

**The Capital Structure Choice in Tax Contrasting Environments: Evidence
from the Jordanian, Kuwaiti, Omani and Saudi Corporate Sectors**

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Abstract

The 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 examines the nature and determinants of the capital structure choice of Jordanian, Kuwaiti, Omani and Saudi Arabian non-financial listed companies. Based on the time period 1996-2001, the results indicate that the Jordanian, Kuwaiti, Omani and Saudi Arabian companies have low leverage ratios. In addition, the results show that Jordanian companies hold the lowest mean value of long-term debt. This is surprising given the fact that they are subjected to the highest tax rate. Finally, the empirical results indicate that the financing decisions of Jordanian, Kuwaiti, Omani and Saudi companies can be explained by the determinants suggested by main – stream corporate finance models.

Keywords: Amman Securities Market; Kuwaiti Stock Exchange; Muskat Securities Market; Saudi Stock Market; Capital Structure; Tangibility; Panel Data.

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I. Introduction

It is common knowledge that there is great disparity in the wealth of nations. Indeed, for centuries, economists have tried to understand why some countries are poor, while others are rich and why some countries have healthy and growing economies, while others stagnate at low levels of output.

To explain the differences in country growth rates, economists have considered a myriad of factors. While it is not the objective of this paper to review this literature, it is useful to note that some of the factors include democracy (Scully, 1988; Savvides, 1995; Barro, 1996; Dawson, 1998), trade barriers (Bhagwati, 1988; Frankel and Romer, 1999), corruption (Mauro, 1995; Knack and Keefer, 1997), property rights (Borner et al., 1995; Brunetti et al., 1998), political instability (Clague et al., 1996; Perotti, 1996; Collier, 1999), cultural values (Inglehart, 1994; Easterly and Levine (1997) and others.

In addition to the above factors, recently there has been a renewed interest in the relationship between financial development and economic growth. Following the classical research by Gurley and Shaw (1955), Goldsmith (1969), McKinnon (1973), and Shaw (1973), more recent models emphasized the role of efficient financial intermediaries and markets in ameliorating information and transaction costs and thereby in fostering the efficient allocation of scarce economic resources (Bencivenga and Smith, 1991; King and Levine, 1993a). Indeed, many empirical papers reported the positive impact of financial development on economic growth¹.

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. In this respect, a crucial issue is to examine and understand how firms in developing countries finance their activities. Indeed, the finance literature contains a large number of theoretical and empirical papers that examine the capital structure of corporations. However, most of the literature analyzes the capital structure of companies operating in developed economies.

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 theory². These theories point out a number of firm-specific factors that may affect the capital structure choice of firms. Moreover, these theories have been examined by many empirical studies. For example, the determinants of the capital choice of US companies is examined by Taub (1975), Bradley et al. (1984), Titman and Wessels (1988), Harris and Raviv (1991), Rajan and Zingales (1995), Demirguc – Kunt and Maksimovic (1996), (Michaelas et al. 1999), Bevan and Danbolt (2000) and Booth et al. (2001). Similarly, firms operating in some European countries are examined by Lasfer (1999), Mira (2001), and Antoniou (2002).

¹ See, Levine and Zervos (1998), Rousseau (1998), Rousseau and Wachtel (2000), and Beck and Levine (2002).

² A survey of capital structure theories is published by Harris and Raviv (1991).

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 Portuguese, 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, the capital structure decision of Jordanian non-financial companies was examined by Omet and Nobanee (2001).

The common approach in most of the above-mentioned empirical studies has been to study the determinants of optimal leverage by examining the relationship between the observed leverage ratios and a set of explanatory variables using non-dynamic models. This approach has two shortcomings. First, the observed leverage ratios may not necessarily be optimal. As Myers (1977) pointed out, changes in capital structure are costly to implement. Hence, the observed leverage ratio at any point in time may substantially differ from its optimal level. Furthermore, Myers and Majluf (1984) suggest that the observed leverage ratio may differ from the optimal level predicted by the trade-off between the costs and benefits of debt. Second, the empirical analysis, being non-dynamic, is unable to shed any light on the nature of the dynamic aspect of the capital structure of firms. While Titman and Wessels (1988) and Harris and Raviv (1991) partially accounted for leverage adjustments by taking the year-average of their independent variables, a more recent paper by Antoniou et al. (2002) examined the dynamic determinants of the capital structure of French, German and British companies by analyzing panel data using a two-step system-GMM procedure.

The fact that the number of studies that examines the capital choice of each developing country is limited, little is known about the financing activities of firms operating in developing 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).

In this paper, we take up the theme of company financing and apply it to a number of Arab stock markets (Jordan, Kuwait, Oman and Saudi Arabia). Indeed, while there has been a growing number of papers that examine the capital structure in developing economies, the absence of any published papers which examine and compare the capital structure of Jordanian³, Kuwaiti, Omani and Saudi companies provides us with a natural opportunity to analyze the explanatory power of main stream capital structure theories by testing them not only in four Arab countries but also in testing them in contrasting tax environments; a tax-free environment (Kuwait), a taxed environment (Jordan and Oman) and an environment in which companies pay Zakat (Saudi Arabia). Moreover, the fact that the mix of funds (leverage ratio) affects the cost and availability of capital and thus,

³ A recent working paper (Maghyereh and Omet, 2003) examined the capital structure of listed Jordanian companies. Based on the panel data analysis and GMM estimation techniques, it is concluded that the 1990 interest rate liberalization did affect the capital structure of the sample of companies and their speed of adjustment to their target leverage ratios have, as expected, decreased.

firms' investment decisions⁴, it is useful to examine the capital structure choices of corporations listed on the above – mentioned Arab stock markets.

Based on the above, the focus of this paper is on providing answers to the following three questions:

1. What is the capital structure choice of Jordanian, Kuwaiti, Omani and Saudi companies?
2. Given the fact that the listed Jordanian and Omani companies are subject to positive tax rates, Kuwait companies do not pay taxes and that Saudi companies pay Zakat on their profits, do their corporate financial structure decisions reflect any significant differences?
3. Is the explanatory power of main - stream capital structure theories applicable to Jordanian Kuwaiti, Omani and Saudi companies?

The remainder of the paper is organized as follows. Section II provides a brief review of the determinants of capital structure. Section III provides the rationale behind the formation of stock exchanges (financial development) and some basic information about the Jordanian, Kuwaiti, Omani and Saudi Arabian stock exchanges. Section IV presents the data and methodology. In section V, we present and discuss the empirical results. Finally, section VI concludes the paper.

II. The Determinants of Capital Structure: A Literature Review

Relative to the subject matter of this paper, the empirical literature suggests a number of factors that may influence the financial structure of companies. 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. However, most of the published studies considered company size, profitability, liquidity, asset tangibility and firm growth prospects as possible determinants of the capital structure choice.

1. Company Size

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 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).

2. Profitability

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

⁴ See Biais and Casamatta (1999), Shin and Stulz (2000) and Yanagawa (2000).

order hypothesis), companies prefer internal sources of finance. In other words, higher profitability companies tend to have lower debt levels and higher retained earnings. Relative to this theory, Kester, 1986, Titman and Wessels (1988), and Michaelides et al. (1999) find leverage to be negatively related to the level of profitability.

3. Liquidity

In market-oriented economies managers tend to prefer internal liquidity. Indeed, when firms have close ties with their banks (bank-oriented) and hence information asymmetry could be reduced to its minimum level, managers' need for internal liquidity tends to be less important. In other words, a negative relationship between liquidity and leverage is expected in market-oriented economies. Indeed this result is supported by the empirical findings of Ozkan (2001), Antoniou (2002) and others.

4. Tangibility

The more tangible the assets of a firm are, the greater its ability 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).

5. Growth Opportunities

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, the effective tax rate has been used as a possible determinant of the capital structure choice. According to Modigliani and Miller (1958), as interest payments on debt are tax-deductible, firms with enough taxable income have an incentive to issue more debt. It must also be pointed out that higher corporate tax rates reduce firms' internal funds and increase their cost of capital. In other words, higher taxes might decrease the formation of fixed capital and demand for external funds (Kremp et al., 1999). Based on this argument, we expect a negative relationship between the level of debt and the effective tax rate.

III. The Formation of a Stock Exchange: The Case of Jordan, Kuwait, Oman and Saudi Arabia

The relationship between financial development and economic growth has attracted a lot of research interest. Following the early research by Gurley and Shaw (1955), Goldsmith (1969), McKinnon (1973), and Shaw (1973), a number of models emphasized the role of well-functioning financial intermediaries and markets in ameliorating information and transaction costs and thereby in fostering the efficient allocation of scarce economic

resources (Bencivenga and Smith, 1991; King and Levine, 1993a; Bencivenga et al., 1995). Moreover, while some models provide conflicting predictions about the relative importance of banks and stock markets (Stiglitz, 1985; Boyd and Prescott, 1986; Bhide, 1993), others stress the importance of both banks and markets in economic growth (Levine, 1997; Boyd and Smith, 1998; Huybens and Smith, 1999; and Demirguc-Kunt and Levine, 2001).

As far as the importance of banks is concerned, the burgeoning empirical evidence suggests that they can make a positive contribution to economic growth. For example, King and Levine (1993a,b) show that a measure of bank development (total liquid liabilities of financial intermediaries divided by Gross Domestic Product), help explain economic growth in a sample of about 80 countries. Moreover, using instrumental variable procedures and credit to the private sector as a proxy measure of bank development, Levine (1998, 1999) and Levine et al. (2000) confirm this finding. Finally, Watchel and Rousseau (1995) and Rousseau (1998) use time-series data to confirm the positive impact of financial intermediary development on economic growth.

More recently, a number of empirical papers considered the impact of bank development and stock market development on economic growth. These include, among others, Atje and Jovanovic (1993), Jappelli and Pagano (1994), Harris (1997), Levine and Zervos (1998), Rousseau and Wachtel (2000), Levine (2001), Bekaert et al. (2001) and Beck and Levine (2002). This empirical literature supports the hypothesis that there is a relationship between stock markets and banks and economic growth.

Realizing the economic importance of securities markets, the Amman Securities Market (ASM), Kuwaiti Stock Exchange (KSE), Muskat Securities Market (MSM) and the Saudi Stock Market (SSM) were established in 1978, 1983, 1988, and 1952 respectively⁵. In common with other stock exchanges, the objectives of the MSM include the followings:

1. The creation of opportunities for investing saving funds in securities.
2. The organization and control of the issue of securities in the primary market.
3. The organization of the transfer of ownership in the secondary market.

In Table 1, we report the size of all Arab stock exchanges in terms of the total number of listed companies, market capitalization and the ratio of market capitalization to GDP.

INSERT TABLE 1 HERE

⁵The SSM started in 1952 with one company only and remained unregulated until the end of 1984. Following this period, the central bank (SAMA) became the regulatory body and entrusted trading in the listed securities to take place through the commercial banks.

The SSM is the largest in terms on market capitalization. However, when judged by the ratio of market capitalization to GDP, the ASM and the KSE rank second and respectively. With the exception of the stock market in Bahrain, all Arab stock exchanges have relatively low proportions of market capitalization to GDP. However, it is hoped that future years will witness an increase in this ratio.

The performance of all Arab stock exchanges is less impressive if we consider their trading activities on the secondary market. In common with other markets, for example, ten listed companies on the ASM account for more than 50% of the total trading volume. Moreover, if we consider the fact that about 6-8 companies only account for at least 50% of the capitalization of the whole market, we can state that the ASM (and other Arab stock markets) is a highly concentrated market in terms of both market value of listed companies and trading volume. Similarly, by the end of the year 2001 the top ten listed Kuwaiti companies in terms of market capitalization accounted for about 55.5 percent of the market capitalization of all listed companies.

IV. The Data and Methodology

All listed non-financial companies are considered for inclusion in our samples of companies. However, depending on the availability of the data, our final samples of companies consist of 51 Jordanian companies, 30 Kuwaiti companies, 38 Omani companies and 29 Saudi Arabian companies. Although the number of companies is not high, the sample of Jordanian, Kuwaiti, Omani and Saudi companies account for about 60 percent, 90 percent, 85 percent and 95 percent of all listed non-financial companies on the ASM, KSE, MSM, and SSM respectively. Moreover, the fact that the included companies are the largest in each market, the numbers of the selected companies should not be considered as a shortcoming of the study since the analysis will be based on the most representative samples possible of each capital markets.

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 liabilities. Similarly, the explanatory variables that could be collected are measures of company size, profitability, liquidity, tangibility, and growth prospects⁶.

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

Liquidity= Current assets divided by current liabilities

Tangibility = Book value of fixed assets to total assets

Growth Prospects = Market value of equity to the book value of equity

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

⁶ The fact that listed Kuwaiti companies do not pay taxes (corporate tax rate is equal to zero), we exclude the tax variable from our analysis.

- H₁: The levels of leverage (1) and leverage (2) are positively related to company size.
H₂: The levels of leverage (1) and leverage (2) are negatively related to profitability.
H₃: The levels of leverage (1) and leverage (2) are negatively related to liquidity.
H₄: The levels of leverage (1) and leverage (2) are positively related to the level of tangibility.
H₅: The levels of leverage (1) and leverage (2) are negatively related to the level of growth opportunities.

In other words, we estimate the following model for each of our samples of companies:

$$\text{Leverage}_{it} = \beta_1 + \beta_2 \text{Size}_{i,t} + \beta_3 \text{Profitability}_{i,t} + \beta_4 \text{Liquidity}_{i,t} + \beta_5 \text{Tangibility}_{i,t} + \beta_6 \text{Growth Prospects}_{i,t} + \mu_i + \varepsilon_{i,t} \quad (1)$$

where μ is used to capture the unobserved individual effects (either fixed or random), and ε is the error term, which represents measurement errors in the independent variables, and any other explanatory variables that have been omitted, and all other variables as defined above.

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).

V. Patterns and Determinants of Capital Structure: The Empirical Evidence

In Table 2 we report summary statistics for the two measures of leverage. If we examine these Tables, we can make the following observations.

INSERT TABLE 2 HERE

First, based on the first measure of leverage (total liabilities divided by total assets), the reported mean ratios are relatively low. For example, the mean ratio of 0.377 (Jordan), 0.327 (Kuwait), 0.463 (Oman) and 0.261 (Saudi Arabia) are much lower than the 0.58 (US), 0.69 (Japan), 0.73 (Germany), or the 0.54 (UK) reported by Rajan and Zingales (1995). Second, while the Jordanian, Omani and Kuwaiti companies are subject to a 35 percent, 10 percent and zero percent tax rates respectively, these differences (in tax rates) are not reflected in their leverage ratios. For example, Jordanian companies that are subject to the highest tax rate do not hold significantly higher leverage than their Kuwaiti counterparts. Indeed, it is the Omani companies that hold significantly higher leverage ratios than the Jordanian companies.

As far as the second measure of leverage (long-term debt divided by total assets) is concerned, we can see that its mean values are consistently very low. “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 $\frac{3}{4}$ of debt of US corporates is long term, while in Germany the ratio is 0.55” (Claessens et al., 1998, p.11). Based on the mean values of long-term debt to total assets (5.4 percent in Jordan, 8 percent in Kuwait, 13 percent in Oman and 9 percent in Saudi Arabia), we can state that Jordanian, Kuwaiti, Omani and Saudi Arabian companies have extremely low values of long- term debt in their respective capital structures. Again, while this observation is interesting in its own right, it must be noted that it is the Jordanian companies that hold the lowest mean value of long-term debt. This is surprising given the fact that they are subjected to the highest tax rates and have achieved a 3.3 percent mean return on their assets during the time period 1996-2001. Finally, if we examine Table 2, we can see that the standard deviations of the second measure of leverage (long-term debt divided by total assets) are consistently lower than the first measure of leverage (total liabilities divided by total assets). This observation implies that companies in every stock market do not reflect large differences in their long-term debt holdings.

In Table 3 we report some descriptive statistics for the independent variables used in the empirical analysis. Based on the reported values, we can make the following comments.

INSERT TABLE 3 HERE

First, the performance of the Kuwaiti companies (mean of 6.3 percent) is much higher than their Jordanian, Omani and Saudi counterparts. This is perhaps due to the relatively large portfolio investments that the Kuwaiti companies keep. For example, during the period 1996-2001 our sample of Kuwaiti companies held an annual mean value of 29.58 percent of their total assets in the form of portfolio investments. Moreover, the mean annual return that these companies achieved on their portfolio investments (as a proportion of total assets) was equal to 53.74 percent. The mean annual return from their “principle” economic activities, on the other hand, was equal to 3.91 percent only. In other words, it seems that the Kuwaiti companies finance their principle economic activities from the local money and capital markets and their “excess” cash is invested in foreign portfolios. This practice makes sense given the fact that the mean annual interest rate (1996-2001) on borrowed funds was equal to 8.79 percent (Institute of Banking Studies, Kuwait).

Second, the ratio of fixed assets to total assets (tangibility) among the Kuwaiti sample of companies is significantly lower than their counterparts in the other countries. Again, this observation is not surprising given the fact that during the period 1996-2001, our sample of Kuwaiti companies kept an annual mean of 29.58 percent of their total assets in the form of portfolio investments. Finally, the sample of Kuwaiti companies has a mean liquidity ratio of 3.815 and this is significantly higher than the ratios held by companies in Jordan, Oman and Saudi Arabia. As argued above, this is due to the fact that the Kuwaiti companies hold unusually high proportions of their assets in the form of portfolio investments.

The estimation results of model 1 are presented in Tables 4-11. Tables 4-7 report the determinants of total liabilities as a proportion of total assets while Tables 8-11 report the determinants of long-term debt as a proportion of total assets. Based on the reported results, we can make a number of observations.

INSERT TABLE 4 HERE

INSERT TABLE 5 HERE

INSERT TABLE 6 HERE

INSERT TABLE 7 HERE

INSERT TABLE 8 HERE

INSERT TABLE 9 HERE

INSERT TABLE 10 HERE

INSERT TABLE 11 HERE

First, as far as the estimated results of total liabilities and long-term debt are concerned, the F-statistic and Hausman test results indicate that the appropriate estimation model for the Jordanian, Kuwaiti and Omani (Saudi Arabian) companies is the random-effects model (fixed-effects) which takes the cross-section specific constant terms as being randomly different across the cross-sectional units.

Second, the size of firms (measured by the logarithm of sales) is positive and statistically significant. In the case of the Jordanian, Kuwaiti and Saudi companies, the size of this coefficient is equal to +0.151, +0.130 and 0.342 respectively. In other words, larger firms might be more diversified and fail less often. To the extent that this is the case, small firms are expected borrow less than large firms. Moreover, the informational asymmetries tend to be less severe for larger firms than for smaller firms and hence, large firms find it easier to raise debt finance. While the coefficient of company size is positive (0.048), it is not significant in the case of the Omani companies. In other words, this observation might indicate the absence of informational asymmetries difference between large and small companies.

Third, the variable profitability has a negative and significant sign in all samples of companies (-0.545, -0.484, -0.303 and -0.156 for the Jordanian, Kuwaiti, Omani and Saudi companies respectively). This result, it can be argued, supports Myer's pecking order theory. This theory argues that external finance is costly and firms prefer to rely on internal sources of finance. Moreover, the negative relationship between leverage and profitability is consistent with the underdeveloped bonds market in all markets.

Fourth, the fact that the coefficient of liquidity is consistently negative (albeit small) and significant in all cases indicates that raising external capital in all countries is likely to be expensive and hence companies with high liquidity tend to avoid raising external loan capital.

Fifth, the coefficient of tangibility is positive and significant in the case of the Jordanian companies only. 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. In addition, it can be argued that the insignificant coefficient of tangibility in the case of Kuwaiti and Omani companies is probably due to the unusually high proportions of portfolio investments that they keep and or banking lending policies.

In other words, the issue of tangibility is less important for Kuwaiti and Omani banks when they consider loan applications. The coefficient of tangibility is negative and significant in the case of the Saudi companies. This result indicates that our sample of Saudi companies do not attempt to match the maturity of their assets and liabilities. Moreover, it is important to point out that the mean ratio of cash to total assets of our sample of Saudi companies is equal to 8.83 percent. In other words, it is probably the case that these “large” cash holdings make banks pay less attention to the value of collateralized assets. Moreover, it is likely that a certain percentage of the total liabilities are provided to companies from “Islamic” sources where fixed assets have no importance in the lending activity of banks (islamic).

Finally, the growth opportunity variable is not significant in the Jordanian case and significant (positive) in the Kuwaiti and Omani cases. This might imply that Kuwaiti and Omani companies with growth opportunities tend to have high leverage ratios. In other words, it is probably the case that companies with good investment (growth) opportunities are not really worried about their leverage (higher) ratios because they feel they can get the debt finance whenever they need it. Relative to the Jordanian result, it must be pointed out that the market value of equity to the book value of equity is a “good” proxy measure of growth opportunity in markets that price securities efficiently. A look at Table (3), one can clearly see that the measure of market – to – book ratio is relatively low (1.075). This is probably why the coefficient of this variable is not significant as other explanatory variables.

As far as the determinants of long-term debt to total assets are concerned (Tables 8-11), the results do not show much difference. However, it is very interesting to note the signs of the coefficients of size and tangibility. In the Jordanian case, while the coefficients of size and tangibility are positive, their respective magnitudes are smaller in the case of long-term debt. In other words, banks are less reluctant to lend companies long-term debt irrespective of their size and tangible assets. Similarly, in the case of Kuwaiti and Omani companies, the coefficient of tangibility becomes significant and positive when we consider long-term debt. In other words, it seems that Kuwaiti and Omani banks place more emphasis on borrowings companies’ tangibility when they provide them with long-term debt finance.

VI. Summary and Conclusions

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. In this respect, a crucial issue is to examine and understand how firms in developing countries finance their activities. Indeed, the finance literature contains a large number of theoretical and empirical papers that examine the capital structure of corporations. However, most of the literature analyzes the capital structure of companies operating in developed economies.

Modigliani and Miller’s classic paper (1958) illustrated that the value of companies are independent from their financial structures under a number of assumptions. These include the absence of transaction costs, bankruptcy costs and taxes, equality of borrowing and lending rates and finally the productive activity of the firm is independent of its financing decisions. This work led to the formulation of the trade-off theory, the pecking order theory and the agency theory. These theories point out a number of firm-specific factors that may affect the capital structure choice of firms.

This paper examines the nature and determinants of the capital structure choice of Jordanian, Kuwaiti, Omani and Saudi non-financial listed companies. The main objective of the paper is to provide answers to the following three questions. First, what is the capital structure choice of Jordanian, Kuwaiti, Omani and Saudi companies? Second, given the fact that the listed Jordanian and Omani companies are subject to positive tax rates, Kuwait companies do not pay taxes and that Saudi companies pay Zakat on their profits, do their corporate financial structure decisions reflect any significant differences? Third, is the explanatory power of main - stream capital structure theories applicable to Jordanian Kuwaiti, Omani and Saudi companies?

Based on the time period 1996-2001, the results indicate that Jordanian, Kuwaiti, Omani and Saudi companies have quite low leverage ratios. In addition, while the Jordanian, Omani and Kuwaiti companies are subject to a 35 percent, 10 percent and zero percent tax rates respectively, these differences (in tax rates) are not reflected in their leverage ratios. For example, Jordanian companies that are subject to the highest tax rate do not hold significantly higher leverage than their Kuwaiti counterparts. Indeed, it is the Omani companies that hold significantly higher leverage ratios than the Jordanian companies. Similarly, base on the mean values of long-term debt to total assets (5.4 percent in Jordan, 8 percent in Kuwait, 13 percent in Oman and 9 percent in Saudi Arabia), we can state that Jordanian, Kuwaiti, Omani and Saudi Arabian companies have extremely low values of long- term debt in their respective capital structures. Again, while this observation is interesting, it must be noted that it is the Jordanian companies that hold the lowest mean value of long-term debt. This is surprising given the fact that they are subjected to the highest tax rates and have achieved a 3.3 percent mean return on their assets during the time period 1996-2001. In other words, these results imply that the tax structure in the four Arab countries (Jordan, Kuwait, Oman and Saudi Arabia) do not have a significant impact on the difference between the capital structure of the listed non-financial companies. Finally, the empirical results indicate that the financing decisions of Jordanian, Kuwaiti, Omani and Saudi Arabian companies can be explained by the determinants suggested by main – stream corporate finance models.

Based on the results of this paper, it would be most useful to contact a sample of the listed companies in each country to find answers to a number of questions including the followings: First, why do Jordanian, Omani and Kuwaiti companies not borrow more long- term debt? Do they have a choice? Why borrow more long-term? Does it improve their returns on equity? Are some managers consistently more risk averse than other managers? Indeed, the fact that the mix of funds affects the cost and availability of capital and thus, firms' real decisions about investment, production, and employment (Pagano, 1993; Zwiebel, 1996; Boyd and Smith, 1998; Biais and Casamatta, 1999; Shin and Stulz, 2000; and Yanagawa, 2000), it is important to examine the financial structure of companies in the Arab World, and where possible, to suggest some remedial measures. Finally, as the availability and quality of Arab stock markets' data - bases become more widely available and improve in quality, it is hoped that in – depth empirical research, that includes additional variables to those used in this paper, about the capital structure of Arab companies will be carried out. This should improve our understanding of corporate financial decisions in the Arab world.

Bibliography

Antoniou, A., Guney, Y. and Paudyal, K. 2002. "Determinants of Corporate Capital Structure: Evidence From European Countries." Centre for Empirical Research in Finance, Department of Economics and Finance, University of Durham.

Atje, R. and Jovanovic, B. 1993. "Stock Markets and Development." *European Economic Review* 37: 632-640.

Balla, A. and Mateus, C. 2002. "An Empirical Research on Capital Structure Choices." University of Pecs / Faculty Business and of Economics Working Paper, Hungary.

Barclay, M., Smith, C. and Watts, R. 1995. "The Determinants of Corporate Leverage and Dividend Policies." *Journal of Applied Corporate Finance* 7: 4-19.

Barro, R. 1996. "Democracy and Growth." *Journal of Economic Growth* 1: 1-27.

Beck, T., and Levine, R. 2002. "Stock Markets, Banks, and Growth: Panel Evidence." Working Paper 9082. NBER.

Bekaert, G. Harvey, C. and Lundblad, C. 2001. "Does Financial Liberalization Spur Growth?." mimeo.

Bencivenga, V. and Smith, B. 1991. "Financial Intermediation and Endogenous Growth." *Review of Economic Studies* 58: 195-209.

Bencivenga, V. Bruce, S. and Starr, R. 1995. "Transaction Costs, Technological Choice, and Endogenous Growth." *Journal of Economic Theory* 67: 53-117.

Bevan, A. and Danbolt, J. 2000. "Capital Structure and its Determinants in the United Kingdom: A Decompositional Analysis." Working Paper, University of Glasgow, mimeo.

Bhagwati, J. 1988. "Export-Promoting Trade Strategy: Issues and Evidence." *The World Bank Research Observer* 3: 27-57.

Bhide, A., 1993, The hidden costs of stock market liquidity, *Journal of Financial Economics* 34, 1-51.

Biais, B. and Casamatta, C. 1999. "Optimal Leverage and Aggregate Investment." *Journal of Finance* 54: 1291-1323.

Booth, L., Aivazian, Demirguc – Kunt, A., and Maksimovic, V. 2001. "Corporate Structures in Developing Countries." to be Published in the *Journal of Finance*.

Borner, S., A. Brunetti, and Weder, B. 1995. *Political Credibility and Economic Development*. New York: St. Martin's Press.

- Boyd, J. and Prescott, E. 1986. "Financial Intermediary-Coalitions." *Journal of Economics Theory* 38: 211-232.
- Boyd, J. and Smith, B. 1998. "The Evolution of Debt and Equity Markets in Economic Development." *Economic Theory* 12, 519-60.
- 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.
- Brealey, R., and Myers, S., 1996. *Principles of Corporate Finance*, 5th International Edition, McGraw Hill.
- Brunetti, A., G. Kisunko, and Weder, B. 1998. "Credibility of Rules and Economic Growth: Evidence From a Worldwide Survey of the Private Sector." *The World Bank Economic Review* 12, 353-384.
- 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.
- Chung, K. 1993. "Asset Characteristics and Corporate Debt Policy: An Empirical Investigation." *Journal of Business Finance and Accounting* 20, 83-98.
- 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.
- Clague, C., P. Keefer, S. Knack, and Olsen, M. 1996. Property and Contract Rights in Autocracies and Democracies." *Journal of Economic Growth* 1, 243-276.
- Collier, P. 1999. "On the Economic Consequences of Civil War." *Oxford Economic Papers* 51, 168-183.
- Dawson, J. 1998. "Institutions, Investment and Growth: New Cross-Country and Panel Data Evidence." *Economic Inquiry* 36, 603-619.
- Demirguc - Kunt, A., and Maksimovic, V. 1996. "Institutions, Financial Markets and Firm Debt Maturity." *World Bank Policy Research Paper* 1686, World Bank, Washington DC.
- Demirguc-Kunt, A. and Levine, R. 2001. "Financial Structures and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development." Cambridge, MA: MIT Press.
- Easterly, W. and Levine, R. 1997. "Africa's Growth Tragedy: Policies and Ethnic Divisions." *Quarterly Journal of Economics* 112, 1203-1250.

- Frank, M. and Goyal, T. 2002, Testing the Pecking Order Theory of Capital Structure.” Forthcoming, *Journal of Financial Economics*.
- Frankel, J. and Romer, D. 1999. Does Trade Cause Growth?.” *The American Economic Review* 89, 379-399.
- Goldsmith, R. 1969. *Financial Structures and Development*, Yale University Press.
- Gonenc, H. 2003. “Capital Structure Decision Under Micro Institutional Changes: The Case of Turkey.” The European Financial Management Association Conference, Finland.
- Gurley, J. and Shaw, E. 1955. “Financial Aspects of Economic Development.” *American Economic Review* 45, 515-537.
- Harris, M., and Raviv, A. 1991. “The Theory of Capital Structure.” *Journal of Finance*, 46, 297-355.
- Harris, R. 1997. “Stock Markets and Development: A Re-Assessment.” *European Economic Review* 41, 139-146.
- Huang, F., and Song, F. 2002. “The Determinants of Capital Structure: Evidence From China.” University of Hong Kong Working Paper.
- Huybens, E. and Smith, B. 1999. “Inflation, Financial Markets, and Long-Run Real Activity.” *Journal of Monetary Economics* 43, 83-315.
- Inglehart, R. 1994. “The Impact of Culture on Economic Development: Theory, Hypotheses, and Some Empirical Tests.” Department of Political Science, University of Michigan, Ann Arbor.
- Jappelli, T. and Pagano, M. 1994. “Savings, Growth and Liquidity Constraints.” *Quarterly Journal of Economics* 109, 83-109.
- Kester, V. 1986. “Capital and Ownership Structure: A Comparison of United States and Japanese Manufacturing Corporations.” *Financial Management*, 5-16.
- King, R. and Levine, R. 1993a. “Finance and Growth: Schumpeter Might Be Right.” *Quarterly Journal of Economics* 108, 717-738.
- King, R. and Levine, R. 1993b. “Finance, Entrepreneurship, and Growth: Theory and Evidence.” *Journal of Monetary Economics* 32, 513-542.
- Knack, S. and Keefer, P. 1997. “Why Don’t Poor Countries Catch Up? A Cross-National Test of an Institutional Explanation.” *Economic Inquiry* 35, 590-602.

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 Deutsche Bundesbank and the Banque de France, SSRN Working Paper.

Lasfer, M. 1999. "Debt Structure, Agency Costs and Firm's Size: An Empirical Investigation." City University Business School Working Paper.

Levine, R. 1997. "Financial Development and Economic Growth." *Journal of Economic Literature* 35, 688-727.

Levine, R. and Zervos, S. 1998. "Stock Markets, Banks and Economic Growth." *American Economic Review* 88, 537-568.

Levine, R. 1998. "The Legal Environment, Banks, and Long-Run Economic Growth." *Journal of Money, Credit, and Banking* 30, 596-613.

Levine, R. 1999. "Law, Finance, and Economic Growth." *Journal of Financial Intermediation* 8, 36-67.

Levine, R., L. Norman, and Beck, T. 2000. "Financial Intermediation and Growth: Causality and Causes." *Journal of Monetary Economics* 46, 31-77.

Levine, R. 2001. "Napoleon, Bourses, and Growth: With a Focus on Latin America." in *Market Augmenting Government*, Eds. Azfar, O. Cadwell, C. and Arbor, A., MI: University of Michigan Press.

Maghyereh, A. and Omet, G. 2003. "The Capital Structure Choice and Financial Markets Liberalization: Evidence From the Small Developing Country of Jordan." *Working Paper*, Dept. of Banking & Finance, The Hashemite University, Jordan.

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.

Mauro, P. 1995. "Corruption and growth, *Quarterly Journal of Economics* 110, 681-712.

McKinnon, R. 1973. *Money and Capital in Economic Development*. Brookings Institution: Washington D.C.

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.

Mira, F. 2001. "On Capital Structure in the Small and Medium Enterprises: The Spanish Case." *Working Paper*, Faculty of Social Sciences, University of Cardenal Herera.

Modigliani, F., and Miller, M. 1958. "The Cost of Capital, Corporation Finance, and the Theory of Investment." *American Economic Review* 48, 261-297.

Modigliani, F., and Miller, M. 1963. "Corporate Income Taxes and the Cost of Capital – A Correction." *American Economic Review* 53, 433-443.

Mutenheri, E., and Green, C. 2002. "Financial Reform and Financing Decisions of Listed Firms in Zimbabwe." Department of Economics, Loughborough University Working Paper.

Myers, S. 1977. "Determinants of Corporate Borrowing." *Journal of Financial Economics* 5, 147-175.

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.

Omet, G., and Nobanee, H. 2001. "The Capital Structure of Listed Industrial Companies in Jordan." *Arab Journal of Administrative Sciences* 8, 273-288.

Ozkan, A. 2001. "Determinants of Capital Structure and Adjustment to Long Run Target: Evidence from UK Company Panel Data." *Journal of Business Finance and Accounting* 28, 175-198.

Pagano, M. 1993. "Financial Markets and Growth: An Overview." *European Economic Review*, 37,613-22.

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.

Perotti, R. 1996. "Growth, Income Distribution, and Democracy: What the Data Say." *Journal of Economic Growth* 1, 149-187.

Prasad, S., Green, C., and Murinde, V. 2001. "Company Financing, Capital Structure, and Ownership." SUERF Study No. 12, Vienna, SUERF.

Rajan, R., and Zingales, L. 1995. "What Do we Know About Capital Structure? Some Evidence From International Data." *Journal of Finance* 50, 1421-1460.

Rousseau, P. 1998. "The Permanent Effects of Innovation on Financial Depth: Theory and US Historical Evidence From Unobservable Components Models." *Journal of Monetary Economics* 42, 387-425.

Rousseau, P. and Wachtel, P. 2000. "Equity Markets and Growth: Cross-Country Evidence on Timing and Outcomes, 1980-1995." *Journal of Business and Finance* 24, 1933—1957.

- Savvides, A. 1995. "Economic Growth in Africa." *World Development* 23, 449-458.
- Scully, G. 1988. "The Institutional Framework and Economic Development." *Journal of Political Economy* 96, 652-662.
- Shaw, E. 1973. *Financial Deepening in Economic Development*. Oxford University Press: New York.
- Shin, H. and Stulz, R. 2000. "Firm Value, Risk, and Growth Opportunities." Working Paper, University of New York at Buffalo, mimeo.
- Singh, A. and Hamid, J. 1992. "Corporate Financial Structures in Developing Countries." *IFC Technical Paper* No. 1, Washington D.C.
- Singh, A. 1995. "Corporate Financial Patterns in Industrializing Economies: A Comparative Study." *IFC Technical Paper* No. 2, Washington D.C.
- Stiglitz, J. 1985. "Credit Markets and the Control of Capital." *Journal of Money, Credit and Banking* 17, 133-152.
- Taub, A. 1975. "Determinants of the Firm's Capital Structure." *Review of Economic Studies* 57, 410-16.
- Titman, S., and Wessels, R. 1988. "The Determinants of Capital Structure Choice." *Journal of Finance* 43, 1-19.
- Wachtel, P. and Rousseau, P. 1995. "Financial Intermediation and Economic Growth: A Historical Comparison of the United States, United Kingdom, and Canada." in *Anglo-American Financial Systems*, Eds. Bordo, M. and Sylla, R. Homewood, IL: Business One Irwin.
- White, H. 1980. "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity." *Econometrica* 48, 817-38.
- Yanagawa, N. 2000. "Long-Term Investments and Financial Structure." *International Review of Finance* 1, 39-51.
- Zweibel, J. 1996. "Dynamic Capital Structure Under Management Entrenchment." *American Economic Review* 86, 1197-1215.

Table 1
Stock Markets in the Arab World
(2002)

Stock Market	No. of Companies	Market Capitalization (Million Dollars)	Market Capitalization to GDP
Bahrain	41	6624.35	0.83
Egypt	1071	30791.26	0.32
Jordan	163	4943.16	0.59
Kuwait	86	19847.98	0.53
Lebanon	13	1582.50	0.10
Morocco	54	10875.84	0.33
Oman	131	3518.13	0.18
Saudi Arabia	75	67166.04	0.39
Tunisia	44	2809.12	0.14
Total	1678	148158.37	0.36

Table 2
Descriptive Statistics (Dependent Variable)
(1996-2001)

Leverage (1) is equal to total liabilities divided by total assets and leverage (2) is equal to long-term debt divided by total assets.

	Jordan		Kuwait		Oman		S. Arabia	
	Lev (1)	Lev (2)	Lev (1)	Lev (2)	Lev (1)	Lev(2)	Lev (1)	Lev(2)
Mean	0.377	0.054	0.327	0.080	0.463	0.128	0.261	0.090
Median	0.356	0.007	0.275	0.033	0.479	0.088	0.234	0.057
Maximum	0.976	0.440	0.881	0.577	1.255	0.528	1.253	0.911
Minimum	0.042	0.000	0.056	0.000	0.056	0.000	0.000	0.000
St. Deviation	0.194	0.084	0.200	0.099	0.215	0.118	0.211	0.121
Skewness	0.916	2.019	0.697	2.051	0.083	0.902	1.346	2.403
Kurtosis	3.665	7.371	2.659	7.833	2.705	3.209	5.920	13.163
Jarque-Bera	40.36 (0.000)	376.30 (0.000)	12.97 (0.002)	247.85 (0.000)	0.91 (0.635)	26.16 (0.000)	133.47 (0.000)	1069.04 (0.000)

Table 3
Descriptive Statistics (Explanatory Variables)
(1996-2001)

Size is equal to the natural logarithm of sales. Profitability is equal to earnings before interest and tax divided by the book value of total assets. Liquidity is equal to current assets divided by current liabilities. Tangibility is the ratio of the book value of fixed assets to total assets Growth prospects is proxied by the ratio of the market value of equity to the book value of equity. *significant at the 1% level.

Jordan	Size	Profitability	Liquidity	Tangibility	Growth Opportunity
Mean	6.861	0.033	2.674	0.437	1.075
Median	6.767	0.030	1.849	0.453	0.903
Maximum	8.772	0.671	58.447	0.871	3.982
Minimum	4.857	-0.339	0.287	0.019	0.143
St. Deviation	0.640	0.096	4.241	0.200	0.671
Jarque-Bera	29.035 (0.000)	673.641 (0.000)	149833 (0.000)	8.833 (0.000)	36.996 (0.000)
Kuwait					
Mean	6.986	0.063	3.815	0.256	2.121
Median	6.868	0.064	2.651	0.248	1.857
Maximum	8.360	0.274	13.451	0.893	8.098
Minimum	4.663	-0.466	0.316	0.000	0.496
St. Deviation	0.607	0.105	3.062	0.207	1.291
Jarque-Bera	1.666 (0.435)	141.612 (0.000)	32.502 (0.000)	16.555 (0.000)	229.397 (0.000)
Oman					
Mean	6.540	0.057	2.533	0.402	1.584
Median	6.605	0.047	1.384	0.402	1.519
Maximum	7.713	0.356	26.620	0.981	4.869
Minimum	4.727	-0.283	0.005	0.004	0.200
St. Deviation	0.568	0.077	3.603	0.238	0.788
Jarque-Bera	22.347 (0.000)	165.277 (0.000)	3369.330 (0.000)	5.944 (0.051)	7.002 (0.000)
Saudi Arabia					
Mean	5.863	0.052	2.355	0.719	-
Median	5.987	0.033	1.818	0.754	-
Maximum	7.953	0.255	9.398	0.995	-
Minimum	4.805	-0.312	0.036	0.227	-
St. Deviation	0.609	0.084	1.727	0.178	-
Jarque-Bera	51.839 (0.000)	88.793 (0.000)	156.152 (0.000)	18.465 (0.000)	-

Table 4
Regression Model Estimates: Jordanian Companies Total Liabilities

Leverage_{it} = $\beta_1 + \beta_2 \text{Size}_{i,t} + \beta_3 \text{Profitability}_{i,t} + \beta_4 \text{Liquidity}_{i,t} + \beta_5 \text{Tangibility}_{i,t} + \beta_6 \text{Growth Prospects}_{i,t} + \mu_i + \varepsilon_{i,t}$ 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.

	OLS	Fixed-Effect	Random-Effect
Constant	-0.783 (-8.097*)	-	-0.699 (-4.623*)
Size	0.165 (12.175*)	0.117 (3.023*)	0.151 (7.154*)
Profitability	-0.934 (-9.586*)	-0.408 (-4.621*)	-0.545 (-6.416*)
Liquidity	-0.012 (-5.891*)	-0.005 (-3.177*)	-0.006 (-3.904*)
Tangibility	0.137 (3.089*)	0.012 (0.126)	0.130 (2.105**)
Growth Opportunity	0.031 (2.280**)	0.027 (1.675***)	0.018 (1.279)
Adjusted R ²	0.523	0.844	0.867
F-statistic	56.789 (0.000)	357.931 (0.000)	
Hausman Test			2.242 (0.326)

Table 5
Regression Model Estimates: Kuwaiti Companies Total Liabilities

Leverage_{it} = $\beta_1 + \beta_2 \text{Size}_{i,t} + \beta_3 \text{Profitability}_{i,t} + \beta_4 \text{Liquidity}_{i,t} + \beta_5 \text{Tangibility}_{i,t} + \beta_6 \text{Growth Prospects}_{i,t} + \mu_i + \varepsilon_{i,t}$ 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.

	OLS	Fixed-Effect	Random-Effect
Constant	-0.298 (-1.652***)	-	-0.599 (-2.219**)
Size	0.106 (4.329*)	0.166 (3.541*)	0.130 (3.553*)
Profitability	-0.834 (-4.630*)	-0.304 (-3.531*)	-0.486 (-4.487*)
Liquidity	-0.028 (-4.132*)	-0.009 (-4.123*)	-0.014 (-3.685*)
Tangibility	-0.246 (-4.357*)	0.175 (1.219)	-0.122 (-1.205)
Growth Opportunity	0.049 (4.143*)	0.064 (6.783*)	0.061 (7.016*)
Adjusted R ²	0.579	0.931	0.948
F-statistic	25.503 (0.000)	310.445 (0.000)	
Hausman Test			4.306 (0.116)

Table 6
Regression Model Estimates: Omani Companies Total Liabilities

Leverage_{it} = $\beta_1 + \beta_2 \text{Size}_{i,t} + \beta_3 \text{Profitability}_{i,t} + \beta_4 \text{Liquidity}_{i,t} + \beta_5 \text{Tangibility}_{i,t} + \beta_6 \text{Growth Prospects}_{i,t} + \mu_i + \varepsilon_{i,t}$ 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.

	OLS	Fixed-Effect	Random-Effect
Constant	0.499 (2.799*)	-	0.123 (0.490)
Size	-0.001 (-0.019)	0.134 (2.583*)	0.048 (1.281)
Profitability	-0.776 (-3.564*)	-0.244 (-1.771*)	-0.303 (-2.697*)
Liquidity	-0.033 (-5.201*)	-0.019 (-8.137*)	-0.021 (-7.198*)
Tangibility	-0.057 (-0.913)	0.106 (0.467)	0.036 (0.515)
Growth Opportunity	0.075 (4.167*)	0.051 (4.869*)	0.052 (4.932*)
Adjusted R ²	0.418	0.849	0.839
F-statistic	28.158*	277.055*	
Hausman Test			7.407 (0.025)

Table 7
Regression Model Estimates: Saudi Arabian Companies Total Liabilities

Leverage_{it} = $\beta_1 + \beta_2 \text{Size}_{i,t} + \beta_3 \text{Profitability}_{i,t} + \beta_4 \text{Tangibility}_{i,t} + \beta_5 \text{Liquidity}_{i,t} + \mu_i + \varepsilon_{i,t}$ 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.

	OLS	Fixed-Effect	Random-Effect
Constant	0.462 (4.580*)	-	0.163 (0.904)
Size	0.048 (4.036*)	0.342 (2.415*)	0.080 (2.763*)
Profitability	-0.433 (-3.189*)	-0.156 (-1.149*)	-0.261 (-2.245**)
Tangibility	-0.459 (-7.389*)	-0.346 (-2.310*)	-0.376 (-6.535*)
Liquidity	-0.056 (-10.449*)	-0.031 (-3.872*)	-0.038 (-8.196**)
Adjusted R ²	0.518	0.791	0.771
F-statistic	55.374*	265.387*	
Hausman Test			12.320 (0.002)

Table 8
Regression Model Estimates: Jordanian Companies Long-Term Debt

Leverage_{it} = $\beta_1 + \beta_2 \text{Size}_{i,t} + \beta_3 \text{Profitability}_{i,t} + \beta_4 \text{Liquidity}_{i,t} + \beta_5 \text{Tangibility}_{i,t} + \beta_6 \text{Growth Prospects}_{i,t} + \mu_i + \varepsilon_{i,t}$ 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.

	OLS	Fixed-Effect	Random-Effect
Constant	-0.521 (-9.186*)	-	-0.443 (-5.805*)
Size	0.077 (8.832*)	0.035 (1.989**)	0.067 (6.322*)
Profitability	-0.256 (-3.420*)	-0.149 (-2.886*)	-0.181 (-4.139*)
Liquidity	-0.002 (-7.604*)	0.001 (4.666*)	0.002 (2.135*)
Tangibility	0.109 (6.267*)	0.048 (0.928)	0.096 (3.056*)
Growth Opportunity	-0.001 (-0.071)	-0.003 (-0.594)	-0.004 (-0.559)
Adjusted R ²	0.412	0.752	0.794
F-statistic	36.592 (0.000)	206.802 (0.000)	
Hausman Test			1.859 (0.395)

Table 9
Regression Model Estimates: Kuwaiti Companies Long-Term Debt

Leverage_{it} = $\beta_1 + \beta_2 \text{Size}_{i,t} + \beta_3 \text{Profitability}_{i,t} + \beta_4 \text{Liquidity}_{i,t} + \beta_5 \text{Tangibility}_{i,t} + \beta_6 \text{Growth Prospects}_{i,t} + \mu_i + \varepsilon_{i,t}$ 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.

	OLS	Fixed-Effect	Random-Effect
Constant	-0.091 (-1.022)	-	0.023 (0.225)
Size	0.017 (1.446)	-0.006 (-0.439)	0.002 (0.162)
Profitability	-0.410 (-3.884*)	-0.225 (-2.283*)	-0.283 (-3.947*)
Liquidity	0.004 (0.879)	-0.006 (-2.296*)	-0.002 (-0.717)
Tangibility	0.035 (1.050)	0.141 (3.578*)	0.096 (2.380*)
Growth Opportunity	0.026 (2.220**)	0.017 (1.731**)	0.020 (3.634*)
Adjusted R ²	0.175	0.557	0.534
F-statistic	7.257 (0.000)	54.650 (0.000)	
Hausman Test			2.851 (0.251)

Table 10
Regression Model Estimates: Omani Companies Long-Term Debt

$Leverage_{it} = \beta_1 + \beta_2 Size_{i,t} + \beta_3 Profitability_{i,t} + \beta_4 Liquidity_{i,t} + \beta_5 Tangibility_{i,t} + \beta_6 Growth\ Prospects_{i,t} + \mu_i + \varepsilon_{i,t}$ 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.

	OLS	Fixed-Effect	Random-Effect
Constant	0.288 (2.686*)	-	0.129 (0.769)
Size	-0.034 (-2.302**)	0.046 (0.932)	-0.014 (-0.542)
Profitability	-0.326 (-3.403*)	-0.093 (-1.604)	-0.108 (-1.555)
Liquidity	-0.007 (-3.729*)	-0.006 (-3.506*)	-0.006 (-3.238*)
Tangibility	0.152 (3.516*)	0.175 (1.885**)	0.167 (3.714*)
Growth Opportunity	0.025 (2.229**)	0.027 (4.003*)	0.026 (4.039*)
Adjusted R ²	0.196	0.798	0.798
F-statistic	10.205*	197.161*	
Hausman Test			2.516 (0.284)

Table 11
Regression Model Estimates: Saudi Arabian Companies Long-Term Debt

$Leverage_{it} = \beta_1 + \beta_2 Size_{i,t} + \beta_3 Profitability_{i,t} + \beta_4 Tangibility_{i,t} + \beta_5 Liquidity_{i,t} + \mu_i + \varepsilon_{i,t}$ 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.

	OLS	Fixed-Effect	Random-Effect
Constant	-0.164 (-2.376*)	-	-0.339 (-2.554**)
Size	0.049 (5.017*)	0.392 (5.184*)	0.080 (3.752*)
Profitability	-0.302 (-3.261*)	-0.193 (-2.058**)	-0.256 (-2.936*)
Tangibility	0.027 (0.938)	-0.048 (-0.837)	-0.015 (-0.354)
Liquidity	-0.016 (-5.108*)	-0.004 (-1.104)	-0.007 (-2.075**)
Adjusted R ²	0.587	0.647	0.583
F-statistic	12.646*	133.931*	
Hausman Test			140.900 (0.000)