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The Relationship between a Firm's Value and Ownership Structure in Kuwait: Simultaneous Analyses Approach

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Abstract

The study examined the impact of ownership structure on the value of listed firms in Kuwait using endogeneity theory as an analytical framework. Ownership structure was measured in terms of ownership concentration (percentage of shares owned by all top shareholders), while measures of value were Tobin's Q and Return on Assets. In the study, we used panel data for 121 firms listed on the Kuwait Stock Exchange (KSE) from 2010 to 2012, and we specified a model that used simultaneous equations with empirically-validated, strong, instrumental variables to control for endogeneity and causality issues. The results of the study indicated that ownership concentration had a negative, but insignificant, relationship with a firm's value based on OLS regression. However, based on 2SLS regression, ownership concentration was found to have a significant negative relationship with a firm's value However, the causality relationship between firm value and ownership concentration, if any, was from ownership concentration to firm value based on 2SLS regression. Therefore, there are two main contributions of this paper that make it a good addition to the extant literature, i.e., 1) it examined the relationship between firm value and ownership structure using the most recent data and 2) no work was done before the issues of endogeneity and causality for firms listed on the KSE were examined.

Keywords: endogeneity theory, ownership structure, causality, firm value, Kuwait

1. Introduction

Previous theoretical and empirical studies have examined the impact of ownership concentration on firm value from three major perspectives, i.e., 1) ownership concentration was treated as an exogenous variable, 2) ownership concentration was treated as an endogenous variable, and 3) ownership and value had mutual impacts, thereby allowing a test of the issue of causality. The first group developed three different results, e.g., 1) Jensen and Meckling (1976) posited that large shareholders impact firm value positively because they have more incentive to monitor and control managers, 2) others found that large shareholders act only for their own interests, thereby expropriating minority shareholders and creating the tunnel problem (Note 1) (La Porta et al., 1997), and 3) Morck et al. (1988) studied the relationship between firm value and ownership concentration and found a non-linear relationship, i.e., large shareholders impacted firm value positively until a certain point, after which the impact was negative (Note 2).

The second group that treated the ownership variable as an endogenous variable found no significant relationship between the variables because of the endogeneity (Demsetz & Lehn, 1985) (Note 3). Endogeneity means the presence of unobserved factors that impact both ownership concentration and value. The final group of studies argued that the relationship between ownership and value could go both ways, which means that ownership impacts value and value impacts ownership. Himmelberg et al. (1999) argued that the inconsistent results in studying the relationship between firm value and ownership were because the majority of previous studies failed to address the issue of causality between the two variables. Thus, not all studies used relevant techniques to control for the endogeneity and causality of ownership concentration, so their findings may be questionable.

Ownership concentration and firm value is among the most significant corporate governance since the work of Jensen and Meckling (1976). Although the researchers found mixed results over the world, this relationship is still considered desirable for three important reasons. First, the use of a large quantity of ownership data increased the robustness of the findings and allowed the use of econometric techniques, such as OLS, 2SLS, and simultaneous equations. Secondly, since most existing studies used data from the U.S., UK, other developed

countries, in which there is strong protection of investors, the findings of this study may be applicable to emerging markets in developing countries, especially GCC countries (Note 4), and finally to the best of our knowledge, there has been no study to date that examined the relationship between ownership concentration and firm value for firms listed on the KSE from the perspectives of endogeneity and causality.

This study examined the relationship between firm value and ownership concentration by using the endogeneity theory and conducting two different regressions. In this study, OLS panel data is used when ownership concentration is treated as an exogenous variable. Also, 2SLS regression is used to control the endogeneity and causality issues. The ownership structure in Kuwait is reviewed in the next section. Section 3 addresses prior research and presents the development of our hypotheses. Section 4 presents the data, variables, method, and procedures used for this empirical study. Section 5 provides the OLS and 2SLS results and section 6 presents a general discussion of our findings. Section 7 deals with the implication of the findings and finally our conclusions are presented in Section 8.

2. Ownership Structure in Kuwait

Kuwait is a developing market economy and, since it gained its independence, there have been several changes in its economic policies. However, its corporate governance systems are still behind those of developed countries. Also, as civil-law country, it provides the lowest quality of law enforcement and very little protection for smaller investors, which allows large shareholders guide the policies to protect their own money and interests. Concentrated ownership is common in developing countries, and it is less so developed countries. In other words, share ownership in developing countries with a low degree of protection of shareholders' rights is much more concentrated than that in developed countries that have in place a high degree of protection of shareholders' rights (Shleifer & Vishny, 1997; La Porta et al., 1997). La Porta et al. (1997) documented that common-law countries provide shareholders with the strongest protection. This creates opportunity for large shareholders to expropriate wealth from small shareholders (La Porta et al., 1997).

According to Kuwaiti laws, shareholders have equal rights and are subject to equal liabilities. Also, the shareholders have the right to receive a copy of the company's financial statements, the board of directors' reports, and the auditor's report. In a company's general meetings, shareholders can raise their concerns and make their influence felt over the management. Kuwaiti laws use the one-share-one-vote system for Kuwaiti firms. Therefore, if a poll is demanded, the number of votes is determined by the voting shares held by each person present and voting on the issue. This allows a single person holding a large numbers of shares to have a disproportionate weight in the decision-making process according to his ownership in the firm. Shareholders representing at least 25% of the capital can remove directors before the expiration of their period of office. However, no extraordinary meeting is valid unless it is attended by representatives who own at least 75% of the capital. Finally, Law No. 2 (1999) stated that every shareholder who has more than a 5% stake in the company should inform the board of directors so the board can send this information to the KSE.

In Kuwait, very little information has been published in the literature concerning ownership structure. However, after an intense search, three academic papers were found, as presented in Table 1. Al-Shammari et al. (2008) studied the ownership concentration from 1996 to 2002 and found that, on average, the large shareholders hold 64% of the firm's shares. Also, Alfaraih et al. (2012) found that the ownership concentration was about 55%, and Al-Saidi (2013) found the ownership concentration to be about 56%. Hamdan and Al-Sartawi (2010) studied the ownership concentration in financial firms and found the percentage to be about 46%. All of these studies divided the large shareholders into five groups, i.e., institutional, government, families (individuals), foreign investors, and large mass of minority shareholders. Consequently, most of the firms listed on the KSE have executive and non-executive directors, CEOs, and chairmen who are large shareholders.

La Porta et al. (1999) found that conflicts between large shareholders and minority shareholders are a major problem in countries with laws that provide minority shareholders with little protection. Thus, large shareholders may expropriate wealth and benefits from small shareholders that may impact firm value as predicted by agency theory.

Table 1. Previous studies that examined ownership concentration in Kuwait

No.	Authors	Sample	Percentage of ownership
1	Al-Shammari et al. (2008)	1996–2002	64% for institutional investors in non-financial listed firms
2	Alfaraih et al. (2012)	2010	55% for institutional and 3% for government investors in non-financial listed firms
3	Al-Saidi (2013)	2009–2012	56% for all large shareholders, 47% institutional investors, 3% for government investors, and 6% for families (individuals) for non-financial listed firms
4	Hamdan & Al-Sartawi (2013)	2010	46% for institutional investors for financial listed firms

3. Previous Studies and the Development of Hypotheses

As we mentioned previously, the literature review is divided into three groups, i.e., exogenous studies, endogenous studies, and causality studies. In this section, we discuss only the endogenous and causality studies.

3.1 Endogenous Studies (Hypothesis One)

Endogeneity means that there are several unobserved variables that impact the relationship between firms' value and ownership structure. Concentrated ownership may have no observable effect on firms' value due to endogeneity. Empirical studies, as presented in Table 2, were initiated by Demsetz and Lehn (1985). They found that ownership concentration and firm value are endogenous and should vary systematically by firm and by industry in ways that are consistent with value maximization. This is the natural selection hypothesis (Demsetz & Lehn, 1985). Thus, there should be no relationship between ownership concentration and firm value. Also, Agrawal and Knoeber (1996) examined seven governance mechanisms in a sample of 400 large firms listed in the U.S. and found that the individual use of governance mechanisms produced misleading results. However, they found no evidence that ownership concentration impacted firm value. Similarly, Demsetz and Villalonga (2001) treated ownership as an exogenous and endogenous variable for 223 U.S. firms and found that when endogeneity was taken into account, there was no relationship between firm value and ownership concentration.

Another way to deal with the endogeneity issue of ownership concentration is to use panel data and fixed-effect regression. Himmelberg et al. (1999) studied the relationship between insider ownership and firm value from the perspective of endogeneity and they found no evidence to suggest that insider ownership impacted firm value. Similarly, Omran et al. (2008) studied ownership concentration in four Arab countries, Welch (2003) studied ownership concentration in Australia, and Qin et al. (2012) applied the two-stage least squares (2SLS) estimation and they argued that previous studies that treated ownership structure as an exogenous variable might be misinterpreted.

Alonso Bonis and Andres Alonso (2007) examined the influence of ownership concentration on firm value for Spanish non-financial firms listed from 1991 to 1997. After applying the panel-data methodology to control for the endogeneity of ownership structure, they found a positive and significant relationship between ownership concentration and firm value. Also, Kaserer and Moldenhauer (2007), Wellalage and Locke (2007), Isik and Soykan (2013), and Jaafar and El-shawa (2009) reported similar results. They argued that ownership concentration affects firm value positively due to the effective monitoring of firm managers performed by large shareholders. Meanwhile, La Porta et al. (1997) argued that a negative effect of ownership concentration on firm value was observed when large shareholders used firm resources for their own benefit.

In Kuwait, although previous studies have assumed that, since Kuwait is a civil-law country with low protection for investors (La Porta et al., 1998), investors expected that large shareholders, through their concentrated ownership, have an effective role in monitoring managers in order to align the interest of shareholders and managers and to protect their money (Shleifer & Vishny, 1997). However, this study argued that ownership concentration had no impact on firm value due to the endogeneity issue. Also, markets will lead to the optimal ownership structure since firms with weak ownership structures will fail to survive. As a result, ownership structure is influenced by the market's environment. Thus, in this study, we developed the following hypothesis:

H1: ownership concentration has no impact on firm value.

Table 2. Studies that considered endogeneity

No.	Authors	Country	Type of shareholders	Value measure	Main results
1	Demsetz & Lehn (1985)	USA	Large shareholders	Accounting rate	No relationship
2	Agrawal & Knoeber (1996)	USA	Large shareholders	Tobin's Q	No relationship
3	Demsetz & Villalonga (2001)	USA	Insider and large shareholders	Tobin's Q	No relationship, the insiders negatively impact Tobin's Q.
4	Alonso Bonis & Andres Alonso (2007)	Spain	Insider and large shareholders	Tobin's Q	Positive relationship
5	Omran et al. (2008)	Arab countries	Large shareholders	Tobin's Q and ROA	No relationship
6	Himmelberg et al. (1999)	USA	Insider ownership	Tobin's Q	No relationship
7	Kaserer and Moldenhauer (2007)	Germany	Insider and large shareholders	Tobin's Q	Positive relationship
8	Welch (2003)	Austria	Large shareholders	Tobin's Q	No relationship
9	Wellalage & Locke (2007)	SriLanka	Insider and large shareholders	Tobin's Q and ROA	Positive relationship
10	Qin et al. (2012)	China	Insider and large shareholders	ROA	No relationship
11	Isik & Soykan (2013)	Turkey	Large shareholders	Tobin's Q and ROA	Positive relationship
12	Jaafar & El-shawa (2009)	Jordan	Large shareholders	Tobin's Q and ROA	Positive relationship

3.2 Causality Studies (Hypothesis Two)

The reverse causality issue means that the relationship between ownership concentration structure and firm value may work both ways. As presented in Table 3, Kole (1994) conducted one of the first empirical assessments of the interdependence between firm value and ownership concentration. She argued that the direction of causality was not from ownership to value but from value to ownership. She found evidence of reverse causality, with value affecting ownership positively rather than the other way around. Also, she found that the managers of successful firms were more likely to have additional ownership. Consistent with this view, Himmelberg et al. (1999) and Mura (2007) argued that the results in the literature are inconsistent because the researchers failed to address the reverse-causality between ownership concentration and firm value, thus producing biased results. However, both studies failed to determine the impact of value on ownership concentration.

Loderer and Martin (1997) and Al Farooque et al. (2007) studied the relationship between firm value and insider ownership as endogenous in simultaneous equations. They found no evidence that ownership impacted firm value. In contrast, value appears to have a negative effect on ownership concentration by insiders. Also, they concluded that managers liquidate some of their ownership when firms are valued relatively high. Also, Cho (1998) used investment as a proxy for firm value based on a sample of 326 Fortune 500 manufacturing firms in 1991. To address the causality effect, the two-stage least squares regression (2SLS) results indicated that firm value has an effect on ownership concentration but that the effect of ownership concentration on firm value was insignificant. Similarly, Bohren and Odegaard (2001) and Gonenc (2004) found evidence that value drives ownership but not vice versa, but Hu and Izumida (2008) produced results that indicated that the opposite was true. They found that the causality of ownership structure might depend on the characteristics of the market, and there was no evidence of causality. Also, they argued that ownership structure was less accessible as an effective mechanism.

Table 3. Studies that considered causality when assessing ownership concentration

No.	Authors	Country	Type of shareholders	Value measure	Ownership impact value	Value impact ownership
1	Demsetz & Villalonga (2001)	USA	Insider and large shareholders	Tobin's Q and ROA	No relationship	Negative relationship
2	Himmelberg et al. (1999)	USA	Insider ownership	Tobin's Q and ROA	Non-linear	No relationship
3	Mura (2007)	UK	Insider shareholders	Tobin's Q	Mixed results (Note 5)	No relationship
4	Cho (1998)	USA	Insider ownership	Tobin's Q	No relationship	Positive relationship
5	Bohren & Odegaard (2003)	Norway	Insider ownership	Tobin's Q and ROA	No relationship	Positive relationship
6	Beiner et al. (2006)	Switzerland	Large shareholders	Tobin's Q	No relationship	No relationship
7	Loderer & Martin (1997)	USA	Insider ownership	Tobin's Q	No relationship	Negative relationship
8	Thomsen et al. (2006)	Continental countries, UK,USA	Large shareholders	Tobin's and ROA	Negative for Continental firms only	No relationship
9	Hu & Izumida (2008)	Japan	Large shareholders	Tobin's Q and ROA	Positive relationship	No relationship
10	Brick et al (2006)	USA	Large shareholders	Tobin's Q, ROA, and Alpha	No relationship	No relationship
11	Gonenc (2004)	Turkey	Large shareholders	Tobin's Q and ROA	No relationship	Positive relationship
12	Al Farooque et al. (2007)	Bangladesh	Insider ownership	Tobin's Q and ROA	No relationship	Negative relationship

Demsetz and Villalonga (2001) also addressed causality concerns about the relationship between the firm value and ownership concentration by using a simultaneous-equations model. They found no statistical relationship between ownership concentration and firm value. However, they found a significant negative influence of firm value on ownership concentration. Also, Beiner et al. (2006) studied the relationship between ownership and firm value in Switzerland and after controlling for both causality and endogeneity issues; they found that there was no significant relationship between the two variables. Brick et al. (2006) studied the endogeneity and causality for several governance variables for U.S. listed firms and found that no relationship between ownership concentration and firm value. They argued that the firms were in equilibrium with respect to governance mechanisms.

Causality might run from firm value to ownership concentration or vice versa. Ownership concentration impacts firm value positively due to the effective role of large shareholders in monitoring the managers and their role in reducing the conflict between shareholders and managers. However, a negative effect of ownership concentration on firm value existed because the large shareholders were using the firm's resources for their own interests at the expense of small shareholders. Firm value impacts ownership concentration positively since the large shareholders increase their ownership when the firm has a high value. However, there was a negative effect of firm value on ownership concentration because the large shareholders sell their shares when the firm value is high. In Kuwait, no empirical work has examined the relationship between firm value and ownership concentration from the causality perspective. Thus, consistent with the previous studies in developed and Asian countries, in this study, we propose the following hypothesis:

H2: There is no significant relationship between ownership concentration and firm value run in both ways.

4. Research Method

4.1 Data

We used panel data in this study because they provided more variability, less collinearity, and more degrees of freedom (Baltagi, 2005). The data were selected for three years from 2010 through 2012. We chose 2010 as the base year for two reasons. First, a significant number of Kuwaiti firms were listed on the KSE in 2010. Second, ownership data for the listed Kuwaiti firms were not available prior to 2010. The data of ownership concentration were collected from the KSE's website. The listed companies are required to submit ownership concentration data to the KSE. The data for value measures and control variables were obtained from the annual reports of the listed firms. There were 201 firms listed on the KSE in 2010. However, the study excluded the banking, insurance, and financial firms because they are subject to different regulations and structured differently, which made it impossible to compare their firm values with those of other types of firms. Also, the study excluded all listed firms for which data were unavailable for all of the variables for the period of the study. Thus, our final sample size was 121 listed firms. Table 4 provides more information about the sample size.

Table 4. The sample used in the study for the years 2010 through 2012

No.	Sector	Total Number of listed firms	Number of Excluded firms	Number of Included firms
1	Banks	9	9	0
2	Investment	51	51	0
3	Insurance	7	7	0
4	Real estate	39	3	36
5	Industrial	29	4	25
6	Services	60	6	54
7	Food	6	0	6
Totals		**201**	**80**	**121**

4.2 Analytical Procedures

As presented in Table 5, the study variables were divided into four groups, i.e., 1) two value measure (Note 6), 2) one independent variable, 3) eight control variables, and 4) four instrument variables. To provide a more comprehensive understanding, the analysis was conducted in two steps. First, the researchers ran the OLS regression assuming that ownership concentration and firm value were exogenous variables and causality ran in both ways, as shown in the following:

Tobin's Q (Note 7) = Ownership concentration + Control variables (Note 8) + ε **model 1**

ROA = Ownership concentration + Control variables + ε **model 2**

Ownership concentration = Tobin's Q + Control variables + ε **model 3**

Ownership concentration = ROA + Control variables + ε **model 4**

Then, the simultaneous equations systems were applied in order to control reverse endogeneity and causality issues by using two-stage least squares (2SLS) regression defined by the following equations:

Tobin's Q = Ownership concentration + Control variables + ε **model 5**

ROA = Ownership concentration + Control variables + ε **model 6**

Ownership Concentration = Tobin's Q + Control variables + ε **model 7**

Ownership Concentration = ROA + Control variables + ε **model 8**

5. Descriptive Analysis and Regression Results

5.1 Descriptive Analysis

Table 6 presents the correlation matrix and summarizes the correlation between the independent variables and the dependent variable. The table shows that only ownership concentration and debt ratio impact firm value based on both measures, while firm size impacts firm value based on Tobin's Q, and firm age impacts firm value based on ROA. Furthermore, Table 6can help us test the multi-collinearity problem. Gujarati (1999) argued that

multi-collinearity might be a problem when the correlation between the independent variables exceeds 80%. Although Table 6 shows that there are strong relationships among all of the independent variables, none of the correlations are high enough to indicate any problems of multicollinearity.

Table 5. Study's variables and their related literature references

No.	Variables	Definitions	Related literature references
Dependent variables and independent variable			
1	Tobin's Q (TQ)	Total market value + total liabilities/total assets	Agrawal & Knoeber, 1996; Loderer & Martin, 1997; Demsetz & Villalonga, 2001
2	Return on assets (ROA)	Net income before tax and interests/total assets	McConnell & Servaes, 1990; Himmelberg et al., 1999; Odegaard & Bohren, 2003.
3	Ownership concentration (OCON)	Percentage of shares owned by the large shareholders who own more than 5% of the firm shares	Demsetz & Lehn, 1985; McConnel & Servaes, 1995; Demsetz & Villalonga, 2001; Haniffa & Hudaib, 2006; Agrawal & Knoeber, 1996; Loderer & Martin, 1997.
Control variables			
4	Debt Ratio (DR)	Long-term debt divided by total assets	Jensen, 1986; Cho, 1998; McConnel & Servaes, 1995; Demsetz & Villalonga, 2001; Jaafar & El-Shawa, 2009.
5	Firm size (FS)	Total assets	Demsetz & Lehn, 1985; Pedersen & Thomsen, 1997; Loderer & Martin, 1997; Cho, 1998; Demsetz & Villalonga, 2001; Himmelberg et al., 1999; Boone et al., 2007; Jaafar & El-Shawa, 2009.
6	Firm Age (FA)	Total years since firms were listed.	Anderson & Reeb, 2003; Boone et al., 2007; Beiner et al., 2004; Wiwattanakantang, 2001.
7	Industry 1	The four type of KSE classifications, i.e., real estate, manufacturing, services, and food	Demsetz & Lehn, 1985; Cho, 1998; Pedersen & Thomsen, 1997; Haniffa & Hudaib, 2006; King & Santor, 2008; Odegaard & Bohren, 2003; Demsetz & Villalonga, 2001.
8	Industry 2		
9	Industry 3		
10	Industry 4		
Instrument variables			
11	Institutional Ownership (INO)	Total shares owned by institutional investors	McConnell & Servaes, 1990; Aljifri & Moustafa, 2007; Omran et al., 2008; Haniffa & Cooke, 2002; Wiwattanakantang, 2001.
12	Government Ownership (GO)	Total shares owned by the government	Muravyev, 2002; Aljifri & Moustafa, 2007; Jaafar & El-Shawa, 2009.
13	Families and individuals ownership (FAIO)	total shares owned by families (individuals)	La Porta et al., 1999; King & Santor, 2008; Jaafar & El-Shawa, 2009.
14	Lag value (L-PM)	Lag variables for value measures	Haniffa & Hudaib, 2006; Villalonga & Amit, 2006; Brick et al., 2006.

Table 6. Correlation matrix

Variables	TQ	ROA	OCON	DR	FS	FA
TQ	1					
ROA	0.032	1				
OCON	-0.252**	-.211**	1			
DR	-0.381**	-0.251**	-.184**	1		
FS	0.229**	0.046	-0.331**	0.458**	1	
FA	0.055	0.109*	-.133*	-.004	0.270**	1

Note. Table 5 defines the variables. *$\rho < 0.10$; **$\rho < 0.05$.

Table 7 presents the descriptive statistics of the dependent variables used in the study. The level of value measures in the sample varies dramatically among the listed Kuwaiti firms. The Tobin's Q (TQ) ranged from a low value of 0.02 to a high value of 4.4, and the mean score was 0.78, with a standard deviation of 0.53. Also, the return on assets (ROA) ranged from -0.82 to 1.71 with a mean value of 1.33 value. Demsetz and Villalonga (2001) reported an average Tobin's Q of 1.129. Similarly, Al-Saidi (2013) studied these value measures in Kuwait from 2009 to 2012 and found that the mean value of Tobin's Q was 1.3 and that the mean value of ROA was 4%. Also, Al-Shammari and Al-Sultan (2009) studied the Kuwaiti situation and found that Tobin's Q and ROA had mean values of 2.11 and 0.10, respectively. Both measures indicated that there were large variations in the sample during the period of the study that provided useful and meaningful analyses. Ownership concentration showed differences among the independent variables across the sample firms, ranging from a minimum of 0.09 to a maximum of 0.99, with a mean value of 0.56. As presented in Table 1, this was less than Al-Shammari et al.'s (2008) results but very close to Alfaraih et al.'s (2012) and Al-Saidi's (2013) results. Also, debt ratios had a mean value of 0.41, while the mean value for firm size was KD173,884, and the mean value of firm age was 8.3 years.

Table 7. Descriptive analysis

Variables	N	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
TQ	363	0.02	4.4	0.78	0.53	2.5	10.6
ROA	363	-0.82	1.71	1.33	16.06	-1.009	6.09
OCON	363	0.09	0.99	0.56	0.21	-0.061	-0.768
DR	363	0.013	0.91	0.41	22.8	0.223	0.812
FS	363	1975	3709937	173884	374015	6.02	44.5
FA	363	1	29	8.3	8.35	1.05	-3.243

Note. Table 5 defines the variables.

Table 7, the analysis of the test's skewness and kurtosis, suggests that the assumptions of normality were not met. Gujarati (1999) argued that data can be said to be normal if standard kurtosis is within ±3 and standard skewness is within ±1.96. In addition, the analysis of the Q-Q plots, residuals, and plots of the studentised residuals against predicted values indicated the existence of heteroskedasticity and autocorrelation problems (Note 9). Thus, four variables, i.e., Tobin's Q, ROA, firm size, and firm age, were not normal variables. To deal with this problem, in the majority of studies, these data have been transformed into natural logarithms. However, Cooke (1998) argued that the normal scores technique is the most appropriate approach for transforming data because it produces better estimates. Thus, in this study, we used the normal scores technique to fix the problems of breaking the assumptions of linear regression.

5.2 OLS Results

Table 8 presents the results of the OLS, assessing the effect of ownership concentration on firm value based on two value measures, namely, Tobin's Q and ROA. Table 8 gives the values of the unstandardized beta coefficients and *T*-statistics (in parentheses) along with the significance levels of the coefficients. Hypothesis 1 predicted that ownership concentration has no impact on firm value. The coefficient of ownership concentration was negative and insignificant (β = -0.0164; $p > 0.10$). This coefficient became positive and insignificant (β = 0.353; $p > 0.10$) based on ROA. Thus, Hypothesis 1 is supported.

Hypothesis 2 predicted that there is no relationship between ownership concentration and firm value runs in both ways, and Table 9 presents the results of the OLS, assessing the effect of firm value on ownership concentration. Based on both value measures, firm value is insignificantly associated with ownership concentration. Thus, from the results in both tables, Hypothesis 2 was supported as well. Debt ratio has a negative impact on firm value based on both measures. However, its impact on ownership concentration was insignificant. Also, for firm size, the negative coefficient (β = -0.316, $p < 0.001$) based on ROA signed similar associated on ownership concentration. Finally, firm age signed insignificant coefficient in both tables.

Table 8. OLS regression using TQ and ROA as the dependent variables

Variables	Dependent variables	
	TQ (model 1)	**ROA (model 2)**
Constant	0.242(0.915)	0.280(957)
OCON	-0.0164(0.338)	0.353(1.103)
DR	-0.014(-5.788)***	-0.015(-5.740)***
FS	-0.031(0.550)	-0.316(-5.141)***
FA	0.018(311)	0.024(0.397)
IND1	-0.491(-2.132)*	-0.624(-2.427)*
IND2	-0.298(-1.312)	0.016(0.062)
IND3	-0.077(-0.343)	-0.105(-0.420)
F-value	13.8(0.00)	13.4(0.00)
Adj-R Square	0.20	0.19

Note. Table 5 defines the variables. The excluded sector was industry 4 (the food sector) and it is represented by the constant. *ρ < 0.10; ** ρ < 0.05; *** ρ <0.01. *T*-statistics are in parentheses.

Table 9. OLS when using ownership concentration as the dependent variable

Variables	Dependent variable	
	Ownership concentration (models 3 and 4)	
Constant	0.615(12.06)***	0.581(10.89)***
TQ	-0.051(-0.342)	----
ROA	-------	0.046(0.229)
DR	-0.005(-0.71)	-.005(-0.098)
FS	-0.051(-4.104)***	-0.069(-5.348)***
FA	-0.012(-0.877)	-0.014(-1.018)
IND1	-0.103(-1.452)	-0.038(-701)
IND2	-0.075(-1.449)	-0.50(-0.946)
IND3	0.001(0.019)	0.020(0.385)
F-value	11.8(0.00)	11.7(0.00)
Adj-R Square	0.17	0.17

Note. Table 5 defines the variables. The excluded sector is industry 4 (food sector) and it is represented by the constant. *ρ < 0.10; **ρ < 0.05; ***ρ < 0.01. *t*-statistics are in parentheses.

5.3 Testing Endogeneity and Instruments

After conducting the OLS regression and consistent with the study's main objective, we used the 2SLS regression to check the endogeneity. However, first, we had to make sure that the endogeneity issue actually existed. So, to deal with this problem, we used the Durbin-Wu-Hausman test for endogeneity, as presented in Table 10. To perform this test, we first separately regressed the variable of ownership concentration on all exogenous variables in the system to obtain the residual values. Then, we included the residuals as additional variables in the original OLS regressions. Thus, for example, the null hypothesis was that, if ownership concentration were exogenous to the determination of firm value measures, the residual value from the reduced form regression was uncorrelated with firm value measures.

As presented in Table 10, our analysis suggested that ownership concentration is endogenous choices impact on firm value. Such impact may violate the OLS estimation since ownership concentration was correlated with the regression errors. Also, Table 10 shows that, in the regression of firm value based on both measures, the residuals

of ownership concentration are significant. Most importantly, the table provides the F-statistic that tests the null hypothesis for the residual of ownership concentration based on the value measures, both of which were zero. Therefore, ownership concentration was determined to be endogenous; OLS estimation without taking into account endogeneity can lead to biased coefficients. To control this problem, we considered three instrument variables that were correlated with ownership concentration but not correlated with firm value. Since there was more than one instrument for an ownership concentration variable, the two-stage, least-squares (2SLS) regression was the most efficient regression to use (Gujarati, 1999).

Table 10. Durbin-Wu-Hausman test for endogeneity

Variables	**Dependent variable**	
	TQ	**ROA**
Constant	0.283(0.983)	0.631(1.977)*
OCON	-1.047(-3.467)***	0.471(1.439)
DR	-0.014(-5.747)***	-0.015(-5.948)***
FS	0.027(0.476)	0.282(4.538)***
FA	0.018(0.296)	0.017(0.264)
IND1	-0.496(-2.146)*	-0.658(-2.576)
IND2	-0.302(-1.326)	-0.008(-0.031)
IND3	-0.076(-.341)	-0.089(-0.360)
OCON-res	0.486(2.120)*	1.308(2.643)***
F-value	12.07(0.00)	12.8 (0.00)
Adj-R Square	0.20	0.21

Note. Table 5 defines the variables. The excluded sector is industry 4 (food sector) and it is represented by the constant. *$\rho < 0.10$; **$\rho < 0.05$; ***$\rho < 0.01$. *t*-statistics are in parentheses.

Finally, since there is no grounded theory in the literature for selecting good instruments because this selection is arbitrary or subject to the availability of variables. Himmelberg et al. (1999) documented the difficulty in determining the instrument variables for their study. However, we can reduce this problem by testing the validity of the instrument. As presented in Table 11, we used the Staiger and Stock (1997) test to acquire sufficient evidence about the strength of the instruments. We ran first-stage regressions without instruments, and then we repeated the same regression after we included the instrument variables. If the difference in the F value between the two regressions were 10 or more, we considered this to be sufficient evidence of instrument validity. Also, the significance of the R squared and Adjusted R squared in the regressions after including the instrument variables provided strong evidence that the instruments were highly correlated with ownership concentration, thereby improving the overall validity of the instruments (Note 10).

5.4 2SLS Results

Next, we tested our two hypotheses by using a different regression, namely, 2SLS. To reiterate, Hypothesis 1 predicted that the level of ownership concentration does not impact firm value. The coefficient of this relationship is negatively and significantly based on both value measures. Hence, Hypothesis 1 was rejected based on the results in Table 12. Also, Hypothesis 2 predicted that the relationship between firm value ownership concentration is not significant in both ways.

The coefficients of this impact in models 7 and 8 provide the results presented in Table 13. These results show that the causal link between ownership concentration and firm value, if any, would run from ownership concentration to firm value. Thus, Hypothesis 2 also is rejected. For other variables, i.e., debt, firm size, and firm age, the 2SLS regression provided essentially the same results in that debt and firm size impacted firm value negatively, while firm age had insignificant impacts on firm value and ownership concentration.

Table 11. Instrument test

Variables	Before instruments			After including instruments		
	R squared	Adj-R squared	F-value	R squared	Adj-R squared	F-value
OCON	0.146	0.131	10.125	0.627	0.618	66.02
TQ	0.172	0.158	12.36	0.359	0.344	27.7
ROA	0.17	0.156	12.15	0.54	0.53	59.12

Note. Table 5 defines the variables.

Table 12. 2SLS regression using TQ and ROA as the dependent variables

Variables	Dependent variables	
	TQ (model 5)	**ROA (model 6)**
Constant	0.283(964)	0.646(1.955)*
OCON	-1.047(-3.471)***	-0.474(-1.413)*
DR	-0.014(-5.754)	-0.015(-5.855)***
FS	-0.027(-0.477)	-0.283(-4.487)***
FA	0.018(0.296)	0.17(0.259)
IND1	-0.496(-2.149)*	-0.664(-2.559)*
IND2	-0.302(-1.327)	-.014(-0.055)
IND3	-0.076(-0.341)	-0.096-0.0380)
F-value	12.8	11.04
Adj-R Square	0.19	0.16

Note. Table 5 defines the variables. The excluded sector is industry 4 (food sector) and it is represented by the constant. *ρ < 0.10; **ρ < 0.05; ***ρ < 0.01. *t*-statistics are in parentheses.

Table 13. 2SLS when using ownership concentration as the dependent variable

Variables	Dependent variable	
	Ownership concentration (models 7 and 8)	
Constant	0.673(10.564)***	0.595(10.88)***
TQ	-0.018(-1.268)	----
ROA	-----	-0.031(-1.904)
DR	-0.002(-2.444)**	-0.002(-0.481)
FS	-0.064(-4.135)***	-0.065(-4.896)***
FA	-0.017(-1.015)	-0.014(-1.003)
IND1	-0.041(-0.615)	-0.049(-0.879)
IND2	-0.039(-0.620)	-0.051(-0.954)
IND3	0.013(0.216)	0.019(0.359)
F-value	6.9	9.6
Adj-R Square	0.10	0.14

Note. Table 5 defines the variables. The excluded sector is industry 4 (food sector) and it is represented by the constant. *ρ < 0.10; **ρ < 0.05; ***ρ < 0.01. *t*-statistics are in parentheses.

6. General Discussion

In this study, the presence of the endogeneity issue could impact the results of the OLS regressions and produce misleading results, but, even so, we decided to present the results of OLS and 2SLS regressions. We made this decision because OLS regressions are used extensively in the literature and, thus, presenting such results makes sure that we speak the same language and allows the comparison of the results of the two approaches.

Table 14 shows that, based on OLS regressions, the ownership concentration inconsistently based on both firm value measures, and they show no statistically significant effect. Therefore, no evidence was found to support agency theory (Jensen & Meckling, 1976), which argues that more ownership concentration leads to higher firm value (Note 11). However, based on 2SLS, ownership concentration impacts firm value negatively with both firm value measures. Generally, from both regressions, ownership concentration is not an important mechanism for impacting firm value positively. This is consistent with the results of La Porta et al. (1997), Thomsen et al. (2006), and Pursey et al. (2009), who found large shareholders impact firm value negatively because they used the firms' resources only for their own benefit. This is tunneling, which can take one of three forms: (1) large shareholders transfer the resources of their firm to other firms that they also own by self-dealing or related party transactions (Djankov et al., 2008). This could occur by means of acquisitions that hurt their firm but benefit their affiliated firms (Bae et al., 2002); (2) large shareholders also can increase their shares of the firm without transferring any assets by making transactions that are disadvantageous to minority shareholders, such as dilutive share issues or minority freeze-outs (Johnson et al., 2000); (3) large shareholders may also expropriate minority shareholders by setting their own compensation at above-market levels that cannot be justified by value or effort (Cheung et al., 2005).

Table 14. Results of OLS and 2SLS regressions

Type of regression	Ownership concentration as dependent variable with both performance measures		Both performance measures as dependent variable	
OLS	Not significant	Not significant	Not significant	Not significant
2SLS	Not significant	Not significant	Negative significant	Negative significant

Also, this is consistent with the argument of La Porta et al. (1999) that large shareholders may create tunneling problem, which means transferring the firms' resources only for their benefit in the absence of strong shareholder protection. Also, another explanation for the negative impact on firm value is that large shareholders have significant influence on managers, prohibiting them from expanding their activities into projects with positive net present value. Thus, managers act only for the interests of large shareholders; otherwise, they would lose their jobs. Thus, managers and large shareholders may pursue actions that maximize only their own personal interests (Shleifer & Vishny, 1986).

However, similar to the results obtained by Himmelberg et al. (1999); Mura (2007); Beiner et al. (2006); Thomsen et al. (2006); Hu and Izumida (2008); and Brick et al. (2006), the OLS and 2SLS estimations do not identify either Tobin's Q or ROA as having any significant impact on ownership concentration. The results of this study are inconsistent with the results of Loderer and Martin (1997), Demsetz and Villalonga (2001), and Al Farooque et al. (2007) who found value to have a negative effect on ownership concentration. Also, our results were inconsistent with those of Cho (1998), Bohren and Odegaard (2003), and Gonenc (2004) who found that firm value had a positive impact on ownership concentration.

The main reason for such results was that, in the absence of a corporate governance code, we cannot compare the environment in Kuwait with the environment in other developed countries or Asian countries. Also, the Kuwaiti shareholders cannot sell their large shares quickly when firms are not performing well, because they have large ownership. Finally, the majority of firms on the KSE are family-owned firms, the shareholders are not expected to change their positions irrespective of whether the firms are performing well or poorly.

There are only a few control variables that have any significant impact. Debt ratios were consistent throughout as long as value measures was the dependent variable. The results are highly-negatively significant in the first two models and in model four, but they were not significant in model three. In the third estimation, the relationship between Tobin's Q and debt ratio was not significant. This was inconsistent with the argument of Jensen and Meckling (1976) that debt can be used as an effective mechanism for reducing agency problems. They argued that debt can reduce the conflict between managers and shareholders, thereby increasing the alignment of their

interests. Several studies reported similar results (i.e., Al-Saidi, 2013; Agrawal & Knoeber, 1996; Demsetz & Villalonga, 2001; Morck et al., 1988; Welch, 2003).

Also, the same results were observed for firm size and industry one (the real estate sector), while firm age and the other three industry types were insignificant in both regressions based on both value measures. Consistent with this view, Al-Saidi (2013) and Haniffa and Hudaib (2006) found that smaller firms are better performers than large firms. When ownership concentration is the dependent variable, debt is not statistically significant in any of the specifications, with the exception of Tobin's Q in the 2SLS regression. Firm size was the only variable significant impact. It is relevant in impacting ownership concentration, and the estimates are always negative. Welch (2003) found a negative relationship between firm size and ownership structure for Australian-listed firms, meaning that shareholders must invest more to obtain a given level of ownership. However, the firm age and the industry types had no statistically significant impact in either of the two regressions when ownership concentration was the dependent variable.

7. Implications of the Study

1) The current situation in Kuwait allows large shareholders to control the firms and managers and prohibit the firms' managers from working in an independent environment; the results could be even worse when the large shareholders are unqualified people who control the firm without any experience. Therefore, this study found that firms listed on the KSE need large shareholders who have more skills and experience; also, the Kuwaiti government must introduce new regulations to limit the power of large shareholders and to diversify the ownership composition to improve firm value and protect minority shareholders.
2) Government is one of the large shareholders in the KSE, and it has been criticized for impacting firm value negatively because it has social goals that are not necessarily consistent with the firm's goals. The implication is that the Kuwaiti government should encourage professional people in the private sector and academics to be members in the boards of directors in the listed firms that the government controls. Also, the Kuwaiti government should put a corporate governance code in place as soon as possible.
3) Firm value is better when the managers work in a friendly environment without any role solely for the large shareholders. This is to encourage managers to act for the interests of all shareholders equally. The study found that a high level of ownership concentration led to poor firm value, which means that managers cannot perform well due to the influence of large shareholders. These findings are consistent with the situation in most developed countries and with the majority of previous studies that argued in favor of diffuse ownership and against the concentration of ownership. Also, encourage foreign investors to participate to a greater extent in the KSE.

8. Conclusions

This study found a negative association between firm value and ownership concentration. This study extended the existing research in Kuwait by examining ownership structure over a three-year period and examining the issues of endogeneity and causality. After conducting several regressions and after controlling the issues of endogeneity and causality, we concluded that ownership concentration has a negative impact on firm value, but the same is not true the other way around. In other words, if there is any causal relationship, it would be from ownership concentration to firm value. This means that, in the absence of strong protection for shareholders, large shareholders use the assets and financial resources of firms on the KSE only for their own benefits without any consideration for minority shareholders. This is consistent with the majority of previous studies that argued that developing countries have lower shareholder protection and must introduce new laws that control the decisions of large shareholders and protect minority shareholders and managers from such influence. We suggest that it would be very useful to extend the current Kuwaiti studies by examining a longer time series or by comparing the situation in Kuwait with other GCC countries.

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Notes

Note 1. The term "tunneling" refers to the transfer of resources out of a company to its controlling shareholder (Johnson et al., 2000).

Note 2. All of the studies that found a non-linear relationship between firm value and ownership concentration basically did so based on ownership concentration by insiders, a situation that does not exist in Kuwait. Thus, this kind of relationship was not examined.

Note 3. Some researchers, such as Hu and Zhou (2006), have posited that there are two sources of endogeneity in the data related to ownership and value. One source is the causality between the variables of ownership and value. The other source of endogeneity is unobserved firm characteristics that affect both ownership and value, characteristics that cannot be controlled in an empirical model. Examples of such factors include internal monitoring and implicit contracts. Himmelberge et al. (1999) suggested the regression of panel data as the best way to control this problem. However, consistent with the majority of the previous studies, as presented in Tables 2 and 3, these issues were discussed separately in two hypotheses.

Note 4. GCC stands for Gulf Cooperation Council, namely, Kuwait, Bahrain, Saudi Arabia, Qatar, United Arab Emirates (UAE), and Oman.

Note 5. Mura (2007) found non linear relationship between ownership of executive director and firm value, but found no relationship between ownership of non-executive director and firm value.

Note 6. Consistent with the majority of previous studies, this study used two value measures to increase the robustness of the study's results. Using only Tobin's Q has several problems such as Tobin's Q is a variable for growth opportunities and other argued that growth opportunities are a cause, rather than a consequence of ownership concentration. Thus, some studies used this variable as a control variable not a value measure.

Note 7. In general there are two methods to calculate the Tobin's Q, namely, Lindenberg and Ross (1981) and Chung and Pruitt (1994). However, Chung and Pruitt (1994) assumed that replacement values of firms' plant, equipment and inventories are equal to their book values and conducted ten-year analysis of Q values between their calculation and the calculation of Lindenberg and Ross (1981) for Tobin's Q. The results show a high degree of consistency in Q under both calculations.

Note 8. The researcher used the variables of board size, proportion of non executive directors and role duality. However, they excluded because they make the regressions less powerful. This is probability because there is no corporate governance code that makes both of these variables ineffective.

Note 9. Heteroskedasticity occurred when the variance of the error terms was not constant, thereby violating the assumption of hemoscedasticity or equal variance. Autocorrelation occurred when the error terms were correlated. In both cases, the OLS estimates were inefficient, and the test of the hypothesis was invalid.

Note 10. There are also different tests for instrument validity, such as Sargan's Test (1958) and Stock and Yogo's Test (2004). In this study, we used the Staiger and Stock (1997) test because it is easier to interpret and is consistent with several econometrics books on weak instruments.

Note 11. This is the interest alignment hypothesis (Berle & Means, 1932; Jensen & Meckling, 1976).