

The Impact of Ownership Structure on Stock Liquidity: Evidence from Amman Stock Exchange

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ABSTRACT

This paper investigates the relationship between firm's ownership structure and its stock liquidity for firms listed on Amman Stock Exchange. We find that most of the firms have highly concentrated ownership structure. The largest shareholder of most of the publicly traded corporation is either a family or a private firm. The results show that stock liquidity of firms whose "largest shareholder" is a family which is very low compared to those of widely held firms. Regression results show that the percentage of ownership and the existence of one or more "large shareholders" significantly explain the cross-sectional variation in illiquidity ratio and turnover ratio. The coefficients of the percentage of ownership and the existence of largest shareholder are positively (negatively) related to illiquidity ratio (turnover ratio).

JEL classification: G10; G32; G34

Keywords: Ownership structure; Largest owner; Stock liquidity; Illiquidity ratio; Turnover ratio

INTRODUCTION

Existing empirical research papers find that stock liquidity decreases with higher insider, institutional, manager, or blockholder ownership (see for example, Sarin et al., 2000; Heflin and Shaw, 2000) and improves with higher ownership dispersion (Attig et al., 2006; Jacoby and Zheng, 2010). These papers, however, focus on examining stock liquidity in developed markets while relatively few research papers exist on stock liquidity in developing markets. Market microstructure literature shows that there are significant differences among stock markets in terms of trading systems, execution systems, trading rules and transparency (see, e.g., Madhavan, 2000; Comerton-Forde and Rydger, 2006). Thus, any empirical evidence could

pertain to specific market microstructure. This paper aims at investigating the impact of ownership structure on firm's stock liquidity in Jordan as one of the emerging markets in the Middle East and North African (henceforth, MENA) region. We provide evidence on the impact of ownership structure on liquidity when ownership structure is measured not only by the existence of large shareholders but also by their identity.

Examining this empirical issue is more important in emerging markets for many reasons. First: publicly listed firms in emerging markets have a pyramid ownership structures (Lins, 2003). Second: most of the emerging markets have weak legal protection of both creditors and shareholders' rights (La Porta et al., 1997, 1998, 1999, 2000; Brockman and Chung 2003). Third: emerging markets, including Amman Stock Exchange (henceforth ASE), have higher levels of insider trading, high market manipulation, price manipulation, and false disclosure (Cumming et al., 2011). The implications of such practices for stock liquidity in emerging markets remain

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largely unanswered question.

To this end, our paper contributes to the existing literature in two ways. First, in Common Law economies, commercial laws provide the most protection to the minority shareholders and improve the liquidity of equity markets (La Porta et al., 1997, 1998, 1999). Thus, this study provides counter evidence to studies that examine different aspects of ownership structure (e.g. blockholders, ultimate control and ownership, ownership desperation) on liquidity in Common Law jurisdictions. Second, this paper provides first time evidence on the effect of ownership structure on firm's stock liquidity for the ASE. Therefore, this paper provides out-of-sample evidence on the relationship between ownership structure and stock liquidity that is documented in both developed and emerging markets.

We find that there is a high ownership concentration in most of publicly traded firms in ASE, and most of these firms are predominantly owned either by a family or a private firm. Our results also show that firms with largest shareholder are less liquid than widely held firms. In other words, we find that the percentage of ownership held by largest shareholder is positively related with illiquidity ratio and negatively related with turnover ratio. These results are consistent with the results of Heflin and Shaw (2000) and Jacoby and Zheng (2010) who find that blockholder ownership increases firms' quoted spread, effective spread and the adverse selection component of effective spread. Accordingly, our results are consistent with the notion that the large shareholder (i.e. the ultimate owner) will delay the disclosure of information to prevent other shareholders to trade on enough information, which increases the level of information asymmetry and reduces stock liquidity (see e.g. Attig et al. (2006) and referenced cited in).

We also show that our results are sensitive to the identity of the largest shareholder. More specifically, firms owned by families are less liquid than widely held firms, whilst the identity of largest shareholder becomes significant in

explaining the variation in stock liquidity when the percentage owned by the largest shareholder increases.

Data

Sample description:

Our initial sample consists of 242 publicly traded firms listed on ASE as of the end of year 2009. We exclude 29 firms because they were not traded at all. The final sample includes 213 firms; 102 firms are financial, 55 firms operate in the services sector, and 85 firms are manufacturing. The data on ownership and board members are collected at the end of year 2008 from the ASE. These data are used to identify the identity of owners of 5% or more of the firm capital. This includes the identity of the CEO and the chairman and vice chairman of the board of directors. We also collect data on daily closing prices, trading volume, trading value and number of transactions for the year 2009 using trading files published by ASE. The data collected for a single year (i.e. 2009) enables cross-sectional analysis on differences in stock liquidity across firms. The reason behind using one year sample period is because changes in ownership structure do not happen very often. In other words, firms ownership structure is sticky and shows very slow changes from year-to-year (Zhou, 2001).

Ownership structure variables:

Demsetz and Lehan (1985) and Demsetz and Villalonga (2001) suggest that measures of ownership structure are based on the percentage of shares owned by most significant shareholders of a firm. Therefore, we used the following measures as proxies for ownership structure. The first measure is the percentage of ownership owned by the "largest shareholder". The firm can have one or more shareholders who owns 5%, 10%, 20% or more of the firm's capital, who is, in this case, the "largest shareholder"¹. The second measure is *the*

¹ These percentages (i.e. cutoff points) are used in previous research; see for example La Porta et al. (1999). The 5% cutoff point was added

existence of the “largest shareholder”. Because firm's ownership either be concentrated in the hands of single shareholder or be widely held, we use a dummy variable equals to one when there is “largest shareholder” and zero otherwise. Our third measure is the identity of “largest shareholder”. The “largest shareholder” can be one of the following: family, private firm, foreigner, government, or some other public corporation².

Liquidity variables:

Liquidity is an unobservable multidimensional concept that cannot be easily measured. Accordingly, many empirical measures have been developed to capture various aspects of liquidity (Aitken and Comerton-Forde, 2003). These measures require high-frequency (i.e. intra-day) data to be calculated, which is not available for emerging markets. However, recent studies such as Amihud (2002), Hasbrouck (2004), Lesmond (2005) Hasbrouck (2009) among others developed new measures of liquidity based on daily data, which would be very helpful for any empirical test on emerging markets. In this study, we use two measures of liquidity that are widely used in literature. The first is the turnover ratio measure which is defined as the daily number of shares traded divided by the number of shares outstanding. For the purpose of our study, we employ the annual average of this measure as follows:

$$\frac{1}{Y} \sum_{t=1}^y V_t / N \tag{1}$$

Where Y is the number of days in the year, V_t is the volume at day t , and N is the number of shares outstanding. The higher the turnover ratio is the more liquid the firm's stock is. Following Lesmond (2005), we remove turnover values that exceed 100% because

they may distort our results.

The second measure is Amihud's (2002) illiquidity ratio, which is the ratio of the daily absolute return to trading value. The firm's average illiquidity ratio over the year is defined as follows:

$$\frac{1}{Y} \sum_{t=1}^y |R_t| / (P_t * V_t) \tag{2}$$

Where $|R_t|$ is the absolute return, P_t is the price at day t , and V_t is the trading value at day t . According to this measure, firm would have low liquidity when the measure has a high value. Goyenko et al. (2009) find that Amihud's measure is the most representative measure that captures the price impact, and it is the only one among other price impact proxies that has statistically significant correlations with high-frequency liquidity benchmarks.

Controlling variables:

The following controlling variables are used in our study: Firm size, industry, and the existence of more than one “largest shareholder”. Firm's size is measured as the natural logarithm of end of year total assets. It is considered a proxy for the public available information about the stock and is expected to be positively related with firm's stock liquidity (see e.g. Chung et al., 2010; Amihud, 2002; Lesmond, 2005). To control for any industry specific event, we use a dummy variable that is equal to zero if the firm is in financial sector, one if the firm is in services, and two if the firm is in manufacturing sector. Further, Bino et al. (2010) find that in more than half of the controlled firms, firm's control is shared by more than one large shareholder. To capture the possible impact of the existence of more than one “largest shareholder”, we use a dummy variable equals to one if there is only one “largest shareholder” and zero otherwise.

Descriptive Statistics:

Panel A in table 1 reports the descriptive statistics

as a robust check.

² A firm denoted as family-firm is a firm whose largest shareholder is a person and any other person who is related to that person.

for ownership structure and liquidity variables. The average market capitalization of firms is about 1,261 million JD with average (median) illiquidity ratio and turnover ratio of 4.2% (0.4%) and 19.4% (6.4%) respectively³. These results show that stock liquidity in ASE is lower than that of other emerging markets included in Lesmond (2005)⁴. The percentage of firm's capital owned by the largest shareholder for firms that have a largest shareholder ranges from 6% to 100% with an average of 32.32%. Furthermore, as shown in Table 1, there is skewness in the variables under consideration as the mean value deviated from the median value. The correlation results of Pearson in panel B shows a significant positive correlation between the percentage of ownership of the "largest shareholder" and illiquidity ratio 0.156 (0.253) which is statistically significant at 5% and 1% level of significance, respectively, while there is a significant negative correlation between percentage of ownership and the turnover ratio. This means that the higher the percentage of ownership of the largest shareholder the lower is the liquidity (i.e. the higher is the illiquidity ratio and the lower is the turnover ratio). This means that the two measures of stock liquidity are consistent with each other.

To identify the ultimate owner (i.e. large shareholder) we used three cutoff points 5%, 10% and 20%. A firm is considered to have ultimate owner if 5%, 10, or 20% of its capital is held by single shareholder. Based on these cutoff points, table 2 shows the number and the percentage of firms according to the identity of ultimate owner. Regardless of the cutoff point, the results show that the majority of

firms in our sample have ultimate owner who is a family, which is consistent with the results found by Bino et. al. (2010). Panel A of table 2 shows that firms owned by Government represent the lowest percentage while panel B and C, under 10% and 5% cutoff point respectively, show that firms that are widely held represent the lowest percentage among other identities of ultimate owners.

Table 3 shows the mean and median percentage of firm's capital owned by the largest shareholder classified by its identity. The results show that the firms that are widely held have percentage of ownership that does not exceed 14% under the 20% cutoff point. Also, the average percentage of ownership held by private firms and foreigner is high compared with other identities.

Empirical Analysis

Univariate analysis

To examine the impact of ownership structure on stock market liquidity, we classify firms according to the identity of their ultimate owner (family, private firm, foreigner, the government, public corporation, and widely held). Further, we use three different cutoff points 20%, 10% and 5% to determine the ultimate owner, where the ultimate owner is the one who has the highest percentage of ownership among those having 20%, 10% and 5% of the firm's capital, respectively. Under the first cutoff point, 20%, the results in Panel A of table 4 shows that illiquidity ratio of firms that have a "largest shareholder" is higher than that of widely held firms. In particular, illiquidity ratio of family owned firms is significantly higher than that of widely held firms using t-test and wilcoxon sign rank test at 5% level of significance. This means that firms whose "largest shareholder" is a family are less liquid than those of widely held firms. Furthermore, the difference

³ Size statistics in table 1 are the natural logarithm of the firm's total assets.

⁴ Lesmond (2005) examines liquidity in emerging markets and finds that the median values of the Amihud illiquidity ratio and turnover ratio for Korea are 0.001% and 0.664%, for China 0.003% and 0.508%, and for Taiwan 0.001% and 0.726%, respectively.

in the mean of illiquidity ratio between firms whose ultimate owner is a public corporation and those that are widely held is statistically significant at 5%. This means that firms whose “largest shareholder” is a public corporation are less liquid than widely held firms. Under the 10% cutoff point, the results in panel B show that the difference in the mean of turnover ratio between firms that have a largest shareholder and widely held firm are statistically significant under 1%

and 5% level of significance regardless of the identity of ultimate owner. This means that firms with ultimate owner have lower turnover ratio (i.e. less liquid) than firms that are widely held. Moreover, under 10% cutoff point, the results of wilcoxon sign rank test show that the median of illiquidity ratio of firms having public corporation or family as ultimate owner is higher than the median of illiquidity ratio of widely held firms and statistically significant at 1% and 5%, respectively.

Table 1. Summary Statistics

Panel A: Descriptive Statistics					
Variable	Mean	Median	Maximum	Minimum	Standard Deviation
Illiquidity ratio (%)	0.042	0.004	0.650	0.000003	0.090
Turnover ratio (%)	0.194	0.064	0.997	0.00002	0.251
Percentage of ownership	32.32	26.00	100.00	6.00	20.03
Size	7.410	7.303	10.357	5.616	0.741

Panel B: Correlation Matrix; Pearson Correlation Matrix			
	Illiquidity ratio	Turnover ratio	Percentage of Ownership
Illiquidity ratio	1.000		
Turnover ratio	-0.188***	1.000	
Percentage of Ownership	0.156**	-0.215***	1.000

Panel A reports the summary statistics for liquidity variables, ownership variables and controlling variables during 2009. Liquidity is measured using illiquidity ratio and turnover ratio. Illiquidity ratio is Amihud's (2002) measure, which is defined as the ratio of the daily absolute return to trading value. Turnover ratio is defined as the daily number of shares traded divided by the number of shares outstanding. For each firm the annual average of liquidity measure is calculated over the year 2009. Percentage of ownership is the percentage of ownership owned by the “largest shareholder”, who could be one or more shareholder(s) who own/s 5%, 10%, 20% or more of the firm's capital. Size is the firm size, which is measured as the natural logarithm of the book value of the end of year total assets. Panel B also shows the results of Pearson correlation. *** and ** indicate significance at the 1% and 5% level of significance, respectively.

Table 2. Number and percentage of firms according to the identity of ultimate owner.

Panel A: 20% Cutoff						
	Family	Private Firm	Foreigner	The Government	Public Corporation	Widely Held
Number of Firms	51	16	27	12	33	74
Percentage of Firms	23.94%	7.51%	12.68%	5.63%	15.49%	34.74%
Panel B: 10% Cutoff						
	Family	Private Firm	Foreigner	The Government	Public Corporation	Widely Held
Number of Firms	79	25	33	17	43	16
Percentage of Firms	37.09%	11.74%	15.49%	7.98%	20.19%	7.51%
Panel C: 5% Cutoff						
	Family	Private Firm	Foreigner	The Government	Public Corporation	Widely Held
Number of Firms	82	26	33	19	48	5
Percentage of Firms	38.50%	12.21%	15.49%	8.92%	22.54%	2.35%

This table shows the number and the percentage of firms that are classified according to the identity of the ultimate owner (i.e. larger shareholder), which is family, private firms, foreigner, government, or public corporation or widely held. The percentage of ownership of the ultimate owner is defined using the cutoff points 5%, 10% and 20%.

Table 3. The mean and median of Percentage of ownership held by ultimate owner

Classification	20% Cutoff		10% Cutoff		5% Cutoff	
	<u>Mean</u>	<u>Median</u>	<u>Mean</u>	<u>Median</u>	<u>Mean</u>	<u>Median</u>
Family	37.8	33.1	29.9	23.9	29.1	22.7
Private Firm	41.9	33.9	32.1	21.0	31.2	20.7
Foreigner	45.6	39.6	40.0	32.8	40.0	32.8
The Government	37.6	34.9	31.1	23.1	28.8	21.5
Public Corporation	39.0	36.8	33.2	31.8	30.6	27.8
Widely Held	13.1	13.7	6.0	8.5	0.0	0.0

This table reports the mean and the median of percentage of ownership according to the identity of the ultimate owner (i.e. the largest shareholder) under three cutoff point 20%, 10% and 5%.

Finally, under 5% cutoff point, the results in panel C show that illiquidity ratio of firms owned by public corporation is significantly higher than those of widely held firms; the results of wilcoxon signed rank test show that the difference is the median is statistically significant at 5% level of significance. This means that firms having the “largest shareholder” as a public corporation are less liquid

than those of widely held firms. Furthermore, the turnover ratio of firms having the “largest shareholder” as a family, private firm, foreigner, or the government are significantly lower compared to those of widely held firms as shown by the results of t-test. Consequently, firms with ultimate owner are less liquid than those of widely held firms regardless of the identity of the ultimate owner.

Table 4. Liquidity according to the identity of ultimate owner.

Panel A: 20% Cutoff						
Identity of Ultimate Owner	Illiquidity ratio (%)		Turnover ratio (%)		% of Ownership	
	Mean	Median	Mean	Median	Mean	Median
Family	0.058**	0.026**	0.22	0.12	37.8	33.1
Private Firm	0.054	0.018	0.18	0.05	41.9	33.9
Foreigner	0.028	0.004	0.20	0.06	45.6	39.6
The Government	0.047	0.012	0.19	0.06	37.6	34.9
Public Corporation	0.096**	0.014**	0.24	0.14	39.0	36.8
Widely Held	0.024	0.002	0.48	0.48	13.1	13.7
Panel B: 10% Cutoff						
	Illiquidity ratio (%)		Turnover ratio (%)		% of Ownership	
	Mean	Median	Mean	Median	Mean	Median
Family	0.051	0.018**	0.22***	0.12***	29.9	23.9
Private Firm	0.043	0.014	0.18	0.05**	32.1	21.0
Foreigner	0.024	0.004	0.21**	0.06**	40.0	32.8
The Government	0.037	0.007	0.12**	0.05**	31.1	23.1
Public Corporation	0.077	0.012***	0.24**	0.14**	33.2	31.8
Widely Held	0.014	0.001	0.40	0.44	6.0	8.5
Panel C: 5% Cutoff						
	Illiquidity ratio (%)		Turnover ratio (%)		% of Ownership	
	Mean	Median	Mean	Median	Mean	Median
Family	0.050	0.015	0.22***	0.12	29.1	22.7
Private Firm	0.041	0.013	0.18**	0.05	31.2	20.7
Foreigner	0.024	0.004	0.20***	0.06	40.0	32.8
The Government	0.033	0.003	0.19**	0.06	28.8	21.5
Public Corporation	0.073	0.011**	0.24***	0.14	30.6	27.8
Widely Held	0.007	0.001	0.48	0.48	0.0	0.0

This table shows the results of the Univariate analysis. Firms in the sample are classified into groups according to the identity of the ultimate owner, which is family, private firm, foreigner, government, public corporation and widely held. The ultimate owner is defined under three different cutoff points 5%, 10% and 20%, where the ultimate owner is the one who has the highest percentage of ownership among those having 20%, 10% and 5% respectively. Illiquidity ratio is Amihud's (2002) measure, which is defined as the ratio of the daily absolute return to trading value. Turnover ratio is defined as the daily number of shares traded divided by the number of shares outstanding. For each firm the annual average of liquidity measure is calculated over the year 2009. The significance signs reported next to the mean (median) represent the significance of T-test (Wilcoxon Rank Sign Test) that test the difference between the mean (median) of liquidity measure of firms with ultimate owner and that of widely held firm. *** and ** indicate significance at 1% and 5% levels, respectively.

Regression Analyses

To examine the impact of ownership structure on stock market liquidity while controlling for other variables, we estimated the following specification:

$$L_{i,t} = \alpha_0 + \beta_1 V_{i,t} + \sum_{s=1}^k \beta_s X_{i,t} + \varepsilon_{i,t} \quad (3)$$

Where $L_{i,t}$ is the Amihud illiquidity ratio or turnover ratio of stock i in year t . $V_{i,t}$ is firm's ownership structure, which is measured either as the percentage of ownership owned by the largest owner or as the existence of the largest owner. The latter is defined as a dummy variable equals to 1 if there is a largest shareholder and 0 otherwise. X_i is a vector of the following controlling variables: Firm's size, industry and the existence of more than one largest owner. The results of estimating the impact of ownership structure on stock liquidity using the percentage of firm's capital owned by the largest shareholder are reported in table 5. The results of model 1 in panel A show that percentage of ownership is significantly positively related to stock illiquidity. That is, stock liquidity decreases as the percentage of capital owned by the largest shareholder increases. Further, the results in panel B provide consistent evidence on the impact of percentage of ownership on liquidity. The coefficient of parentage of ownership is negative and significant at 1%. This means that liquidity decreases as the percentage of ownership increases. In addition, the coefficient of percentage of ownership remains significant at 1% level and positively (negatively) related to illiquidity ratio (turnover ratio) after controlling for firm size and industry as shown in model 2 and model 3 in both panels of table 5. Our results on the negative impact of the percentage of ownership (i.e. ownership concentration) are consistent

with Heflin and Shaw (2000), Attig et al. (2006) and Jacoby and Zheng (2010). This implies that largest shareholders either have private information or delay the disclosure of information to achieve their selfish agenda. This in turn will create information asymmetry and thus lower stock liquidity.

Furthermore, table 6 shows the results of the estimated regressions on the impact of ownership structure on firm's liquidity, where the former is measured using the existence of the largest shareholder (i.e. ultimate owner). We define a dummy variable that is equal to one if the firm has largest shareholder and zero otherwise. In panel A, the results of model 1 and 4 under 5% and 10% cutoff point respectively show statistically insignificant impact of the existence of largest owner on stock liquidity. That is, the estimated coefficients of the existence of largest owner in illiquidity ratio regression are positive but insignificant. However, the results of model 7 show that firms that have ultimate owner who hold 20% or more of firm's capital are less liquid. More specifically, the estimated coefficients of the existence of largest owner are positive and statistically significant at 1% level of significance. This means that more concentration in ownership may result in higher information asymmetry and thus lower liquidity. This result remain unchanged even after controlling for the firm's size and industry, as shown in the estimated results of model 8 and 9 in panel A. Moreover, panel B in table 6 shows the results of estimated coefficients of turnover ratio regression under different cutoff points. In models 1 through 9, the results show that turnover ratio is negatively and significantly related to the existence of the largest shareholder even after controlling for firm's size and industry. The coefficient estimates on the existence of the largest shareholder are statistically significant at 5% level or better.

Table 5. Liquidity and percentage of ownership as a measure of ownership structure.

Panel A: The dependent variable: Illiquidity ratio			
Variable	Model (1)	Model (2)	Model (3)
Constant	.025**	.157***	.135***
Percentage of ownership	.001**	.001**	.001***
Size		-.018***	-.017***
Industry			.012

Panel B: The dependent variable: Turnover ratio			
Variable	Model (1)	Model (2)	Model (3)
Constant	.321***	.629***	.672***
Percentage of ownership	-.003***	-.003***	-.003***
Size		-.042**	-.046**
Industry			-.017

This table reports the results of various forms of multivariate regression equation 3 using OLS. The relationship between ownership structure and liquidity is examined using the percentage of ownership as a measure of ownership structure. Panel A (Panel B) reports the results of the regression model where the illiquidity ratio (turnover ratio) is the dependent variable. Model 1 estimates the impact of percentage of ownership on liquidity without controlling variables. Model 2 and 3 estimate the impact of percentage of ownership on liquidity after controlling for size of the firm and industry respectively. Percentage of ownership is the percentage of firm capital owned by the largest shareholder, who is the one who owns 5%, 10% or 20% or more of the firm's capital. Size is firm size measures as the natural logarithm of end of year total assets. Industry is the firm's industry measured as a dummy variable that is equal to zero if the firm is in financial sector, one if the firm is in services, and two if the firm is in manufacturing sector. *** and ** indicates significance at 1% and 5% levels, respectively.

This suggests that, regardless of the percentage of firms' capital held by the ultimate owner, the existence of largest owner will deteriorate firm's liquidity, which implies also that the information asymmetry problem will become more severe with the existence of the ultimate owner. In addition, one important note indicated

by the results in panel B is that the coefficient of the existence of largest owner is monotonically decreasing as we move from 5% to 20% cutoff point. This means that increasing in the percentage of ownership of the ultimate owner will result in higher liquidity.

Table 6. Liquidity and the existence of largest shareholder as a measure of ownership structure.

Panel A: The dependent variable: Illiquidity ratio									
Variable	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)	Model (8)	Model (9)
Constant	0.007	0.131**	0.111	0.014	0.142***	0.122**	0.024**	0.161***	0.141***
The existence of "largest shareholder" at 5%	0.042	0.045	0.044						
The existence of "largest shareholder" at 10%				0.036	0.044	0.044			
The existence of "largest shareholder" at 20%							0.036***	0.040***	0.039***
Size		-0.017***	-0.016**		-0.018***	-0.017***		-0.019***	-0.018***
Industry			0.012			0.012			0.012

Panel B: The dependent variable: Turnover ratio									
Variable	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)	Model (7)	Model (8)	Model (9)
Constant	0.478***	0.799***	0.836***	0.404***	0.672***	0.699***	0.293***	0.604***	0.639***
The existence of "largest shareholder" at 5%	-0.258**	-0.249**	-0.250**						
The existence of "largest shareholder" at 10%				-0.194***	-0.174***	-0.172**			
The existence of "largest shareholder" at 20%							-0.105***	-0.100**	-0.099**
Size		-0.045**	-0.048**		-0.039**	-0.041**		-0.042**	-0.045**
Industry			-0.015			-0.011			-0.014

This table reports the results of various forms of multivariate regression equation 3 using OLS. The relationship between ownership structure and liquidity is examined using the existence of largest owner as a measure of ownership structure. Panel A (Panel B) reports the results of the regression model where the illiquidity ratio (turnover ratio) is the dependent variable. Model 1, 4 and 7 estimate the impact of percentage of ownership on liquidity using the existence of largest shareholder at 5%, 10% and 20% respectively and without controlling variables. Model 2, 5 and 8 estimate the impact of percentage of ownership on liquidity using the existence of largest shareholder at 5%, 10% and 20% respectively and after controlling for size of the firm. Model 3, 6 and 9 estimate the impact of percentage of ownership on liquidity using the existence of largest shareholder at 5%, 10% and 20% respectively and after controlling for the industry. The existence of largest shareholder is defined as a dummy variable equals to one when there is a largest owner holding 5%, 10% or 20% of firm's capital and zero when the firm is widely held. Size is firm size measures as the natural logarithm of end of year total assets. Industry is the firm's industry measured as a dummy variable that is equal to zero if the firm is in financial sector, one if the firm is in services, and two if the firm is in manufacturing sector. *** and ** indicates significance at 1% and 5% levels, respectively.

Conclusion and Recommendation

This paper examines the relationship between firm's ownership structure and its stock liquidity by investigating whether the existence of "largest shareholder" and its ownership percentage can explain the cross-sectional variation in stock liquidity. We find that there is high concentration in the ownership structure of most of the Jordanian publicly traded firms. In addition, the percentage of ownership held by families or private firms listed on ASE is significantly higher than that of widely held firms. So, most of the Jordanian publicly traded firms are predominantly owned by a family or private firm, and in most of the firms owned by a family, the family is directly involved in the firm's management as CEO or/and member of board of directors.

The correlation results show that there is a significant positive (negative) correlation between the percentage of ownership held by the "largest shareholder" and Illiquidity ratio (turnover ratio). This means that the higher the percentage of ownership of the ultimate owner, the higher is the illiquidity ratio and the lower is the turnover ratio, and thus, the lower the stock liquidity is as well. In addition, regardless of the cutoff point, the results of the univariate analysis show that firms having "largest shareholder" are less liquid than widely held firms in general. The results also show that stock liquidity of firms having the "largest shareholder" as a family is very low compared to those of widely held firms.

Furthermore, the results of regression analysis show that the percentage of ownership held by the "largest shareholder" significantly explains the cross-sectional variation in illiquidity ratio and turnover ratio. We also find that the existence of one or more "large

shareholders" implies significantly higher stock illiquidity. The coefficient of the existence of largest shareholder is positively (negatively) related to illiquidity ratio (turnover ratio). The regression results are robust for controlling for the firm size and type of industry in which the firm is operates. This implies either that investors expect expropriation by the "largest shareholder" and thus may avoid trading in such stocks of firms were it is more likely that large shareholders behave in self-serving manner. An alternative explanation may be that the "largest shareholder" (s) have inside information (i.e. private information) on which they base their trading. This will increase information asymmetry and thus reduce stock liquidity. Our results highlight an important policy implication for regulators, which involves the improvement of the quality and enforcement of legal laws that protect minority shareholders. Applying certain policies, like mandatory dividends and putting more restrictions on indirect controlling like pyramids and cross- holding mechanisms, are also required to make the expropriation of minority shareholders more difficult.

In conclusion, we provide evidence on an overall low stock liquidity in ASE which we show can be explained by the concentrated ownership structure of firms. Consequently, this paper calls for both legal and financial measures to be taken to enhance stock liquidity. Liquid stock markets are sentential for fair firm valuation, mitigation of agency problems and attraction of foreign investment. However, this paper focuses on the ownership structure, which is one of three dimensions of corporate governance, examining the impact of the other two dimensions, CEO and board of directors, on stock liquidity is an important issue for future research.

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اثر هيكل الملكية على سيولة السهم: دراسة لسوق عمان المالي

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ملخص

يهدف هذا البحث إلى اختبار العلاقة بين هيكل ملكية الشركة وسيولة سهمها للشركات المدرجة في سوق عمان المالي. تشير نتائج الدراسة إلى تركيز هيكل الملكية في غالبية الشركات الأردنية حيث وجد أن كبار المساهمين في الشركات المساهمة العامة هم عائلات أو شركات خاصة. وتشير النتائج أيضا إلى إن سيولة أسهم الشركات التي تتركز ملكيتها بأيدي العائلات أقل من سيولة أسهم الشركات التي لا يوجد تركيز في هيكل ملكيتها. وقد بينت نتائج تحليل الانحدار الخطي أن نسبة ملكية أكبر المساهمين ووجود واحد أو أكثر من مساهم يمتلك نسبة مرتفعة من رأس المال يفسران الاختلاف في مقاييس سيولة السهم ما بين الشركات، و أن معامل كل من متغير نسبة ملكية أكبر المساهمين ومعامل متغير وجود مساهم كبير واحد أو أكثر يؤثران سلبياً على سيولة الشركة.

الكلمات الدالة: هيكل الملكية، أكبر المساهمين، سيولة السهم.

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