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## CAPITAL STRUCTURE AND PERFORMANCE OF NON TAX- PAYING ENTITIES

### Key Words

***Capital Structure;  
Endogeneity Problem;  
Corporate Governance;  
Agency Conflict;  
Institutional Holdings;  
Simultaneity Test.***

### Abstract

*There are numerous studies that investigate the determinants of capital structure in developed countries, but very few were conducted for developing countries and transition economies. Unlike all previous studies that consider tax effects as a vital determinant of capital structure, this study examines capital structure determinants for non tax-paying Kuwaiti business entities. In confirming the predictions of the static trade-off theory (or taxed based theory) of capital structure, there appear to be a relation between capital structure decision and firm financial performance of Kuwaiti non taxpaying firms. The agency theory stands as a valid explanation for why non tax-paying entities use debt in their capital structure. This study reveals that the most important determinants of capital structure of firms in Kuwait, as a developing country, are institutional holdings, profitability, and firm size. While the results of the study are tentative due to of the small sample, they suggest that the performance of the Kuwaiti firms is influenced, to some extent, by the corporate governance attributes.*

### Introduction

Capital Structure remains one of the most controversial issues in finance literature because of the dynamic nature of the mix of corporate financing, which mirrors the many events and exogenous shocks to firms' activities. The dynamic rationale of Myers' (1984) pecking order

theory is a direct avowal in this theme as it asserts that corporate capital structure depends on firm history. Notably, this theory, coupled with Modigliani and Miller's (M&M) theoretical work, is based on the assumption that managers always act in accord with shareholders' interests.

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On the other hand, another set of recent theories of capital structure have emphasized that capital structure decisions are affected and motivated by the self-interests of managers who seem to entrench themselves against a wide variety of pressures from many corporate governance mechanisms (Kim and Sorensen, 1988). According to this view, managers, as heavily influenced by the investment of their human capital, are likely to opt for relatively low leverage in order to reduce the probability of bankruptcy (Friend and Lang 1988; Friend and Hasbrouck 1988; Firth 1995; Jensen 1986). Shareholders, on the other hand, who are well diversified, are less risk-averse and are willing to tolerate higher debt levels. Therefore, it is expected that the management-stockholders conflict would manifest itself, at least in part, in determining the mix of capital structure.

Because there was a great debate concerning the tax effects on capital structure (the latest was brought up by Graham 2000), this study concentrates on non-taxpaying entities. Kuwaiti business concerns provide excellent example to investigate the determinants of capital structure regardless of tax effect. The bulk of the

evidence from empirical studies with respect to the relation between taxes and capital structure suggests that the tax shield gain to corporate borrowing is unambiguously negative for business enterprises whose marginal tax rate is zero. Although many papers have discussed the capital structure decision, the empirical findings and the relevance of these studies were based mainly on US firms.

Many studies have addressed capital structure in different countries (see for example Stonehill *et al.*, 1969; Toy *et al.*, 1974; Remmers *et al.*, 1974; Errunza, 1979; Aggarwal, 1981). These studies have confirmed that capital structure, along with its determinants, differs from one country to another. Very few studies strove to explain this “country effect” based upon cultural factors (see for example Hofstede, 1980; Sekely, 1977; Aggarwal, 1981). Therefore, this study is a step on the road of testing different theoretical explanations of capital structure in an imperfect capital market setting and outside the US environment. This should shed some light on the applicability (and the validity) of different theories of capital structure on firms that operate in unique economies<sup>1</sup>. The empirical work should not be substituted by the as-

1 It is well documented that cultural (bank-dominated system) and regulatory (tax-free economy) differences reflected in business practices, might have their effects on the documented relationships among some financial variables.

sumption that the obtained results from previous studies can be generalized to all environments.

The main goal of this paper is to investigate the effect of financing decisions of Kuwaiti firms on the performance of these firms based on the predictions of the established capital structure theory. Since the more recent evidence points to the effect of the agency cost on capital structure, the influence of the control structure of Kuwaiti business concerns on the mix of their capital structure will also be examined. Furthermore, given that an established body of research have already shown that country norms are important determinants in capital structure mix and hence capital structure differs from country to another (see Stonehill *et al.*, 1969; Toy *et al.*, 1974; Errunza 1979), this study will also address the principal determinants of capital structure of Kuwaiti firms.

### Previous Literature

Theories of capital structure can be classified based on, mainly, four perspectives<sup>2</sup>. These are agency costs, asymmetric information, product/input market interactions, and corporate control considerations (Harris and Raviv, 1991). In addition to these four perspectives, two other sets of

research have different considerations. These are tax effects and bankruptcy costs. Although MM (1963) calls for 100% debt to maximize firm value, Miller (1977) considers personal taxes and finds capital structure, in equilibrium, to be irrelevant to firm value. The other set of research considers some imperfections in the real world that render M & M theories invalid from an empirical point of view. The static tradeoff model of Myers (1977) introduced two main frictions; namely, the agency cost of financial distress and the tax deductibility of debt financing. This approach adopts the notion that the present value of bankruptcy costs tends to negatively affect firm value. The debt level is an indicator of the probability of bankruptcy with a positive relation between the two. Researchers following this approach argue that the optimal capital structure is achieved when the benefits of tax deductibility equals the expected bankruptcy costs.

However, in light of the separation between ownership and management, two aspects of information asymmetry problem arise. First is the adverse selection problem. Since managers might possess information more than what owners have, owners tend to judge managers' actions as signals

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2 Capital structure survey papers include Miller (1988), Stiglitz (1988) Harris and Raviv (1991).

which results in a financing hierarchy. That is, managers resort to debt financing only after internal funds are exhausted and equity is not issued until debt capacity is almost depleted (Myers 1984, and Myers and Majluf 1984). The second problem relates to the moral hazard embedded in the post-contractual opportunities assuming that managers' goals are in conflict with those of shareholders. According to this view, managers don't maximize shareholders benefits (firm value) but rather, pursue their own interests (Jensen and Meckling 1976). The agency literature is also rich of modes to pare down managers from pursuing their self-interests. A ready-made recipe is to induce institutional investors to perform energetic monitoring. Due to the large and carefully-planned investment of institutional investors in firms, which has increased substantially in recent years, they would be more motivated as well as more capable of exercising cost-effective monitoring of corporate managers (Shleifer and Vishny 1986). In a similar vein, a higher debt level is supposed to trigger managers' talents to reduce risks to their human investment (Jensen 1986), which tends to harmonize managers' interests with those of shareholders. That is, the higher the debt level, the more motivated are the managers to enhance the value of their firms in order to increase

the payoff for shareholders in case of a bad state of the world. Analogously, the debt overhang problem (Myers 1977) necessitates the tradeoff between agency cost of debt and agency cost of equity as firms might be forced to bypass value maximizing projects as they can not manage to service the already high debt level.

### **The Study Hypotheses**

#### *Capital Structure and Firm Performance*

Although the capital structure theme remains enigmatic, the financial economics literature is abundant with capital structure studies that have implications to firm performance. This line of research was motivated by the pioneering work of Modigliani and Miller (M&M) (1958) whose original work, however, was based upon some strong assumptions. Their study's implication was clear in that capital structure decision bears no effect on firm value. Although many following studies relaxed the strong assumptions and introduced frictions to the perfect world of M&M, the bulk of these studies were tax-related in that they show how tax deductibility of debt (to a certain limit) boosts firm performance. All the previous tax-related studies imply that debt would have a negative effect on the performance of a non tax-paying entity. In a

more recent study, Jaffe (1991) (only theoretically) examined the effect of debt on the performance of untaxed firms and, like M&M (1958), documented the irrelevance of capital structure to firm performance.

Based upon the above, the literature lacks an empirical analysis that should be drawn to examine the cross-sectional effect of untaxed-entities' capital structure on firm performance<sup>3</sup>. This study intends to shed some light on this topic by testing the following hypothesis based on the predictions of the well-established static trade-off capital structure theory.

H1 : Kuwaiti firms' performance is negatively related to debt level.

As mentioned previously, Kuwaiti firms are tax-exempt entities and hence provide a vehicle to test why firms issue debt in case of no-tax benefits.

### *Capital Structure and Agency Conflicts*

Jensen and Meckling (1976) argued that since the firm is a nexus of contracts, the capital structure of any firm is a result of the conflicts among the holders of those contracts (managers and shareholders). This conflict

arises due to the fact that managers do not own 100 percent of the firm and, hence, they have incentives to not entirely maximize shareholders' wealth but rather maximize their own utilities. On the other hand, due to the diffuse ownership structure, only institutional investors are able to practice effective monitoring and can oppose managers' wishes regarding a certain capital structure policy. Other investors can simply free-ride on the monitoring efforts of institutional investors.

The previous literature has no consensus regarding the effect of agency conflicts on capital structure. While the theory of Jensen and Meckling (1976) predicts a positive relationship between institutional holdings and debt level, Chaganti and Damanpour (1991) empirically documented a negative relationship between debt level and institutional ownership. On the other hand, Firth (1995) documents a positive relationship between the two variables. Other contradicting evidence comes from Bathala, Moon, and Rao (1994), who found evidence that debt level is inversely related to institutional holdings. It is worthwhile to mention that the conflict between managers and institutional investors would be curtailed when managers own a relatively large stake in

3 Studies on untaxed firms were conducted in USA on real estate investment trusts (known as REITs) as they don't pay taxes if and only if they distribute at least 95% of their income as dividends (See Howe and Shilling (1988) and Ebrahim and Mathur (1996) for example).

their firms, as they would bear some costs that result from their suboptimal behavior<sup>4</sup>.

Based upon the above literature, it seems that there is no consensus regarding how agency conflicts shape the financing mix of firms. By the same token, since tax-based models can not be employed to explain the decisions of capital structure of Kuwaiti firms, it is imperative to resort to the agency theory in order to shed some light on how the financing decision of untaxed firms is determined. Analogously, as institutional investors, unlike managers, are able to diversify unsystematic risks by holding a well-diversified portfolio; their attitudes might contrast with those of managers regarding the debt level of a firm, so, logically, we expect to find a positive relationship between debt level and the institutional holdings for Kuwaiti firms.

Based on the above, the following hypothesis is also to be tested:

H2: Institutional holdings are related positively to debt level.

### *Capital Structure Determinants of Kuwaiti Firms*

Many studies have investigated the determinants of capital structure and

many factors have been uncovered as determinants of the financing mix. Titman and Wessels (1988) directly tested theories of capital structure for US firms. They proposed product uniqueness, firm size, and profitability as major determinants of capital structure of US industrial firms. Their work also tested other factors such as growth and volatility. However, these factors were insignificant. This study will follow the literature and uses the same proposed factors except the tax-related factors. The choice of those particular factors comes for two reasons. First, these factors tend to appear correlated consistently with the capital structure decision in most previous studies. Second, using proxies for other documented variables is enormously limited by the available data. The employed factors are as follows:

### **Tangibility**

Lenders attempt to reduce agency cost of debt by requiring collateral, which should secure the interest of lenders in case a financial problem arises. In the framework of the moral hazard notion, managers might invest in risky projects or invest suboptimally (Myers 1977) in order to increase their wealth. Asset-substitution tends to expropriate wealth from lenders

<sup>4</sup> Unfortunately, until now, Kuwaiti firms are not obliged to disseminate information about managerial ownership (Only institutional holdings are published). Hence, testing managers' desire to reduce their nondiversifiable risk by employing the level of managerial ownership in the firm can not be conducted in this study.

who either require more collateral or increase the price of their lending. Therefore, we expect to see a positive relation between tangibility (fixed assets + inventory) and debt level.

### **Profitability**

It is expected to observe a negative relation between profitability and debt level based on the prediction of the pecking order theory. To finance their projects, firms don't resort to debt financing unless they exhaust their internal funds. Myers (1993) documents a negative relationship between firm profitability and debt level. Profitability is indicated by the level of net income.

### **Size**

Large firms enjoy some features that promote a positive association between debt level and firm size. Larger firms are typically more diversified and hence are able to reduce bankruptcy risk. Also, monitoring costs, and hence information asymmetry, are lower for these firms as they are likely to have adequate and reliable published financial information. Accordingly, larger firms tend to be able to secure more debt as they usually enjoy higher debt capacity. Titman and Wessels (1988) showed that debt level is affected directly and positively by firm size. Therefore, we expect to see a positive relation between size (total assets) and debt level.

### **Growth**

Growing firms usually use less debt as they reserve their debt capacity to times when it is needed (Myers 1977; Allen 1995). In other words, firms with high growth opportunities try to mitigate the effect of lenders' interference with their investment decisions. So, it is expected to find a negative relation between debt level and the growth rate of the firm (surrogated by growth of assets).

### **Institutional Holdings**

Jensen and Meckling (1976) state that managers, in their attempt to maximize their own utilities, tend to reduce their human capital risk by reducing the debt level. Investors, on the other hand, prefer more debt so as to increase their payoff. Institutional investors are sought to provide more efficient monitoring role on managers and are capable of defending shareholders benefits. Hence, we expect to observe a positive relation between institutional holdings and debt level (Maris and Elayan, 1990; Mehran 1992).

### **Age**

The number of years a firm has been in existence could be employed as an indicator of its reputation in financial and credit markets. Older firms, usually, accumulate enough history of intangible features such as reputation and knowledge that are significant factors in the

capital structure choice. It is worth mentioning that this reasoning comes in contrast with the dynamic structure of the pecking order theory of Myers (1984), which states that older firms accumulate funds and hence need less borrowing. The latest year of the available data (1999) minus the year of firm establishment is used to proxy for the age.

## Methodology

### Measure of Firm Financial Performance

There are different types of measures to firm performance in finance literature. These measures are categorized as either accounting-based measures or market-oriented measures. Since Kuwait stock market is not efficient (al-loughani, 1995), this study uses accounting based financial performance measure, which is the return on assets (ROA). ROA considers differences among firms regarding size and profitability and is a widely used measure in finance literature.

The relationship between firm performance and capital structure might be affected by some factors that have to be controlled in order to test that relationship appropriately. The most important factors are firm size and the current profitability.

Firm size is noted in the literature to have a negative effect on firm value (see for example Titman and Wessels, 1988). Usually, larger firms have relatively higher debt levels. The logarithm of the book value of total assets is used to proxy for firm size. The level of current profitability affects, to some extent, investors' beliefs about firm future value and a positive relation is expected between the two. Firm profitability is proxied by the logarithm of net income<sup>5</sup>.

### Tests

In order to determine the nature of the relationship between capital structure and firm financial performance, the following model is developed:

$ROA = f \{ \text{debt ratio} + \text{some control variables}^6 \}.$

In addition, to examine the effect of agency problem on capital structure mix of Kuwaiti firms, the following model is run:

$\text{Debt} = f \{ \text{institutional ownership} + \text{control variables} \}.$

Based on the agency literature (Jensen and Meckling 1976; Jensen 1986), researchers have argued that managers' interests in maintaining lower debt levels can be opposed by

5 Since it is not intended to compare the profitability of two firms but rather run a regression model, the level of profitability, proxied by the log of net income, is used in the model instead of an accounting ratio such as return on equity.

6 Although we have a long list of variables that affect firm performance, this study uses only those variables that were consistently used in previous literature and also available for Kuwaiti firms.



the power of institutional investors who prefer higher debt ratio. In order to investigate this for Kuwait firms, the following model is to be run:

Debt = f (institutional ownership + firm growth + debt collateral + firm size).

### Data

Investigating the above interrogations of capital structure can be executed only by using data for firms that have established history. On the other hand, the disclosure rules have not required Kuwaiti firms to publish their ownership data until recently (starting from 1999) and only institutional data are disclosed<sup>7</sup>. After screening firms' annual statements, only nine firms (from industrial and food sectors) have complete time series data starting in 1984, the time when the official Kuwait stock market was established.

We believe that the sample firms assert their adequacy to generate reliable conclusions (but tentative) for two reasons. First, the sample includes all firms that have complete balanced data that span the period of the study (1984-1999) and hence have relatively long history of being into business. All previous studies of capital structure decisions were conducted by using samples of well-established firms that have rela-

tively a long history. Second, the market value of the sample firms is about 68% of the total market value of the industrial sector while the assets are 74% of the total assets of the industrial sector. In addition, firms not included in the sample were either established recently (late 1980s and beginning of 1990s) and thus don't have enough history in business that permits investigating their capital structure decisions or have been closelyheld firms and hence their capital structure decisions are affected to a large extent by the strategic growth plans. So, including these firms in the sample might imperfect the results. On the other hand, including all firms that have enough data to test H2 is appropriate as we use cross sectional regression. Also, the year 1999 represents the time when listed firms start to disseminate information about block ownership (over 5%).

The main source of the data is a hand-collection data from the annual statements of the respected firms. Besides, some numerical data were acquired from the Investor's Index<sup>8</sup>. Ownership data for 1999 were obtained from Kuwait Stock Exchange ownership report. A brief description of the data is contained in table (1).

Panel (A) shows that the average debt ratio for the sample firms is about 26%. This ratio is not far from that of French non-financial firms (29%) and

7 Disclosure rules released recently in Kuwait oblige listed firms to disclose ownership for investors if this ownership exceeds 5% of total equity.

8 This index has recently (year 2000) been published by the investment and real estate magazine and includes selected financial data of Kuwaiti firms listed in Kuwait stock exchange.

UK non-financial firms (24%) (Rajan *et al.*, 1995). The table also shows that the highest debt ratio is about 79% and the lowest debt ratio is Zero. Some firms might enjoy a strong relationship with creditors that justifies the high debt ratio. The skewness measure indicates that most firms have debt ratios quite above 26%. It is worth mentioning that, according to their financial statements,

all sample firms finance their activities from conventional sources (banks) and none uses Islamic credit. Panel (A) also shows that profitability of the Kuwaiti firms is highly dispersed with the lowest ROA of 62% and the highest of 91%. The value of most Kuwaiti firms tends to be in excess of the book value as the mean MB is 2.2 which indicates that the

**Table 1**  
**Summary Statistics of the Sample Firms**

|                                                                                               | Mean       | Skewness | Minimum      | Maximum     |
|-----------------------------------------------------------------------------------------------|------------|----------|--------------|-------------|
| <b>Panel A: Summary statistics for the largest 9 Kuwaiti firms for the period 1984 - 1999</b> |            |          |              |             |
| TA                                                                                            | 52,542,727 | 3.48     | 8,347,064    | 358,894,000 |
| DR                                                                                            | 26.06%     | .94      | 0.00%        | 78.90%      |
| TanA                                                                                          | 33.35%     | .42      | 1.17%        | 77.77%      |
| MB                                                                                            | 2.156      | 5.535    | 0.188        | 18.480      |
| ROA                                                                                           | 4.91%      | -88.25%  | -61.68%      | 91.24%      |
| <b>Panel B: Summary statistics for Industrial Kuwaiti firms for 1999 (19 firms)</b>           |            |          |              |             |
| TanA                                                                                          | 25.47%     | .64      | 0            | 83.90%      |
| TA                                                                                            | 53,298,141 | 3        | 4,634,500    | 344,012,000 |
| NI                                                                                            | 2,630,413  | 3.01     | (24,275,000) | 51,055,000  |
| DR                                                                                            | 30.74%     | .49      | 0.29%        | 82.10%      |
| MB                                                                                            | 1.60       | 1.92     | 0.45         | 5.10        |
| IH                                                                                            | 39.53%     | -.18     | 0.00%        | 78.40%      |
| ROA                                                                                           | 4.78%      | -.31     | -22.12%      | 24.33%      |
| Asset Growth                                                                                  | 7.63%      | .68      | -23.74%      | 42.66%      |

#### Notes

- \* Figures are in Kuwaiti Dinar (KD) which equals US\$3.33.
- \* Figures in panel (A) are for the respected years.
- \* Figures in panel (B) are average figures for the 1998 1999 period in order to reduce the measurement errors due to random year-to-year fluctuations in the variables.
- \* TA = Total Assets
- \* TanA = Tangible Assets (fixed assets + inventory) as % of TA
- \* NI = Net Income
- \* DR = Debt Ratio (total debt / TA)
- \* MB = Market to Book ratio
- \* IH = Institutional Holdings (% of ownership by institutional investors)
- \* ROA = Return on Assets (net income / TA)
- \* Asset Growth = the average growth rate of assets over the period 1996 - 1999

market value is about double that of the book value. This reflects either the success of managers in creating value to their firms or due to some noise in trading that relates to the Kuwait stock market's inefficiency (Al-loughani, 1995). Panel (B) shows summary statistics for all industrial firms (19 firms) in 1999. Average numbers are used in order to mitigate the measurement errors that result from the annual fluctuations of the considered variables. One can notice the very slight differences between panels (A) and (B) in terms of most variables. This is an affirmative indicator that considering only a sample of established firms (as in panel A) would be enough to examine the capital structure decisions of Kuwaiti firms. That is, the debt ratio is not very different in the two samples. Also, the same applies to the profitability level in terms of ROA (4.9% in panel (A) vs. 4.8% in panel (B)). Furthermore, firm size (TA) is also very similar in both samples.

The institutional investor holds about 40% of the ownership of firms in panel (B). Some firms, however, have zero holdings of institutional investors<sup>9</sup>.

9 Actually, only two firms have zero institutional holdings and most firms' ownership include high stake for institutional investors.

10 Since we have a cross-sectional and times-series data, hetroscedasticity and autocorrelation were found to be significant. And since they are of unknown form, they were corrected by Newey and West's (1987) heteroskedasticity and autocorrelation consistent (HAC) covariances.

## Results

### Capital Structure and Firm Financial Performance

The dominant argument in the capital structure literature is that, in general, taxed-entities gain from financing their activities by debt. However, the empirical effect of capital structure on firm performance is still an unsolved puzzle. In order to test this prediction of the static-tradeoff theory, ROA is regressed against debt ratio as well as some other control variables. Table (2)<sup>10</sup> shows the results of regressing firm financial performance (proxied by ROA) against average debt ratio. For comparison purposes, many regressions models are run and all are shown in table (2). The results of the first model confirm the expected prediction of the static trade-off theory of capital structure of the negative association between debt ratio and firm financial performance. This result is robust to controlling for firm size (model 2) as the relation is still negative and statistically significant at the 1% level. The magnitude of the effect is, however, different in the two regression models. While in model (1) the ROA would decrease by 1% as debt ratio jumps by about 14%, ROA would decrease by almost 25% in model (2). The negative association

between debt level and firm performance might be due to a high leverage ratio, which increases the debt service burden that eats up firm profitability. The higher the debt ratio, the higher would be bankruptcy costs and the lower the firm performance. Models (3) and (4) resemble models (1) and (2) but substitutes ROA with another accounting-based performance measure (which is ROE) so as to check the robustness of the results. One can note that the results are very similar to these in models (1) and (2) as far as the statistical significance is concerned. By comparing the four models, it seems that using ROE is better than ROA in representing the data structure. In model (2) (as well as in model 3), the firm size is introduced as a control variable and it has a positive

and statistically significant effect on firm performance. This result implies that, due to economies of scale and scope (product mix), larger firms are more profitable than smaller ones. This finding doesn't come in contrary to the value-size negative relation documented in the previous literature given that ROA is a measure of firm financial performance not a firm value. As was explained earlier, using ROA is justified based on the ground of market efficiency level of the highly speculative Kuwait stock market (KSM). It was mentioned earlier that KSM is not efficient (Al-lougani 1995) and hence employing any market-based measure would be inappropriate as it would bias the results. In order to corroborate this conjecture, regressions (5) and (6) are run analogously

**Table 2**  
**The Effect of Capital Structure on Kuwaiti Firms' Performance**

| Dep. Variable | ROA                | ROA                | ROE                | ROE                | MB                 | MB                |
|---------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|
|               | 1                  | 2                  | 3                  | 4                  | 5                  | 6                 |
| Intercept     | 0.0896<br>(.0001)  | -0.8578<br>(.0001) | -1.4219<br>(.0001) | .1137<br>(.0001)   | 1.89104<br>(.0001) | 0.618<br>(.7221)  |
| DR            | -0.1354<br>(.0001) | -0.253<br>(.0001)  | -0.3652<br>(.0001) | -0.1816<br>(.0001) | .3868<br>(.1029)   | 0.3445<br>(.1576) |
| Log(TA)       |                    | .0562<br>(.0001)   | .091<br>(.0001)    |                    |                    | .0726<br>(.466)   |
| ROA           |                    |                    |                    |                    |                    | 0.0762<br>(.8659) |
| Adj. R-square | 0.01               | .09                | .1                 | 0.015              | -0.01              | -.03              |
| R-square      | 0.018              | .1                 | .11                | .022               | -0.006             | -.01              |

Notes

- \* Numbers in parentheses are probability values testing the hypothesis that coefficients are zero.
- \* Seemingly Unrelated Regression (or Zellner method) is employed to account for the contemporaneous correlation in the errors across equations since unmodeled factors represented by error terms affect all Kuwaiti firms as they operate in the same environment.
- \* DR = Debt ratio (Total Debt / Total Assets)
- \* TA = Total assets
- \* ROA = Return on assets (Net Income / Total Assets)
- \* MB = Market-to-book ratio (Stock price / book value of a stock)

to regressions (1)-(4). Market-to-book ratio is employed as a market-based measure of firm performance. As it can be seen from the table, the results are statistically insignificant not to mention that the whole model came to be insignificant given the negative value of the R-square. Studies in developed markets reveal that the relationship between MB and accounting-based performance measures (such as ROA) tends to be consistent. In our analysis, however, it tends to be insignificant. This is consistent with the lack of articulation between accounting performance measures and market-based performance measures for Kuwaiti firms. This confirms the supposition of the invalidity of using market-based measures in the existence of market inefficiency.

The main conclusion from the analysis in table (2) is that capital structure decision clearly affects firm performance given that the debt has negative influence on firm profitability. Since we are using an accounting measure of firm performance, one can interpret the negative relation based upon the negative effect of the debt service on firm profitability. Howe and Shilling (1988) investigate the effect of debt issuance on firm value and report some negative reactions by

the market to the debt offerings<sup>11</sup>. Although the methodology is different where Howe and Shilling investigate the primary or the instantaneous effect of the debt on firm's values while this study examines the long-term effect of debt on firm's performance, the results assert the same conclusion.

### **Capital Structure and Agency Conflicts**

The agency literature lends support to the effect of agency factors on capital structure decisions. Principally, the conflict between managerial self-interests and shareholders' self-interests has a direct effect on firm's capital structure mix. In general, managers are likely to be conservative regarding debt level in their firms in order to minimize risks to their human capital investments. Stockholders, on the other hand, usually have well diversified portfolios and, hence, might prefer firms to operate with higher levels of debt. This prediction is based upon the tax advantage of debt.

In the case of Kuwaiti firms, however, the circumstances are quite different since these firms pay no taxes. The previous section shows that Kuwaiti firms' financial performance declines as more debt is issued. Consequently, stockholders are ex-

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11 They also report very few cases of positive stock price reactions to the debt offering.

pected to oppose intense debt financing. The institutional investor is a large blockholder and, hence, can best represent shareholders' interests. Usually, institutional investors are more capable of monitoring firms' management than individual investors, given the vast resources institutional investors have. Thus, by virtue of the negative association between debt ratio and firm's values, a negative relationship is expected between institutional holdings and debt ratio for Kuwaiti firms. This expectation comes opposite to the agency theory prediction. However, the tax status of Kuwaiti firms implies this expectation.

To test this conjecture<sup>12</sup>, the debt ratio is regressed against institutional holdings after controlling for some variables that are sought in the literature to affect debt level. In table (3), the logarithm of total assets is used to control for firm size as larger firms tend to have relatively higher debt. The degree of profitability is proxied by the logarithm of net income in light of the negative association between debt and profitability. The results in table (3) are all statistically significant. Model (1) shows (as expected) a negative association between debt level and institutional holdings. This result confirms the prediction of the tax-based explanation of capital structure as

investors are aware of the negative effect of more debt on their firms' financial performance. The model is also significant as judged by the P-value of the F-statistic. Model (2) controls for the negative relation between institutional holdings and debt level by including firm size in the analysis. As expected, the association between debt and size comes to be positive and significant at 5% level and this confirms the idea that larger firms tend to have higher debt capacity and hence their ability to issue more debt tends to be larger. Actually, lenders would be more willing to lend larger firms with cheaper debt rates since suboptimal decisions are not expected with the existence of effective monitoring by large blockholders, a notion that is confirmed in this model. The explanatory power of this model is far better than that of model (1) and this indicates the power of firm size in explaining the analyzed relation. Model (3) adds another control variable, which is the profitability level. There is a negative relation between profitability and debt level, which confirms the documented relation in the literature (Myers 1993). The power of the profitability variable can be detected by the increase in the adjusted R-square from 19% in model (2) to 23% in model (3).

<sup>12</sup> Unfortunately, the unavailability of managerial ownership data deters full analysis of this conjecture.

**Table 3**  
**The Effect of Agency Conflicts on Capital Structure Decision**

| Dep. Variable     | DR                 | DR                 | DR                 |
|-------------------|--------------------|--------------------|--------------------|
|                   | 1                  | 2                  | 3                  |
| Intercept         | 0.4344<br>(.0001)  | -0.6044<br>(.0921) | -0.6161<br>(.2189) |
| IH                | -0.3212<br>(.0112) | -0.3034<br>(.0174) | -0.2807<br>(.0256) |
| Log (TA)          |                    | 0.0598<br>(.003)   | 0.1063<br>(.0065)  |
| Log (NI)          |                    |                    | -0.0573<br>(.0176) |
| Adjusted R-square | .117               | .197               | .23                |
| R-square          | .137               | .233               | .289               |
| Prob (F-value)    | .0114              | (.0034)            | (.006)             |

## Notes

- \* The results are based on the sample set of panel (B) in table (1).
- \* Since we have a cross-sectional data, Heteroscedasticity was found to be significant. And since it is of unknown form, it was corrected by using White's (1980) consistent covariance matrix.
- \* Numbers in parentheses are probability values testing the hypothesis that coefficients are zero.
- \* DR = Debt Ratio (Debt / Total Assets)
- \* IH = The Ratio of Institutional Holdings.
- \* TA = Total Assets
- \* NI = Net Income

The main conclusion of table (3) is the conspicuous effect of agency conflict on capital structure decision, which directly supports the firm theory of Jensen and Meckling (1976) in that the agency conflicts are important determinants of capital structure. The sign of the effect documented in this study, however, differs from the predictions of the agency theory (which states that, other than tax benefits, added discipline is a crystal-clear benefit of debt financing) and this might

be due to the exemption of Kuwaiti firms from taxes. As they are tax-exempted, the effect on profitability is expected to be negative. The awareness of institutional investors of this supposition will entice them to disapprove higher leverage. Hussain (1996) refers the negative relation between the two variables to the underdeveloped financial markets<sup>13</sup> as the larger shareholders strive to attract more dividends. Another explanation is that Kuwaiti firms could be over-

<sup>13</sup> It is worth mentioning here that the large and concentrated shareholdings (unscattered ownership) are partially responsible for the slow development of Kuwait stock market.

leveraged; hence, in this case, the negative sign could be driven by two negative outcomes that institutional investors could be aware of. First is the empirical regularity that firms with high debt obligations tend to pass up positive net present value projects, especially those projects that take long time to pay off. Second is the loss of financial flexibility, which precludes a firm from taking advantage of unanticipated opportunities/contingencies. When viewed as a real option, financial flexibility has a value that will increase if there is greater uncertainty regarding future investment needs. That's why we often encounter cases of large firms keeping large cash balances and excess debt capacity. In spite of all that, the negative relation between institutional holdings and debt level supports the findings of Chaganti and Damanpour (1991) and Bathala, Moon, and Rao (1994) who both document an inverse relationship between the two variables.

### **The Endogeneity Problem**

A problem that affects many studies of the relationship among corporate governance attributes is the potential endogeneity of the variables. It is possible that the relationship between the institutional ownership and debt ratio is due to the two variables being endogenously determined by each other. Higher debt

ratio may induce institutional investors to limit their investments in firms and therefore debt ratio determines institutional ownership. The usual practice is to carry a Hausman test of simultaneity in order to test for the endogeneity problem, if any, examined in the literature (see for example Cui and Mak 2002). Table (4) shows the results of the Hausman test (using growth rate of the assets as the instrumental variable). One can note that the coefficients (in the auxiliary regression) of the residuals from model (1) are not significant. This indicates that the endogeneity issue is not a problem that biases our results (i.e. OLS estimates are efficient and consistent). Actually, in Kuwait there is a reason to believe that endogeneity is less of a concern than in other developed countries. This is mainly due to the sample firms being business concerns for less than 30 years, thus the Kuwaiti institutional shareholders choose, most likely rationally, to extract large private benefits from their firms and hence bad governance practices may be privately optimal for them, even if adverse to outside investors.

A concern might arise about the ability of the institutional investor in practicing effective monitoring such as that in developed markets. Since no evidence documenting the corporate activism in Kuwait (due mainly to data unavailability) is available, some board



members of some Kuwaiti firms were surveyed to acknowledge the level of participation of institutional investors in annual meetings<sup>14</sup>. Those board members (as well as some business commentators) argue that the institutional investor activism in Kuwait has in-

creased substantially since the mid 1990s. In addition, many institutional investors have close and continuous contacts with management of firms. Therefore, there is a reason to believe in the effective monitoring of the Kuwaiti institutional investor<sup>15</sup>.

**Table 4**  
**Hausman Test of Simultaneity**

| Model (1): IH = f { log(TA), log(NI), growth rate of assets }     |                   |                 |                   |                  |
|-------------------------------------------------------------------|-------------------|-----------------|-------------------|------------------|
| Intercept                                                         | Log (TA)          | Log (NI)        | Growth            | Residuals        |
| .414<br>(.5043)                                                   | -.0006<br>(.9895) | .003<br>(.9219) | -.5014<br>(.1686) |                  |
| Model (2): DR = f {IH, log(TA), log (NI), residuals of model (1)} |                   |                 |                   |                  |
|                                                                   |                   |                 |                   | .7216<br>(.3766) |

Notes

- \* DR = Debt Ratio (Debt / Total Assets)
- \* IH = The Ratio of Institutional Holdings.
- \* TA = Total Assets
- \* NI = Net Income

**Capital Structure Determinants of Kuwaiti Firms**

Since Kuwaiti firms are exempted from taxes, there should be some factors other than taxes (or tax shields) that drive the capital structure decisions of those firms. By virtue of the previous literature of capital structure theory, many pre-defined variables are expected to have some effect on Kuwaiti firms' capital struc-

ture. Capital structure theories suggest that firms, in general, choose their capital structure mix based on some attributes that are somewhat unique to these firms, as these attributes have costs and benefits associated with the level of debt and equity financing. Also, the operating environment, coupled with the characteristics of a certain economy, has a direct impact on the financing mix of firms operating in that economy.

14 "5" board members from different firms and "8" business commentators were asked the following question "Are institutional investors in Kuwait effective and (or) active in practicing monitoring; and if so, how".

15 Kuwait stock market is inefficient with respect to information processing but not with respect to the business norms and practices.

As established earlier, institutional holdings were shown to have a direct effect on the capital structure of Kuwaiti firms, given the agency theory implications to capital structure theory. Firm growth is also expected to impact capital structure decisions as Myers (1977) suggested that the expected growth would invigorate the agency problem and sharpen the wealth expropriation from debtholders to stockholders. Thus, a growth indicator, which is expected to have a negative effect on debt level, will be included in the test. Profitability and size are also included as they are sought in the literature to have a primary effect on debt financing (Titman and Wessels 1988). Also, a tangibility indicator is also considered to proxy for the collateral required by lenders upon their decision to grant credit to their customers.

Table (5) shows the results of regressing average debt ratio against the above-mentioned factors. The first model includes institutional holdings and firm size proxy. As it appears, all variables are statistically significant at 5% level (and have the correct sign) in explaining the capital structure decision. The larger the firm, the higher the willingness of lenders to extend credit to that firm. In model (2), the tangible assets variable is replaced by the size proxy and the growth proxy is added to assess its importance. The

tangible assets variable, surprisingly, turns to be insignificant. Two plausible explanations are in mind. First, since lenders are concerned about their collateral, the insignificance of this variable might be due to a strong business relation between firms and creditors, which substitute the collateral (Berger and Udell, 1994). This might be true in light of the strong social ties among members of the business community in Kuwait. Just like Japan and Germany, banks in Kuwait play a critical role in the economy (bank-dominated system). In this environment setting, banks (main lenders) have solid and long-lasting financial relationships with firms and hence are able to judge strength and weaknesses of those firms (see Arnold *et al.*, 2000 for more elaboration on bank-dominated systems). This is also supported by the fact that, in Kuwait, buildings and lands are harder to convert to liquid assets during the time period of the analysis (1996-1999) as real estate market was still in a continued recession since the occupation of Kuwait by Iraq in summer 1990. Second, it could be the case that managers invest in their firms; and if this is the case, lenders would be more willing to lend to those firms that have high managerial ownership with less stringent conditions (see Leland and Pyle's signaling hypothesis, 1977 and Ross, 1977).

**Table 5**  
**Capital Structure Determinants of Kuwaiti Firms**

| Dep. Variable  | DR                | DR                | DR                | DR                | DR                | DR                |
|----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                | 1                 | 2                 | 3                 | 4                 | 5                 | 6                 |
| Intercept      | -.6044<br>(.0921) | .3766<br>(.0001)  | -.1023<br>(.8255) | .0814<br>(.8953)  | -.4762<br>(.2603) | -.6162<br>(.1171) |
| IH             | -.3034<br>(.0174) | -0.303<br>(.0333) | -.3013<br>(.07)   | -.2653<br>(.07)   | -.2633<br>(.0425) | -.2807<br>(.0225) |
| Log (NI)       |                   |                   | -.0582<br>(.043)  | -.0518<br>(.0427) | -.0592<br>(.041)  | -.0573<br>(.066)  |
| Log (TA)       | .0598<br>(.003)   |                   | .077<br>(.0554)   | .0607<br>(.2148)  | .0925<br>(.0159)  | .1063<br>(.0037)  |
| Log (TAN)      |                   | -.0072<br>(.6779) | .0138<br>(.3562)  | .0131<br>(.4672)  | .0193<br>(.3951)  |                   |
| Growth         |                   | .3565<br>(.2607)  |                   | .3206<br>(.4917)  | .3388<br>(.3472)  |                   |
| Age            |                   |                   |                   |                   | .0043<br>(.1756)  |                   |
| Adj. R-square  | .2                | .15               | .19               | .2                | .27               | .23               |
| R-square       | .23               | .21               | .28               | .31               | .36               | .29               |
| Prob (F-value) | (.0034)           | (.022)            | (.0221)           | (.0285)           | (.0071)           | (.006)            |

**Notes**

- \* Since we have a cross-sectional data, Heteroscedasticity was found to be significant. And since it is of unknown form, it was corrected by using White's (1980) consistent covariance matrix.
- \* The results are based on the sample set of panel (B) in table (1).
- \* Numbers in parentheses are probability values testing the hypothesis that coefficients are zero.
- \* DR = Debt Ratio (debt / Total Assets)
- \* IH = Institutional Holdings
- \* NI = Net Income
- \* TA = Total Assets
- \* TAN = Tangible Assets (Inventory + Fixed Assets)
- \* Growth = Average Growth Rate of Assets Over the Period 1996-1999
- \* Age = 1999 Year of Establishment

Model (3) shows the growth factor to have no relation with debt level. This result contradicts what is documented by Myers (1977) that as firms grow, they opt for not to consume their debt capacity until it is needed in

future. This might be contributed to the strong ties between creditors and business concerns. Profitability, institutional holdings, and size continue to retain their significance level and their correct sign as in model (2). Model (4)

is similar to model (3) except that it introduces tangibility into the analysis. This model shows that size became insignificant along with both the growth rate and tangible assets. The model as a whole, however, is still significant as is indicated by the probability of the F-value. Model (5) includes all the variables employed in this analysis. Only three variables are significant and have the correct sign. These are institutional holdings, profitability, and size (which supports the sparse findings in the literature that larger firms borrow more). These variables are included in model (6) to check the robustness of their exclusive effect on capital structure. One can notice that all these variables retain their significance level with relatively high explanatory power considering the nature of the correlation among financial variables. The age variable in model (5) turned out to be insignificant, which, again, supports the conjecture of the power of business ties between lenders and borrowers in substituting the debt collateral<sup>16</sup>.

To conclude, this analysis reveals the most important factors that affect capital structure decision of Kuwaiti firms. These factors are mainly firm size, profitability, and the level of institutional ownership. Other factors

might also be important such as managerial holdings and the percentage of the outside directors in the firm board. However, the unavailability of these information precludes any intention to employ them in the analysis.

## Conclusion

The main goal of this paper is twofold. First, it investigates the effect of capital structure of Kuwaiti firms on the financial performance of these firms. The contemporary theory of capital structure postulates that any tax-exempt entity would suffer if debt financing is utilized. In spite of that, Kuwaiti firms have been using debt since their inception. This paper has also explored, partly, the effect of agency conflicts in shaping the capital structure mix of Kuwaiti firms. Second, the determinants of capital structure of Kuwaiti firms are examined.

After drawing the analysis, it is found that the usage of debt by Kuwaiti firms has negatively affected their financial performance over the studied period. This finding is robust even after employing some control variables that affect financial performance. As far as the findings are concerned, the results support the predictions of the static trade-off theory of capital structure. In addition to

<sup>16</sup> Although this finding, as well as other results, doesn't support the pecking order theory, it is not intended here to test that theory.

that, and in the framework of the agency theory, it is established that the agency conflict in Kuwaiti firms plays a significant role in shaping the capital structure of these firms. As was shown in the analysis, there is a negative relation between institutional ownership and leverage. This contradicts the predictions of the agency theory regarding the sign of the expected relation. However, the observed negative association could be due to the awareness of the blockholders of the negative affect of debt on firm performance. The high cost of debt and the excess usage of leverage could be two plausible interpretations;

whereas, investigating these issues is out of the scope of this analysis. The results are not affected by the endogeneity problem found in studies in developed markets.

In conclusion, the analysis shows that the primary factors that affect capital structure decision of Kuwaiti firms are the level of institutional ownership, firm profitability and size of the firm. It should be noted that the results obtained in this study are tentative due to the small sample that is a result of unavailability of data of some firms, a feature of many developing markets.

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## الملخص

### العلاقة بين الهيكل المالي والأداء للشركات الخاضعة للضريبة

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يهدف هذا البحث إلى التعرف إلى العوامل المؤثرة في مستوى المديونية للشركات الكويتية الصناعية بوصفها شركات تعمل في ظل اقتصاد غير ضرائبي، مما يجعل هذه الدراسة مختلفة عن جميع الدراسات السابقة التي تعتمد الأثر الضريبي محددًا رئيساً لاستخدام الشركات للديون. وقد أكدت هذه الدراسة وجود علاقة بين أداء الشركة ومستوى المديونية، وذلك حسب تفسيرات نظرية الوكالة (جنسن ومكلنج ١٩٧٦) فقط، وهي النظرية التي لا تعتمد على التفسير الضريبي لاستخدام الديون. كذلك كشفت هذه الدراسة أيضاً عن وجود علاقة مباشرة بين ملكية المستثمر المؤسسي وقرارات التمويل للشركات الصناعية الكويتية. بالإضافة إلى ذلك، فإن قرار التمويل أيضاً له ارتباط وثيق بمستوى ربحية الشركة وحجمها. ويجب التأكيد على أن صغر حجم العينة المستخدمة في الدراسة (بسبب عدم توافر المعلومات المطلوبة للتحليل) هو مؤشر دال على أن النتائج التي توصلت إليها ربما تعد مؤقتة ومرتبطة بزمان إجراء الدراسة.

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