

## BOARD SIZE AND FIRM PERFORMANCE: CASE OF KUWAIT

**Mejbel Al-Saidi**  
Associate Professor  
Accounting Department  
College of Business Studies, PAAET, Kuwait  
[al-Saidimtm@hotmai.com](mailto:al-Saidimtm@hotmai.com)

### ABSTRACT

This study examined the relationship between board size and firm performance using a sample of 110 non-financial listed firms on the Kuwait Stock Exchange (KSE) from 2009 to 2017 (9 years). Empirical tests were conducted using OLS and 2SLS regressions as well as two performance measures to control the issues of endogeneity and causality; the study found that board size negatively affected firm performance. Thus, a small board size is better for non-financial Kuwaiti listed firms, which is consistent with agency theory and the majority of previous studies conducted in developed and developing countries. However, the causality issue does exist. The study makes a number of contributions to the corporate governance literature—namely, it provides a good understanding of the relationship board size and firm performance. In addition, examining such variables without considering the issues of endogeneity and causality would lead to misleading results. Finally, this study provides clear evidence for regulators in Kuwait to design an optimal board size to improve listed firms.

**Key words:** Kuwait, corporate governance, board size, performance.

## I. Introduction

Between 1960 and 2015, Kuwait had no corporate governance code, resulting in no clear role for boards of directors and weak shareholders and investors' rights. However, after significant influence from listed firms and National Assembly members, and to encourage foreign investors, the Kuwait government issued new corporate governance rules for firms listed on the Kuwait Stock Exchange (KSE) in 2016 and updated the old Companies Laws with Law No.15 of 2017, which introduced the role of managers and directors as well as shareholders' rights.

The purpose of this study is to examine the relationship between board size and firm performance for three important reasons. First, investigating one of the variables of the board of directors provides a clear understanding of a firm's performance in Kuwait; including other variables may impact such a relationship due to the problems of endogeneity and causality issues. Second, Kuwait laws related to corporate governance before 2016 mentioned board size only, remaining silent about other board variables (e.g., board independence, board diversity, board committees, and role duality, or combining the chairman and CEO positions). Thus, including such variables would not be significant. Al-Saidi and Al-Shammari (2012) studied the situation in Kuwait and found that corporate governance practices are very weak and include no details for board composition, board independence, or committees. Role duality is also optional in Kuwait while the laws only mentioned board size. Finally, examining one variable

provides a good opportunity to use many regressions and techniques and reduce any multi-collinearity problems that may occur among the variables of board of directors.

The most commonly used theoretical framework in the literature is agency theory (Jensen and Mackling, 1976). Agency theory assumes that small board size is better for firm performance. Jensen (1993) and Yarmack (1996) found a negative relationship between board size and firm performance. Other studies, such as Bhagat and Black (2002) and Beiner, Drobetz, Schmid, and Zimmermann (2006), found a positive relationship between the two variables. Meanwhile, Mak and Li (2001) examined this relationship by including the issue of endogeneity and causality and using the 2SLS, but found no significant relationship between them.

Previous studies that examined the relationship between board size and firm performance in Kuwait have produced mixed results. For example, Al-Shammari and Al-Sultan (2009) found a positive relationship between board size and firm performance for a sample of nonfinancial listed firms in 2004. Al-Swidi, Fadzil, and Al-Matari (2012) found no empirical relationship between the two variables in 2009. Moreover, Al-Faraih, Alanezi, and Al-Mujamed (2012) identified a different relationship for the same firms in 2010. Thus, the situation in Kuwait is not yet clear in terms of the assumptions of agency theory related to board size in the Kuwaiti context, warranting further research. Thus, this study aims to solve the conflict in previous studies of Kuwait's board size and

firm performance and evaluate the agency theory assumptions in Kuwait. It examines the relationship between board size and firm performance of 110 non-financial listed firms from 2009 to 2017. However, this study examined only board size and excluded board independence and role duality because these variables were not mentioned in Kuwait law until 2017. Mak and Li (2001) argued that board size is highly associated with board independence and does not impact firm performance.<sup>1</sup>

One major weakness of studies of Kuwait is that they have ignored the issues of endogeneity and causality when examining the relationship between board size and firm performance. Endogeneity means that many variables impact board size, but not firm performance, and should be considered. Causality is related to how board size impacts firm performance or firm performance impacts board size. Thus, this study contributes to Kuwait literature by controlling these issues and providing a clear picture about the relationship between board size and firm performance to help the government, academics, and listed firms in designing the best board size to improve performance and value.

Section 2 provides an overview of the theoretical and empirical literature and develops the hypotheses, while Section 3 presents the study's methodology and variables. The results of the study's

regressions are introduced in Section 4, and the conclusion is presented in Section 5.

## II. Theoretical and Empirical Literature Review And Hypotheses

Several theories have examined the relationship between board size and firm performance, such as agency theory, resources theory, institutional theory, and stakeholder theory. Instead, this study uses the framework of agency theory for three reasons. First, agency theory is the most popular theory and has received more attention in previous studies; selecting this theory would ensure that we speak a common language. Second, the current studies in Kuwait are conflicting, and the assumptions of agency theory are still unclear. Finally, agency theory is consistent with the current study's objectives and hypothesis. Agency theory argues that a small board size provides more value for a listed firm (Jensen and Meckling, 1976). Consistent with this view, Yermack (1996) and Brown and Claytor (2004) provided more evidence about the effectiveness of a small board size. In addition, Jensen (1993) and Lipton and Lorsch (1992) argued that a small board size is more effective and helps control CEOs while processing any problems.

Empirical studies have produced mixed results (see Table 1). Demeke (2016), Conyon and Peck (1998), Andres, Azofra, and Lopez (2005), Bozec (2005), and Lasfer (2004) studied the relationship between

performance and concluded that such results are expected because Kuwait's laws are silent on board composition.

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<sup>1</sup> Al-Shammari and Al-Sultan (2009) and Al-Swidi *et al.* (2012) examined the impact of board independence on firm performance; they found no impact on firm

board size and firm performance and found that board size negatively impacts firm performance; however, a small board size is better for listed firms and provides them with good monitoring and control for managers' decisions. Wintoki (2007), Bhagat and Black (2002), and Guest (2009) used different regressions to control for the problems of endogeneity and causality among variables and found similar results. However, all of these studies failed to test the causality relationship between board size and firm performance. Recently, Arilyn, Beny, and Kharismar (2019) studied a sample of Indonesian firms and found that small board size was better for firm performance.

However, Pearce and Zahra (1992) found that a big board size is better for listed firms because it provides the board of directors with more experience and opportunities for discussion. Qasim (2014), Badu (2017), Mohamed (2009), Coles, Daniel, and Naveen (2008), Beiner *et al.* (2006), Mohapatra (2017), Shrivastav and Kalsie (2016), and Sunday (2008) found similar results, which contradicts the view of agency theory. However, all failed to build a causal relationship between board and firm performance. The results could also be sensitive to the studies' designs and sample sizes.

**Table 1: Studies Examining Board Size and Firm Performance**

Authors	Country	Sample	Performance	Result
Qasim (2014)	UAE	281 firms 2007/2011	TQ, ROA	+
Habbash and Bajaher (2015)	KSA	338 firms 2006/2009	ROA	Non
Demeke (2016)	Ethiopia	8 firms 2008/2012	ROA, ROE	-
Badu (2017)	Ghana and Nigeria	137 firms 2008/2014	Tobin's Q ROA	+
Sunday (2008)	Nigeria	20 firms 2000/2006	ROE, PM	+
Canyon and Peck (1998)	Several countries	617 firms 1990/1995	Tobin's Q ROE	-
Andres <i>et al.</i> (2005)	OECD	450 firms 1996	Tobin's Q	-
Mohamed (2009)	USA	174 firms 1995/2002	Tobin's Q ROA	+

**Table 1 (Continue): Studies Examining Board Size and Firm Performance**

<b>Authors</b>	<b>Country</b>	<b>Sample</b>	<b>Performance</b>	<b>Result</b>
Nie (2005)	China	1037 firms 2002	Tobin's Q ROE	Non
Bozec (2005)	Canada	25 firms 1976/2000	Profitability	-
Haniffa and Hudaib (2006)	Malaysia	347 firms 1996/2000	Tobin's Q, ROA	Mixed
Lasfer (2004)	UK	1424 firms- 1990/1997	Tobin's Q	-
Wintoki (2007)	USA	6000 firm 1991–2003	Profitability	-
Mohapatra (2017)	India	35 firms 2005/2010	Tobin's Q	+
Guest (2009)	UK	2746 firms 1981–2002	Tobin's Q, share return	-
Arilyn <i>et al.</i> (2019)	Indonesia	9 firms 2012/2017	ROA	-
Jakpar <i>et al.</i> (2019)	Malaysia	30 firms 2011/2015	ROA	Non
Shrivastav and Kalsie (2016)	India	145 firms 2008–2012	ROA,MBVR Tobin'Q	+
Ammari <i>et al.</i> (2014)	France	40 firms 2002–2009	ROA,ROE, Tobin's Q	Mixed
Anis <i>et al.</i> (2017)	Egypt	70 firms 2005–2010	ROA Tobin's Q	Non

Studies such as Anis, Chizema, Lui, and Fakhreldin (2017), Habbash and Bajaher (2015), Nie (2005), and Jakpar, Tinggi, and Hui (2019) studied the relationship between board size and firm performance and found no relationship between them. Others argued that the relationship could be run from firm performance to board size, but not from board size to firm performance (Agrawal and Knoeber, 1996; Hermalin and Weisbach, 1988). Wintoki (2007) found a significant

problem in examining the impact of board size on firm performance in terms of endogeneity and causality problems. Consistent with this view, Loderer and Martin (1997) found that ownership does not impact firm performance, but firm performance impacts ownership. In addition, Cho (1998) found that firm performance impacts ownership but not vice versa.

**Table 2: Studies about Board Size in Kuwait**

Authors	Year	Sample	Board size	Result
Al-Shammari and Al-Sultan (2009)	2004–2007	66 firms	6.39	Positive
Al-Swidi <i>et al.</i> (2012)	2009	136 firms	6.16	Non
Al-Faraih <i>et al.</i> (2012)	2010	134 firms	5.8	Negative

In the case of Kuwait, after intensive search, only three papers were found (see Table 2). Al-Shammari and Al-Sultan (2009) found that board size positively affects firm performance. Al-Swidi *et al.* (2012) found that board size had no impact on firm performance. Finally, Al-Faraih *et al.* (2012) found that board size negatively affected firm performance. However, not all of these studies controlled for other variables that could impact board size and firm performance, such as ownership structure and family directors; these variables could have an endogenous relationship with board size and, thus, the estimates could be inconsistent and biased. Furthermore, these studies failed to control the issue of causality, and all of them included the variables of board independence and role duality as independent variables. Such variables could have a multi-collinearity relationship with board size because they are not well organized in Kuwait and, thus, could again produce biased results. Finally, all studies of Kuwait used a small sample size and one year of cross-sectional data, thereby limiting the results. This study gives more attention to the role of board size and how it relates to firm

performance. Based on the discussion thus far, this study addresses two main questions: (1) What is the relationship between board size and firm performance? (2) Does board size impact firm performance or firm performance impact board size in the case of non-financial Kuwaiti listed firms? The hypotheses tested in this study are as follows:

*H1: A significant relationship exists between board size and firm performance.*

*H2: The relationship between board size and firm performance runs in both ways.*

### III. Study Methodology and Variables

The study sample included 110 non-financial listed firms (990 observations). All financial listed firms were excluded because they have different regulations and capital structures. In addition, 20 non-financial firms were excluded because their information was not available for all years in which data were gathered. The study was conducted on 9 years of data from 2009 to 2017. Table 3 presents all firms listed on the KSE at the end of 2009, which includes 197 listed firms minus 67 financial firms and 20 non-financial listed firms, leaving 110 non-financial firms, or 55% of all listed firms. The services sector is the biggest sector, accounting for 29%, while the food sector is the smallest sector at

3%. The data sources for this study were the KSE website and firms' annual reports.<sup>2</sup>

**Table 3: Study Sample**

Sector name	Total firms	Excluded firms	Included firms
Financial firms	67	67	---
Estate	38	8	<b>30</b>
Industrial	28	3	<b>25</b>
Services	58	7	<b>51</b>
Food	6	2	<b>4</b>
<b>Total</b>	<b>197</b>	<b>87</b>	<b>110</b>

**Table 4: Study Variables**

Variables	Definitions
<b>Dependent Variables</b>	
Tobin's Q (TQ)	The market value of the firm + total debt ÷ the book value of total assets
Return on assets (ROA)	Net income ÷ total assets
<b>Independent Variables</b>	
Board size (BSIZE)	The total number of directors on the board of directors
<b>Control Variables</b>	
Ownership concentration (OC)	Total ownership concentration by large shareholders (more than 5%)
Debt (DT)	Total liabilities ÷ total assets

<sup>2</sup> The KSE changed the industry classification in the end of 2012 from 7 sectors to 14 sectors; to ensure consistent data, the researcher used the old classification and made adjustments for years after 2012.

Firm size (FS)	Total assets
Industry type (INT1-4)	The estate, industrial, services, and food
<b>Instrument Variables</b>	
Board independent (BI)	Total number of non-executive directors on the boards
Family directors (FD)	Total number of family directors on the board
Lag-performance (LP)	Previous year's performance

The dependent variable was firm performance. Two performance measures were used, Tobin's Q and ROA, to improve the robustness of this study. Haniffa and Hudaib (2006, p. 1045) stated that "*the reason for employing the two performance measures is because there is no consensus concerning the choice of dependent variable for measuring firm performance and each has its own advantages and shortcoming.*" Meanwhile, the independent variable was board size. The control variables were ownership concentration, debt ratio, firm size, and industry variables. To achieve the study's main objective, two types of regressions were run, ordinary least square (OLS) and two second least square (2SLS), to control the endogeneity and causality issues. In doing so, this study used three instrument variables for board size equation: board independence and family directors, and for performance equation: lag variables.<sup>3</sup>

<sup>3</sup> The researcher also used the variable of role duality and firm age, but they were excluded from the regression because they were not significant.

Table 4 summarizes the study variables' details. The study used instruments previously applied in various studies, such as Larcker and Rusticus (2010), Weir, Laing, and McKnight (2002), Agrawal and Knoeber (1996), Bhagat and Bolton (2008), and Haniffa and Hudaib (2006). However, using the instrument variables may create an econometrics problem related primarily to the validity of these instruments. Thus, the Sargan misspecification test and Hausman test were used to examine the validity of the instruments; both tests showed that the instruments were valid (results available upon request). The study regressions are designed to achieve the study's purpose and test the hypotheses as presented in the eight equations in Table 5.

**Table 5: Regression Steps**

NO	Dependent variable	Equation	Regression
1	TQ	$\alpha + \beta_1 \text{BSIZE} + \beta_2 \text{control variables} + \varepsilon$	OLS
2	ROA	$\alpha + \beta_1 \text{BSIZE} + \beta_2 \text{control variables} + \varepsilon$	OLS
3	BSIZE	$\alpha + \beta_1 \text{TQ} + \beta_2 \text{control variables} + \varepsilon$	OLS
4	BSIZE	$\alpha + \beta_1 \text{ROA} + \beta_2 \text{control variables} + \varepsilon$	OLS
5	TQ	$\alpha + \beta_1 \text{BSIZE} + \beta_2 \text{control variables} + \beta_3 \text{BI} + \beta_4 \text{FD} + \varepsilon$	2SLS

6	ROA	$\alpha + \beta_1 \text{BSIZE} + \beta_2 \text{control variables} + \beta_3 \text{BI} + \beta_4 \text{FD} + \varepsilon$	2SLS
7	BSIZE	$\alpha + \beta_1 \text{TQ} + \beta_2 \text{control variables} + \beta_3 \text{LP} + \varepsilon$	2SLS
8	BSIZE	$\alpha + \beta_1 \text{ROA} + \beta_2 \text{control variables} + \beta_3 \text{LP} + \varepsilon$	2SLS

Note: For the definition of the variables, see Table 4.

#### IV. Regression Results

##### 4.1 Descriptive Analysis

As OLS regressions were used, the five assumptions—namely, normality, linearity, multi-collinearity, autocorrelation, and homoscedasticity—must be tested. The Pearson correlation table is used to test multi-collinearity, while the analyses of residuals, studentized residuals against predicted values, and plot of Q-Q were used to test other assumptions. Table 6 shows no multi-collinearity problems. Field (2002) and Brooks (2002) argued that the multi-collinearity issue is considered a problem when the relationship among variables exceeds 80%. Table 6 also indicates that the analyses of residuals, studentized residuals against predicted values, and plot of Q-Q produced no autocorrelation or homoscedasticity problems; however, the standard tests of kurtosis and skewness found a normality problem with three variables—

namely, Tobin's Q, ROA, and firm size. Thus, the three variables were transformed into normal scores.<sup>4</sup> This is consistent with the results of Haniffa and Hudaib (2006), Haniffa, and Cooke (2002).

the board size found in Kuwait. According to Jensen (1993, p. 865), "when boards are more than 7 or 8 people they are less likely to function effectively and are easier for the CEO to control." This finding indicates a

**Table 6: Pearson Correlation Matrix for Study Sample from 2009 to 2017**

	TQ	ROA	BSIZE	OC	DT	FS
TQ	1					
ROA	0.372**	1				
BSIZE	0.139*	0.193*	1			
OC	0.181**	0.097*	-0.018	1		
DT	0.001	0.003	0.109**	0.100*	1	
FS	-0.016	0.021	0.305**	0.027	0.213**	1

Notes: For the definition of the variables, see Table 4. \*\*\*, \*\*, and \* Significant at the 1%, 5%, and 10% level, respectively.

**Table 7: Descriptive Statistics for Study Sample from 2009 to 2017**

Variables	Sample	Mean	S.D.	Min	Max	Skewness	Kurtosis
TQ	110	1.07	1.11	0.08	10.9	5.3	34.7
ROA	110	0.044	0.075	-0.34	0.98	6.7	70.5
BSIZE	110	6.09	1.43	4	11	1.06	0.539
OC	110	55.2	21.6	0	96.2	-0.147	-0.529
DT	110	0.409	0.21	0	1.12	0.260	-0.548
FS	110	196857	398000	0	3955181	5.24	32.9

Note: For the definition of the variables, see Table 4.

Table 7 shows that the mean value of Tobin's Q equals 1.07, which is less than the mean value of 1.3 in Malaysia (Haniffa and Hudaib, 2006). The mean value of ROA equals 0.044, which is less than Malaysia's ROA of 2.56 (Haniffa and Hudaib, 2006). In addition, Haniffa and Hudaib (2006) found that board size equals 7.9, which is more than

smaller board size than in the USA, which Yermack (1996) found to be 12.25 whereas Coles *et al.* (2008) found it to be 10.4. Table 7 also indicates that ownership concentration is 55% while the debt ratio is 41%; the mean value of firm size is equal to KD196857.

<sup>4</sup> The study also used the log and rank techniques, but the results were less powerful.

**Table 8: OLS Results Analysis for Study Sample from 2009 to 2017**

Performance as dependent variable			BSIZE as dependent variable		BSIZE as dependent variable	
Variable	TQ (1)	ROA (2)	Variable	BSIZE(3)	Variable	BSIZE (4)
BSIZE	7.173***	5.168***	TQ	7.173***	ROA	5.168***
OC	7.659***	4.274***	OC	-2.901*	OC	-1.718*
DT	4.619***	-3.801***	DT	-2.390*	DT	-0.340
FS	0.189	4.989***	FS	7.319***	FS	6.209***
INT1	3.144***	2.546*	INT1	-0.125	INDUS1	0.255
INT2	1.730*	1.809*	INT2	1.915*	INDUS2	2.038*
INT3	-2.217*	1.310	INT3	1.863*	INDUS3	0.974
R <sup>2</sup>	0.34	0.14	R <sup>2</sup>	0.19	R <sup>2</sup>	0.16
Adj-R <sup>2</sup>	0.24	0.11	Adj-R <sup>2</sup>	0.18	Adj-R <sup>2</sup>	0.15
F-Value	43.240	13.63	F-Value	20.19	F-Value	16.14

Notes: For the definition of the variables, see Table 4. \*\*\*, \*\*, and \* Significant at the 1%, 5%, and 10% level, respectively. The food sector is the excluded dummy variable for industry classification.

## 4.2 OLS Results (No Endogeneity)

### 4.3

The first step in this study is the OLS regressions (equations 1 and 2). Table 8 presents all OLS regressions linking board size and firm performance. In the performance equation and based on the case Tobin's Q, the F-value is significant and R-square is 0.34; based on ROA, the F-value is significant and the R-square is 0.14. Board size (BSIZE) is positively significant based on both performance measures. Thus, hypothesis 1 is supported. This result is consistent with the results of Al-Shammari and Al-Sultan (2009), Qasim (2014) Badu (2017), Sunday (2008), Mohamed (2009), Coles *et al.* (2008), and Beiner *et al.* (2006). In terms of control variables, the results indicate that ownership concentration positively affects firm performance based on

both performance measures, but the debt ratio provided mixed results. Based on Tobin's Q, debt positively impacts performance; however, based on ROA, it negatively affects performance. Meanwhile, firm size does not affect firm performance based on Tobin's Q and positively impacts performance based on ROA.

## 4.4 2SLS Results (Controlling Endogeneity)

The second step of this study was to check the robustness of the relationship between board size and firm performance. This study used a different regression—namely, 2SLS regression—to control for the endogeneity (equations 5 and 6). The results are reported in Table 9. To illustrate this analysis, the study first employed 2SLS regression by

**Table 9: 2SLS Results Analysis for Study Sample from 2009 to 2017**

Performance as dependent variable			BSIZE as dependent variable		BSIZE as dependent variable	
Variables	TQ (5)	ROA (6)	Variables	BSIZE (7)	Variables	BSIZE (8)
BSIZE	-3.399**	-4.197**	Tobin's Q	-1.391	ROA	-1.022
OC	-4.548***	-2.981**	OC	-2.882**	OC	-2.382**
DT	-2.065*	-1.034	DT	-3.802***	DT	-2.998**
FS	0.455	-0.649	FS	-0.071	FS	-2.932**
INT1	3.228**	0.920	INT1	-2.747***	INDUS1	-2.222**
INT2	2.452*	0.976	INT2	-1.628	INDUS2	-1.558
INT3	0.634	0.916	INT3	2.170**	INDUS3	-1.173
R-square	0.14	0.11	R-square	0.08	R-square	0.06
Adj-R <sup>2</sup>	0.13	0.10	Adj-R <sup>2</sup>	0.07	Adj-R <sup>2</sup>	0.05
F-Value	13.12	8.625	F-Value	6.6	F-Value	5.01

Notes: For the definition of the variables, see Table 4. \*\*\*, \*\*, and \* Significant at the 1%, 5%, and 10% level, respectively. The food sector is the excluded dummy variable for industry classification.

considering board size as endogenously determined by all the explanatory variables (except board size) as well as the two additional instrumental variables (i.e., board independence and family directors). These variables have been used as determinants of board size in previous studies. As shown in Table 9, unlike OLS results, the impact of board size is negatively significant based on both performance measures. Thus, hypothesis 1 is supported as well. However, this relationship in the opposite direction. As there is a different between the results of OLS and 2SLS regressions, the 2SLS regression would be more consistent. Hausman (1978) argued that differences between OLS and 2SLS regressions mean that the variable and firm performance are endogenous. Thus, the OLS regression could produce misleading results when ignoring the impact of other

variables. This negative relationship is consistent with the agency theory argument and the studies of Demeke (2016), Andres *et al.* (2005), Yermack (1996), Bhagat and Black (2002), Bozec (2005), Lasfer (2004), Wintoki (2007), and Al-Faraih *et al.* (2012). In addition, ownership concentration negatively impacts firm performance based on two performance measures; meanwhile, debt ratio negatively impacts performance based on Tobin's Q only whereas industry variables produced mixed results.

#### 4.5 Causality Issue between Board and Firm Performance

Finally, this study examined the causality problem. This study considered both performance measures as endogenous variables to test this issue and used the lag

variable for both performance measures. Hermalin and Weisbach (1988) argued that the causality issue is an important aspect when studying the relationship between board size and firm performance or value because board size may impact firm performance and firm performance may impact board size. In other words, the relationship between the two variables could run from firm performance to board size but not vice versa. Thus, to have a deeper understanding of this relationship, this study controlled the causality issue by applying equations 3 and 4 in Table 8 and equations 7 and 8 in Table 9. This study used board size as the dependent variable based on OLS and 2SLS regressions and considered the performance measures as independent variables. Based on OLS regressions, Table 8 showed that both performance measures positively affect board size. However, as Table 9 demonstrates, the study found no significant impact from either performance measure on board size, which means that the causality in the relationship between board size and firm performance runs from board size to firm performance whereas the opposite is not true based on 2SLS regressions. Thus, hypothesis 2 is not supported in this study. The results found insignificant impact of firm performance on board size based on both performance measures. However, in terms of ownership concentration, debt, and firm size, the causality was evident. For example, increasing ownership concentration in Kuwaiti firms reduced firm performance; the opposite was also true.

#### 4.6 Comparing Study Results

This study found that board size negatively affects firm performance, which means that previous studies in Kuwait must consider the issue of endogeneity; however, the causality relationship between board size and firm performance does not exist. As presented in Table 10, many studies examined the relationship between board and firm performance while controlling the issue of endogeneity and concluded that a negative association existed between them. However, Coles *et al.* (2008) disagreed with these results and argued that there is a positive relationship between the two variables for large diversified firms. Meanwhile, Beiner *et al.* (2006) studied the situation in Switzerland and found similar results. Mak and Li (2001) studied this issue in Singapore and found no relationship between the two variables. The differences in results among previous studies are often mentioned in the literature, introducing many explanations for such mixed results. Previous studies produced mixed results because of big differences in legal systems, business environments, and regulations among countries. Some researchers argued that having mixed results is logical because it is very difficult to find one corporate governance system relevant for all countries (Coles *et al.*, 2008). Finally, previous studies differ in terms of sample, period of study, and variables; thus, having such mixed results is highly expected. Table 10 compares the results of this study with the results of one related study from developed countries.

**Table 10: Comparison of Study Results**

Authors	Years	Sample	Performance	Results
The current study	2009-2017	110 firms	TQ, ROA	Negative
Yermack (1996)	1984-1991	452 firms	TQ, ROA	Negative
Bhagat and Black (2002)	1988-1991	934 firms	TQ,ROA,TOS,MR	Negative
Coles <i>et al</i> (2008)	1992-2001	8165 firms	TQ	Positive
Beiner <i>et al.</i> (2006)	2002	109 firms	TQ	Positive
Mak and Li (2001)	1995	147 firms	TQ	Non

## V. Conclusion

This study used a large sample from the KSE and examined the impact of board size on firm performance in Kuwait. This country provides an interesting institutional setting for this study because boards are not as effective in their monitoring as in developed countries; consequently, the impact of board size on firm performance is not clear. The study results demonstrated that board size has a positive impact on firm performance based on both performance measures according to OLS regressions. However, after using 2SLS to control for the endogeneity problem, the study found that board size negatively impacts firm performance in both performance measures. These results are consistent with the agency theory studies that have argued for small boards of directors. Moreover, this study also addressed the causality issue and found no evidence of this

issue existing in Kuwait. Thus, board size negatively impacts firm performance whereas the opposite is not true.

The study has a number of limitations. First, this study used data related to the Kuwaiti environment only, so these results may not be generalized to other countries. It also considered only non-financial firms; financial firms may produce different results. The study used many instrument variables in 2SLS regressions that may lead to weak instruments; to address this issue, this study tested the validity of instrument variables. Nevertheless, further research would be useful for examining the same relationship using a different theoretical framework. A future study could also provide a better understanding by examining the relationship between board size and firm performance in the case of financial firms or testing the same relationship using qualitative methods.

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**Mejbel Al-Saidi** earned his Master degree from USA in 2002 and his Ph.D from university of Portsmouth, UK in 2010. His is currently associate Professor at college of business studies at PAAET, Kuwait. His research interests focus on corporate governance mechanisms and their role in improving the firm performance and value, corporate governance disclosure, corporate social responsibility, accounting conservatism, and capital structure.