CAPITAL STRUCTURE IN ISLAMIC CAPITAL MARKETS:
EVIDENCES FROM BURSA MALAYSIA

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ABSTRACT

Since 1958, numerous attempts have been made to address the issue of capital structure choice. However, none of these attempts studied the capital structure of Shariah-compliant markets. The objective is to develop a model that accounts for the capital structure choice of 263 Shariah-compliant firms listed on Bursa Malaysia over the period 2006-2011. The evidence suggests that the capital structure choice of Shariah-compliant firms is always influenced by factors such as liquidity and risks and sometimes influenced by profitability, zakah, and tax. However, in the presence of managerial ownership as moderating variable, only profitability and tax are found to be significant to capital structure choice.

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1. INTRODUCTION

It is documented that the value of firm with high debt ratio in their capital structure is much better compared to those having low debt ratio. Ju et al. (2005) found that the value of firms maintaining low debt ratio is lower than those maintaining higher debt ratio. However, this financial instrument (debt) is one of controversial issues in Islamic finance. In other words, Islamic firms are not free to choose the level of debt they want in their capital structure due to unfair return associated with debt financing (Zaher and Hassan, 2001). Therefore, Islamic regulatory bodies have issued regulations that restrict the use of debt financing. The purpose of these regulations is to verify that all activities of firms listed in Islamic capital markets do not contradict with Shariah. For example, Accounting and Audit Organization for Islamic Financial Institutions (AAOIFI) Shariah standard No. 21 states that Islamic institutions are allowed debt financing up to 30% of their total capital (AAOIFI, 2010). Similarly, Dow Jones Islamic market and Financial Times Stock Exchange requires that the debt to equity ratio must be equal to or less than 33 %, and interest-related income shall not exceed 9% of firm’s total income (Abdul Rahman et al 2010). Likewise, Bursa Malaysia requires Shariah-compliant firms must have proper debt ratios, meaning that firms with high debt ratios compared to their assets are unacceptable. Besides, the interest-related income shall not exceed 10 percent of firm’s total income (Bursa Malaysia, 2012)1:

These regulations have impact on the capital structure choice of Shariah-compliant firms. For example, the prohibition of interest-related income motivates Shariah-compliant firms to use idle internal funds for financial purposes (instead of investing it in interest-related activities), which may reduce the need for external fund (debt) as suggested by pecking order theory (Myers and Majluf, 1984). Harris and Raviv (1991) suggests that empirical studies are required to investigate the determinants of capital structure in various contexts, and due to the lack of consensus found in the literature about the determinants of capital structure and pressures imposed by Shariah of using debt and investing in interest-related activities, it’s difficult to claim that these determinants have same direction and strength with Islamic firms’ capital structures.

2. LITERATURE REVIEW

Due to the country and firm factors, the determinants of capital structure vary from one market to another (Booth et al 2001; and Psillaki and Daskalakis 2009). Therefore, the evidences of recent empirical studies across countries are not in line with each other, which sometimes are in a great conflict. For example, among others, Booth et al. (2001) and La Rocca et al (2009) found that there is a negative relationship between leverage and profitability. However, Fraser et al (2006) and Al-Ajmi et al (2009) found positive association between these variables. Interestingly, the third group of studies found mixed relationship between leverage and profitability (Bhaduri, 2002; Chang et al. 2009; Kouki and Ben

Said, 2012). The major difference between these studies is due to differences of taxes (trade-off theory), information asymmetry (pecking order theory), and agency problems (agency theory) across countries (Myers, 2001).

2.1 Tangibility

According to capital structure theories, assets structure or tangibility is considered one of leading factors that determine the level of firm’s leverage (Tiffin and Wessels, 1988). Capital structure theories and prior studies tried to address the relationships between assets structure and leverage. However, there are two contradicting results regarding the relationships between these two variables. First, Agency theory predicted negative relationships between tangibility and leverage. This prediction is in line with the findings of many recent studies (i.e. Chang et al, 2009; Psillaki and Daskalakis, 2009; and Sbeiti, 2010). Second, the trade-off theory assumed positive relationships between them due to using such assets as collateral to get loans. Several studies supported this claim, among others, Rajan and Zingales (1995) and Huang and Song (2006) found positive relationships between tangibility and firms’ leverage. Islamic firms are considered tangible firms because they are not allowed to maintain intangible and receivable assets more than certain percentage otherwise the trade in their stocks will be similar to sale of debt which is highly prohibited in Islam (Yusof et al. 2009). Therefore, this study assumes a positive relationship between tangibility and leverage. This study uses the ratio of fixed assets to total asset as proxy for tangibility.

2.2 Profitability

Profitability received extensive theoretical and empirical intentions as a determinant of firm’s leverage. This is because profit is the main source of internal fund available for firms to reinvest without any financial burden. Therefore, pecking order theory reported that profitable firms are not willing to use external fund and less profitable firms are keen to use external fund in the form of debt, if not possible they use equity as last resort (Myers and Majluf, 1984). In other words, there is a negative relationship between firm’s leverage and profitability. Almost all studies conducted in developed and emerging markets found negative association between these variables (Booth et al. 2001: Psillaki and Daskalakis, 2009; and Sbeiti 2010).

However, another theoretical viewpoint assumed that there is a positive relationship between firm leverage and profitability. This is because higher debt firms get more tax deduction and higher profit accordingly. Also, profitable firms get chance to use debt due to their ability to meet the payment of interest. In line with this statement, Fraser et al (2006) and Al-Ajmi et al (2009) found that profitability is positively related to Malaysian and Saudi firm’s leverage. The study uses the ratio of earnings before interest and tax to total assets as a proxy of return of assets to capture the influence of profitability on firms’ leverage.

2.3 Liquidity

Liquidity has various impacts on firm’s level of leverage. Trade-off theory assumes that the higher liquid firms are qualified to borrow more debt due to their ability to meet their debt. In line with this theory, few studies found positive relationship between liquidity and leverage (i.e. Stonehill, et all 1975; and Al-Najjar and Taylor (2008). The rational is that the high liquid firms attracting lenders due to their ability to pay back the debt obligations in the future. However, this relationship could be negative for two reasons. First, liquidity represents one of the main sources of internal funds; this type of fund is attractive to use due to its costless compared to external sources of fund. Therefore, pecking order theory assumed that the firms with high liquid assets less rely on debt financing. Second, it’s well known that there is a motivation for managers of liquid firms to invest the idle fund to maximize their interest, for such investment there is a possibility of unsound investment activities, which may lead to default risk. Therefore, agency theory assumed there is a negative relationship between firms leverage and liquidity. Consistent with these theories, several studies in both developed and emerging markets found negative relationship between liquidity and leverage (i.e. Ozkan (2001) de Jong et al, 2008; Lipton and Mortal, 2009; Suto, 2003: Al-Ajmi et al, 2009; and Sheikh and Wang, 2011). This study, therefore, uses the current ratio as proxy to investigate the influence of liquidity on firms leverage measured by the ratio of current assets to current liabilities.

2.4 Business Risk

There are two different theoretical predictions about the impact of business risks on firm’s leverage. It is well known that there is a high probability of bankruptcy costs for firms with high volatile earnings due to their inability to meet their future obligations. Therefore, trade-off theory predicts that firms with high bankruptcy costs and financial distress, as a result of earning volatility, have less chance to use debt financing (Booth et al, 2001). Consistent with this theory, majority of developed emerging markets studies found a negative relationship between risks and firms leverage (i.e. Taub 1975; Jensen et al. 1992; Barakat and Roa 2004; and Jagdish 2011). Agency theory, however, suggests that the using of debt reduces the involvement in negative or risky projects. Therefore, a positive relationship is expected between risks and leverage. Literature provides few evidences that support this assumption (i.e. Marsh 1982 and Suto 2003). This study uses the standard deviation of earnings before income and taxes to total assets as a proxy of business risk.
2.5 Zakah

There are two different opinions about the paying of zakah on debt. First, zakah payer will deduct debt from his zakatable wealth and pay zakah on that amount. According to this view, there is a motivation for firms to use debt over equity. In other words, firms with high debt financing are subjected to low amount of zakah. Another opinion is that the current due debt is deducted, but if it is deferred, only payment due for that year is deducted. Based on this, firms still get debt zakah shields but less than first ones (Abu Ghuddah, 2008). Empirically, Omet and Mashharawe (2003) investigated the capital structure choice for tax and non-tax middle eastern countries (Jordan, Kuwait, Oman and Saudi Arabia). They found that the firms in all four countries are more towards equity financing. The result reveals that there is no impact of corporate tax on capital structure choice in these countries.

However, Barakat and Roa (2004) investigated the relationship between the choice of capital structure and corporate tax. They used sample from Bahrain, Kuwait, Oman, United Arab Emirates, Qatar, Saudi Arabia, Jordan, Palestine, Lebanon, Egypt, Tunisia and Morocco. They found that taxed countries use more debt than non-tax countries. The result reveals that there is a positive relationship between leverage and corporate tax. They further argued that in the non-tax countries, firms do not differentiate between the uses of equity and debt due to the absence of tax advantage of equity for the investor (non-tax debt shield) or tax advantages of debt for the corporation (debt tax shield). Therefore, the results of Barakat and Roa (2004) implicitly indicate that zakah systems may encourage firms in taxed countries to use debt financing. These claims are based on the fact that the calculation of the zakah excludes debt from zakatable wealth (Abu Ghuddah 2008). Therefore, firms with high debt financing are expected to pay less zakah. This study uses zakah as dummy variable, value of one (1) if the firm pays zakah; and zero (0) otherwise.

2.6 Tax

Modigliani and Miller (1963) argue that firms with high tax liabilities are expected to utilize greater amounts of debt to take advantage of the deductibility of interest payments. Moreover, tax benefits of interest deductibility are considered as the cornerstone of the trade-off theory of capital structure. Therefore, the major motivation of using debt over equity is the saving of corporate tax. Higher debt tax shields increase the potential tax benefits of debt; hence a positive link is expected between tax shields and leverage. In line with this, Amidu (2007) found a positive relationship between leverage and corporate tax for Ghanaian firms. This study uses the ratio of tax expense to earnings before taxes as a proxy of corporate tax.

Table 1 summarizes the theoretical relationships between capital structure and its determinant. The table shows that there are conflicting views regarding these relationships. The last column shows the hypothesized relationships between the leverage of Shariah-compliant firms in Malaysia and its determinants.

<table>
<thead>
<tr>
<th>Determinants</th>
<th>Trade-off</th>
<th>Pecking order</th>
<th>Agency</th>
<th>Expected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tangibility</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Profitability</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Liquidity</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Risks</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Tax</td>
<td>+</td>
<td></td>
<td></td>
<td>+</td>
</tr>
<tr>
<td>Zakah</td>
<td>+</td>
<td></td>
<td></td>
<td>+</td>
</tr>
</tbody>
</table>

3. METHODOLOGY AND MODELS
3.1 Sample
At the end of 2011, there were 946 firms listed on Bursa Malaysia, among them, 839 are Shariah-compliant divided into nine sectors. Financial sector was excluded from the sample due to their unique business activities, and have different regulatory requirements (Yatim et al., 2006). Moreover, the study excluded those firms with any missing observations for any variable in the model during the period 2006–2011. As a result, the final sample set consists of a balanced panel of 263 firms over a period of 6 years.

3.2 Models
Main model
The basic or the main model of the study involves determinants suggested by capital structure theories namely; Tangibility, Profitability, Liquidity, Risk, and Tax. Furthermore, the study adds new variable to the model, which is Zakah (ZAK). The study assumes there is impact of this factor on capital structure for two reasons. First, the amount of paid zakah reduces the amount of retained earnings and firms’ capital accordingly. Therefore, firm has to find external fund to overcome this shortage. Second, to calculate the amount of zakah (zakatable wealth), debt must be excluded (Abu Ghuddah 2008). The rational justification of this, zakah is levying on the payer’s property (wajib or self-obligation) not on others’ properties such as debt. Therefore, firms with high debt financing are subjected to pay less zakah. Finally, the study adds to the model two control variables: firm size and firm age. Therefore, the main model of this study is as follows:

\[ L = TAN + PRO + LIQ + RSK + ZAK + TAX + OS + SZE + AGE \]

Moderating Model
As mentioned above, there is a disagreement about the sign of relationship between capital structure and its determinants. Many cross-country studies related this ambiguity in results to the firm and country factors (e.g. Booth et al. 2001; Psillaki and Daskalakis, 2009, and Sbeiti, 2010). The ownership expected to be one of these factors because it carries the features of firm and country factors. It is firm factor because firm determines the fractions of shares for insiders, public, and etc., and it is country factor because the protection of owner's right differs from country to another (La Porta et al 1998).

Moreover, agency theory assumed that the use of debt reduces the idle cash flow that may use to serve the managers' interest, as a result the owners-managers conflict or agency costs will drop down (Jensen, 1986). In case of managerial ownership, debt is preferred because it prevents the ownership dilution as a result of issuing new equity, which reduces the controlling of existing managers (owners). Therefore, the theory assumed there is a positive association between managerial ownership and leverage. Berger et al. (1997) and Bajaj et al. (1998) reported that the managerial ownership is positively related with various measures of leverage. However, Friend and Lang (1988) found that the managerial ownership is negatively related to leverage.

Besides, several studies have found that there is a relationship between managerial ownership and selective independent variables. For example, Al-Najjar and Taylor (2008) found that managerial ownership is negatively related to tangibility. The findings between managerial ownership and profitability are not uniformly in agreement, McConnell and Servaes (1995) found curvilinear relationship between managerial ownership and firms value whereas, Sarin et al. (2000) reported negative relationship between managerial ownership and liquidity. May (1995) found managerial ownership to be negatively related to risks. Chaplinsky and Niehaus (1993) found managerial ownership is positive with tax advantages.

Therefore, there is a probability for interaction effect of managerial ownership on the relationship between leverage and its determinants. Especially, in Islamic capital markets where firms are restricted to use high level of debt and (Abdul Rahman et al. 2010); maintain large tangible assets (Yusof et al. 2009); maintain low liquidity (Abdul Rahman et al. 2010); faces more risks (Siddiqui, 2008; Abdullah et al. 2011; Tafri et al. 2011); and where ownership concentration (managerial ownership) has no impact on decision’s makers (Iqbal and Mirakhor. 2004; Ismail and Tohrin, 2010). Therefore, the moderating model developed is as follows:

\[ L = TAN + PRO + LIQ + RSK + ZAK + TAX + SZE + AGE + (TAN*OS) + (PRO*OS) + (LIQ*OS) + (RSK*OS) + (ZAK*OS) + (TAX*OS) \]

Where;
L = Capital structure or Leverage
TAN = Tangibility
PRO = Profitability
LIQ = Liquidity
RSK = Risk
SZE = Firm size
AGE = Age
TAX = Tax
ZAK = Zakah
OS = Ownership

4. FINDINGS

4.1 Statistical descriptive

Table 2 shows the descriptive statistics of the variables.

- **Book leverage (BL):** on average Shariah-compliant firms use 19.5% debt financing in their capital structure. This finding indicates that Shariah-compliant firms are less reliant on debt which explains the constraints imposed by Shariah on the use of debt.

- **Tangibility (TAN):** on average 38% of Shariah-compliant firms’ assets are tangible or fixed assets.

- **Profitability (PRO):** it ranges from a minimum of -69% and a maximum of 48% with an average of 5.73%. This reveals that Shariah-compliant firms listed in Bursa Malaysia generate 5.73 cents for each Ringgit invested in assets.

- **Liquidity (LIQ):** ranges from a minimum of 0.09 and a maximum of 33.46 with an average of 2.69. This reveals that the current assets of Malaysian Shariah-compliant firms are 2.69 times more than current liabilities which indicate that these firms are more capable to payback their future obligations. Therefore, Shariah-compliant firms do not suffer from liquidity issue though most liquidity instruments are interest-based instruments as reported by (Abdul Majid, 2003).

- **Risks (RSK):** ranges from a minimum of 0% and a maximum of 268% with an average of 5%. However, de Jong et al. (2008) found low business risk for firms listed in conventional (developed) markets, such as Greece 3.3%, Japan 1.4%, Italy 2.4%, Spain 2.2%. The higher risk in Islamic capital markets is due to additional risks exists in these markets as a result of the unique nature of Islamic finance (Siddiqui, 2008; and Abdullah et al, 2011).

- **Zakah (ZAK):** on average only 16 firms out of 100 Shariah-compliant firms are paying zakah on behalf of their investors, the remaining are paid by the investors.

- **Tax (TAX):** ranges from a minimum of 1% and a maximum of 97% with an average of 22.5%. This means 22.5% of the corporate net income is deducted for tax. This ratio varies from country to country and depend on the tax rate for the given tax year.

- **Ownership concentration (OS):** on average only 11% of sampled firms’ equity is owned by managers.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Maximum</th>
<th>Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL</td>
<td>.19</td>
<td>.16</td>
<td>.96</td>
<td>.00</td>
</tr>
<tr>
<td>TAN</td>
<td>.38</td>
<td>.46</td>
<td>.92</td>
<td>.00</td>
</tr>
<tr>
<td>PRO</td>
<td>.05</td>
<td>.08</td>
<td>.48</td>
<td>-.69</td>
</tr>
<tr>
<td>LIQ</td>
<td>.69</td>
<td>.28</td>
<td>33.46</td>
<td>-69</td>
</tr>
<tr>
<td>RSK</td>
<td>.046</td>
<td>.13</td>
<td>2.68</td>
<td>.00</td>
</tr>
<tr>
<td>ZAK</td>
<td>.16</td>
<td>.36</td>
<td>1.00</td>
<td>.00</td>
</tr>
<tr>
<td>TAX</td>
<td>.22</td>
<td>.13</td>
<td>.97</td>
<td>.01</td>
</tr>
<tr>
<td>OS</td>
<td>.22</td>
<td>.15</td>
<td>.97</td>
<td>.00</td>
</tr>
<tr>
<td>SZE</td>
<td>2.63</td>
<td>.64</td>
<td>4.90</td>
<td>.41</td>
</tr>
<tr>
<td>AGE</td>
<td>24.1</td>
<td>16.5</td>
<td>101</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table 3 represents the outputs of Pearson correlation test for all variables chosen in the study. The table shows the correlation among variables is between -0.61 and 0.26. The highest correlation reported is between the liquidity (LIQ) with dependent variable, which is -0.60. Moreover, the highest level of correlation among independent variables is -0.26 between size and age. This result is better compared to prior studies such as Huang and Song (2006) who found correlation of 0.57 between tangibility and NDTS. In Sum, all correlations between independent variables are below the role of thumb (0.80) suggested by (Anderson et al. 1995). Thus, it is plausibly to claim that there is no existence of serious collinearity among regressed variables.

<table>
<thead>
<tr>
<th>Variable</th>
<th>BL</th>
<th>TAN</th>
<th>PRO</th>
<th>LIQ</th>
<th>RSK</th>
<th>ZAK</th>
<th>TAX</th>
<th>OS</th>
<th>SZE</th>
<th>AGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAN</td>
<td>0.08</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRO</td>
<td>-0.22</td>
<td>-0.08</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4.2 Results of the main model

This subsection discusses the relationship between book leverage as dependent variables with independent and control variables. As mentioned above, three regressions (pooled, FE, and RE) are conducted to examine the relationship between capital structure variable and their determinants. Lagrange multiplier and Hausman tests are used to distinguish between the results of these three methods. The results of panel are preferred over pooled OLS when the results of Lagrange multiplier test are statistically significant and vice versa. Similarly, if the result of Hausman test is statistically significant, the results of fixed effects model is preferred over random effects. In Tables 4 and 5, Lagrange multipliers are statistically significant (p<0.05) which reject the null hypothesis of zero variance of random effect i.e. firm heterogeneity has a significant effect. Therefore, the random effect method is more appropriate and better than the pooled method. In addition, the significant (p<0.05) of Hausman test reveals that the alternative hypothesis of correlation between individual effect and regressors cannot be rejected i.e. there is correlation between individual effect and regressors. Therefore, the fixed effect method is more appropriate and better to use than random effect method.

**TABLE 4: THE REGRESSION OF MAIN MODEL**

<table>
<thead>
<tr>
<th>Variables</th>
<th>OLS</th>
<th>Fixed Effects</th>
<th>Random Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.258(-2.221)**</td>
<td>-2.653(-7.737)**</td>
<td>-0.918(-5.053)***</td>
</tr>
<tr>
<td>Tangibility</td>
<td>-0.178(-2.259)**</td>
<td>-0.055(-0.574)</td>
<td>-0.137(-1.595)</td>
</tr>
<tr>
<td>Profitability</td>
<td>-0.121(-5.415)***</td>
<td>-0.048(-2.411)**</td>
<td>-0.056(-3.060)***</td>
</tr>
<tr>
<td>Liquidity</td>
<td>-1.754(-19.394)***</td>
<td>-1.100(-14.56)***</td>
<td>-1.285(-18.89)***</td>
</tr>
<tr>
<td>Risk</td>
<td>-0.070(-2.802)***</td>
<td>-0.042(-2.857)***</td>
<td>-0.046(-3.385)***</td>
</tr>
<tr>
<td>Zakah</td>
<td>0.075(1.399)</td>
<td>-</td>
<td>0.046(0.451)</td>
</tr>
<tr>
<td>Tax</td>
<td>-0.028(-1.384)</td>
<td>-0.010(-0.749)</td>
<td>-0.014(-1.072)</td>
</tr>
<tr>
<td>Size</td>
<td>0.301(8.561)***</td>
<td>1.131(9.199)***</td>
<td>0.504(8.022)***</td>
</tr>
<tr>
<td>Age</td>
<td>-0.082(-3.691)***</td>
<td>-0.441(-5.720)***</td>
<td>-0.163(-4.437)***</td>
</tr>
<tr>
<td>OS</td>
<td>0.603(5.012)***</td>
<td>-0.132(-0.494)</td>
<td>0.346(1.837)*</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>41.89%</td>
<td>85.32%</td>
<td>28.99%</td>
</tr>
<tr>
<td>LM</td>
<td>485.04***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hausman Test</td>
<td>64.77**</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: OLS refers to ordinary least square, t-values were placed under the coefficients values in parentheses. Significant level as *p<0.10, **p<0.05, ***p<0.01. OS refers to ownership concentration or managerial ownership.

Table 4 reports significant negative relationship between tangibility and book leverage under pooled and random regressions only. However, the results show that the profitability, liquidity, and risks are negatively associated with book leverage for three different regressions. Nonetheless, the results reveal that zakah and tax are insignificantly related to book leverage under the three methods of estimation. Both control variables are significantly related to leverage, whereas moderate variable is significantly associated with leverage under pooled and random methods only. The insignificant relationship between ownership and leverage under fixed regression supports the findings of Suto (2003) who found no significant relationship between managerial ownership and book leverage of Malaysian firms.

4.3 Results of the moderate model
Table 5 reports the results of the moderating model. Like the results of the main model in Table 4, the signs and the level of significance of liquidity and risks are same. However, the main differences are the impact of profitability, zakah, and tax on leverage. Profitability becomes insignificantly related to leverage under panel regressions, whereas zakah becomes significant positive under pooled model only. Finally, tax and leverage are negatively related in all three models.

<table>
<thead>
<tr>
<th>Variables</th>
<th>OLS</th>
<th>Fixed Effects</th>
<th>Random Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.305(-2.701)***</td>
<td>-2.706(-7.871)***</td>
<td>-0.923(-5.194)***</td>
</tr>
<tr>
<td>Tangibility</td>
<td>-0.346(-4.051)***</td>
<td>-0.065(-0.642)</td>
<td>-0.213(-2.363)***</td>
</tr>
<tr>
<td>Profitability</td>
<td>-0.108(-3.931)***</td>
<td>-0.016(-0.671)</td>
<td>-0.034(-1.510)</td>
</tr>
<tr>
<td>Liquidity</td>
<td>-1.656(-15.571)***</td>
<td>-1.100(-12.543)***</td>
<td>-1.307(-16.634)***</td>
</tr>
<tr>
<td>Risk</td>
<td>0.060(1.961)***</td>
<td>-0.042(-2.421)**</td>
<td>-0.048(-2.860)***</td>
</tr>
<tr>
<td>Zakah</td>
<td>0.175(2.831)***</td>
<td>-</td>
<td>0.093(0.831)</td>
</tr>
<tr>
<td>Tax</td>
<td>-0.067(-2.686)***</td>
<td>-0.033(-1.912)**</td>
<td>-0.039(-2.335)**</td>
</tr>
<tr>
<td>Size</td>
<td>0.321(9.198)***</td>
<td>1.130(9.183)***</td>
<td>0.510(8.191)***</td>
</tr>
<tr>
<td>Age</td>
<td>-0.092(-4.084)***</td>
<td>-0.454(-5.858)***</td>
<td>-0.171(-4.686)***</td>
</tr>
<tr>
<td>Tangibility*OS</td>
<td>2.846(5.450)***</td>
<td>0.200(0.345)</td>
<td>1.167(2.585)***</td>
</tr>
<tr>
<td>Profitability*OS</td>
<td>-0.117(-0.870)</td>
<td>-0.286(-2.463)**</td>
<td>-0.183(-1.678)**</td>
</tr>
<tr>
<td>Liquidity*OS</td>
<td>-0.893(-2.185)***</td>
<td>0.211(0.598)</td>
<td>0.215(0.671)</td>
</tr>
<tr>
<td>Risk*OS</td>
<td>-0.022(-0.153)</td>
<td>0.040(0.475)</td>
<td>0.040(0.482)</td>
</tr>
<tr>
<td>Zakah*OS</td>
<td>-1.106(-3.544)***</td>
<td>1.499(0.951)</td>
<td>-0.433(-0.802)</td>
</tr>
<tr>
<td>Tax*OS</td>
<td>0.359(3.243)***</td>
<td>0.163(1.953)**</td>
<td>0.186(2.300)***</td>
</tr>
</tbody>
</table>

Adjusted R²: 43.24% 85.41% 29.06%
LM: 440.48***
Hausman Test: 76.88***

Ordinary least square, t-values were placed under the coefficients values in parentheses. Significant level as *p<0.10, **p<0.05, ***p<0.01. OS refers to ownership concentration or managerial ownership.

Moreover, Table 5 reports the influence of interaction effects (managerial ownership) as moderating variable on the relationship between capital structure variable and its determinants. It shows there are two (2) interaction terms are statistical significance, which is the multiplicative of ownership concentration (OS) with profitability and tax. First, the multiplicative of ownership concentration with tax is associated positively with leverage under all regressions. Second, the ownership concentration moderates negatively the relationship of profitability with leverage. In sum, the moderating effect of ownership influences positively the relationship between leverage and tax; however, it influences negatively the relationship of leverage with profitability.

5. DISCUSSION

This section discusses the results of the main and moderating models under fixed effects method only. The choosing of fixed effects method is suggested by the findings of LM and Hausman tests which indicate that the fixed effect is the best method of estimation for this study.

5.1 Tangibility

The result shows that there is no relationship of tangibility on leverage. In addition, the results show that there is no influence of managerial ownership on tangibility-leverage relationship. Therefore, there is no evidence that Shariah-compliant firms’ managers consider the tangibility of the firm when deciding to finance these firms’ activities. This finding could be due to the fact that Islamic firms are tangible by nature: Al-Ajmi et al. (2009) reported that tangible firms prefer to use equity to finance their activities rather than debt. This result is in line with the findings of Titman and Wessels (1988) and Ahmed and Hisham (2009) who found no relationships between tangibility and leverage.

5.2 Profitability

The results show that the profitability is negatively associated with leverage under main model and in the presence of interaction term. In other words, the presence of interaction term (PRO*OS) does not affect profitability-leverage relationship. This implies that profitable Shariah-compliant firms prefer internal fund to finance their activities. The
explanation of this finding lies in the fact that Shariah-compliant firms listed on Bursa Malaysia are not allowed to invest idle cash in interest-based investments due to the involvement of riba in such investments’ return (SC, 2007). Moreover, the using of internal fund over external equity helps to avoid ownership dilution and gives signal to investors that the equity is overvalued in the market. The result consistent with pecking order theory suggestion that the profitable firm choose to finance new investment, first by internal retained earnings, then by debt, and finally by equity (Myers, 1984). Finally, it is in line with prior studies conducted in capital structure arena (i.e. Wald 1999; Booth et al. 2001; Sbeiti, 2010; 2007; Al-Ajmi et al, 2009; and Chakraborty 2010).

5.3 Liquidity

The result shows that the liquidity is negatively associated with leverage under main and moderate models. The explanation for this lies in fact that Islamic capital market do not allow listed firms to have high liquidity ratio because the trading of shares that covered by high percentages of liquid assets like trading money for money which highly condemned in Islam (Abdul Rahman et. al 2010). The result is consistent with order theory prediction that the high liquid firms prefer internal fund than debt to finance their business (Myers, 1984). Finally, the results lend empirical support to the findings of prior studies of capital structure especially those used current ratio as a proxy for liquidity. For example, Lipson and Mortal (2009) found significant negative relationship between liquidity and leverages (book and market). Similarly, Sbeiti (2010) found same association between liquid and leverage of GCC firms.

However, the liquidity-leverage relationship becomes insignificant in the presence of ownership concentration (LIQ*OS). This indicates that the liquidity is not related to leverage in Shariah-compliant firms with high managerial ownership. This could be due to the fact that concentration of ownership decreases the agency conflicts with owners due to incentives of managers to obtain better performance to maximize their interests as owners and managers (Jensen and Meckling, 1976). To sum, like the managers of conventional firms, the managers of Shariah-compliant firms perform their duties in a way that serve their interests.

5.4 Risks

Business risks are found to be negatively associated with leverage. The explanation for this result lies in the fact that Islamic firms are exposed to additional risks of those exist in conventional markets due to the unique nature of Islamic financial instruments (Siddiqui, 2008; and Abdullah et al, 2011). For example, benchmark risk (rate of return risk), withdrawal risk, fiduciary risk, reputation risk, displaced commercial risk, Shariah compliance risk and asset price risk (Tafri et al, 2011). The using of debt in such risky firms will compound the issue of risk by adding new risk to the list namely, default risk. The results in line with trade-off theory that the sampled firms got less chance to borrow external fund due to their inability to pay back these future obligations due to the variability in their earnings. Finally the result is consistent with the findings of prior studies of capital structure that found a significant negative relationship between business risks and both book and market leverages (i.e. Taub 1975; Jensen et al. 1992; Wald 1999; Barakat and Roa 2004; and Jagdish 2011).

However, the presence of interaction term (RSK*OS) does not influence risk-leverage relationship. The result indicates that the risk is not an important determinant of Shariah-compliant firms’ capital structure in the presence of managerial ownership. This could be due to fact that the risk is not a crucial issue in firms with high managerial ownership as proposed by agency theory because these firms are not exposed to manager-agent conflicts. May (1995) found that the risk is negatively related to managerial ownership. Therefore, the creditors do not take the risks into account when they decide to finance firms with higher managerial ownership. This result is consistent with the findings of prior studies of capital structure around the world. For example, Titman and Wessels (1988) and Cassar and Holmes (2003) found there is no relationship between business risks and leverage.

5.5 Zakah

Zakah is found to be positively related to leverage of sampled firms under moderating model. This indicates that the zakah payer use debt financing more than non-zakah payer firms. This relationship explains the benefit that the zakat payers can get form using debt financing (Abu Ghuddah 2008). The result is in line with trade-off theory that assumed firms will utilize debt when there is an advantage of using debt such as deducting interest form taxable income (Modigliani and Miller (1963). Finally the result is consistent with Barakat and Roa (2004) who argued that the zakat systems in taxed countries may encourage firms to use debt financing. Conversely, albeit of zakah benefit (deducting debt from zakatable wealth) that firm can get from using debt financing, the result in the presence of interaction term (ZAK*OS) shows insignificant relationship between zakah and leverage. The result could be explained by the projection of agency theory that the managerial ownership reduces the agency costs; hence, it is worth nothing to use debt to reduce such conflicts (Berger et al.1997). To sum, the relationship between zakah and leverage in Shariah-compliant firm is explained by agency theory.

5.6 Tax
The result shows that the tax has negative impact on leverage under moderating model and has no influence under main model. The negative relationship could be due to the tax advantages that Shariah-compliant firms may get form using Islamic equity instruments (i.e. sukuk), this advantages in form of deducting the expenditures on issuance of Islamic securities. The result is in line with the findings of capital structure studies in emerging markets. For example, Booth et al (2001) and Huang and Song (2006) found corporate tax is negatively associated with leverage across emerging market.

However, the result shows that there is a positive influence of ownership interaction (TAX*OS) on tax-leverage relationship. This indicates that Shariah-compliant firms with higher managerial ownership prefer to use debt financing because the using of debt maximize the wealth of these firms' managers. Agency theory postulated that the owner preferred to use debt financing because it reduces agency costs Berger et al. (1997), whereas trade-off theory assumed that firms will utilize debt when there is an advantage of using debt such as deducting the interest form taxable income (Modigliani and Miller, 1963). The result consistent with the findings of prior studies of capital structure of firms listed on emerging market. For example, Barakat and Roa (2004); Amidu (2007); and Udomsirikul et al. (2011) found a positive relationship between debt tax shield and firms leverage.

5. CONCLUSION

The study aims to investigate the relationship between leverage and it’s determinates. Moreover, it tries to determine the effect of managerial ownership on capital structure choice of Shariah-compliant firms. The study develop two models to achieve these aims namely: main model and moderating model. Theoretically, the significant relationships between leverage with profitability, liquidity, and risks, zakah, and tax are consistent with certain theories of capital structure and inconsistent with others. For example, profitability, liquidity, and risk have inverse impact on Shariah-compliant firms’ decision on issuance of new debt as predicted by pecking order and agency theories. Therefore, the study concludes that the pecking order theory and agency theory are predominant in firms' financing behavior in Islamic capital market. However, except zakah, none of trade-off theory suggestion has been supported in the study, hence; the trade-off hypothesis can be rejected in Islamic market context.

In the presence of managerial ownership as interaction term, only profitability and tax found to have impact on firms leverage. This implies that the percentage of managerial ownership affects the capital structure choice of Shariah-compliant firms which indicate that the agency theory explains the financing behavior in Islamic capital market. Therefore, the study does not support the claim of Iqbal and Mirakhor (2004) that the managers must serve the interests of whole stakeholders.

Although this study can be considered the first study of the capital structure of Shariah-compliant firms, the findings have presented a numeral of areas which might be further explored in future research. For example, further research is recommended to investigate the relationship between capital structure and it’s determinants for financial institutions on Bursa Malaysia. Another study is suggested to compare the capital structure of Shariah and non-Shariah-compliant firms within Bursa Malaysia. Also, it is recommended to study this topic in different Islamic capital market separately or across these markets. Finally, further study is required to use different proxies of leverage. For example, short-term debt is highly recommended due to the fact that the liquidity issue in Islamic capital markets is one of the critical issues faces Islamic firms.

REFERENCES


