# Capital Structure of Insurance Companies in Bahrain

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**Abstract**

The impact of firm characteristics on the capital structure of the insurance industry in Bahrain is nowadays considered to be an important issue. Many insurance companies don't know what factors affect their capital structure, making ad-hoc, and sometimes inappropriate, decisions regarding their financial mix. We attempt to highlight the critical firm characteristics that managers should consider when setting their "optimal" capital structure.

Our study is based on a multiple linear regression analysis using *SPSS*. Each independent variable along with the dependent variable is measured separately for a sample of insurance companies in Bahrain for the period of 2005-2009.

Our research identifies a strong relationship between firm characteristics, such as (1) Tangibility of Assets, (2) Profitability, (3) Firm Size, (4) Revenue Growth, and (5) Liquidity, and observed capital structure, as represented by the Debt Ratio, although Profitability and Revenue Growth are not statistically significant and require further research.

**Keywords:** Optimal capital structure, Firm size, Firm value, Profitability, Growth, Liquidity, Debt ratio, Insurance sector

## 1. Introduction

### 1.1 Issue of the Study

Capital structure theory attempts to explain the financial mix used to finance corporations and firms. Capital structure decisions are essential for business survival and prosperity. If misjudgment occurs related to important financing decisions, the consequences may be devastating, such as financial distress, bankruptcy, or even liquidation. The recommended textbook strategy that management should follow is to lower (or minimize) the Weighted Average Cost of Capital (WACC). This will lead to increased profitability and returns, which will eventually translate in increased shareholder wealth. In short, financing decisions are critical in maximizing the value of the firm. Therefore, achieving the "best" capital structure is an elusive and tricky, yet critically important task that management must take very seriously.

The capital structure decision is of critical importance to organizations, because it affects firm value and stockholder's wealth. Indeed, recent empirical studies have confirmed that there is a significant relationship between firm value and its capital structure, which implies that capital structure affects financial performance and shareholder value.

Ideally, management would represent the interest of stockholders as their agents, and they are supposed to operate in their best interest. One of the thorniest issues in modern corporate governance is the well-known principle-agent problem. Managers of large organizations are continuously facing conflicts between firm value, stockholder's wealth maximization, other social and political goals, as well as their own personal welfare. They would divide their efforts in making the firm work hard enough to generate reasonable stockholder returns, while devoting the remainder of their efforts to public and personal service activities, employee benefits, and to higher executive salaries.

The issue of capital structure is commonly neglected in developing countries, such as Bahrain. The primary reason is that firms in those countries face major financing constraints, such as undeveloped bond markets and ineffective bank lending. It is important for developing countries to better understand their financial institutions and the nature of their funding sources. The importance of financial managers is steadily growing in these institutions. To assist them in fulfilling their goals, it is important to provide them with knowledge that relates to various determinants of financing. It would help financial managers to improve their financing decisions regarding their financing mix. By taking into account some key variables that affect their capital structure,

financial managers can better achieve their overall performance goals.

*1.2 Objectives and Scope of the Study*

This study attempts to determine how firms choose their capital structure, while considering many significant factors that might affect it in order to achieve their primary objective: maximizing value and shareholder wealth, while overcoming the conflict of interest between its shareholders and managers. Our particular goal here is to investigate the determinants of capital structure for insurance companies listed in the Bahrain Stock Exchange. We investigate specifically the effects of such firm characteristics as Liquidity, Profitability, Revenue Growth, Firm Size, and Tangibility of Assetson the capital structure of the firm.

These effects are currently considered an important issue in the insurance industry of Bahrain. Many insurance companies don't know explicitly the specific determinants that affect their capital structure, leading them to make ad-hoc decisions regarding their financial mix that are prone to error. Therefore, we attempt to clarify some of the key firm characteristics that managers need to consider when setting their "optimal" capital structure. Thus, our goal is to understand and isolate the effects of firm characteristics on the capital structure of insurance companies listed on the Bahrain stock exchange.

Our null statistical testing hypothesis is that there is no significant relationship between firm characteristics and capital structure. More specifically,there is no significant relationship between the Debt Ratio and (1) Tangible Assets, (2) Profitability, (3) Firm Size, (4)RevenueGrowth,and(5) Liquidity.

*1.3 Significance of the Study*

The significance of this study stems from the fact that various studies in Bahrain have investigated the determinants of capital structure only for *non-financial* firms in Bahrain. However, to the best of the authors' knowledge, no single study has focused on the financial sector, and especially the insurance sector, of Bahrain. As such, we believe that we fill an important gap in our understanding of capital structure decisions for insurance companies in the developing world. Such an understanding is important, because it equips financial managers with applied knowledge of determining their capital structure. From a theoretical point of view, it provides an important data point for comparing capital structure of insurance companies between developed and developing economies.

*1.4 Outline of the Study*

We proceed with some background information anda literature review on the subject; then we explain our variables and research methodology; after that we present our results and then draw conclusions and offer some recommendations.

## 2. Background

Here we highlight key elements of the Bahraini economy and describe some of its main industries. Then we focus on the Bahraini insurance industry. We conclude this section with a review of the relevant literature.

*2.1 The Bahraini Economy*

Bahrain offers unique features in the Middle East. It enjoys a stable economic climate and competitive costs. It has remarkably business-friendly culture, excellent regulatory framework, and supportive governmental policy. The government has consistently emphasized economic diversification in an effort very similar to that of Dubai. While Bahrain operates a wide variety of industries, government income comes mainly from its oil and gas industry. Bahrain was the first Gulf country to discover oil. "Oil and Gas" is considered a major industry that underpins the Bahraini economy. Oil production has been stabilized at about 40,000 barrels per day. Although the industry contributes about 10% of GDP, it provides the primary source of government income – about 75%.

The financial industry has become the most important in the economy. With stagnant oil and gas, it has provided the necessary impetus for economic growth. With a 30% share of GDP, it is the new driver of the economy. Modern Bahrain is considered to be the leading financial services hub in the Middle East, casually referred to as "the Switzerland of the Middle East". In addition, the Central Bank of Bahrain (CBB) is recognized as the region's preeminent financial regulator. In the Arab world, Bahrain is the acknowledged trendsetter in Islamic banking and finance; it was able to standardize the regulations of the Islamic banking industry, with 32 Islamic banks operating in commercial, investment, and lease banking.

*2.2 The Bahraini Insurance Sector*

Mid-East insurance makes up barely 1% of worldwide premiums. The two types of insurance in the Middle East are conventional insurance and Islamic insurance. Recently, the Bahraini insurance industry has been showing strong and steady double-digit growth, closely mirroring the growth of the whole financial sector. Bahrain takes pride in its business-friendly regulatory regime, providing a domicile for 165 insurance companies.

 In recent years Bahrain's gross domestic insurance premium has risen to US$308 million and is expected to surpass soon half a billion dollars. Although less than 3% of GDP comes from insurance, this is considered a high percentage for a GCC country. Bahrain hosts the Arab Insurance Group (ARIG), the representative body for the insurance industry in the Gulf. Many international insurers have chosen Bahrain as their regional base for developing their Mid-East operations. Throughout 2006 some of the biggest names in the insurance industry, such as AIG, ACE, Allianz Group, and Lloyd's brokers PWS, opened operations in Bahrain.

As the leader in Islamic finance, Bahrain pioneered Takaful regulations that are compliant with the standards of

the Accounting & Auditing Organisation for Islamic Financial Institutions. It provides the prerequisite regulatory framework necessary to support the growth and success of the Takaful business.

*2.3 Literature Review*

The concept of insurance is based on a risk transfer technique. In its simplest form, we are all familiar with insurance from our everyday life, whether car insurance, real estate insurance, or life insurance.   In order to transfer the risks, the insured has to pay a premium to the insurer. This premium is based on actuarial techniques that use statistical data, while actuarial statistics is a very well-developed field of mathematical finance. Basic theory of insurance is based upon the insurer spreading its risk over many clients, where some of them will sustain losses and make claims, but most of them will not. The insurer takes only part of the risk, while the other part is born by the insured in the form of 'excess' on the insurance policy.

To manage high-risk or correlated-risk insurance, insurers use an insurance pooling technique, where many insurance companies work in cooperation by joining their capital and sharing the risks. The reason behind this is that one company could not afford the risk of taking on high risk accounts, so this technique allows them to take higher level of coverage while spreading the risk (Chen et al. 2009).

History offers numerous theories on capital structure. The widely-recognized pioneers in this subject were Modigliani and Miller (1958, 1963). They examined the effects of specific variables on the relationship between capital structure and the firm's value and proposed that firms should employ as much debt as possible in order to add more value to the firm.

Jensen and Meckling (1976) developed the problem of "agency cost", which is now considered an important factor in determining capital structure. According to them, there are two types of conflicts leading to agency costs. The first is between shareholders and managers; the second – between lenders and shareholders. The agency problem assumes that firm's managers don't work to maximize shareholder wealth, but work to maximize their own benefits. They will also increase their own returns by transferring risks from shareholders to lenders. Thus, to discourage these "conflicts of interests", shareholders try to monitor and control their actions, which in turn results in "monitoring costs". Thus, in a sense, this creates a trade-off between agency costs and monitoring costs.

Later research suggested the Pecking Order and the Static Trade-off theories, which offered valuable extensions in the modern theory of capital structure (e.g. Myers and Majluf, 1984 and Myers, 1984). The Pecking Order Theory suggests that the firm should follow a specific hierarchy to finance its assets: the firm should always use first internally generated funds from retained earnings, then debt, and use equity capital only as a last resort. On the other hand, the Static Trade-off Theory suggests that attaining optimal capital structure requires balancing between the benefits and costs of debt. This theory is used to explain why corporations are usually financed with both debt and equity. According to the theory, the main benefit of debt is the tax shield, while the main cost of debt is the risk of financial distress, which includes bankruptcy costs and various non-bankruptcy costs, such as staff leaving, suppliers demanding disadvantageous payment terms, bondholder-stockholder infighting etc. As debt increases, its marginal benefit falls, while its marginal cost rises. According to the theory, optimality is achieved when the marginal benefits of debt equal its marginal costs. In other words, debt should be used as long as it marginal benefit exceeds its marginal costs, thus adding to shareholder value.

The Market-Timing Theory(Baker and Wurgler, 2002), provides a relatively new explanation to a well-known phenomenon in investment banking: managers carefully time the issue of their securities. Its essence is that financing decisions are based on the mispricing of corporate securities. The theory suggests that managers resort to issuing equity when they perceive the company's stock as overpriced. This effectively benefits current shareholders at the expense of new shareholders and lowers the cost of equity. According to this theory, the financing decision is guided by the managers' capability to time the market according to the relative cost of debt and equity, choosing to issue the more overpriced security.

One of the most important indicators of capital structure is the Debt Ratio. Voulgaris (2002) conducts a study that examines the determinants of capital structure of the industrial sector in Greece; he concludes that growth rates have no effect on the capital structure of large projects, while the Debt Ratio has a strong correlation with net profits. Khoig and Tran (2006) study the capital structure of small and medium-size enterprises in Vietnam. Their study depends on two factors: (1) the characteristics of the company and (2) management behavior, both of which play an important role in determining the debt ratio. They found that the relationship between company size and the debt ratio is clearer in public companies than in private companies, while profitability and asset structure do not have a clear effect on the Debt Ratio in Vietnamese companies.

Profitability can be defined in various ways. Don Hofstrand (2009) defines profitability as either Accounting Profits (Net Income) or Economic Profits. Accounting Profit provides a short-term perspective of business viability, while economic profits provide a longer-term perspective of the business. Several studies find a close correlation among capital structure, profitability, and growth. Cassar and Holmes (2003) examine the determinants of capital structure in small and medium enterprises, and more specifically, whether the characteristics of size, growth, and profitability can affect capital structure or not. They have suggested that profitability and growth play an important role in financing small and medium enterprises. Further on profitability and capital structure, Chen et al. (2004) have used the structural equation model (SEM) to test and verify the relationship among capital structure, risk, and profitability of the property insurance industry in

Taiwan.

Regarding firm size, most studies suggest that the larger the firm, the more debt it would use, and vice versa (Marsh, 1982; Bennett and Donnelly, 1993).

Nivorozhkin (2005) studied the relationship between the Debt Ratio and the ageing life of the firm. He predicted that the older the firm, the smaller the Debt Ratio. He reasons that an old and mature firm, surviving in the market for a long time, would be better able to accumulate sufficient retained earnings, so as to use mostly internal financing and render obsolete the need for external financing.

Liquidity means the ease of converting an asset to cash quickly. In broader terms, liquidity is the degree to which an asset is bought or sold in the market without causing any price movements in that asset (Anderson, 2002).The positive and negative aspects of liquidity have been studied by Myers and Rajan(1998). The advantage of asset liquidity is that it makes it possible for the firm to seize unexpected opportunities or to survive during periods of business distress. However, the disadvantage of liquidity is that it makes it hard to commit firm insiders to a given course of action; in essence, liquidity allows for flexibility, but relaxes management discipline by allowing more discretion.

Liquidity is an important issue to consider when setting capital structure. Kim, Mauer and Sherman (1998) have presented a theory regarding the choice of liquid assets when external financing is costly. They explain the key reason for holding liquid assets: it allows managers to pursue attractive future investment opportunities with internal funding without the need to alter their basic capital structure. Thus, liquidity allows for future expansion while maintaining a relatively stable capital structure close to the target level. Similar research related to corporate holding of liquid assets was conducted by Opler, Pinkowitz, Stulz, and Williamson (1999). Their research supports the previous results by Kim, Mauer and Sherman (1998).

Only one study has been conducted about the relationship between the Tangibility of Assets and the Debt Ratio. It is a very recent study, conducted in 2010, and was based on the insurance industry in Pakistan.   It shows that the larger the proportion of fixed assets within the firm, the easier it is to raise more debt at lower rates, as long as they pledge these fixed assets as collateral to the creditor. Thus, they conclude that Tangibility of Assets can increase the Debt Ratio.

## 3. Methodology

We discuss here our sample, population, and research methodology. Then we present the model specification and its variables. The sources of data for this study come mainly from a number of secondary sources,mostly online, including the Bahrain Stock Exchange, company guides, and data on the insurance sector. Extensive use has been made of annual reports and financial statements. The data is pooled into a coherent integrated dataset in order to perform statistical analysis with *SPSS*.

Whilethe total population of insurance companies in Bahrain is estimated around 150, most of them are privately held and their financial information is considered confidential and impossible to obtain. For most of them, the integrity of their accounting data cannot be verified due to lack of proper independent auditing. Therefore, we have limited our study to all publicly-traded insurance companies listed on the Bahrain Stock Exchange, because they publish reliable audited statements. Our period of study was limited for the period of 2005-2009, because data was available for all companies only for this period. While admittedly our sample is very limited, it is a good starting point and an important extension for future research.

The statistical analysis was performed with *SPSS*, well-known and widely popular statistical software preferred for its ease of use and its wide range of analytical functions. Our model is based on a standard multiple linear regression analysis with the following specification:

$$DR_{i,t} = \alpha + \beta_1\, TA_{i,t} + \beta_2\, PR_{i,t} + \beta_3\, Size_{i,t} + \beta_4 GR_{i,t} + \beta_5\, LQ_{i,t} + e_{i,t}$$

Dependent Variable. Our dependent variable is *the Debt Ratio*. It is a financial ratio that indicates the percentage of a firm's assets that are financed with debt. It is commonly interpreted as a measure of leverage. In our model, it is used to explain the amount of debt (leverage) used by a company. We use Total Debt, consisting of both long-term and short-term liabilities – the same as total liabilities. Total Assets include current assets and fixedassets, i.e., the size of the balance sheet. A high debt ratio indicates that the company is largely dependenton debt to finance its activity. The consequences of higher Debt Ratio are that the company might be in a riskier position that is more likely to lead to financial distress, default, bankruptcy, or liquidation.TheDebt Ratio is measured by the following simple formula:

Debt Ratio= Total Liabilities / Total Assets

Independent Variables. Wehave five independent variables: (1) Tangibility of Assets, (2) Profitability, (3) Firm Size, (4) Revenue Growth, and (5) Liquidity. Now we cover each one of them:

1)  Tangibility of Assets (TA): it is a ratio that measures the share of Fixed Assets from Total Assets. A high ratio indicates a lot of fixed assets and relatively little working capital, which could reduce the enterprise's ability to maintain inventory and carry accounts receivable. This could potentially limit the company's ability to respond to bigger demand for their products or services. However, the company could more easily borrow by mortgaging those fixed assets. The formula for the ratio is:

TA = Fixed Assets / Total Assets.

2) <u>Profitability (PR):</u> TheProfitability Ratio measures the company's overall performance and efficiency. Here we useReturn on Assets (ROA) as our proxy for profitability. ROA is a profitability ratio that measures the company's efficiency to manage its assets and utilize them to generate profit. It measures profits relative to the firm's total assets. Its is calculated as:

$$ROA = Net\ Income\ /\ Average\ Total\ Assets$$

3) <u>Firm Size (Size):</u> Size can be justified as a potential descriptive variable of cross-sectional differences in debt. Debt is likely to increase with size, because larger firms will have better risk diversification, more stable profits, and overall better creditworthiness. Therefore, larger firms have lower chance of financial distress and lower bankruptcy costs due to lower probability of default. As a result, lenders are more willing to lend to larger firms at more favorable terms, inducing them to opt for larger amount of debt relative to smaller firms. In this study, we use Total Assets as a proxy for Firm Size.

$$Size = Total\ Assets$$

4) <u>Revenue Growth (GR):</u> Our proxy for Revenue Growth is the percentage increase in Gross Premiums (GP). The equation is expressed as follows:

$$GR = (GP(t+1) - GP(t))\ /\ GP(t)$$

5) <u>Liquidity (LQ):</u> The Liquidity Ratio measures the firm's ability to use its near cash or "quick" assets to retire its liabilities. Bankruptcy analysts use liquidity ratios to find out the likelihood that a company would be able to continue to service its debts and to stay in business. Liquidity is typically measured as a ratio of short-term assets to some liabilities. Some authors prefer a ratio to total liabilities, while other authors prefer a ratio to short-term liabilities. For example, Kila and Mansoor (2009) suggest a ratio of Short-Term Assets to Total Liabilities, excluding Share Capital and Retained Earnings. We prefer to focus on short-term liabilities instead, by using the widely accepted Quick Ratio. Thus, our version of the Liquidity Ratio is as follows:

$$Quick\ Ratio = Short\text{-}Term\ Assets\ /\ Total\ Liabilities.$$

## 4. Results and Interpretations

### 4.1 Results

We first show our descriptive statistics, then the regression results, and conclude with the interpretations as shown Table 1. The descriptive statistics are the minimum, the maximum, the mean, and the standard deviation. Here is a short summary:

<u>Tangibility of Assets (TA)</u> has minimum and maximum values of 0.004 and 0.148 respectively. The mean is 0.04477 and the standard deviation is 0.045475.

<u>Profitability (PR)</u> has minimum and maximum values of -0.026 and 0.107 respectively. The mean is 0.04541 and standard deviation is 0.033727.

<u>Size (Size)</u>has minimum and maximum values of 12,153.000 and 426,871.00 respectively. The mean is 114,783.80 and the standard deviation is 140,383.46445.

<u>Revenue Growth (GR)</u> has minimum and maximum values of -0.318 and 0.598 respectively. The mean is 0.15707 and the standard deviation is 0.210036.

<u>Liquidity (LQ)</u> has minimum and maximum values of 0.935 and 2.326 respectively. The mean is 1.46844 and the standard deviation is 0.381911.

<u>Debt Ratio (DR)</u> is the dependent variable. It has minimum and maximum values of 0.047 and 0.287 respectively. The mean is 0.094 and a 0.086 standard deviation.

Multiple linear regression analysis was applied for25 observations of 5 insurance companies for the period of 2005-2009. The regression model was estimated as follows:

$$DR_{i,t} = \alpha + \beta_1 TA_{i,t} + \beta_2 PR_{i,t} + \beta_3 Size_{i,t} + \beta_4 GR_{i,t} + \beta_5 LQ_{i,t} + e_{i,t}$$

Our results are shown in tables 4.2, 4.3 and 4.4;

We apply standard F-test and t-tests for hypothesis testing. For the hypothesis that all variables are jointly significant, we use an F-test. We use a t-test for testing each variable separately. We use standard confidence intervals at 95% significance levels. We summarize our results from hypothesis testing in Table 5;

### 4.2 Interpretation

From the table, it is obvious that the overall model is statistically significant.Moreover, Tangibility of Assets, Firm Size, and Liquidity are statistically significant, while Profitability and Revenue Growth are not.

<u>Overall Model:</u> The regression results emphasize a strong relationship (R=0.997) between the independent variables and the Debt Ratio, therefore rejecting the null hypothesis. These results are consistent with other studies, such as Cassar and Holmes (2003), Bancle and Mitto (2004) and Khoigand Tran (2006). The only inconsistent study is Voulgaris (2002) with an opposite result.

<u>Tangibility of Assets:</u> The null hypothesis for Tangibility of Assets is rejected and shows a positive significant relationship with the Debt Ratio. Thus, firms with a larger fraction in fixed assets can raise more debt, most likely because they can pledge these fixed assets as collateral to lenders. However, a recent study by Naveed, Zulfqar and Ishfaq (2010) concluded that there is no such significant relationship and therefore did not consider

it a powerful explanatory variable for the Debt Ratio of insurance companies. Further study is likely to be needed for this particular factor.

Profitability: The results indicate no significant positive relationship between Profitability and the Debt Ratio, indicated by a non-rejection of the null hypothesis. On the other hand, Kester (1986) and Friend and Lang (1988) found a significant negative relationship. Similarly, Rajan and Zingales (1995) and Wald (1999) also conclude that there is a significant negative relationship. Therefore, this particular conclusion may also need further research and analysis.

Firm Size: Our results suggest that Total Assets has the most statistically significant effect on the Debt Ratio (t = 15.063). These results confirm the concept that large firms can borrow more easily, either because of a better reputation or because of a perceived lower risk due to better diversification. This is largely consistent with the Static Trade-off Theory propounded by Myers and Majluf (1984) and Myers (1984). Many previous studies indicate a similarly strong significant positive relationship, for example Marsh (1982), Bennet and Donnelly (1993), and Warner (1977).

Revenue Growth: The null hypothesis for revenue growth cannot be rejected, indicating that there is no significant relationship between Revenue Growth and the Debt Ratio. The negative coefficient would otherwise indicate that stronger revenue growth means lower debt. There are two alternative explanations for such a potentially negative relationship: (1) high revenue growth implies higher risk and more difficult debt financing, or (2) higher growth implies better internal financing and lower need for external financing. Eriotis, Neokosmidi, and Vasilou (2007) support this result and indicate their preference for the first explanation.

Liquidity: Results suggest a significant negative relationship between Liquidity and the Debt Ratio. This negative effect of Liquidity on debt indirectly confirms the Pecking Order Theory and is largely consistent with Kila and Mansoor (2009.),Eriotis, Vasilou and Neokosmidi (2007) and Harris and Raviv (1990).

## 5. Conclusions

For the past half century, the issue of capital structure has attracted intense debate in the field of financial management. The basic question is whether there exists an "optimal" capital structure and what might be its determinants. Extensive research has attempted to identify these factors; while there are similar studies for both developed and developing economies, we are not aware of such studies for Bahrain.

Our goal here was to study the effect of specific firm characteristics on capital structure. We use panel data derived from annual reports and financial statements of five insurance companies listed on the Bahrain Stock Exchange and apply multiple linear regression analysis to identify those effects. Our results suggest that there is a strong relationship between firm characteristics and capital structure in the insurance sector of Bahrain, as indicated by a multiple correlation coefficient of 0.997.

While our study conforms to results from many previous studies, our contribution lies in our ability to study specifically the insurance sector of Bahrain and to isolate the three significant determinants of capital structure: (1) Tangibility of Assets, (2) Size and (3) Liquidity. From an empirical point of view, our study is important in confirming a large range of previous studies. From a practical point of view, our study is important in providing financial managers with practical means of determining their capital structure. Finally, from a theoretical point of view, our study allows for yet another important comparison of capital structure between financial firms in developed and developing economies.

## 6. Recommendations & Limitations

### 6.1 Recommendations

Insurance companies should pay special attention to firm characteristics in determining their optimal capital structure. Also, like any good business, they should maintain good banking relationships to finance themselves when needed at competitive low rates in order to reduce their overall cost of financing.

Most research has been conducted for capital structures in developed countries. Research in developing countries has been neglected and limited, and therefore, much needed, especially in the GCC.

### 6.2 Limitations and Extensions

Our primary limitation is the limited number of observations. With only five companies and a period of only five years, our results are admittedly weak. The natural extension to our research is to add more companies, more years, and potentially more explanatory variables. Special attention and further investigation is needed for the effects of Tangibility and Profitability.

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Table 1. Descriptive Statistics

|      | N  | MIN    | MAX     | MEAN    | STD     |
|------|----|--------|---------|---------|---------|
| TA   | 25 | 0.004  | 0.148   | 0.044   | 0.045   |
| PR   | 25 | -0.026 | 0.107   | 0.045   | 0.034   |
| Size | 25 | 12,153 | 426,871 | 114,783 | 140,383 |
| GR   | 25 | -0.318 | 0.598   | 0.157   | 0.210   |
| LQ   | 25 | 0.935  | 2.326   | 1.468   | 0.382   |
| DR   | 25 | 0.047  | 0.287   | 0.094   | 0.086   |

Table 2. Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|---|----------|-------------------|----------------------------|
| 1 | . 0.977[a] | .954 | .942 | .871310 |

a: Predictors: (Constant), LQ, TA, GR, Size, PR

Table 3. ANOVA

| Model | Sum of Squares | Df | Mean Square | F | Sig. |
|-------|----------------|----|-------------|-------|--------|
| 1: Regression | 298.682 | 5 | 59.736 | 7.685 | .000[a] |
| Residual | 14.424 | 19 | .759 | | |
| Total | 313.106 | 24 | | | |

Table 4. Coefficients

| | Unstandardized Coefficients | | Standardized Coefficients | | |
|-----------|---------|----------|--------|---------|------|
| Model | B | Std. Err | Beta | t | Sig |
| 1    (Constant) | 1.108 | 1.055 | | 1.050 | .307 |
| TA   | 5.569 | 4.835 | .070 | 2.152 | .026 |
| PR   | 8.894 | 7.295 | .083 | 1.219 | .238 |
| Size | 2.50E-005 | .000 | .972 | 15.063 | .000 |
| GR   | - .508 | .938 | -.030 | -.541 | .595 |
| LQ   | -1.531 | .610 | 62.511 | -2.511 | .021 |

a: Dependent Variable: DR

Table 5. Statistical Results

| No. | Null hypothesis | Condition Applied | Accept/Reject |
|-----|-----------------|-------------------|---------------|
| A | H0: There is no significant relationship between firm characteristics and capital structure. | F = 7.685 Sig. 0.000 < 0.05 R 0.997 | Rejected |
| 1 | H0: There is no significant relationship between firm Tangibility of Assets and debt ratio. | t = 2.152 Sig. 0.026 < 0.05 | Rejected |
| 2 | H0: There is no significant relationship between firm profitability (ROA) and debt ratio. | t =1.219 Sig. 0.238 > 0.05 | Accepted |
| 3 | H0: There is no significant relationship between firm size and debt ratio. | t = 15.063 Sig. 0.000 < 0.05 | Rejected |
| 4 | H0: There is no significant relationship between firm growth and debt ratio. | t = -0.541 Sig. 0.595 > 0.05 | Accepted |
| 5 | H0: There is no significant relationship between firm liquidity and debt ratio. | t = -2.511 Sig. 0.021 < 0.05 | Rejected |