In spite of their own autonomy and knowledge, these directors possess the obligation to closely oversee administrators. They operate as expert arbitrators who can dispassionately assess and examine corporate managers' choices in order to guarantee that shareholders' interests are safeguarded (Bathala & Rao, 1995). The majority of autonomous directors also serves as executive directors of different companies and might have legal or financial experience. As a result, these board members may offer significant assistance to the managers of the organizations where they serve as independent directors as they attempt to solve complex decision-making difficulties (Fama &

Jensen, 1983). In a nutshell from the perspective of the agency theory, the inclusion of autonomous board members of corporations may improve the standards of the board of directors' judgments, strengthening the internal governance framework of the company. Due to the participation of external board members, the enterprises' capacity to obtain external investment to increase the company's profit level is really impacted by the better governance framework.

Independent board members are individuals who are neither employees nor have any substantive connections to the companies. According to a large body of research, independent or non-executive directors are believed to help to boost the intrinsic worth of businesses by offering a different viewpoint on strategies (PeiZhi & Ramzan, 2020). It is also evident that independent or external directors serve a significant influence in the long-term financial growth and development of businesses. The values and norms of corporate governance, meantime, place an emphasis on the non-executive directors who make up a board of directors that is equitable in terms of its membership (Sharifh et al., 2016). The connection between board independence and financial leverage has been the subject of multiple researches. According to certain studies (PeiZhi & Ramzan, 2020; Sharifh et al., 2016), independent boards are less likely to take on debt because they possess greater degrees of board independence, which is related to a lower degree of financial leverage. A substantial correlation between board independence and financial leverage has not been observed in different research (Vafeas 2003). There may be discrepancies in sample size, industry, and board independence measurement as the cause of these contradictory results. Board independence and board size have both been investigated in connection with financial leverage. Consequently, the following hypothesis is put forth.

Hypothesis 1: A higher percentage of independent directors have no impact on firms' leverage.

Another essential element of corporate governance is the number of members on the board, which is mentioned since it affects how a company develops its approach to business (Zeitun & Goaied 2022). Studies have largely highlighted the role that board size has in taming excessive and adverse choices (Cheng, 2008; Kogan & Wallach, 1966). According to Hermalin and Weisbach (2001), the size of the board is dependent on firm intended purpose. According to agency theory, an enormous board of directors (BOD) participates in enhanced supervision and oversight. By influencing the choices made by management as well as minimizing information asymmetry, the larger board's strict oversight helps the company employ greater borrowing capacity and select options that are most advantageous for the benefit of owners. It also binds managers to pay out future earnings, decreasing the amount of cash obtainable for discretionary spending, which eventually raises the value of the business (Cheng & Courtenay, 2006).

The resource dependence argument also argues that more directors are helpful when an organization desires reliable guidance (Coles et al., 2008), and Jensen (1986) contends that a larger BOD is related to an increased leverage ratio, thus aiding the reduction of agency cost. In the opinion of Wen, et al. (2002), managers are under pressure from the BOD to take on greater financial obligations in order to improve performance, hence the bigger the BOD, the more leverage there is likely to be. According to Cheng (2008), organizations with a larger board are likely to make fewer radical decisions as a result of more concessions being made during the stages of decision-making. Feng et al. (2020) affirmed that large boards typically embrace an excessive borrowing strategy through strict oversight in order to

increase the firm's worth. Larger boards are seen as more successful at monitoring a company's activities from the vantage point of the creditor, which enhances the company's reputation and its financial viability in the eyes of lenders (Zaid et al., 2020). Thus, the enhanced reputation provides the holders of debt with assurances regarding the guarantee of the repayments of interest and principal, resulting in an uninterrupted flow of loans to the company and, as a consequence, a reduction in the cost of borrowing for the company (Anderson et al., 2004). In addition, larger boards are believed to be connected with greater amounts of financial leverage, suggesting that firm with higher number of board member may be more likely to engage in financial obligations (Vitolla et al. 2019).

Jensen (1986) also asserted that corporations with larger boards appear to be more leveraged than those with smaller boards. This suggests that organizations are more inclined to explore financing through debt rather than equity financing. In accordance with the aforementioned viewpoint, larger company boards are valued more because of their comprehensive knowledge, resources, and connections with the outside world (Zahra & Pearce, 1989). Consequently, the following hypothesis is put forth.

Hypothesis 2: Larger board size has no effect on firm leverage.

The development of a system that reconciles the interests of owners and management is one of the main functions of corporate governance, among other aspects (Amin et al., 2022). One of the key elements of a successful board is the diversity of genders (Milliken & Martins, 1996). Female board members are observed to be more autonomous, meticulous, and trustworthy than their male counterparts and their participation fosters conversation and the sharing of ideas (Li & Li, 2020). According to Bass (2019), the inclusion of women on the top management team broadens the corporation's common understanding by minimizing systemic prejudices and providing unique networking and perspectives on culture by questioning the presumptions believed by men. The inclusion of female directors assures more participation and fewer agency conflicts since they are tougher observers and more autonomous than their male counterparts (Adams et al., 2010). Corresponding to this, Chen et al. (2017) noted that the proactive involvement of female directors in the appraisal of complicated decisions results in greater advantages for shareholders.

As a result, principal-agent disagreements are decreased by the gender-diverse board's effective management and foster debt holders' credibility. Maxfield et al. (2010) asserted that women are less risk-tolerant than men and their participation on corporate boards has a detrimental impact on the debt ratio. Moreover, women make decisions that are lower risk than those made by men. Loukil et al. (2016) also found that men took more risks overall, which led to their utilizing greater amounts of debt. Additionally, according to Virtanen (2012), women influence and play greater roles when making choices on the board. They actively participate and are closely supervised, which reduces management recklessness as well as information asymmetry (Usman et al., 2019). As a consequence of their participation on the board, financial institutions receive encouraging messages about the settlement of borrowing and interest, which eventually increases the company's access to finance. A significant number of women on the board send a favorable message to creditors since a gender-diverse board is more aware of the possible reputation risk (Zhang et al., 2013). Elmagrhi et al. (2018) made a similar argument, asserting that firms having different genders employ greater borrowing capacity to decrease the

opportunistic conduct of managers that may occur as a result of lax oversight. Consequently, the following hypothesis is put forth.

Hypothesis 3: Board gender diversity has no influence on firm leverage.

THEORETICAL REVIEW

Free Cash Flow Theory

The theory (Jensen, 1986) states that leverage actually may be utilized as an instrument for monitoring, which lessens the cost of agency problems and promotes firm worth by lowering free cash flow. When a company uses more leverage, certain consequences follow as the management of a company of this kind is unlikely to have the ability to devote resources to new, unprofitable projects as a result of using an increased amount of debt, hence management may therefore be unable to pay the set rate of interest or principal whenever it is due. Additionally, it can result in a failure to turn a profit within a specific fiscal year, which might prevent the payment of returns to business investors. Leverage may be useful to boost management productivity in addition to lowering the agency costs of free cash flow. This is because the debt market may serve as a more successful means of capital market surveillance. Additionally, managers must demonstrate their skills and effectiveness in running the business for the purpose to secure loan financing. From empirical evidence, it seems to have demonstrated that leverage, as represented by the financial institution lenders, can serve as an alternative oversight procedure, particularly in CG enterprises that are weak, but not in merger situations that are more dynamic.

Agency Theory

Given that the person who is in charge of a company isn't the same person who actually possesses it or regulates it, a "principal-agent" relationship develops. The "principal-agent" or "agency" conundrum has typically been linked to CG. The theory of agency, which was originated by Jensen and Meckling in 1976, has its foundations in the field of economics and holds the view that the shareholders, who are the principals or shareholders of the company, assign the management of the organization to the managers or agents. The shareholders anticipate that the agents will act responsibly and make choices for the greatest benefit of the principal, though they may do otherwise. As stated by Jensen and Meckling (1976), the delineation of managerial authority and ownership has led to a problem with the agency. Given the fact that executives may not always behave with respect of owners or shareholders when acting as the organization's representatives, whose uphold the company's standards. Conflicting priorities between both individuals may be the reason behind this. A symptom of agency issues is agency costs, which are the costs incurred when management and ownership are separated. The "agency costs" are the sum of the supervisory expenses of the person in charge, the representative's connecting expenses, and any extra expenses.

METHODOLOGY

The research design employed for the study is the ex post facto design as past data were gathered from the reports of the oil and gas firms listed on Nigerian Exchange Group (NGX) for the period from 2011 to 2021. This design was used because it allows for easy collection of secondary data without influences. All nine oil and gas companies that were listed on the Nigerian Exchange Group (NGX) as of 2023 make up the study's population. The firms in question include RAK Unity

Petroleum Comp Plc, Conoil Plc, Eterna Plc, Capital Oil Plc, Japaul Gold & Ventures Plc, MRS Oil Nig Plc, OANDO Plc, Seplat Energy Plc, and Total Energies Marketing Nig Plc. Out of the 9 listed companies, the data for all years included in the study were not available for Capital Oil Plc while RAK Unity Petroleum Comp Plc was in the process of liquidation and delisting hence their exclusion from the sample purposively selected for the present study. Secondary data sourced from the published audited financial reports from 2011 to 2021 of the 7 listed Nigerian oil and gas firms that were selected was employed for the purpose of the study. The data collected were analysed using both descriptive and inferential statistical approaches. Nevertheless, the multi-colinearity test and Hausman test were run on the data first. These tests were performed to make sure that the fundamental presumptions for a reliable regression model were taken into account, ensuring that the results generated by the model would not be fictitious and meaningless.

Model Specification

This research sought to determine how corporate governance (CG) affected financial leverage (FL) of oil and gas listed in Nigerian Exchange Group. For the purpose of achieving this goal, we use the model used by (Amin et al., 2022; Shahzad, et al 2022; Zeitun & Goaid 2022).

$$TDR = \beta_0 + \beta_1 ID_{it} + \beta_2 BS_{it} + \beta_3 BGD_{it} + \beta_4 FS_{it} + \beta_5 OCF_{it} + \beta_6 ROA_{it} + \mu_{it} \quad 1$$

$$STDR = \beta_0 + \beta_1 ID_{it} + \beta_2 BS_{it} + \beta_3 BGD_{it} + \beta_4 FS_{it} + \beta_5 OCF_{it} + \beta_6 ROA_{it} + \mu_{it} \quad 2$$

$$LTDR = \beta_0 + \beta_1 ID_{it} + \beta_2 BS_{it} + \beta_3 BGD_{it} + \beta_4 FS_{it} + \beta_5 OCF_{it} + \beta_6 ROA_{it} + \mu_{it} \quad 3$$

3.3 Measurement of Variables

Variable(S)	Symbols	Variable Description	Source
Dependent Variables			
Financial Leverage	Total Debt Ratio (TDR)	TD= Total Debt over Total Assets	Sani and Alifiah (2021); Amin et al., (2022)
	Short Term Debt Ratio (STDR)	STD= short term debt over total assets	Zeitun & Goaid (2022)
	Long Term Debt Ratio (LTDR)	LTD= long term debt over total assets	Zeitun & Goaid (2022)
Independent Variables			
	Independent Director (ID)	ID= Independent director on the board divided by total directors on the board	Amin et al., (2022); PeiZhi and Ramzan, (2020)
	Board Size (BS)	BS= Number of directors on the board	Zeitun & Goaid (2022)
	Board Gender Diversity (BGD)	BGD= Number of female directors on the board divided	Shahzad, et al (2022); PeiZhi and Ramzan,

		by total board size	(2020)
Control Variable			
	Firm Size (FS)	FS = Log of total assets	Amin et al., (2022)
	Operating Cash Flow (OCF)	OCF= Log of Net cash flow from operating activities	Zhang et al (2018)
	Return on Assets (ROA)	ROA = net income divided by equity	Shahzad, et al (2022)

Source: Author's Compilation (2025)

Result

Descriptive Statistics

Table 2: Descriptive Statistics

	Mean	Maximum	Minimum	Std. Dev	Skewness	Kurtosis	Obs.
TDR	0.7799	2.2137	0.0815	0.3368	2.4275	11.076	77
STR	0.6176	2.0746	0.0167	0.2841	1.5615	11.620	77
LTR	0.1623	1.794	0.0017	0.3033	3.6611	17.629	77
BGD	0.1625	0.375	0.0000	0.0976	-0.1145	2.3773	77
IB	0.2668	0.6667	0.0000	0.2088	1.9589	1.5988	77
BS	8.7403	13.000	6.0000	1.4815	0.4046	2.9648	77
FS	7.8027	8.4623	7.1579	0.3093	0.2776	2.6610	77
OCF	2704940	60999778	-2451458	11270432	1.9468	12.493	77
ROA	-0.0041	1.5049	-0.5561	0.2146	4.0848	33.589	77

Source: Author's Compilation (2025)

Table 2 displays descriptive statistics for each variable in our study. FL on average shows 0.7799, 0.6176 and 0.1623. This reveals that majority of firms involve utilized STDR more than LTDR. The analysis shows that CG proxy such as IB, BS and BGD shows the mean value of 0.2668, 8.7403 and 0.1625 respectively. This implies that majority of firms involve have 27% of independent directors, 16% of female directors and 9 members as board directors.

Correlation Analysis

Table 3: Correlation Analysis

	TDR	STR	LTR	BGD	IB	BS	FS	OCF	ROA
TDR	1								
STR	0.5338	1							
LTR	0.6106	-0.3437	1						
BGD	-0.3130	0.1155	-0.4558	1					
IB	0.31289	0.0842	0.2686	-0.1149	1				
BS	0.0961	0.142	-	-	0.188	1			

		5	0.026	0.125	9			
			7	0				
FS	0.2396	0.474	-	0.009	0.321	0.484	1	
		1	0.177	2	6	8		
			9					
OCF	-0.0503	0.065	-	0.120	0.079	-0.189	-	1
		1	0.116	8	3		0.014	
			9				1	
ROA	-0.4383	-	-	0.157	-	-	-	0.133
		0.119	0.374	7	0.195	0.131	0.155	3
		8	7		6	5	7	

Source: Author's Compilation (2025)

The analysis is frequently employed whenever we wish to determine the degree of the connection involving more than one variable. Three elements of CG, including IB, BS, and BGD, are shown in Table 3 above and have a favorable association with STDR. The analysis also reveals that IB and BS have a positive relationship with leverage proxy with TDR while BGD has an adverse relationship. Finally, the result reveals that only IB has a positive relationship with LTDR. It also reveals that the variables are free from multi-collinearity problem since none of the coefficients exceed 0.80.

Regression Result

This section shows the regression results for all the three equations (TDR, STDR and LTDR).

Table 4: Regression Analysis

	Random Effect		Fixed Effect		Fixed Effect	
	TDR		STDR		LTDR	
Variables	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
IB	-0.1813	-	-0.2715	-	-0.0050	-
		2.5628**		3.0821***		3.0163***
BS	-0.0132	-0.9906	-0.0261	-	-0.0059	-0.0689
				3.2421***		
BGD	-0.3093	-	-0.5002	-	-0.2120	-0.9809
		2.6762**		6.4157***		
FS	0.1834	2.4557**	0.1417	2.1894**	0.0453	0.9806
OCF	1.64E-10	0.1880	1.71E-09	3.3312***	6.31E-10	0.9072
ROA	-0.3807	-2.0255*	-0.0404	-0.8492	-0.2970	-
						3.0287***
C	-0.4391	-0.6817	-0.1104	-0.2185	-0.1062	-0.2863
R-squared		0.5286		0.8569		0.5105
Adjusted R-squared		0.4402		0.8301		0.4187
F-statistic		5.9804		31.947		5.5626
Prob(F-statistic)		0.0000		0.0000		0.0000
Durbin-Watson stat		1.5048		1.8587		1.6944
Braush- Pagan		5.3865		22.275		12.686
		(0.4953)		(0.0011)		(0.0483)
Hausman Test		4.6374		21.470		13.925

(0.5911)

(0.0015)

(0.0305)

Note: *** (0.01), ** (0.05), * (0.1)

Source: Author's Computation (2025)

The outcome regression findings for our hypotheses are shown in Table 4. We choose IB, BS, and BGD are our independent variables in accordance with our assumptions. The outcomes of the first model show a significant negative relationship between IB and leverage proxy with TDR (t-statistic = -2.5628; $p < 0.05$); also reveal an insignificant negative relationship between IB and TDR (t-statistic = -0.9906; $p < 0.05$) and while BS has an insignificant negative relationship with the dependent variable. Finally, the R² shows that overall, the CG and total debt ratio models account for 53% of all variability. The F-statistics also indicate that the first models have a positive significant relationship at a 1% level.

The second model shows a significant negative relationship between all the variables used to proxy CG and the short-term ratio. IB has a coefficient of -0.2715 (t-statistic = -3.0821; $p < 0.01$), BS has a coefficient of -0.0261 (t-statistic = -3.2421; $p < 0.01$), and BGD has a coefficient of -0.5002 (t-statistic = -6.4157; $p < 0.01$). The R² for the second model for CG and short-term debt (STDR) accounts for 86% of all variability. The F-statistics also indicate that the second model has a positive significant relationship at a 1% level.

The third model reveals IB has a coefficient of -0.0050 (t-statistic = -3.0163; $p < 0.01$). This implies that IB has a significant negative relationship with the firm's leverage proxy for long-term debt (LTDR). Other CG variables have a minimal negative relationship with the firm's leverage. R² for the third model for CG and LTDR is responsible for 51% of all variability. At a 1% level, the F-statistics indicate a positive and substantial between the both variables.

DISCUSSION OF THE FINDINGS

Independent Board (IB) and Financial Leverage (FL)

The IB variable used to represent CG had a substantial negative association FL proxy TDR, STDR, and LTDR. Thus, the unit change in the IB while holding other factors constant would decrease the financial leverage of listed firms by 18%, 27%, and 0.5% respectively. This research indicates that as the IB membership grows, the lower the firm's debt involvement. This result reveals that the engagement of an external or autonomous directors has a connection with improved monitoring, which may enable managers to effectively utilize the limited internal finance and reduce the need for high debt levels in such firms. The result is in line with agency and pecking order theory which assumes that internal sources of finance are preferred over external finance. It is also in line with the study of Peizhi and Ramzan, (2020) and Sani and Alifiah (2021) but contrary to Amin et al., (2022).

Board Size (BS) and Financial Leverage

Results of regression reveal that BS has a significant negative relationship with FL proxy TDR, STDR, and LTDR. Thus, the unit change in the BS while holding other factors constant would decrease the financial leverage of listed firms by 1.3%, 2.6%, and 0.6% respectively. The results indicate that with increase in board members, oil and gas firms' financial leverage decreases. Hence, the findings of this research contradict the claims of the agency theory, which supports a favorable association between board size and the structure of capital competence. The contention of the present research is inconsistent, as demonstrated by empirical

analyses of studies conducted in underdeveloped nations, some of which had positive, negative, or mixed findings and so ran counter to agency theory viewpoints. The outcome aligns with research from Damina et al. (2022); Shahzad et al., (2022), and PeiZhi and Ramzan, (2020) but contrary to Amin et al., (2022).

Board Gender Diversity (BGD) and Financial Leverage

The regression analysis reveals that BGD has a negative and significant relationship with firm leverage. It implies that a unit change in BGD while holding other factors constant would decrease the financial leverage of listed firms by 31%, 50%, and 21% respectively. This finding suggests that as the number of female board members rises, firm leverage decreases. The result is in line with (Loukil et al. 2016) who affirmed that men took more risks overall, which led to them taking on greater amounts of debt. Thus, woman directors are someone with the nature of risk-averse which prevents managers from obtaining external finance. It is also in line with the study conducted by PeiZhi and Ramzan (2020).

Furthermore, the study result revealed that all the CG variables are significant with the STDR compared to that of LTDR and TDR. This implies that Nigerian listed oil and gas firms finance their operating activities with short term debt more than long term debt. This might be as a result of low interest rate and easy access to the sources of debt.

CONCLUSION AND RECOMMENDATIONS

In this study, the association between company CG and FL of oil and gas companies listed on the Nigerian Exchange Group (NGX) was examined. We structured the study into three levels of FL using TDR, STDR and LTDR. This study's findings demonstrate the importance of meticulous oversight, autonomous trustees' knowledge, and careful supervision and may mandate firm managers to effectively utilize organization-limited finance through an internal source which may later prevent managers from seeking external sources of finance. It is therefore recommended that firms should include females as their board members and they should also have a sizable proportion of unaffiliated members on their boards, in order to be able to obtain debt capital on advantageous terms.

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