THE MODERATING EFFECT OF FAMILY CONTROL ON THE RELATIONSHIP BETWEEN BOARD OF DIRECTORS EFFECTIVENESS AND COST OF DEBT: EVIDENCE FROM OMAN

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ABSTRACT

This paper is aimed at examining whether or not family control can influence board of directors' effectiveness and thereby affect the cost of debt in the Sultanate of Oman. This paper reports the results from a hierarchical regression analysis based on 476 observations of firms listed on the Muscat Securities Market for the period 2005-2011. The paper contributes to the literature by extending previous cost of debt studies by considering the Sultanate of Oman business environment where family ownership control is more common. Additionally, this study contributes by using a composite measure of board of director characteristics to capture the combined effect of board effectiveness on the cost of debt based on the agency theory framework. This paper tests the moderating effect of family ownership control on the relationship between board of directors' effectiveness and cost of debt. The empirical results indicate that family control positively moderates the relationship between board of director effectiveness and cost of debt. The results of this paper are useful to all stakeholders (including debt holders) by providing them with an important indicator regarding the kind of controlling shareholder on the board of directors that will protect their interests, especially in an environment of limited legal protection and law enforcement.

1. INTRODUCTION

This paper examines the role of governance in determining the cost of debt among firms in the Sultanate of Oman by considering the governance arising from the board of director effectiveness and ownership type. One of the major benefits arising from stronger corporate governance is the growing availability of funding and access to cheaper sources of funds (Anderson et al., 2004; Ertugrul and Hegde, 2008; Piot et al., 2007; Fields et al., 2010). Companies can get low cost debt by reducing default risk due to the reduced agency problems and improved monitoring of managerial actions following stronger corporate governance (Bhojraj and Sengupta, 2003). However, as various governance mechanisms may operate in a corporation, it is imperative to know how governance structure influences the cost of debt.

One of the major sources of governance is the board of directors. Lefort and Urzua (2008) argue that the board of directors is a central body in the internal governance of a company, which provides a key monitoring function in dealing with agency problems inherent in organization management. Prior studies that empirically link the cost of debt with board of directors find that the board improves firm efficiency such that both creditors and shareholders benefit, thereby reducing the cost of loans and/or their covenant requirements (Anderson et al., 2004; Fields et al., 2010; Lorca et al., 2011).

In addition, ownership structure plays an important role in governing firms especially in countries with concentrated ownership structure. In the context of Oman, controlling families possess deep-seated traditional values and norms (e.g., personal relations, preference for individuals from respective tribes), which influence their intentions and behavior (Ali, 1990). Omran et al. (2008) find that more than 78% of firm ownership in Oman is in the hands of private institutions and individuals. This can be considered high as compared to the holding of family firms in other countries which are 60% in the US (Poza, 2007), 44% in Western Europe (Faccio and Lang, 2002), 46.47% in the UK (Faccio and Lang, 2002), 66% in East Asia (Classens et al., 2002) and 68% in Arab countries (Omran et al., 2008). These findings show that firms in the Sultanate of Oman have a more concentrated ownership in which family ownership is more common. Therefore, it is crucial to examine whether or not family control can influence board effectiveness and thereby affect the cost of debt in the Sultanate of Oman.

Prior studies suggest that the intensity of the board of directors' effectiveness in monitoring management is greatly affected by the ownership type (Bennett et al., 2003). Desender (2009) argues that monitoring by the board of directors is more important when ownership is diffused as opposed to concentrated. In firms with diffused ownership structure, there is no enticement or capability to monitor management directly (Aguilera, 2005; Davies, 2002). For instance, in companies controlled by large shareholders, even with an efficient board of directors, the cost of debt could not be reduced (Bhojraj and Sengupta, 2003) as members of the board might simply be appointed as a legal requirement (Kosnik, 1987). In firms with concentrated ownership structure, controlling shareholders have equal motivation and ability to hold management responsible for activities not associated with their interests through their direct monitoring (Bohinc and Bainbridge, 2001). For instance, family owners put more efforts into monitoring managers than other types of large shareholders, suggesting that the agency problem may be less prevalent in family firms as less information asymmetry, conflict of interest will be inherent in manager-owner firms (Anderson et al., 2003). This is because the owner is more likely to elect members of the board of directors based on family name and reputation in a business (Bartholomeusz and Tanewski, 2006). However, the agency problem is perceived to be more severe in the family firm as family owners may have both incentive and the ability to extract private benefits at the expense of minority shareholders which is harmful to firm value. Consequently, under this kind of controlling mechanism, the board of director may work in a substitutable fashion for the cost of debt.

Considering the importance of board of directors and family ownership control in corporate governance, this study explores the role of family ownership control in influencing the effectiveness of board on cost of debt. This study employs a hierarchical regression analysis to test the moderating effect of family ownership control. We use 476 observations of firms listed on the Muscat Securities Market for a period of seven years (2005-2011). The findings of this study show that family ownership control positively influences the relationship between board of director effectiveness and cost of debt.

Previous cost of debt studies show that the quality of board of directors leads to reduced cost of debt (Anderson et al., 2004; Ertugrul and Hegde, 2008; Piot et al., 2007; Lorca et al., 2011; Fields et al., 2010). This paper contributes to the literature in extending these

studies by considering the Sultanate of Oman business environment where family ownership is more common and the legal protection of minority shareholders is weak (Omran et al., 2008). Additionally, this study contributes by using a composite measure of board of director characteristics to capture the combined effect of board effectiveness on the propensity of cost of debt based on the agency theory framework. The significant findings of family ownership control indicate that this type of control is important to fully understand the association between the board of director effectiveness and cost of debt in the Sultanate of Oman. The remainder of the paper is organized as follows. Section 2 provides the literature review and develops the hypothesis. Section 3 describes the methodology. Section 4 discusses the findings and the final section concludes.

2. PREVIOUS LITERATURE

Corporate governance has been identified in previous studies (Friend and Lang, 1988; Abor, 2007) as influencing capital structure decisions. According to Piot et al. (2007), the major difference between debt and equity capital is that debt holders lack effective control on use of funds they provide. These funds can then be diverted by corporate managers acting opportunistically in their self-interest, or in the interests of shareholders. Since these risks are anticipated by debt holders, they demand a higher return on the debt. Thus, these external capital providers might pay attention to overall quality of company monitoring devices.

Board of directors is one of the main important mechanisms of internal corporate governance (Lefort and Urzua, 2008). Fields et al. (2010) argue that the board of directors improve firm efficiency such that both creditors and shareholders benefit, thereby reducing the cost of loans and/or their covenant requirements. For example, board diversity may cause banks to have greater faith in internal governance mechanisms and thus reduce borrowing cost. In addition, greater board experience may lead to better quality advice to management and lead to better terms for debt. Generally, the quality of the board may have a material impact on the cost of debt.

Previous literature on cost of debt has empirically linked board of directors' characteristics with cost of debt. For example, in the US, Anderson et al. (2004) examine the impact of board independence, size and diversity on cost of debt. This study finds a

negative relationship between board size, independence and the cost of debt, but fails to find a relationship between board diversity and the cost of debt. Ertugrul and Hegde (2008) examine three board structures (i.e., size, independence and tenure), and find them to be negatively related with cost of debt. Likewise, Fields et al. (2010) examine the association between board quality (board size, board independence, the presence of an advisory board member, board experience, female board members, director pay, and director ownership) and cost of debt. The results of this study show a negative influence for board size and board independence on the cost of debt. However, this study fails to find any association between other board quality features and cost of debt. Similarly, Piot et al. (2007), using a sample of firms in France, find a negative effect of board independence and cost of debt. Lorca et al. (2011), using a sample of firms in Spain, investigate board attributes (size, independence, duality, activity, multiple directorships, and director ownership) and cost of debt. They only find negative effect of board activities and director ownership on the cost of debt.

Generally, the results of these studies indicate that the quality of board of directors leads to reduced cost of debt. However, a vast majority of research linking corporate governance with the cost of debt has been carried out in countries with Anglo-Saxon regulations which are fundamentally different from corporate governance mechanisms in developing countries such as the Sultanate of Oman. Young et al. (2008) indicate that the effectiveness of the board of directors depends on the institutional structure of companies and countries. For example, in companies owned or controlled by large shareholders, even with effective board of directors the cost of debt could not be reduced (Bhojraj and Sengupta, 2003) as board members may be appointed as a legal fiction (Kosnik, 1987). We extend the existing studies by examining corporate governance practices in the Sultanate of Oman where the families are the controlling shareholders in the majority of the listed companies (Omran et al., 2008). Question of whether family ownership provides an incentive to reduce of agency costs or create it, remains an open empirical issue as there are two conflicting views on the relationship between family ownership and agency costs.

On the one hand, several researchers agree that family ownership has an incentive to reduce agency costs through a better alignment of shareholder and managerial interests. For instance, Khan et al. (2013) and Bartholomeusz and Tanewski (2006)

highlight several reasons that favor family firms as agents to reduce agency costs. First, as the benefits and costs of the company are borne by the same person; family firms have more incentive to protect their wealth as it is tied directly to company welfare. Second, family firms have greater expertise concerning the firm's operation that places them in a better position to effectively monitor the firm's activities. Third, in order to protect the family's name and reputation, family firms strive to maximize firm long-term wealth. Fourth, family members are tied together and this creates a special and unique relationship that develops loyalty, efficient and effective communication and decision making, which in turn reduces agency costs.

Miller and Breton-Miller (2006) indicate that monitoring costs are lower in family owned firms because there is less need to appoint outside directors to watch over the management. Furthermore, Ali et al. (2007) explain that family firms will face less deliberately-concealed action and deliberately-concealed information arising from the separation of ownership and management. This is because families have a propensity to hold undiversified and determined equity position, and they have a good understanding about their firm's performance and considerable representation by family members as directors (Anderson and Reeb, 2003). For this reason, the need for monitoring by the board in these companies will be different from non-family firms. In their research, Anderson and Reeb (2003) find that controlling families are more liable to appoint independent directors for recommendations on running the business rather than for monitoring management activities.

On the other hand, several researchers indicate that concentrated ownership by family firms creates agency costs. Bartholomeusz and Tanewski (2006) show that family firms might use their concentrated block holding to expropriate the wealth of outside shareholders through excessive compensation, related-party transactions, and special dividends. Ali et al. (2007) argue that family firms face more challenges, in the form of agency problems arising from the divergence between controlling and non-controlling shareholders. This is because the control benefit from the founding families gives them authority to search for private benefits at the expense of other shareholders. For instance, family firms disadvantage non-controlling shareholders by sustaining the lack of transparency; this can be seen from empirical studies that find a negative relationship between family ownership and

voluntary disclosure (Ho and Wong, 2001; Gan et al., 2008; Akhtaruddin et al., 2009).

Likewise, given that their wealth is undiversified, family firms tend to be risk avoidant; they might use their control to invest in less risky projects unaligned with other shareholders' interests (Anderson and Reeb, 2003; Khan et al., 2013). Family possession also has the potential to aggravate the agency problem arising from the variance of ideas between shareholders and debt holders. For example, once a family has enough ownership for recognized control, the family can begin to use its power by taking resources out of the business (Claessens et al., 2002). In these circumstances, the main shareholders may use their controlling position in the firm to free ride by using the firm's assets for personal profits and enhance the rights of family members (Schulze et al., 2003). Furthermore, family firms have a higher probability to be characterized by special dividend pay-out ratios or excessive reimbursements (Anderson and Reeb, 2003).

Given the importance of board of directors and ownership structure in the context of agency cost, there is a need to consider the role of both board of director effectiveness and family ownership on cost of debt. Because no studies have considered this issue with the cost of debt, we present the literature that link between board of director effectiveness, family ownership and financial reporting quality. In financial reporting quality studies that focus on corporate disclosure, family ownership has been shown to have a moderating effect on the relationship between board of directors and disclosure. Chen and Jaggi (2000) examine whether family ownership influences the positive relationship between the proportion of independent boards of Hong Kong firms and the comprehensiveness of financial disclosure. They find that the positive association appears to be weaker for family controlled firms as compared to non-family controlled firms, and suggest that family ownership may reduce the effectiveness of independent boards in convincing management to provide more comprehensive information. Additionally, Chau and Gray (2010) examine the relationship between board independence and voluntary disclosure for 273 Hong Kong companies. They find that board independence is positively related to voluntary disclosure. However, this relationship is weaker in companies controlled and owned by family members. In Thailand, Chobpichien et al. (2008) find that family ownership negatively moderates the relationship between board of

directors' quality and voluntary disclosure.

Studies focused on earnings management as a measure of financial reporting quality generally find that family ownership affects the relationship between board of directors and earnings quality. Jaggi et al. (2009) examine whether family ownership affects the relationship between board independence and earnings management for 309 Hong Kong companies. They find that the relationship is weak in the companies controlled and owned by family members. They argue that monitoring by the board and family members is a substitute in curbing earnings management. Similarly, in Malaysia, Hashim (2011) finds that the proportion of independent non-executive directors on the board is lower and earnings management is weaker in the family controlled firms.

Similar to the empirical evidence shown by financial reporting quality studies, we perceive that the moderating effect of family ownership is also applicable in the context of our research. Generally, the empirical results reviewed how the quality of board of directors leads to reduced cost of debt (Anderson et al., 2004; Ertugrul and Hegde, 2008; Fields et al., 2010; Lorca et al., 2011; Piot et al., 2007). This paper attempts to extend these prior studies by examining the influence of family ownership control on the relationship between the board of director effectiveness and the cost of debt in the Sultanate of Oman where controlling family ownership is widespread and the legal protection of minority shareholders is weak (Omran et al., 2008). Within this weak regulatory framework, the controlling family can expropriate minority shareholders' rights by appointing closely related directors, which might reduce the effectiveness of the corporate governance mechanisms that influence debt decision and consequently the cost of debt. Based on these arguments, we propose that the relationship between the board of director effectiveness and cost of debt is moderated by family ownership control. The hypothesis is:

H_1: Family control influences the association between board of director effectiveness and cost of debt.

3. METHODOLOGY

3.1 HIERARCHICAL REGRESSION

Hierarchical regression is used in order to test the influence of family ownership control on the relationship between board of director's effectiveness and cost of debt. Previous literature suggested that

hierarchical regression is a usually used technique in testing moderating effects (Baron and Kenny, 1986; Frazier et al., 2004; Auh and Menguc, 2005; Kim et al., 2008; Ishak and Al-Ebel, 2013). Baron and Kenny (1986) argue that hierarchical regression is a suitable method for determining the moderating effect of a quantitative variable on the association between other quantitative variables. In addition, Aguinis et al. (2008) indicate that hierarchical regression analysis is a fairly simple procedure to test the hypotheses about moderating effects. Hierarchical regression determines the order of entry of the variables. F-tests are used to compute the significance of each added variable (or set of variables) to the explanation reflected in R^2 (Cohen and Cohen, 1983).

Following Baron and Kenny (1986) and Ishak and Al-Ebel (2013), the data are regressed in several steps. The first step is to regress the control variables (firm size, leverage, performance, auditor reputation and interest coverage rate) against the cost of debt. In the second step, the predictor variable (board of directors' effectiveness) and the control variables are regressed against the cost of debt. In the third step, the moderator variable (family ownership control) is added to the regression model in the second step. In the fourth step, the predictor variable is multiplied with the moderator variable to create an interaction variable (board of director effectiveness*family ownership control). This interaction variable is then regressed against the cost of debt together with the predictor, moderator and the control variables. The models are as follows:

(1) $\quad COD_{it} = a_0 + \beta_1 FS_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 BIG4_{it} + \beta_5 ICR_{it} + \varepsilon_{it}$

(2) $\quad COD_{it} = a_0 + \beta_1 FS_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 BIG4_{it} + \beta_5 ICR_{it} + \beta_6 BoDEF_{it} + \varepsilon_{it}$

(3) $\quad COD_{it} = a_0 + \beta_1 FS_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 BIG4_{it} + \beta_5 ICR_{it} + \beta_6 BoDEF_{it} + \beta_7 FOWC_{it} + \varepsilon_{it}$

(4) $\quad COD_{it} = a_0 + \beta_1 FS_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 BIG4_{it} + \beta_5 ICR_{it} + \beta_6 BoDEF_{it} + \beta_7 FOWC_{it} + \beta_8 BoDEF_{it}*FOWC_{it} + \varepsilon_{it}$

where: i represents company, t is the time period, COD is cost of debt, FS is firm size, LEV is leverage, ROA is return on assets that represent performance, $BIG4$ is auditor reputation, ICR is interest coverage rate, $BoDEF$ is board of director effectiveness, $FOWC$ is family ownership

control, *BoDEF*FOWC* is the interaction term of *BoDEF* and *FOWC*, and ε is error term.

3.2 SAMPLE SELECTION

The population of this study consists of financial and non-financial firms listed on the Muscat Securities Market (www.msm.gov.om/default.aspx) over the period 2005 to 2011. Because of differences in the regulatory requirements, and the characteristics of their financial reports, banks and other financial institutions were excluded from the population (Byun, 2007; Kim et al., 2009; Lorca et al., 2011). Moreover, companies whose annual reports were unavailable online or had incomplete data, and had no long and short term debt, were excluded from the population. Table 1 provides a summary of the sample.

TABLE 1
Sample Selection for the period 2005-2011

Sample Selection	Total cases
Companies extracted from the Muscat Securities Market in 2011	116
Less:	
Banks and financial institutions	(31)
Companies with incomplete data	(6)
Companies with no long and short term debt	(11)
Sample	68

As shown in Table 1, after eliminating 31 banks and financial institutions, 6 companies with incomplete data, and 11 companies with no long and short term debt, the sample was reduced to 68 resulting in 476 firm-year observations for the period 2005 to 2011.

3.3 MEASUREMENT OF VARIABLES

3.3.1 DEPENDENT VARIABLE

The dependent variable is the cost of debt (*COD*), which is calculated as the interest expenses for the year divided by the average of short-term and long-term debt (Lorca et al., 2011; Piot et al., 2010; Kim et al., 2009; Pittman and Fortin, 2004).

3.3.2 KEY VARIABLES

The key variables of this paper are board of director effectiveness (predictor variable), family ownership control (moderator variable), and an interaction term between board of director effectiveness and family ownership control (interaction variable). The predictor variable is represented by a composite measure of effectiveness (*BoDEF*). The board characteristics used for measuring effectiveness are: 1) board size measured as total number of directors available on the board (Anderson et al., 2004); a large size board can help the company to reduce the state of dependence and uncertainty, and provide a wider range of knowledge and managerial experience (Pfeffer and Salancik, 2003). 2) Independent directors are measured as proportion of independent directors to total directors on board (Abdullah et al., 2014). Byrd and Hickman (1992) point out that an independent director contributes expertise and objectivity, which minimizes managerial entrenchment and expropriation of firm resources. 3) Board of director meetings are measured as number of meetings held by the board during the year (Rahman and Ali, 2006). Garcia and Ballesta (2009) consider the number of board meetings to be a good proxy for the directors' monitoring effort. 4) Directorships are measured as directorship held by all directors of the firm for each year divided by the total number of directors for each year (Ahmed and Duellman, 2007). Lipton and Lorsch (1992) argue that multiple directorships can adversely affect the ability of the directors to monitor the management as they are distracted by the affairs of other organizations. From these characteristics measures, we obtain the sample median for each characteristic over the years, and then compare each value of characteristic for every year with the sample median. A value of one (1) is assigned when the measure is equal to or above the sample median and zero (0) otherwise. These values are then summed to obtain a composite score ranging between "0-4", with higher score indicates higher board effectiveness (Dhaliwal et al., 2008; Hoitash et al., 2009; Ishak and Al-Ebel, 2013). We choose to use the composite measure because it represents a comprehensive measure of board effectiveness. Cai et al. (2008) indicate that governance in a corporation is achieved via various mechanisms and the effectiveness of a specific mechanism relies on the effectiveness of other mechanisms (Davis and Useem, 2002; Rediker and Seth, 1995). Therefore, it is fundamental to consider corporate governance as a composite measure because governance

mechanisms operate in a complementary manner (Ward et al., 2009; Ramly, 2013).

The moderating variable is family ownership control (*FOWC*). We identify the family ownership control by assigning a value of one (1) for firms in which family shareholders own 5% [1] or more of the total equity, and zero (0) otherwise (Chahine, 2007; Jaggi et al., 2009). As compared to prior studies that measure family ownership as a percentage of shareholdings of identified major family shareholders, our approach considers that a shareholder will be able to control the company if he or she has the majority of cumulative large shareholdings (Jiang and Habib, 2009). By using dichotomous variable to represent family ownership control, we are able to capture a broader range of family owned companies that consider both direct and indirect family ownership.

According to Aiken and West (1991), to detect moderating effect, the interacting terms must be created. The interaction term is the product of multiplying the predictor variable with the moderator variable. This paper creates the interaction variable (*BoDEF*FOWC*) by multiplying the predictor variable board of director effectiveness (*BoDEF*) with the moderator variable family ownership control (*FOWC*).

3.3.3 CONTROL VARIABLES

This paper includes control variables that have been shown in prior studies to have significant impact on borrowing cost (Anderson et al., 2003, 2004; Ballesta and Meca, 2011; Lorca et al., 2011). We include firm size (*FS*) which is measured by the natural logarithm of total assets (Ghosh and Sirmans, 2005). Generally, larger firms have lower risk and are expected to have economies of scale in the cost of debt (Blackwell et al., 1998). Leverage (*LEV*) is calculated as the percentage of total debt to total assets to capture the differences in firms' financial structures and to proxy default risk (Fields et al., 2010). Firms with greater debt intensity present higher risk to debt providers, and thus are expected to have a higher cost of debt. We include return on assets (*ROA*) by dividing the net profit to total assets as an indicator of a firm's financial performance (Haniffa and Hudaib, 2006). Following Lorca et al. (2011), we include Big4 audit firms (i.e., Deloitte, PwC, Ernst & Young, and KPMG) as a proxy for auditor reputation. It is measured as a value of one (1) for firms with big four audit firm (*BIG4*) as the auditor, and zero (0) otherwise. Interest coverage rate (*ICR*) is calculated as the ratio of

operating profit over interest expense for the period to proxy for default risk (Anderson et al., 2004); lower *ICR* reflects a greater risk of default.

4. RESULTS AND DISCUSSION

4.1 DESCRIPTIVE STATISTICS

TABLE 2
Descriptive Statistics

	Minimum	Maximum	Mean	Standard Deviation
COD	0.012	0.129	0.063	0.022
BoDEF	0.000	4.000	1.712	0.933
FOW	0.000	0.992	0.169	0.228
FS	5.440	8.851	7.131	0.605
LEV	0.053	1.091	0.546	0.251
ROA	−0.288	0.298	0.043	0.088
BIG4	0.000	1.000	0.592	0.492
ICR	−61.114	102.119	12.133	24.378

Note: Total number of observations for all variables is 476. COD (Cost of Debt) = Interest expenses for the year divided by the average of short-term and long-term debt. BoDEF (Board of Director Effectiveness) = Score ranging between "0-4", with higher score indicates higher effectiveness of the board, and zero (0) otherwise. FOW[2] (Family Ownership) = Percentage of family ownership. FS (Firm Size) = Natural logarithm of total assets. LEV (Leverage) = Percentage of total debt to total assets. ROA (Return on Assets) = Percentage of the net profit to total assets. BIG4 (Auditor Reputation) = A value of (1) for firms with big four audit firm, and (0) otherwise. ICR (Interest Coverage Rate) = Ratio of operating profit over interest expense for the period.

Table 2 reports the descriptive statistics for the sample. The average *COD* is 6.3% with a maximum and minimum value of 12.9% and 1.2%, respectively. The standard deviation of *COD* is 2.2%. For *BoDEF*, the mean value is 1.712 for a theoretical frame scale that spans from 0.0 to 4.0. Untabulated result shows that 22% (15 firms) of the sample has a score of 0.0, while 10.29% (seven firms) of the sample has a score of 4.0. In addition, the descriptive statistics shows that *FOW* varies from 0 to 99%, with an average of 16.9% and a standard deviation of 22.8%.

In terms of the control variables, Table 2 shows that the mean *FS* is 7.13 with a minimum value of 5.44 and a maximum value of 8.85. The sample has an average *LEV* of 54.6%. The minimum and maximum *LEV* is 5% and 109%, respectively. The maximum value of *LEV* is more than 100% because some companies have large values of accumulated losses over the years which has caused total amount of liabilities to be over the total amount of assets. The average *ROA* is 4.3% with minimum and maximum value of −29% and 30%, respectively. The negative sign of the *ROA* implies that some firms experience a loss during the study period. *BIG4* audit firms audit 59.2% of the sample companies. *ICR* varies with a minimum value of −61.11% and a maximum value of 102.12%. The average value of *ICR* is 12.13%.

4.2 HIERARCHICAL REGRESSION RESULTS

TABLE 3
Hierarchical Regression Results

Dependent Variable	Step 1	Step 2	Step 3	Step 4
FS	−2.21**	−1.85*	−1.60	−1.47
LEV	−1.87*	−1.94*	−1.81*	−1.68*
ROA	−0.59	−1.00	−0.94	−1.05
BIG4	−3.47***	−2.76***	−2.69***	−2.69***
ICR	−2.97***	−2.14**	−1.98**	−1.57
BoDEF		−6.79***	−6.63***	−6.50***
FOWC			1.54	1.58
*BoDEF*FOWC*				2.75***
R^2	0.104	0.185	0.189	0.202
Adjusted R^2	0.095	0.175	0.177	0.188
R^2 change		0.080	0.004	0.013
F-change		46.136	2.375	7.536
Significant *F*-change		0.000	0.124	0.006

Note: ***, ** and * indicate significant at 1%, 5% and 10%, respectively. Refer Table 2 for description of details except for *FOWC*, that takes a value of one (1) for firms in which family shareholders own 5% or more of the total equity, and zero (0) otherwise.

Table 3 presents the hierarchical regression results that test the hypothesis. As shown in Table 3, the variables are entered into the regression equation through four steps. The first step is to test the control variables; the second step is to test the main independent variable; the third step is to test the moderating variable; and the final step is to test the interaction variable. By running these four steps, we

can see the improvement in R^2 when the variables are entered in step 2, step 3 and step 4. The R^2 change is tested with the F-test, which is referred as the F-change. A significant F-change means that the variables entered in that step significantly improved the prediction. Hair et al. (1998) indicate that the change of R^2 and significant F-change should be used to determine the moderation effect. Therefore, a significant change in R^2 in step 4 with insignificant change in R^2 in step 3 indicates a pure moderator. Nevertheless, significant change in R^2 in step 3 and step 4 are indicating a quasi moderator. Otherwise, if both the change in R^2 in step 3 and the step 4 are not significant, there is no moderation effect (Chobpichien et al., 2008). Our hypothesis is supported if moderation effect exists.

In the column Step 1, the coefficient of determination (adjusted R^2) is 0.095. In the column Step 2, by adding *BoDEF*, the adjusted R^2 increases to 0.175. This R^2 change of 0.080 is statistically significant. The result implies that an additional 8% of the variation in *COD* is explained by the effectiveness of the board of directors. The column Step 2 shows that *BoDEF* has a significant and negative relationship with *COD* ($p = 0.01$). The results provide support for the argument that the *COD* is lower in firms with higher *BoDEF*.

However, the significance F-change is 0.124 when the *FOWC* is entered as a moderating variable in Step 3. This indicates that increase in adjusted R^2 of 0.004 (from 0.175 to 0.177) is not significant. Further *FOWC* is not significantly associated with *COD*. In column Step 4, the interaction between *BoDEF* and *FOWC* is entered. The result shows that the adjusted R^2 increased to 0.188 and R^2 change (0.013) is significant. In addition, the beta coefficient for the interaction variable (*BoDEF*FOWC*) is positive (at $p = 0.01$ significance level). This suggests that family ownership control positively moderates the relationship between the *BoDEF* and *COD*. Thus, the hypothesis of this study is supported.

Based on the hierarchical regression results, when *BoDEF* is entered into the regression in step 2, we find that the relationship between the board of director effectiveness and the cost of debt is significant and negative at the 1% level. Our result in step 2 supports previous findings by Ramly (2013) that companies with high quality of governance reduce the cost of debt. Moreover, our result is in line with Fields et al. (2010) that the board of directors improve firm efficiency in such a way that both creditors and shareholders benefit, thereby reducing the cost of loans and/or their covenant requirements. Additionally, when *FOWC* is entered into the

regression in step 3, our result indicates that there is no direct influence of the family ownership control on the cost of debt; this is because family ownership influences the effectiveness of board of directors and thereby affects the cost of debt.

In step 4 when *BoDEF*FOWC* is entered into the regression, our result shows that the coefficient of *BoDEF*FOWC* is positive and significant at the 1% level. Our result suggests that family ownership influences the board of director effectiveness and thereby affect the cost of debt. Our result is in line with the arguments that family ownership or control and board of director effectiveness are substitutes in influencing the cost of debt. This result supports the argument that the agency problem in the companies with high family ownership is changed from agency cost between management and owner to agency cost between larger shareholders and smaller shareholders. This is apparent in countries where minority shareholder protection is weak. Likewise, our results are in line with the argument by Ali et al. (2007) indicating that powerful families that control public listed companies have the ability to confiscate wealth from minority shareholders. Consistent with LaPorta et al. (1999), we find that in countries with weak legal environment, the possibility of expropriation of minority shareholders' wealth is more common.

5. CONCLUSION

This paper aimed at identifying whether family ownership or control influences the relationship between board of director effectiveness and the cost of debt. This paper extends previous cost of debt studies by considering the Sultanate of Oman business environment which is characterized by the absence of a well-developed bond market, weak regulations and family corporate control. Further, firms in the Sultanate of Oman have a more concentrated ownership structure in which family ownership is more common. In addition, we contribute to the literature by employing a composite measure of board of director effectiveness to capture the combined effect of these features on the propensity of cost of debt.

The empirical results of this paper, which is based on pooling data for companies listed on the Muscat Securities Market over the period 2005 to 2011, reveal that board of director effectiveness plays a significant role in explaining the cost of debt. We find that family ownership or control influences the relationship between the board of director effectiveness and cost of debt. Additionally, we also find that

monitoring effectiveness by the board of directors on the cost of debt is reduced in family controlled firms. The results of this paper are useful to all stakeholders (including debt holders) by providing them with an important indicator regarding the kind of controlling shareholder and board of director that will protect their interests. This paper also benefits the regulators and policy makers in Oman and other GCC countries as it can assist them in analyzing the impact of corporate governance mechanisms on the cost of debt. In addition, in an environment where the legal protection is low, one cannot assume that the board of directors is effective in the monitoring role. Rather the influence of family ownership needs to be considered in evaluating the firm performance including default risk.

Nevertheless, this paper has some limitations. First, it only focuses on family ownership. Other types of ownership are ignored because family ownership control is more common in Oman. Second, the sample of this paper is based only on the non-financial companies listed on the Muscat Securities Market. Therefore, the validation of the conclusions might not hold for financial companies and non-listed companies. Future research can examine this issue of cost of debt in different contexts such as different countries and different economic cycles. In particular, the validity of this model can be examined in different contexts of GCC countries, in different time periods, and with different sample size.

ENDNOTES

[1] The Muscat Securities market requires each listed company to disclose the ownership of individual, corporation or the government that owns 5% or more of the total equity.
[2] Family ownership is measured as a percentage of total shareholdings of major family shareholders in the descriptive statistics to clearly describe the data.

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