

BOARD OF DIRECTORS, FIRM PERFORMANCE AND THE MODERATING ROLE OF FAMILY CONTROL IN JORDAN

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ABSTRACT

This study aims to examine whether the family control affects the relationship between the effectiveness of board of directors and firm performance. This study depends on a panel data set drawn from 120 firms listed on the Amman stock exchange for the period from 2009 to 2013. The mechanisms of the effectiveness of the board of directors are considered as predictors of the firm performance that will be measured by the return on assets (ROA) and Tobin's Q. The family control represents the moderating variable. To identify the moderating impact of the family control on the relationship between the effectiveness of the board of directors and performance, this study depends on a composite measure of the effectiveness of board of directors to capture the aggregate impact of board's effectiveness on firm performance. The findings of the hierarchical regression analysis find that the family control has a significant negative moderating impact on the relationship between the effectiveness of board of directors and firm performance measured by Tobin's Q. Conversely, the study found an insignificant positive relation with ROA.

Keywords: Corporate Governance, Board of Directors, Family Control, Firm Performance.

INTRODUCTION

The purpose of this study is to investigate the moderating effect of family control on the relationship between the corporate governance mechanisms represented by the board of directors and firm performance of Jordanian listed firms. Corporate governance has become one of the most important issues discussed in the world of economics because it represents an important factor that reinforces the success of the economy and organizational reforms (Akbar, 2015; Emile et al., 2014). Black et al. (2006) argue that the firms with good corporate governance have a better performance than the firms with poor corporate governance.

One of the main components of corporate governance is the board of directors. Liu and Fong (2010) devote that the board of directors is considered as a governance structure safeguard between the firm and the shareholders and also as one of the most important mechanisms of corporate governance. Agency theory argues that the board of directors is responsible for reducing and hiding the conflict of interests between the managers and shareholders. Accordingly, this might lead to improved firm performance (Fama & Jensen, 1983; Liu & Fong, 2010).

Previous studies have examined the direct relationship between the board of director's effectiveness and firm performance such as (Aggarwal, 2013; Darko et al., 2016; Haniffa & Hudaib, 2006; Marashdeh, 2014), yet the findings of these studies are still inconclusive and

mixed. Garcia-Castro and Aguilera (2014); Guo (2011) conclude that the mixed and inconclusive findings might arise due to the lack of relevant control variables or the absence of moderator variables. In other words, it assumes that there is a third variable (moderator variable) may influence on such relationship, such as the effect of family control as suggested by Al Dubai et al. (2014); Amrah et al. (2015); Campbell et al. (2010).

This study focuses on the effect of family control because of the family company's relative dominance in Jordanian environment. Jordan represents an institutional setting characterized by the presence of high ownership concentration levels across most of the companies listed on Amman stock exchange that are controlled by ownership concentrated (i.e. family ownership) (Haddad et al., 2015; Makhoulf et al., 2018; Makhoulf et al., 2017). In this context, Makhoulf et al. (2017) found that 23% of boards' seats in Jordanian firms are dominated by families' members who hold 25% of companies' shares. Collins and O'Regan (2011) argue that the studies related to family business have many research gaps. One of these gaps is the association between family involvement and its effect on the firm performance (Al Dubai et al., 2014; Filatotchev, Lien, & Piesse, 2005). Jensen and Meckling (1976) assert that family involvement in the board is effective in coping with agency problems because the family members have advantages in controlling and supervising decisions which are related to the agents. In addition to that, the family members have superior monitoring abilities that are related to diffused shareholders, moreover they have a desire to preserve wealth for the coming generations (Desender, 2009).

Based on the aforementioned discussions, this study focuses on the effect of family control as a moderating variable on assuming that the presence of family control is likely to affect the monitoring effectiveness of the board and has a control over the appointment of board members (Adiguzel, 2013; Anderson & Reeb, 2004; Prencipe & Bar-Yosef, 2011). In addition, family members represent a unique group of large shareholders who may have a different incentive structure, and have the power in taking the long term strategic decisions on assuming that the firm is their own business (Desender, 2009). In order to the importance of board of directors and family control in corporate governance, we aim to investigate the role of family control in influencing the effectiveness of board directors on firm performance.

This paper contributes to the literature by a twofold; firstly, where family control is more prevalent in Jordan, but it differs from those of the developed countries, thus, findings drawn from studies conducted in these contexts may be impracticable when compared to the effectiveness of board of directors in enhancing firm performance or alleviating agency conflicts in Jordan. Therefore, to the best of our knowledge, this is the first study that examines the moderating effect of family control on the relationship between the board of directors' effectiveness and firm's performance in the Middle East region and Jordan particularly. Secondly, this study contributes to the literature through examining the effectiveness of board of directors in improving firm performance which is influenced by the family control in the Jordanian environment

The rest of this paper is organized as follows: next section discusses the literature review and hypothesis development. Section three describes the data and the empirical method of the study; Section four presents a discussion of the empirical results; Fifth section presents the research summary and conclusions.

THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

Board of directors is the top executive unit of a company and responsible for supervising the management on behalf of shareholders. Previous literature linked the board of directors' characteristics with firm performance. Haniffa and Hudaib (2006) examine some of board of directors' characteristics (board size, multiple directorships and role duality), and find them to be significantly associated with the firm performance. Al-Matari et al. (2014) use a sample of Omani firms to investigate board characteristics (board size, board independence, board meeting, CEO tenure and CEO duality) they find a non-significant positive relationship between all the characteristics and firm performance except the board independence is negative. By using a sample of 115 firms listed on the Amman stock exchange, Marashdeh (2014) examines the effect of board size, CEO duality and non-executive directors, and finds mix results. His findings fail to reveal any significant effect of the board size on firm performance, while the CEO's duality has a positive impact on firm performance. However, non-executive directors have a negative impact on such relationship.

Generally, the mix results of previous studies indicate that the effect of the board of director's effectiveness on the firm performance may depend on the board of directors' structure (i.e. board's composition) (Liu & Fong, 2010). In Jordan, the firm ownership structure plays a significant role to affect the firm performance. Especially, when the decision makers (managers and the board of directors) themselves are the shareholders or have control (i.e. family control).

Anderson and Reeb (2004) argue that the board of directors that consists of family members and independent members is more effective than the board that consists of outside directors only because the family members assume that they have more information about their own business. Therefore, the family members have a loyalty to the firm more than the outsiders' members on assuming that these firms are part of their properties (Chen et al., 2011). Additionally, the presence of family members in board of directors helps the firms to achieve higher performance than those which is managed by outside directors. Moreover, the existence of family ownership creates more value especially when the founder is a CEO of the family firm or as Chairman with a hired CEO (Amran, 2010; Villalonga & Amit, 2006).

From the agency theory, family directors have many ways to exchange the opinions together because the communications channels between the family members are open, therefore, they will have advantages such as monitoring management work (Fama & Jensen, 1983). Jensen and Meckling (1976) conclude that the firm under family control solves the agency problems, especially when the first generation is still managing the firm. If the family welfare or healthy family relationships has been found, the existence of family members will reduce the agency costs and provide a positive effect on the firm performance (Bartholomeusz & Tanewski, 2006). Moreover, stewardship theory argues that the presence of family members in the board of directors provides great benefits to the company. One of these benefits is that the family members have a long-term vision of wealth creation compared to the short-term vision of hired CEOs (Chen et al., 2011). While the other one is the family members can understand the firm better than professional directors (outside) and are able to make creative decisions because they spend most of the time working in the firm (Donaldson & Davis, 1991).

In contrast, the existence of family members may lead to a weakening of the effectiveness of the board and poorer firm performance (Desender, 2009) because board members may be appointed based on kinship and favoritism regardless of their skills and qualifications (Omran et al., 2008). Moreover, under family control, the rights of minority shareholders can be undermined and expropriation occurs (Al Dubai et al., 2014; Astrachan &

Zellweger, 2008) because family members have a strong impact on and control over the company, which leads to the extraction of private benefits at the expense of minority shareholders, as well as the expropriation of company resources through the adoption of self-interested practices that are not necessarily in the minority shareholders' best interests (Amrah et al., 2015; Haddad et al., 2015; Liew et al., 2011; Watkins-Fassler et al., 2017). This expropriation generally leads to increasing the conflict between the majority (e.g., family members) and minority shareholders and reduces the firm's value and its performance (Liew et al., 2017; Marashdeh, 2014).

As a result of this conflict between the controlling shareholders (e.g., family members) and minority shareholders, the second type of agency problem is more severe in family-controlled firms because in family-controlled companies, the family members have the ability to obtain special benefits at the expense of other shareholders (Haddad et al., 2015; Hashim & Amrah, 2016; Liew et al., 2017). This conflict leads to suboptimal company policies, resulting in weak firm performance, low growth, and lower returns (Liew et al., 2011).

Recently, a new trend of research focuses on the socio-motional wealth theory to study the phenomenon of family firms. This theory asserts that family members view the effects of non-economic factors on decision-making and behavior (Paiva, Lourenço, & Branco, 2016). In another word, in family firms, directors are strongly committed to the preservation of a group of "non-financial affect-related values", which are captured by the idea of socio-emotional wealth; this idea is deriving from family members' wish to bequeath the firm to future generations (Achleitner, Günther, Kaserer, & Siciliano, 2014). Moreover, the socio-motional wealth theory points out that the family members consider the company as a long-term investment (Achleitner et al., 2014). Thus, the essential concern of founding families is to keep the utilities they may earn from non-financial values of the firm. These values aim to promote the family member's ability to practice control over the firm as well as keep the wealth of family members (Achleitner et al., 2014; Astrachan & Zellweger, 2008). Gottardo and Moisello (2015) points out that the presence of family members in management will make their social ties and emotions are linked to the firm. This grants them a greater incentive to work in order to enhance firm performance and protect their business alive for a long time.

In context of Jordan, 23% of boards' seats are dominated by families' members (Makhlouf et al., 2017). Previous studies indicate that the presence of family members on the board has various effects on board effectiveness because family members have the authority to access internal information more than other members, exert control over decision-making processes, and vote on decisions that maximize their interests at the expense of minority shareholders (Haddad et al., 2015). Consequently, under family control, this study examines whether family control moderates the association between the board of directors' effectiveness and firm performance in Jordan, where family members usually hold vital positions in management and on the board of directors, which plays a strong control influence over the board of directors' decisions and weakens their monitoring functions (Al-Najjar, 2010; Alwshah, 2009; Haddad et al., 2015; Warrad et al., 2013).

In the term of moderating effect, few studies depend on the family control as a moderating variable. Using a sample of 75 listed firms of Saudi Arabia, Al Dubai et al. (2014) examine the moderating influence of family participation on the association between family ownership and performance, they emphasize on the importance of occupying positions in family firms by family members, and especially the founders are gaining better performance. The findings of their study indicate that the family CEO and founder CEO positively moderates the

effect of family ownership of the firm performance. Jiang and Peng (2011) examine the moderating impact of family CEOs on the family ownership and firm performance in different Asian countries. They conclude that the family CEOs positively moderate the relationship in Indonesia and Taiwan, but negatively moderate the relationship in Hong Kong. In Oman, Amrah et al. (2015) study the moderating effect of family ownership on the relationship between the board of directors' effectiveness and cost of debt. They explore that the family ownership plays a positively moderating role in determining the relationship of board's effectiveness and cost of debt in Oman listed firms.

Using a sample of 106 large and medium sized firms in Finland, Hatak et al., (2016) examine the moderating effect of family commitment on the relationship between Innovativeness and family-firm performance. The findings indicate that existence of family members enhances the innovativeness and improves the firm performance. In Spain, Pérez-López et al. (2018) studied the moderating effect of the family control of the Spanish business in 124 firms. Their findings indicate that the performance and profitability will be high when there is a proportion of ownership by the Spanish families.

After reviewing the literature with regard to family control and its effect on firm performance and board effectiveness, the study found that majority of prior studies focused on the family ownership, family CEO or family involvement in management, but in regard to the effect of the family control in board of director on firm performance, it was noted that there was no studies that have used the family control (involvement) in board of director as a moderating between board of director effectiveness and performance relationship. According to these arguments, this study suggests that the association between the board of directors' effectiveness and firm performance is moderated by family control. The hypothesis is:

H1: Family control moderates the relationship between the board of directors' effectiveness and firm performance.

METHODOLOGY

The study depends on a sample consists of 500 observations for 120 of non-financial public listed firms on the Amman stock exchange. The study excludes the financial sector, because the firms in this sector are governed by a different set of rules and regulations and that will make them incomparable with firms in other sectors (Abed, Al-Attar, & Suwaidan, 2012; Marashdeh, 2014). The sample covers the period from 2009 to 2013. The data are obtained from annual reports and financial statements that are available on the Amman stock exchange website (ASE) and the firms' website.

In this study, the dependent variable is the firm performance measured by Return on Assets (ROA) as an accounting based measurement and Tobin's Q (TQ) as a market based measurement.

Board of directors' effectiveness represents the independent variables which measured by a composite measure of the Board of Directors' Effectiveness (BDC). The study adopts five characteristics for board of directors to measure its effectiveness (namely Board of Director's Independence (BDI), Board Size (BSIZE), Board Meetings (BDM), Leadership Structure (CDUAL) and Board of Directors' Ownership (BOWN)). To calculate the composite measure of board of directors' effectiveness, each of the non-binary variables are converted to a binary form by assigning one to the variable which is greater than or equal to the median for all the samples and zero otherwise, this approach is taken by prior studies such Amrah et al. (2015); Hashim and

Amrah (2016); K. Johl, Kaur Johl, Subramaniam, and Cooper (2013). The board composite is the sum of the five indicators in the range of zero to five. A higher score indicates higher board effectiveness.

The use of a composite measure of board effectiveness instead of individual board of directors' characteristics has some benefits. Firstly, each individual governance mechanism has its limitations which may not meet the requirements of the changing environment. So, it should evaluate corporate governance in a comprehensive way by using an aggregate measure (Guo, 2011). Secondly, the individual corporate governance mechanisms may give contradictory effects and mixed results. So, the composite measure gives a more accurate measurement of the corporate governance's effectiveness (Ali, 2013).

Thirdly, the effectiveness of one mechanism of board of directors' characteristics depends on the effectiveness of other mechanisms. So, it's better to adopt a composite measure to evaluate the effectiveness of board of directors especially with intervening variables (Hashim & Amrah, 2016).

The moderating variable is the Family Control (FC), represented by the family involvement at board of directors and calculated as proportion of members of one family or relatives in the board of directors. Family directors are family members (through blood or marriage) holding supervisor or director positions on the board and include both family member and family representative directors. This definition means that the family members have voting control of the company decisions and more generations of the same family are work in the company. To extract this variable data, the researcher returned to the families' names for board members. Then the researcher used these families' names to extract if there are members of one family or not, also search if there are any relations such as marriage or relatives. The study focuses on the existence of members of the family in the board of directors due to the nature of the composition of boards of directors in Jordan, which most firms in Jordan are family-owned or controlled companies, where most of the shareholders prefer to manage the firms in which they own a proportion of stocks. Makhoulf and Al-Sufy (2018) found that 23% of boards' seats are dominated by families' members who hold 25% of firms' stock. This variable appeared in previous studies, such as (Anderson & Reeb, 2003; Chen et al., 2011; Poutziouris, Savva, & Hadjielias, 2015).

Control variables such as firm size and leverage are used. Table 1 presents the operational definitions adopted in the study.

Table 1	
VARIABLES DEFINITION	
Variables	Definitions
Dependent variable: Firm performance	
ROA	Net income to total assets
TQ	(common stock + market value of preferred stock + book value of debt) to Total assets
Independent variable: Composite measure of the board of directors' effectiveness	
BDC	A composite score measuring the firm's board effectiveness ranging between 0 and 5 with 0 representing lowest effectiveness and 5 highest effectiveness. The BDC score is formed by assigning a value of One to scores equal or above the median and 0 otherwise for BDI, BSIZE, BDM, CDUAL and BOWN, and summing together. BDI: proportion of independent members. BSIZE: total number of board members. BDM: total number of board of directors meetings over the year. CDUAL: dummy variable takes 1 if the chairman not holds the position of CEO, otherwise 0. BOWN: percentage of board of directors' ownership to total shares of the firm.

Table 1	
VARIABLES DEFINITION	
Moderating variable: Family control	
FC	Proportion of members of one family or relatives in the board of directors.
Control variable	
FSIZE	Natural logarithm of total assets
FLEV	Total liabilities to total assets

Research Model and the Techniques of Panel Data Estimation

In order to investigate the moderating effect of family control (FC) on the relationship between the composite of board of director's effectiveness (BDC) and firm performance, the study depends on the following regression analysis:

$$FP = \alpha + \beta_1 BDC_{it} + \beta_2 FC_{it} + \beta_3 BDC_{it} * FC_{it} + \beta_4 FSIZE_{it} + \beta_5 FLEV_{it}$$

Where (FP) represents the firm performance that measured by ROA and Tobin's Q. (BDC) refers to the composite measure of the board of directors' effectiveness. FC refers to family control. BDC*FC refers to the interaction effect between BDC and FC. While FSIZE and FLEV represent the control variables.

Panel data approach has been used in this study, because it takes unobservable heterogeneity into account by allowing for subject-specific variables. Especially, since panel data correlate to individuals, firms, states, countries, etc., over time, there is must to be heterogeneity in these subjects. In addition to that, panel data combines between time series and cross-section observations, thus, it provides less collinearity among variables, more efficiency and more degrees of freedom (Gujarati, 2009). There are three regression models, used to analyze the panel data set as following: Pooled ordinary least squares (POLS), fixed effect model (FEM) and random effect model (REM).

POLS take the constant intercept among all cross-sectional units in consideration. The main assumption of this estimation method is that the regression coefficients, both the slope and intercept, are equal for all units (i.e., companies in this study). This estimation method ignores any form of heterogeneity across units (Greene, 2007). REM supposes that the intercept of an individual unit is a random drawing from a much larger population with a constant mean value. The individual intercept is then expressed as a deviation from this constant mean value. REM is suitable in cases where the (random) intercept of each cross-sectional unit is uncorrelated with the regressors (Gujarati, 2009).

FEM supposed that differences across units can be captured in differences in constant terms (Greene, 2012). FEM effects, which examine the association between the dependent and independent variables within an entity, control these unobserved unique attributes (the time-invariant factor) within the entity that may affect or bias the dependent variables (Allison, 2009). FEM is used when there is a possibility of correlation among individual specific intercept and regressor.

To choose between the fixed, random or POLS models, some of the econometric issues which are related to panel data need to be addressed. "The Breusch-Pagan Lagrange Multiplier (LM) test" has been used to choose between the REM and POLS. While Hausman test is used to select between REM and FEM models. The results of these tests (LM and Hausman) will be shown in subsequent section.

RESULTS

Descriptive Analysis

Table 2 shows the descriptive analysis about the variables of study. The maximum value of ROA is close to (84%) whereas the minimum value is close to (-44) with mean arrived to (1.75%) for the overall sample. With regard to Tobin's Q, the maximum value of Tobin's Q is close to (4.67) whereas the minimum value is close to (0.11). The mean of (1.21) indicates that the firms' performance is good. Regarding the board of directors' effectiveness, the composite measure of the Board of directors (BDC) has a mean of (2.75) and a median of (3). BDC is measured on a scale of zero to 5, where a score of 5 represents the highest level of the board of director's effectiveness which a firm can achieve.

Var.	Mean	Max.	Min.	Std. DEV	Skew.	Kurt.
ROA	1.75	84	-44	10.14	-0.35	2.44
TQ	1.21	5	0.11	0.67	1.42	2.05
BDC	2.75	5	0	5	-0.15	-0.30
FC	0.23	100	0	0.26	1.14	0.87
FSIZE	71462430	1765784380	469848	18566	5.17	30.82
FLEV	0.35	2	0	0.25	0.88	0.33

In term of family control (FC), family members form around (23 %) of board size for all sample firms. This result is consistent with Chen et al. (2011) who report 28%. However, the maximum value was 100% and minimum value was 0%, which implies that some of Jordanian listed firms are fully managed by the family directors. The average firms' size was (71462430) million dinar. Average firms' leverage (FLEV) is around (0.35%).

Diagnostic Tests

To check normality, the study depends on the "Skewness and Kurtosis" tests. Data is considered to be normal if the standard skewness is within ± 1.96 and standard kurtosis is ± 3 (Haniffa & Hudaib, 2006). As shown in table 2, the skewness results in the acceptable range of (± 1.96) except the firm size (5.17) which exceed the range of (± 1.96). This finding is confirmed by the standard kurtosis statistics, where the results in range ± 3 except the firm size which exceeds the range of (± 3). When the firm size breaks the normality assumption, data transformations procedures are undertaken. The multicollinearity is existing if the correlation between two independent variables is more than 0.90 (Hair et al., 2009). Table 3 shows the correlation matrix and variance inflation factor (VIF). Based on the VIF, we confirm that there is no multicollinearity problem.

	ROA	TQ	BDC	FC	FSIZE	FLEV	VIF
ROA	1						
TQ	0.177**	1					
BDC	0.028	0.006	1				1.05
FC	0.077	-0.13**	0.316**	1			1.02
FSIZE	0.345**	-0.014	0.174**	-0.017	1		1.12
FLEV	-0.24**	-0.032	0.031	-0.15**	0.261**	1	1.09

Note: ***, ** and * indicate significant at 1%, 5% and 10%, respectively.

As show in Table 4, we conduct the Modified Wald test to check the Heteroscedasticity. It is clear from the table that there is a heteroscedasticity problem, where the p-value is <0.05 . While, Wooldridge test is conducted to check whether there is an autocorrelation issue in the data. The result shows that the model suffers from autocorrelation, where the p-value is <0.05 . Therefore, the remedy for heteroscedasticity and autocorrelation is to use the cluster robust standard errors as suggested by Wooldridge (2012).

	Wald test for Heteroscedasticity	Wooldridge test for autocorrelation
	Chi ² (Prob>chi ²)	Chi ² (Prob>chi ²)
ROA	1.5 (0.0000)	9.7 (0.0000)
TQ	2.2 (0.0000)	52.82 (0.0000)

Choosing the Appropriate Regression Model for Panel Data

“*The Breusch-Pagan Lagrange Multiplier (LM) test*” has been used to choose among the REM and POLS. It’s clear from Table 5 that the (P-value <0.05). Thus, the null hypothesis is rejected, and the REM is more appropriate than POLS regression. In this case, the study should have another test such as “*Hausman test*” to choose between the REM and FEM models. According to “*Hausman test*”, if the null hypothesis is rejected the FEM model is more appropriate than REM model. As shown in Table 5, the result of “*Hausman test*” indicates that the P-value is significant (P-value <0.05). Thus, the null hypothesis is rejected, and the fixed effect model is more appropriate for this study.

	Breusch-Pagan Lagrange Multiplier (LM) test (POLS or REM)	Hausman test (FEM or REM)
	Chi2 (Prob > chi2)	Chi2 (Prob > chi2)
ROA	13.98 (0.0002)	214.06 (0.0000)
TQ	9.94 (0.0016)	47.42 (0.0000)

Hierarchical Regression Results

Hierarchical regression model has been used in order to explore the influence of family control on the relationship between board of director’s effectiveness and firm performance. Following most of the previous studies, the data are regressed in several models. The first model is to regress the independent variables (board of director’s effectiveness) and control variables. In the second model, the moderator variable is entered in the first model. In the third model, the independent variable is multiplied with the moderating variable to create the interaction variable. This interaction variable is then regressed against the firm performance together with the independent variables, moderating variables and control variables.

Fixed-effects regression model is employed in this study as recommended of Hausman test’s result. According to Hair et al., (2012) R² and significant F-change are used to determine the moderation impact. In table 6 and 7, there is an improvement in R² when the variables are entered in models and the significant F-change which means that the variables entered in that model significantly improved the prediction.

Variables	Model I	Model II	Model III
	Coff t-Stat. (Prob.)	Coff t-Stat. (Prob.)	Coff t-Stat. (Prob.)
C	13.343 3.132 (0.0019)***	12.884 2.709 (0.0071)***	12.751 2.542 (0.0114)**
BDC	-0.160 -1.20 (0.0294)**	-0.159 -1.186 (0.2362)	-0.152 -0.983 (0.3261)
FC		1.785 0.797 (0.4254)	2.078 0.741 (0.4589)
BDC*FC			0.142 0.305 (0.7601)
FSIZE	4.798 2.0361 (0.0425)**	4.780 2.001 (0.0461)**	4.794 2.017 (0.0444)**
FLEV	-24.62 -4.213 (0.0000)***	-24.48 -4.111 (0.0000)***	-24.5 -4.243 (0.0000)***
Adjusted R ²	0.641	0.640	0.639
F-statistic	7.805***	7.730***	7.649***

Note: ***, ** and * indicate significant at 1%, 5% and 10%, respectively.

Table 6 shows the results based on the ROA measure of firm performance. A significant change in R² in model (II) indicates a pure moderator. For instance, in table 6 model (II), by adding the FC, the R² increases to 0.716. This R² change of 0.021 is statistically significant. The finding means that an additional 1.4 % of the variation in FP is explained by the effectiveness of the board of directors. However, significant F-change when the interaction between BDC and FC is entered in model (III) as well as the significant change in R² between model (II) and model (III), this indicates that increase in R² of 0.022 (from 0.716 to 0.738) is significant. However, the results in model (1) show that BDC has a significant negative impact on ROA. In model (II), when the family control (FC) is entered into the regression, the results indicate that the BDC is influenced by the family control (FC), BDC not significantly associated with ROA. Additionally, with respect to the moderating variable (family control), the findings reveal that there is no relationship between the family control and ROA. In model (III), When BDC has interacted with family control (BDC*FC), the coefficient turned into positive, but it's insignificant. This result indicates that the moderating effect of family control on the effectiveness of BDC on ROA is not significant.

Variables	Model I	Model II	Model III
	Coff t-Stat. (Prob.)	Coff t-Stat. (Prob.)	Coff t-Stat. (Prob.)
C	1.022 3.156	0.965 2.983	1.036 3.183

	(0.0017)***	(0.0030)***	(0.0016)***
BDC	-0.011 -0.864 (0.0878)*	-0.011 -0.863 (0.3883)	-0.015 -1.094 (0.2744)
FC		0.206 2.341 (0.0198)**	0.069 1.030 (0.3035)
BDC*FC			-0.066 -1.944 (0.0526)*
FSIZE	0.140 3.134 (0.0019)***	0.138 3.152 (0.0018)***	0.132 3.226 (0.0014)***
FLEV	0.207 0.933 (0.3512)	0.223 1.005 (0.3153)	0.263 1.241 (0.2153)
Adjusted R ²	0.387	0.386	0.387
F-statistic	3.402***	3.373***	3.367***

Note: ***, ** and * indicate significant at 1%, 5% and 10%, respectively.

Table 7 shows the finding of the moderating effect of family control on the relationship between the board of directors' effectiveness and firm performance (i.e., TQ). A significant change in R² in model (II) indicates a pure moderator. For example, in table 7 models (II), by adding the FC, the R² increases to 0.541. This R² change of 0.021 is statistically significant. The finding means that an additional 0.021 of the variation in FP is explained by the effectiveness of the board of directors. However, significant F-change when the interaction between BDC and FC is entered in model (III) as well as the significant change in R² between model (II) and model (III), this indicates that increase in R² of 0.017 (from 0.541 to 0.558) is significant. However, the results in model (1) indicate that the BDC has significantly negative impact on TQ. The result in model (II) also finds that BDC is not influenced by the family control; BDC is not significantly associated with TQ. Additionally, with respect to the moderating variable (family control), the findings reveal that there is a significant positive relationship between the family control and TQ at level 5%. In model (III), when BDC has interacted with family control (BDC*FC), the coefficient is significantly negative at level (10%). This finding indicates that the moderating effect of family control on the effectiveness of BDC on TQ is significant. In other words, the existence of family members at the board of directors negatively moderates the relationship between the board of director's effectiveness and firm performance.

Therefore, our hypothesis that predict the family control moderates the relationship between board of directors' effectiveness and firm performance is not supported based on the accounting-based performance indicator (ROA), but is supported based on market-based performance measures (TQ).

This finding indicates that the existence of family members at the board of directors can weaken the relationship between the effectiveness of the board of directors and firm performance (TQ). The negative relationship may be due to that the families' members are working in their own interests, and ignoring the firm's interests and minority, which leads to agency conflict. In other words, families' members are using these positions to consolidate their control, which leads to a higher agency cost. Our finding is consistent with previous studies (Andersona, Durub, & Reeb, 2009; Chen et al., 2011) who find that existence of outsider directors is more efficient than

family members, where the firms during a difficulty times (i.e. bankruptcy or negative cash flow), tend to use outside directors who have skills to improve the firm performance. Moreover, the negative or insignificant relationship may be due to the nature of the composition of boards of directors in Jordan, where most of the boards are controlled by major shareholders (e.g., family members), and there are few truly independent directors (Haddad et al., 2015; Makhoulf & Al-Sufy, 2018; Makhoulf et al., 2017), which might lead to the appointment of board members on the basis of kinship and favoritism instead of skills, experience, and knowledge (Marashdeh, 2014). Such members may use their power to affect management decisions and undermine the monitoring and coordination of the board, rendering the board impotent with regard to its impact on management and firm performance.

In general, the findings of this paper explain that there are differences in the effect of family control on board of directors' effectiveness and ROA and those with TQ. These differences may be explained by the differences in their respective effects, strengths, and weaknesses (Ntim, 2009). For example, ROA is a historical measure and is thus incapable of reflecting changes in market value. In contrast, TQ is a forward-looking measure that reflects expectations about future market perceptions about the value of the company. Ntim (2009) indicates that the use of two different measures of firm performance (ROA and TQ) provides empirical support for the notion that outsiders (shareholders-TQ) and insiders (managers-ROA) evaluate the rules of corporate governance differently. Haniffa and Hudaib (2006) argue that there is a need to use these two different measurements in studies on firm performance because there is a lack of consensus on which measure is the best because these measurements have their own advantages and disadvantages.

Furthermore, this finding is contrary to those reported in some of the previous studies. However, there is a potential explanation for the contrary results reported herein is that this study focuses on sample data that starts from 2009 and the Jordanian corporate governance code only came into effect in 2009. According to Ren (2014) the corporate governance code is not immediately effective after its introduction. Moreover, Mustapa (2013) concluded that the application of corporate governance principles takes some years to give the expected results.

CONCLUSION

This study highlights on the moderation effects of family control between the relationship of board of directors' effectiveness and firm performance. We extend the scope of previous studies concerning the corporate governance and performance by considering the Jordan environment, which is characterized by family control (family ownership or family involvement in the board of directors). To the best of our knowledge, this is the first study which examines the moderating effect of family control in the relationship between the board of director's effectiveness and firm performance. Moreover, we contribute to the literature by using a composite measure of the board of director effectiveness to capture the combined effect of these characteristics on firm performance.

The empirical results of this study reveal that the impact of the effectiveness of the board of directors on the firm performance is negative and significant. In addition, we find that there is a significant negative influence of family control on the relationship between the effectiveness of the board of directors and firm performance measured by TQ. In contrary, we find a positive, but an insignificant impact of family control on the relationship between the effectiveness of the board of directors and firm performance measured by ROA. We assume that families are using these positions to consolidate their control, which leads to increase the agency costs. Thus, our

recommendation for regulators is to consider the limit number of board that consists of family that can hold to their ownership proportion.

Our research is still subject to a few limitations. Firstly, the selection of firms is restricted to non-financial firms (industrial and service firms), while financial firms are excluded because these companies are subject to a different set of instructions and rules. Thus, it would be useful to for future studies to examine such this relationship on financial firms. Secondly, this study focused on the effect of involvement family members in board of directors. Thus, it would be useful for future studies to use other measurements for family control such as family ownership (percentage of shares).

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