РАЗДЕЛ 2
КОРПОРАТИВНАЯ СОБСТВЕННОСТЬ

SECTION 2
CORPORATE OWNERSHIP

OWNERSHIP STRUCTURE AND CAPITAL STRUCTURE: EVIDENCE FROM THE JORDANIAN CAPITAL MARKET (1995-2003)

Ghassan Omet*

Abstract

The capital structure choice has generated a lot of interest in the corporate finance literature. This interest is due to several reasons including the fact that the mix of funds (leverage ratio) affects the cost and availability of capital and thus, firms' investment decisions. To date, much of the empirical research has been applied on companies listed on advanced stock markets. This literature considered a variety of factors such as company size, profitability, asset tangibility, firm growth prospects and ownership structure as possible determinants of the capital structure choice. This paper examines the finances of Jordanian listed companies and the impact of their ownership structure on the capital structure choice. Based on a panel data methodology (1995-2003), the results indicate that while Jordanian companies are not highly leveraged, their ownership structure does have a significant impact on capital structure, and that much of the main-stream determinants of capital structure are applicable to the Jordanian scene.

Keywords: Jordanian capital market, ownership structure, capital structure, panel data.

* *Associate Professor, Department of Finance / Faculty of Business Administration, The University of Jordan / Amman Jordan*
E-mail: gomet@ju.edu.jo

1. Introduction

It is widely recognized that the emergence of a dynamic private business sector is a critical ingredient in the process of economic growth and development. Similarly, the behaviour of corporations in the generation and allocation of scarce resources is of vital importance. In this respect, it is useful to understand and examine the issue of "corporate governance". Indeed, the issue of corporate governance has attracted some unparalleled interest in the literature. For example, the OECD Principles of Corporate Governance, originally adopted by the 30 member countries of the OECD in 1999, have become a reference tool for countries all over the world. Following some extensive reviews, the new and revised OECD Principles of Corporate Governance were adopted in the Spring of 2004 and "they now reflect a global consensus regarding the critical importance of good corporate governance in contributing to the economic vitality and stability of our economies" (Jesover and Kirkpatrick, 2005).

While corporate governance as a public policy issue stems from the writings of Adam Smith (1776) and Berle and Means (1932), it rekindled a worldwide and growing research interest due to several reasons. These include the questioning of the efficiency of the prevailing governance mechanisms[1], the debate over the comparative corporate governance structures that

[1] See Jensen (1993) and Porter (1997).

exist in the American, German and Japanese models[2], the Asian financial crisis, and the recent corporate scandals in the United States (U.S.), the United Kingdom (U.K.), the Netherlands, and other countries.

Good corporate governance consists of a set of mechanisms that assure finance suppliers an adequate return on their investment. Based on this observation, it is natural to specify a set of mechanisms that should govern companies. In other words, should the governance system be market-based (the US and UK) or control-based (Japan, continental Europe and emerging economies)? The market-based model relies on independent corporate boards, dispersed share ownership, transparent information disclosure, active take-over markets and others. The control-based system, on the other hand, emphasizes the values of insider corporate board, concentrated share ownership structure, limited disclosure, reliance on family finance and the banking system. Moreover, we can state that there exist two types of mechanisms that help resolve the potential problems between owners and managers and between controlling shareholders and minority shareholders. The resolution of conflict between owners and managers relies on internal mechanisms such as ownership structure, executive compensation, board of directors, financial disclosure and others. The resolution of conflict between controlling shareholders and minority shareholders relies on external mechanisms such as the external take-over market, legal infrastructure, protection of minority shareholders, product market competition, and others. Based on the above brief discussion, one cannot be surprised from the vast literature on corporate governance. Indeed this literature examined many issues including the relationship between equity returns and some measures of corporate governance, corporate governance and firm value, and the impact of corporate governance on firm performance[3]. In addition to these studies, and the fact that the issue of corporate governance is multifaceted, a number of additional papers examined the relationship between ownership structure and a number of financial decisions including capital structure, corporate performance, equity returns and dividend policy.

The fact that the number of studies that examine the capital choice in developing countries is limited, little is known about the financing activities of these firms. Indeed, as mentioned by Prasad et al. (2001), even the basic facts are by no means agreed upon. However, the empirical evidence points out to one general observation. Using data from a number of developing countries, the seminal studies of Singh and Hamid (1992) and Singh (1995) indicate that, in comparison with firms in OECD countries, firms in developing countries rely on a greater proportion of equity finance than debt finance. Similarly, this observation is supported by Booth et al. (2001)[4].

Given the fact that the Jordanian capital market (Amman Securities Exchange) is large[5], industrial companies' number makes up about half of all listed companies, and that little in known about the ownership structure and capital structure in this market, it is useful to examine the finances of Jordanian listed companies. In more specific terms, the objectives of this paper are two-fold. First, to report some descriptive statistics about the ownership structure and finances of Jordanian listed industrial companies. Second, to examine the impact, if any, of the ownership structure on the capital structure choice of industrial companies which are listed on the Jordanian capital market.

The rest of the paper is organised as follows. Section II provides a brief account of the Jordanian Capital Market. Section III provides a brief review of the determinants of capital structure. Section IV contains a discussion of the data and methodology. Finally, sections V and VI include a presentation and discussion of the results and a summary and conclusions respectively.

2. The Jordanian Capital Market: Some Basic Information

Realizing the economic importance of securities markets, the Amman Securities Exchange (ASE) was established in 1978. Since its formation, the ASE has witnessed some consistent growth in various aspects. For example, while the total number of listed companies has increased from 56 (1978) to 161 companies (2003), the ratio of market capitalization to Gross Domestic Product (GDP) has increased from 37 percent to about 110 percent (Table 1). This ratio (110 percent) is indeed large relative to regional stock markets. For example, the 2003 figures indicate that the market capitalization as a proportion of GDP in Saudi Arabia, Egypt, Lebanon, Morocco, Oman, Tunisia, and the United Arab Emirates were equal to about 73 percent, 33 percent, 8 percent, 30 percent, 20 percent, 10 percent and 11 percent respectively.

Relative to the above, the performance of the ASE is less impressive if we consider the secondary market in terms of its ten most actively traded listed shares. Table 1 reveals the fact during the years 2001, 2002 and 2003 the ten most actively traded shares accounted for 65 percent, 66 percent, and 64 percent of the total trading volume respectively. Moreover, the fact that the market value of these companies' shares account for about 75% of the capitalization of all listed companies, we can state that the ASE is a highly concentrated in terms of its market value and trading

[2] See Shleifer and Vishny (1997).

[3] For example, see La Porta et al. (2001), Drobetz et al. (2003), Gompers et al. (2003), Klapper and Love (2003), Black et al. (2004), Durnev and Kim (2004), and Earle et al. (2005).

[4] Love (2005) reported similar conclusions about the finance of Egyptian listed companies.

[5] By the end of 2003, the market capitalization of the market as a proportion of Gross Domestic Product (GDP) was equal to 110 percent.

volume. If the ASE is the largest in the region when proportioned to GDP, how does it compare with the size of the financial intermediaries that exist in Jordan? Based on the Central Bank of Jordan (CBJ) published statistics, we can state that total bank credit as a proportion of GDP increased from 67 percent (1990) to more than 74 percent (2003). Similarly, total banking assets as a proportion of GDP increased from 148 percent (1990) to 222 percent (2003). In other words, the Jordanian banking system is larger than the ASE (bank-based system).

Table 1. The Jordanian Capital Market: Some Basic Information

Year	Market Capitalization as a % of GDP	Trading Volume as a % of Market Capitalization	Trading in Ten Most Active Shares as a % of Market Trading Volume
1978	37%	2%	75%
1980	42%	8%	66%
1984	46%	6%	56%
1988	49%	12%	50%
1992	65%	39%	48%
1996	73%	7%	53%
1998	79%	11%	68%
2000	59%	10%	61%
2001	76%	10%	65%
2002	80%	15%	66%
2003	110%	18%	64%

Source: Various ASM Annual Reports.

3. The Determinants of Capital Structure: A Literature Review

Modigliani and Miller's (1958) classic paper provided the motivation for the huge literature concerning the behaviour of corporations' capital structure. The main proposition of this work (Modigliani and Miller, 1958) is that, under a number of assumptions, the value of a company is independent from its financial structure. This work led to the formulation of alternative theories such as the trade-off theory, the pecking order theory and the agency theory[6] and the publication of too numerous empirical papers to review. However, relative to the studies about companies in developed countries, there have been a limited number of empirical studies that used data from developing countries. For example, the capital structure choice of Malaysian, Mauritius, Zimbabwean, Hungarian and Portugese, Turkish and Chinese companies have been examined by Pandey (2001), Manos and Ah-Hen (2001), Mutenheri and Green (2002), Balla and Mateus (2002), Gonenc (2003) and Huang and Song (2002) respectively. Similarly, in more recent papers the financing of Egyptian and Chinese companies are examined by Love (2005) and Xue and Chen (2005) respectively. In addition, the determinants of debt maturity structure in the Asia Pacific region is examined by Deesomsak et al. (2005)

The fact that the number of studies that examines the capital choice of developing countries is limited, little is known about the financing activities of firms operating in these countries at large. Indeed, as mentioned by Prasad et al. (2001), even the basic facts are by no means agreed upon. However, the empirical evidence points out to one general observation. Using data from a number of developing countries, the seminal studies of Singh and Hamid (1992) and Singh (1995) indicate that, in comparison with firms in OECD countries, firms in developing countries rely on a greater proportion of equity finance than debt finance. Similarly, this observation is supported by Booth et al. (2001) and Love (2005). Similarly, the capital structure issue in Jordan, Saudi Arabia, Oman, and Kuwait was examined by Omet and Mashharawe (2003). Based on the time period 1996-2001, the results indicate that the Jordanian, Kuwaiti, Omani and Saudi Arabian companies have low leverage ratios and extremely low long term debt in their respective capital structures[7]. Relative to the subject matter of this paper, the empirical literature suggests a number of factors that may influence the financial structure of companies. However, as argued by Titman and Wessels (1988) and Harris and Raviv (1991), the choice of the underlying explanatory variables is fraught with difficulty. This is why different researchers have considered different key variables in their respective studies as possible determinant variables of the capital choice and these include company size, profitability, asset tangibility and firm growth prospects. Larger firms tend to be more diversified and less prone to bankruptcy (Rajan and Zingales, 1995). They are also expected to incur lower costs in issuing debt or equity. Thus, large firms are expected to hold more debt in their capital structures than small firms. In addition, it is argued that smaller

[6] A survey of capital structure theories is published by Harris and Raviv (1991).

[7] For example, the mean annual ratio of long term debt to total assets is equal to 5.4 percent, 8 percent, 12.8 percent and 9 percent in Jordanian, Kuwaiti, Omani and Saudi Arabian non-financial companies respectively. In this study, the issue of ownership structure was not investigated.

firms tend to have less long-term debt because of shareholder – lender conflict (Titman and Wessels, 1988; Michaelas et al. 1999). While most of the empirical evidence reports a positive relationship between company size and leverage (Kester, 1986; Lasfer, 1999; Rajan and Zingales, 1995; Barclay et al., 1995; Booth et al. 2001), some studies reveal a positive relation between size and the debt maturity structure of companies (Michaelas et al. 1999).

Due to the tax deductibility of interest payments, it is argued that highly profitable companies tend to have high levels of debt (Modigliani and Miller, 1963). However, Myers and Majluf (1984) argued that as a result of asymmetric information (pecking order hypothesis), companies prefer internal sources of finance. In other words, more profitable companies tend to have lower debt levels and higher retained earnings. Relative to this theory, Kester, 1986, Titman and Wessels (1988), and Michaeles et al. (1999) find leverage to be negatively related to the level of profitability. The more tangible assets are, the greater the ability of firms to secure debt. Consequently, collateral value (fixed assets to total assets) is found to be a major determinant of the level of debt finance (Bradley et al., 1984; Rajan and Zingales, 1995; Kremp et al., 1999; Frank and Goyal, 2002). However, Chittenden et al. (1996) conclude that the relationship between tangibility and leverage depends on the type of debt. While a positive relationship between tangibility and long term debt is found, a negative relationship between tangibility and short term debt is reported (Brealey and Myers' matching principle, 1996). Myers (1977) argued that due to information asymmetries, companies with high leverage ratios might have the tendency to undertake activities contrary to the interests of debt-holders (under-invest in economically profitable projects). Therefore, it can be argued that companies with growth opportunities (proxied by the ratio of the market value to the book value of total assets) tend to have low leverage ratios. The empirical evidence regarding the relationship between leverage and growth opportunities is, at best, mixed. While Titman and Wessels (1988), Chung (1993) and Barclay et al. (1995) find a negative relationship, Kester (1986) does not find any significant relationship. In addition to the above factors, some researchers included the ownership structure of firms as a possible determinant factor of capital structure. These include Friend and Lang (1988), McConnel and Servaes (1995), Brailsford et al. (2000). The literature concerning the role of block shareholders (those who own a large proportion of a company's shares) strongly suggests that they have an incentive to monitor and influence management to protect their significant investments (Friend and Lang, 1988). In other words, block holders have the incentive and indeed the desire to watch over management and make sure that they behave in accordance with shareholders' interests. This monitoring hypothesis should result in lower agency conflicts between management and shareholders (Shleifer and Vishny, 1986). Moreover, Bethel et al. (1998) find that the long-term performance of firms improves following the acquisition of a "large" proportion of the shares by active shareholders. Based on this, it can be argued that if "blockholders serve as active monitors and closely monitor the actions of corporate managers, management may not be able to adjust the debt ratio to their own interests as freely if such investors do not exist…In addition, as the share ownership of external blockholders increase, their voting power and influence increase, giving them greater ability to control the actions of managers. As corporate debt acts as an internal control on management it is proposed here that corporate debt ratios are likely to be an increasing function of the level of share ownership of external blockholders" (Brailsford et al. 2000, p.4). In other words, it can be hypothesised that firms with a higher level of blockholders are likely to have a higher debt ratio, ceteris paribus.

4. The Data and Methodology

All listed industrial companies are considered for inclusion in our sample of companies. However, depending on the availability of the data, our final sample of companies consists of 39 companies. Although the number of companies is not high, the fact that this sample accounts for about 60 percent of all listed industrial companies, we can argue that our sample should not be considered as a shortcoming of the study since the analysis will be based on the most representative sample possible.

The selection of the variables (dependent and independent) is primarily guided by the results of the previous empirical studies and the availability of data. For example, we use two measures of leverage. The first measure of leverage divides total liabilities by total assets. The second measure divides long-term debt by total assets. Similarly, the (control) explanatory variables that could be collected are measures of company size, profitability, tangibility, and growth prospects.

As a result, the analysis will rely on the following variables.

Leverage (1) = Total liabilities / Total assets.
Leverage (2) = Long-term debt / Total assets.
Size = Natural logarithm of sales.
Profitability = Earnings before interest and tax to book value of total assets.
Tangibility = Book value of fixed assets to total assets
Growth Prospects = Market value of equity to the book value of equity
Ownership Structure = Sum of the proportions of shares held by those who own 5 percent or more of the company's shares.

Based on the theoretical and empirical evidence, we test the following hypotheses:

H_1: The levels of leverage (1) and leverage (2) are positively related to company size.

H_2: The levels of leverage (1) and leverage (2) are negatively and or positively related to profitability.

H_3: The levels of leverage (1) and leverage (2) are positively related to the level of tangibility.

H_4: The levels of leverage (1) and leverage (2) are negatively related to the level of growth opportunities.

H_5: The levels of leverage (1) and leverage (2) are positively related to the level of concentration in share ownership.

In other words, we first estimate the following:

$$Leverage_{i,t} = \alpha + \beta_k X_{k,i,t} + \mu_{i,t} \quad (1)$$

The above panel data has multiple observations t = 1 …. T_i of each i = 1 … n observation units where:

i = 1 …. n is the cross-sectional units in our sample;

T = 1 …. T is sample period;

β_k are the parameters to be estimated;

k = 1, 2, 3, 4, 5 denote the independent variables;

$\mu_{i,t}$ is a stochastic error term assumed to have a mean of zero and a constant variance.

Table 2. Share Ownership Structure: End of 2003

Company	Proportion of Shares Held	Proportion of Shares Held by Blockholders (who own
1	95.2	14.9
2	99.8	82.1
3	87.7	43.0
4	98.2	63.9
5	94.5	11.3
6	99.4	23.6
7	99.3	52.7
8	77.8	60.5
9	89.3	82.8
10	99.4	88.1
11	79.9	12.5
12	99.3	59.6
13	91.6	19.1
14	95.2	38.3
15	99.2	45.2
16	98.5	40.7
17	96.9	10.0
18	96.6	46.1
19	92.09	23.2
20	72.9	72.1
21	88.4	81.3
22	95.9	14.9
23	96.8	61.5
24	87.8	56.4
25	48.1	63.4
26	34.4	78.8
27	96.3	34.0
28	98.4	17.3
28	98.1	66.7
30	96.5	62.3
31	92.9	35.4
32	96.8	20.9
33	99.0	52.8
34	84.4	55.6
35	99.5	39.3
36	14.1	85.5
37	94.1	11.7
38	92.5	67.5
39	81.7	58.9
Mean	88.68%	47.5%

To estimate the above panel regression model, we use three alternative methods: pooled ordinary least squares, the fixed effects model, and the random effects model. It must be noted that the advantage of using panel data (combining inter-individual differences with intra-individual dynamics) over cross-sectional or time series data lies in the fact that it usually gives a large number of observations, which increases the degrees of freedom and hence, improving the efficiency of the econometric estimates.

Furthermore, the most important advantage of using the panel data approach is that it accounts for the unobserved heterogeneity among the cross-sectional firms over time in the form of unobserved firm-specific effects. Moreover, as the sample includes multi-year observations, we utilize the correction techniques for unknown heteroskedasticity of White (1980). Finally, the fact that the Jordanian stock exchange does not allow us to include a large number of shares, and the capital structure adjustment process is likely to be too complex, we decided not to estimate a dynamic model.

5. The Empirical Results

In Table 2 we report various measures of the share ownership structure of our sample of companies in 2003. Based on these measures, we can make the following observations. First, on average, about 89 percent of the shares are owned by Jordanians (column 2). The rest are owned by Arab nationals (8 percent) and Non-Arab nationals (3 percent). While this observation holds true for previous years, this ownership structure is in sharp contrast to the Jordanian banking sector. In actual fact, Arab and Non-Arab nationals own, on average, about 32 percent and 7 percent of the shares of the banking sector (It is interesting to note that all Jordanian banks are listed on the ASE). Second, the reported figures reveal that blockholders (those who own 5 percent or more of the shares) own a mean proportion of 48 percent of the shares (column 3). In Table 3 we report some descriptive statistics (annual) about the capital structure and ownership structure of our sample of companies. Similarly, in Table 4 we report some further descriptive statistics about the other variables which are included in the analysis. In addition, Table 5 reports the correlation matrix between all the variables used in the empirical analyses.

Table 3. Some Descriptive Statistics: Leverage & Ownership Structure

Year	Mean of Total	Standard	Mean of Long-	Standard	Mean of	Standard
1995	0.380	0.189	0.070	0.125	0.313	0.238
1996	0.350	0.201	0.064	0.118	0.316	0.237
1997	0.361	0.210	0.071	0.124	0.338	0.244
1998	0.348	0.221	0.073	0.129	0.371	0.250
1999	0.322	0.211	0.074	0.131	0.368	0.249
2000	0.314	0.221	0.103	0.142	0.414	0.228
2001	0.311	0.220	0.103	0.145	0.467	0.222
2002	0.299	0.228	0.103	0.154	0.511	0.224
2003	0.312	0.228	0.098	0.151	0.475	0.228

Table 4. Descriptive Statistics for Other Variables

This Table provides two measures of leverage. The first (total) is equal total liabilities divided by total assets. The second measure (long) is equal to long term debt divided by total assets. Fixed is the book value of fixed assets to total assets; ROA is earnings before interest and tax to book value of total assets; Sales is the natural logarithm of sales; Own is the sum of the proportions of shares held by those who own 5 percent or more of the company's shares; and Growth (prospects) is measured by dividing the market value of equity by the book value of equity.

	Total	Long	Fixed	ROA	Sales	Own	Growth
Mean	0.333	0.084	0.375	0.077	6.782	0.398	1.270
Median	0.285	0.017	0.338	0.066	6.763	0.391	1.077
Max.	0.921	0.670	0.990	0.350	8.899	0.945	7.529
Min.	0.012	0.000	0.008	-0.273	4.771	0.000	0.057
S. Dev.	0.214	0.135	0.217	0.079	0.817	0.243	0.874
Ske.	1.033	2.078	0.594	0.035	0.160	0.232	2.466
Kurt.	3.484	7.036	2.755	5.146	3.213	2.151	13.727
J-Bera	65.915 (0.000)	490.986 (0.000)	21.577 (0.000)	67.463 (0.000)	2.151 (0.341)	13.666 (0.000)	2038.83 (0.000)
Obser.	351	351	351	351	351	351	351

Based on these Tables, we can make the following comments. First, the first measure of leverage (total liabilities divided by total assets), is relatively low. This ratio (33.3 percent) is much lower than the 58 percent (US), 69 percent (Japan), 73 percent (Germany), or the 54 percent (UK) reported by Rajan and Zingales (1995). In addition, the mean ratio of this measure of leverage has been around the 30 percent as well. In other words, total liabilities as a proportion of total assets has not really changed by much during the time period 1995-2003. Second, long term debt as a proportion of total assets is extremely low (8.4 percent). "Long – term debt (as a share of total debt) has been low across the whole period in all East Asian Countries. Malaysia, Taiwan and Thailand stand out with less than 1/3. Japan and the Philippines have the highest shares, while the others are about 0.43. In contrast, about ¾ of debt of US corporates is long term, while in Germany the ratio is 0.55" (Claessens et al., 1998, p.11). Similarly, this measure (long-term debt as a proportion of total assets) had a minimum value of 6.4 percent and a maximum value of 10.3 percent (Table 3). Third, the mean ratio of the shares held by block-holders is equal to 39.8 percent and this ratio is much lower than those found in other markets especially the Asian markets. In actual fact, this proportion is even lower than the 47 percent and 43 percent found in Continental Europe and the USA and UK respectively (Thomsen, 2004). Finally, as we observe in Table 5, the correlation matrix shows that the coefficients are not sufficiently large to cause any collinearity problems.

Table 5. Correlation Matrix

Total is total liabilities divided by total assets; long is long term debt divided by total assets; Fixed is the book value of fixed assets to total assets; ROA is earnings before interest and tax to book value of total assets; Sales is the natural logarithm of sales; Own is the sum of the proportions of shares held by those who own 5 percent or more of the company's shares; Growth (prospects) is measured by dividing the market value of equity by the book value of equity.

	Total	Long	Fixed	ROA	Sales	Own	Growth
Total	1.000						
Long	0.827	1.000					
Fixed	0.219	0.250	1.000				
ROA	-0.362	-0.309	-0.143	1.000			
Sales	0.656	0.629	-0.001	-0.110	1.000		
Own	-0.012	0.210	0.080	0.053	-0.089	1.000	
Growth	0.153	0.016	-0.116	0.130	0.269	0.090	1.000

The estimation results of our basic model are presented in Table 6. Based on the reported results, we can make a number of observations.

First, the coefficient of tangibility is positive and significant (0.233) in the case of total liabilities divided by total assets. This result is consistent with the view that there are various costs (agency and bankruptcy) associated with the use of debt funds and these costs might be moderated by collateral. However, this issue (tangibility of assets) is less important in the determination of long term debt. In other words, it seems that the presence of collateral is not "helpful" in getting into long-term debt. Second, the variable profitability is not a significant determinant factor of both measures of leverage. This result, it can be argued, does not support Myer's pecking order theory which argues that as a result of asymmetric information, firms prefer to rely on internal sources of finance. In addition, this finding does not support the tax deductibility hypothesis. In other words, based on this evidence, more profitable companies do not rely on greater levels of debt than less profitable companies. Third, the coefficient of firm size (the logarithm of sales) is positive and statistically significant in both measures of leverage. Moreover, the value of its' coefficient is much larger in the case of total liabilities divided by total assets. Based on this observation, we can argue that while the informational asymmetries tend to be less severe for large firms, and hence these firms find it easier to raise debt finance, this is not case when they consider the issuance of long term debt. Finally, while the variable growth opportunity is not really significant in impacting both measures of leverage, the ownership structure of our sample of companies provides us with some interesting results. These results, which are reported in Table 6, reveal that this variable (ownership structure) has a significant negative impact on our first measure of leverage (total liabilities divided by total assets) and a significant and positive impact on our second measure of leverage (long-term debt divided by total assets).

Table 6. Estimation Results: Total Liabilities & Long Term Debt (Random-Effect Model)

$$Leverage_{it} = \beta_1 + \beta_2 Fixed_{i,t} + \beta_3 ROA_{i,t} + \beta_4 Sales_{i,t} + \beta_5 Own_{i,t} + \beta_6 Growth_{i,t} + \mu_i + \varepsilon_{i,t}$$

Leverage is Total liabilities divided by total assets; Fixed is the book value of fixed assets to total assets; ROA is earnings before interest and tax to book value of total assets; Sales is the natural logarithm of sales; Own is the sum of the proportions of shares held by those who own 5 percent or more of the company's shares; Growth (prospects) is measured by dividing the market value of equity by the book value of equity; and Age is equal to the natural logarithm of years since the establishment of the company. Numbers in parentheses appearing below the coefficient are White (1980) heteroskedasticity-constant t-statistics. *, **, and *** indicates coefficient is significant at the 1, 5 and 10 percent level respectively.

	Total Liabilities / Total Assets	Long Term Debt / Total Assets
Constant	-0.440 (-3.085*)	-0.326 (-3.450*)
Fixed	0.233 (5.707*)	0.066 (2.401**)
ROA	0.024 (0.254)	-0.014 (-0.222)
Sales	0.107 (5.226*)	0.050 (3.773*)
Own	-0.093 (-2.346**)	0.106 (3.972*)
Growth	0.004 (0.533)	0.004 (0.751)
Adjusted R^2	0.842	0.816

Based on these results, one can argue that the positive impact of the ownership structure on the second measure of leverage (long-term debt to total assets) might be due to two reasons.

First, to sustain the financing of these companies, large shareholders provide long-term loans (subordinated loans) to their companies. Naturally, this issue needs further detailed examination of the debt structure of these companies. Second, large shareholders might "force" their companies to go into higher levels of long-term debt as an extra source of control over these companies.

Finally, as far as the impact of the ownership structure on our first measure of leverage (total liabilities divided by total assets), we can see that the sign of the coefficient is negative and significant. To provide an explanation to this observation, it must noted that the mean proportion of fixed assets to total assets in our sample of companies is equal to 37.5 percent. Relative to this ratio, it must also be noted that the ratio of total liabilities to total assets is equal to 33 percent and the ration of long term debt to total assets is equal to 8 percent. These values lead us to conclude that our sample of companies finance their fixed and long-term assets from short term financing sources. To mitigate the possible negative impact of this observation, we can argue that large shareholders influence management in reducing their dependence on short-term financing sources.

6. Summary and Conclusions

While corporate governance as a public policy issue dates back to the writings of Adam Smith (1776) and Berle and Means (1932), recently it has generated a worldwide and growing research interest due to several reasons. These include the questioning of the efficiency of the prevailing governance mechanisms, the debate over the comparative corporate governance structures that exist in the American, German and Japanese models, the Asian financial crisis, and the recent corporate scandals in the United States (U.S.), the United Kingdom (U.K.), the Netherlands, and other countries. Similarly, the corporate capital structure choice has long been an issue of great interest in the corporate finance literature. This interest is due to the fact that the mix of funds (leverage ratio) affects the cost and availability of capital and thus, firms' investment decisions. To date, much of the empirical research has been applied on companies listed on advanced stock markets. This paper has examined empirically the relationship between the capital and ownership structure of industrial firms listed on the Jordanian capital market. The results of the paper reveal that the leverage ratios of listed industrial companies in Jordan are relatively low. Indeed, based on the fact that the ratio of long-term debt to total assets is equal to 8.4 percent only, we can state that reliance on the long-term debt market by Jordanian companies is extremely limited. This observation, it can be argued, is due to the fact that the bonds market in the country is very limited indeed. In addition, the reported figures reveal that the mean ratio of the shares held by block-holders (those who own 5 percent or more of the shares) is equal to 39.8 percent and this ratio is much lower than those found in other markets especially the Asian. Finally, while the results indicate that much of the main-stream determinants of the capital structure choice are applicable to the Jordanian scene (like asset tangibility and company size), it is found that the ownership structure of companies has a negative impact on one measure of leverage (total liabilities divided by total assets) and a positive impact on another measure of leverage (long-term debt divided by total assets).

It is hoped that the results of this paper will encourage some further work on the listed Jordanian companies. For example, the issue of corporate governance in terms of its various aspects like its impact on corporate performance would be worth examining. In addition, some further work is needed to understand the reasons behind the relatively low leverage ratios that prevail in Jordan. A survey of the Chief Financial Officers of these companies will probably shed some light on this observation.

References

1. Balla, A. and Mateus, C. 2002. "An Empirical Research on Capital Structure Choices." University of Pecs / Faculty Business and of Economics Working Paper.
2. Barclay, M., Smith, C. and Watts, R. 1995. "The Determinants of Corporate Leverage and Dividend Policies." Journal of Applied Corporate Finance 7, 4-19.
3. Berle, A. and Means, G. 1932. "The Modern Corporation and Private Property." MacMillan, N.Y.
4. Bethel, J., Liebeskind, J., and Opler, T. 1998. "Block Share Repurchases and Corporate Performance." Journal of Finance 53, 605-634.
5. Black, B., Jang, H. and Kim, W. 2004. "Does Corporate Governance Affect Firms' Market Values? Evidence from Korea." Working Paper, http://ssrn. com/abstract.
6. Booth, L., Aivazian, Demirguc – Kunt, A., and Maksimovic, V. 2001. "Corporate Structures in Developing Countries." to be Published in the Journal of Finance.
7. Bradley, M., G. Jarrell, and Kim, E. 1984. "On the Existence of an Optimal Capital Structure: Theory and Evidence." Journal of Finance 39, 857-78.
8. Brailsford, T., Oliver, B., and Pua, S. 2000. "Theory and Evidence on the Relationship Between Ownership Structure and Capital Structure." Working Paper, Australian National University.
9. Brealey, R., and Myers, S., 1996. Principles of Corporate Finance, 5th International Edition, McGraw Hill.
10. Chittenden, F., Hall, G., and Hutchinson, P. 1996. "Small Firm Growth, Access to Capital Markets and Financial Structure: Review of Issues and an Empirical Investigation." Small Business Economics 8, 59-67.
11. Chung, K. 1993. "Asset Characteristics and Corporate Debt Policy: An Empirical Investigation. Journal of Business Finance and Accounting 20, 83-98.
12. Claessens, S., Djankov, S., and Lang, L. 1998. "East Asian Corporates: Growth, Financing and Risks Over

the Last Decade." World Bank Policy Research Paper, World Bank, Washington DC, 1-23.
13. Deesomsak, R., K. Paudyal, and Pescetto, G. 2005. "The Determinants of Debt Maturity Structure: Evidence from the Asia Pacific Region." Centre for Empirical Research in Finance, Durham Business School, University of Durham, UK.
14. Drobetz, W., Schillhofer, A. and Zimmermann, H. 2003. "Corporate Governance and Expected Stock returns: Evidence from Germany." Working paper No. 02/03, WWZ, Department of Finance, University Basel, Switzerland.
15. Durnev, A. and Kim, E. 2004. "To Steal or Not to Steal: Firm Attributes, Legal Environment, and Valuation." Journal of Finance, forthcoming.
16. Earle, J., Kucsera, C. and Telegdy, A. 2005. "Ownership Concentration and Corporate Performance on the Budapest Stock Exchange: Do too Many Cooks Spoil the Goulash?." Corporate Governance 13.
17. Farinha, J. 2003. "Corporate Governance: A Review of the Literature." Research Centre on Industrial, Labour and Managerial Economics, University of Porto, Portugal.
18. Frank, M. and Goyal, T. 2002, Testing the Pecking Order Theory of Capital Structure." Forthcoming, Journal of Financial Economics.
19. Friend, I., and Lang, L. 1988. "An Empirical Test of the Impact of managerial Self-Interest on Corporate Capital Structure." Journal of Finance 43, 271-281.
20. Gompers, P., Ishii, J. and Metrick, A. 2003. "Corporate Governance and Equity Prices." The Quarterly Journal of Economics 118, 107-155.
21. Gonenc, H. 2003. "Capital Structure Decision Under Micro Institutional Changes: The Case of Turkey." The European Financial Management Association Conference, Finland.
22. Harris, M., and Raviv, A. 1991. "The Theory of Capital Structure." Journal of Finance, 46, 297-355.
23. Huang, F., and Song, F. 2002. "The Determinants of Capital Structure: Evidence From China." University of Hong Kong Working Paper.
24. Jensen, M. 1993. "The Modern Industrial revolution, Exit and the failure of Internal Control Systems." Journal of Finance 48, 831-880.
25. Jesover, F. and Kirkpatrick G. 2005. "The Revised OECD Principles of Corporate Governance and their Relevance to Non-OECD Countries." Corporate Governance 13: 127-136.
26. Kester, V. 1986. "Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Corporations." Financial Management.
27. Klapper, L. and Love, I. 2003. "Corporate Governance, Investor Protection and Performance in Emerging Markets." Journal of Corporate Finance, forthcoming.
28. Kremp, E., E. Stoss and Gerdesmeier, D. 1999. "Estimation of a Debt Function: Evidence From French and German Firm Panel Data, in Sauve, A. and Scheuer, M. (ed.) Corporate Finance in Germany and France: A Joint Research Project of Deutche Bundesbank and the Banque de France, SSRN Working Paper.
29. La Porta, R., de Silanes, Schleifer, F. and Vishny, R. 2001. "Investor Protection and Corporate Valuation." NBER Working Paper No. 7403, Cambridge, USA.
30. Lasfer, M. 1999. "Debt Structure, Agency Costs and Firm's Size: An Empirical Investigation." City University Business School Working Paper.
31. Love, I. 2005. "Finance of Egyptian Listed Companies." World Bank Policy Research Working Paper 3639.
32. Manos, R., and Ah-Hen, C. 2001. "Evidence on the Determinants of Capital Structure of Non-Financial Corporates in Mauritius." Development & Business Finance: Policy and Experience in Developing Countries, University of Manchester Conference.
33. McConnell, J., and Servaes, H. 1995. "Equity Ownership and the Two Faces of debt." Journal of Financial Economics 39, 131-157.
34. Michaelas, N., Chittenden, F., and Poutziouris, P. 1999. "Financial Policy and Capital Structure Choice in U.K. SMEs: Empirical Evidence From Company Panel Data, Small Business Economics 12, 113-130.
35. Modigliani, F., and Miller, M. 1958. "The Cost of Capital, Corporation Finance, and the Theory of Investment." American Economic Review 48, 261-297.
36. Modigliani, F., and Miller, M. 1963. "Corporate Income Taxes and the Cost of Capital – A Correction." American Economic Review 53, 433-443.
37. Mutenheri. E., and Green, C. 2002. "Financial Reform and Financing Decisions of Listed Firms in Zimbabwe." Department of Economics, Loughborough University Working Paper.
38. Myers, S. 1977. "Determinants of Corporate Borrowing." Journal of Financial Economics 5.
39. Myers, S., and Majluf, N. 1984. "Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have." Journal of Financial Economics 13, 187-221.
40. Omet, G., and Mashharawe, F. 2003. "The Capital Structure Choice in Tax Contrasting Environments: Evidence From the Jordanian, Kuwaiti, Omani and Saudi Corporate Sectors." 10th. Annual Conference, Arab Economic Research Conference, Morocco.
41. Pandey, I. 2001. "Capital Structure and the Firm Characteristics: Evidence From an Emerging Market." Working Paper No. 2001-10-04. Indian Institute of Management Ahmedabad.
42. Porter, M. 1997. "Capital Choices: Changing the Way America Invests in Industry." In D. Chew (ed.), "Studies in International finance and Governance Systems – A Comparison of the US, Japan and Europe." New York, Oxford University Press.
43. Prasad, S., Green, C., and Murinde, V. 2001. "Company Financing, Capital Structure, and Ownership." SUERF Study No. 12, Vienna, SUERF.
44. Rajan, R., and Zingales, L. 1995. "What Do we Know About Capital Structure? Some Evidence From International Data." Journal of Finance 50, 1421-1460.
45. Shleifer, A. and Vishny, R. 1997. "A Survey of Corporate Governance." Journal of Finance 52.
46. Singh, A. and Hamid, J. 1992. "Corporate Financial Structures in Developing Countries." IFC Technical Paper No. 1, Washington D.C.
47. Singh, A. 1995. "Corporate Financial Patterns in Industrializing Economies: A Comparative Study." IFC Technical Paper No. 2, Washington D.C.
48. Smith, A. 1776. "An Enquiry into the Nature and Causes of the Wealth of Nations, 1976 reedition, edited by R. Campbell and A. Skinner, Clarendon Press, Oxford.
49. Titman, S., and Wessels, R. 1988. "The Determinants of Capital Structure Choice." Journal of Finance 43, 1-19.
50. White, H. 1980. "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity." Econometrica 48, 817-38.
51. Xue, Y. and Chen, J. 2005. "State Owned Shares and Capital Structure in China – Empirical Study of Chinese Listed Companies." Asia Finance Association.