Can Pecking-Order Theory Explain The Capital Structure Pattern In Islamic Banking And Finance Environment In Malaysia?

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Abstract

Many researches have been conducted to explain the capital structure patterns and financial determinants of firms in various countries. However, there is no specific theory identified to explain the capital structure pattern of banking and finance industry. This study aims to examine how well Pecking-Order Theory (POT) can explain the capital structure pattern in Islamic banking and finance industry in Malaysia. Financial institutions that are offering Islamic banking products and services, covering year 2005 to 2007 are selected for the study. The research framework is based on the study by Chen (2004) and panel data is used to test the hypothesis. Results reveal that Islamic financial institutions use approximately 89% of leverage in operation. Profitability and asset structures positively affect Islamic financial institutions in choosing between leverage and equity; yet tax-shield effects negatively affect the choice of Islamic financial institutions. Both Pecking-Order Theory and Trade-Off Theory appear to explain the capital structure pattern for the financial institutions in Islamic banking and finance industry.

Keywords: Pecking-Order Theory; Islamic Financial Institutions; Leverage

Introduction

In theory, a bank, as a financial intermediary, produces value-added for society by its ability to aggregate or consolidate loan making, pool risk and reduce the asymmetric information problem. As banks have little equity stockholders involved in their loan-making operations, a considerable amount of government regulatory control is needed and is for the bank’s unique function of creating money by monetizing customer debt (Reynolds et al., 2000). Islamic banking and finance, which were still regarded as an infant industry initially, have been in rapid evolution and expansion, with proven viability and competitiveness in the global financial environment and to offer a wide range of financial products and services for Muslim and non-Muslim community. In Malaysia, Islamic Banking Act (IBA) exists with those for conventional banking system, providing Bank Negara Malaysia (BNM) with powers to supervise and regulate Islamic financial institutions based on Syariah principles.
Over years, many researches have been conducted to explain the capital structure\(^1\) pattern for firms in various countries and provide empirical evidence on the capital structure in real business world as leverage and capital adequacy requirements are among the most prominent instruments in all businesses, including financial institutions. There are: (i) Rajan and Zingales (1995) apply capital structure models from US settings to firms in G-7 countries; (ii) Reynolds et al., (2000) indicate that profits and loan preferences increase with size while capital adequacy decreases with size in banks in eight East and Southeast Asian countries and that capital adequacy and profit rate on revenue behaves oppositely with respect to rising administrative expenses; (iii) Ozkan (2001) uses a set of panel data from 390 UK companies to adapt to a dynamic model that is relevant to the issues of long-term target debt ratio of firms and adjustment process to the target; (iv) Booth et al. (2001) find that same determinants of capital structure prevail in ten developing countries and that institutional differences are unimportant in developed and developing countries; (v) Bae and Goyal (2004) find lenders charge lower spreads on loans in countries with stronger property rights protection while the latter find that stronger creditor rights enhance loan availability; (vi) Delcoure (2007) concludes that Central and Eastern European (CCE) countries do not apply both trade-off and pecking order theories derived from Western countries; (vii) Hughes et al., (2001) find that estimated scale economies are dependent critically on how banks’ capital structure and risk taking are modeled and that banks to have large scale economies that increase with size; (viii) Kopecky and VanHoose (2004) examine the effects of bank requirements on the loan transmission mechanism and the optimal liability mix and scale by focusing on the role of short- and long-run adjustments; and (ix) González and González (2008) conduct research of a sample of 12,049 firms in 39 countries over the period 1995 – 2004 by using generalized-method-of-moments (GMM) on analyzing the interaction of bank concentration with a country’s legal and institutional system.

However, there is no empirical evidence or research conducted to determine the financial determinants for Islamic banking and finance environment in Malaysia. In this case, this study is important to determine the financial determinants and provide empirical evidence on the capital structure on financial institutions in the Islamic banking and finance environment in Malaysia. It is important for academicians, bankers, shareholders, government and public to have profound knowledge in evaluating the value-maximization in this industry. The purpose of this study is to explore the possibility of using Pecking-Order Theory (POT) to explain the capital structure in Islamic financial institutions in Malaysia, based on the empirical evidences from other researchers that have been summarized by Kayhan and Titman (2004). The research question for this study is:

“Is Pecking-Order Theory being able to explain the capital structure of the financial institutions in Islamic banking and finance environment in Malaysia?”

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\(^1\) Capital structure is defined as total debt to total assets at book value, influences both profitability and riskiness of the firm (Bos and Fetherston, 1993). Capital inadequacy is defined as the capital structure where any increase in debt/equity ratio leads to a decrease in the value of the firm where as capital overabundance is a situation where an increase in debt/equity ratio would lead to an increase in the value of the banking firm (Mehta et al., 1979).
Pecking Order Theory

POT hypothesis of corporate leverage emerges based on asymmetric information problems between managers and less-informed outside investors. Managers have more information about the value of the company than the outside investors. This asymmetric information problem makes manager wary of issuing equity because investors will interpret this as a bad news as they will assume that managers are issuing stock when the price of stock is overvalued. Pecking order behavior can be caused from agency costs, taxes, transaction costs and others in addition to information asymmetries (Seifert and Gonenc, 2008).

Donaldson (1961) observes that when making their incremental financing decision, firms appear not to target specific capital structure, rather they choose a type of capital according to a preference order: (i) internal finance; (ii) debt; and (iii) share issuance. Myers and Majluf (1984) show how this asymmetry leads firms to use internal funds to external funds. When the former is exhausted and there exists a deficit in funding, firms will prefer to use safer debt to riskier equity and they will raise funds through equity issuance only after the debt capacity is exhausted. Thus, there exists a financial hierarchy from internal funds to debt and to external equity. This model explains many observed patterns in corporate finance including the tendency of firms not to issue stock and their choice to hold surprisingly large cash reserves and other forms of “financial slack”. Myers (1984) later modifies the strict pecking order hypothesis and argues that firms with a lot of future investments opportunities may decide to issue equity before it is absolutely necessary. These firms may issue equity in order to build up financial slack so that they will be able to undertake future investment opportunities.

Shyam-Sunder and Myers (1999) assess the non-nested capital structure models by examining debt financing patterns through time and find that under the POT, a regression of debt financing on the firm’s deficit-of-funds\(^2\) should yield a slope coefficient close to unity. Chang et al. (2006), however, argue that analysts produce new information for many investors and are able to break down complex information and present it in a way that many investors can understand better. The more analyst coverage, the less likelihood that insiders’ views will deviate much from the market and this can help reduce information asymmetries.

Seifert and Gonenc (2008) also find that POT is more applicable in Japan as compared to US, UK and Germany as firms finance their deficit primarily with debts. Their relationship with their main banks and the fact that firms have more restrictions on issuing equity probably contribute to a greater reliance on debt. Besides, transaction costs in Japan are the primary driver for pecking order behavior.

\(^2\) Real investment and dividend commitments less internal funds.
Overall Leverage

The theory of financial intermediation identifies that banks’ unique capital structure (levering equity capital with demandable debt that is part of the economy’s payments system) as the source of their competitive advantage in producing information-intensive loans and financial services. Commercial banks’ competitive advantage involves both an informational advantage and an incentive advantage over non-bank lenders. As a source of loanable fund, debt resembles an input in the production of loans and financial services. As payment devices, demandable debt resembles an output although all debt involves issuance and redemption activities. As for this, debt is clearly a component of banks’ technology. Equity capital is often ignored in models of bank technology even the risk-incentives literature give equity capital a prominent role in banks’ decision-making. Banks’ equity capital serves as a source of loanable funds, as a cushion to protect banks from loan losses and financial distress and as a credible signal to less-informed outside creditors of asset quality and the resources allocated to maintain their quality. Banks that fund assets with a lower capital-to-asset ratio need more debt financing and have a higher risk of insolvency and this shows that equity capital as an important component of banks’ technology as well.

Hughes et al., (2001) find that estimated scale economies are dependent critically on how banks’ capital structure and risk taking are modeled. When equity capital is included in the production model and cost is computed from the value-maximizing expansion path, banks are found to have large scale economies that increase with size. Better diversification is associated with larger scale economies while increased risk-taking and inefficient risk-taking are associated with smaller scale economies;

Kopecky and VanHoose (2004) examine the effects of bank requirements on the loan transmission mechanism and the optimal liability mix and scale by focusing on the role of short- and long-run adjustments where the driving fundamentals for the banking sector are the risk-free interest rate determined by monetary policy makers, term-structure risk, the riskiness of non-bank debt and bank cost structure. They prove that the nature of the effects on the liability of banks depends on whether bank issue insured or uninsured deposits. Besides, they impose that non-risk-based capital requirements fail to influence bank lending or market loan rates relative to their values in the absence of capital standards in a banking sector. Short- and long-run adjustments under non-risk-based requirements take place through alteration in a manner that on net leads to a shifting of funds from uninsured deposits to insured deposits and non-bank debt securities, implying that non-risk based capital requirements reduce the short-term liquidity risk of the banking system by shifting some of the risks to the deposit insurance system. In the long-run, the optimal mix liabilities and equity respond ambiguously to non-risk-based capital requirements when banks issue both insured and uninsured deposits.

Inderst and Mueller (2008) show that bank optimal capital structure is related to the competition for borrowers in an underinvestment problem, unless banks are levered up sufficiently. In this, banks are assumed to be sophisticated lenders who are able to generate valuable information in analyzing the creditworthiness of the borrowers’ investment project.
Besides, they indicate that leverage is necessary to provide first-best incentives for risk taking and develop a theory of optimal bank capital structure that is specific to financial institutions and that is driven by bank’s functions in making new risky loans. Wu and Yue (2008) define leverage as total liabilities divided by the book value of total assets.

**The Relationship between Leverage and Profitability:**

**H$_1$:** There is negative relationship between profitability and overall leverage.

According to pecking order hypothesis, the financing of a firm follows the sequence of internal capital and debt and finally external equity. Highly profitable firms may be able to finance their growth using earned income whereas less profitable firms will be forced to resort to debt financing and will increase leverage. In addition, an increase in the tax rate will affect after-tax income and retained earnings. Wu and Yue (2008) define profitability as average of return on assets (before tax) in their study. It is negatively related to leverage change. It is consistent with the POT that firms use internal funds first. Besides, profitability is also being measured as earning before interest and taxes plus depreciation expenses and provisions divided by total assets (Miguel and Pindado, 2001; Ozkan, 2001; Gaud et al., 2005; González and González, 2008).

There is a negative association between profitability and leverage. A decrease in the bank’s profitability is due to more intense loan market competition and this leads to an increase in bank’s optimal debt level and leverage ratio (Inders and Mueller, 2008). It is argued that more profitable firms can sustain higher levels of (tax-advantageous) debt financing based on the notion of financial distress. Gropp and Heider (2006) find that higher profitability is associated with lower leverage in the examination of capital structures of 200 large banks. Kopecky and VanHoose (2004) imply that as key participants in the monetary sector of the economy, banks are exposed to macroeconomic shocks. Unexpected declines in aggregate production induce lower aggregate corporate profits and an increase in loan defaults. A larger quantity of loans relative to bank equity exposes the bank to reduced profits and a higher probability of bankruptcy, which the equity market incorporates into a higher non-diversifiable risks premium relative to a bank with a lower quantity of loans. Reynolds et al. (2000) imply that profitability is directly related to capital adequacy. González and González (2008) show the relation between leverage and profitability of the firm is negative by using panel data in 39 countries and this is consistent with the POT that higher profitability increases the possibility of retaining earnings and reduces the need of debt.

**The Relationship between Leverage and Size:**

**H$_2$:** There is negative relationship between size and overall leverage.

Size is the natural logarithm of total assets, in the study of conducted by Wu and Yue (2008). Larger firms may change their leverage more readily than smaller firms. Small firms are believed to have more asymmetric information problems than large firms and therefore, according to pecking order hypothesis, should issue less stock than large firms. In contrast, trade-off theory emphasizes that size may be proxy for bankruptcy risk and that large firms could be expected to have more leverage since bankruptcy risk is presumably lower for large firms. Larger firms probably more diversified and thus subject to less bankruptcy risk (Seifert and Gonenc, 2008).
Reynolds et al. (2000) indicate that bank size given by assets (ignoring the squared term) is inversely related to the capital adequacy ratio – large bank have smaller capital adequacy ratios. They also show that as bank size increases, the profit rate increases but profit rate falls in running the regression for profit return on assets. As for this, profits and loan preference increase with size while capital adequacy decreases with size.

Size is also measured as natural logarithm of total sales (Titman and Wessels, 1988; Rajan and Zingales, 1995; Gaud et al., 2005; González and González, 2008). Many authors suggest that firm size is positively related to the leverage ratio (Rajan and Zingales, 1995; Booth et al., 2001; Frank and Goyal, 2003; Gaud et al., 2005). However, it is assumed to be fewer information asymmetries between insiders in a firm and the capital markets for larger firms. Larger firms should thus be more able to issue informationally sensitive securities like equity and should have less debt.

All studies by Rajan and Zingales (1995), Fama and French (2002), Frank and Goyal (2003), Gaud et al. (2005), Flannery and Rangan (2006) and González and González (2008) show that size has a positive impact on firms’ debt and this is consistent with size being an inverse proxy for the probability of bankruptcy. However, Boquest and Moore (1984) do not find firm size to be a contributory factor.

The Relationship between Leverage and Growth Opportunities:

H3: There is negative relationship between growth opportunities and overall leverage.

The trade-off hypothesis of capital structure suggests that high-growth firms will be more likely to go bankrupt. Therefore, they will use less debt. On the other hand, the expansion of the business will require a large amount of funds, which may not be sufficiently supported by internal operations. As for this, high-growth firms may have larger leverage changes.

Wu and Yue (2008) define growth opportunities as growth of total assets. It is positively related to leverage change, which indicates that growing firms are more likely to rely on the external debt to finance their expansion. González and González (2008) indicate that there is a negative coefficient for growth opportunities which may be consistent with Trade-Off Theory but it is not statistically significant at standard levels. This reflects higher agency costs between shareholders and debtholders and higher costs of financial distress.

Seifert and Gonenc (2008) divide their observations into high growth – top 30% of all observations sorted by growth in assets – and low growth – bottom 30% – and examine how well the POT holds for these groups. High growth firms may face more asymmetric information problems generally as their growth is often attributable to research and development. Therefore, it is expected that high growth firms are expected to follow the pecking order hypothesis more than low growth firms. On the other hand, agency models of capital structure stress that the underinvestment problem may cause high growth firms to use more external equity than low growth firms.
The Relationship between Leverage and Asset Structure:

\[ H_4: \text{There is positive relationship between asset structure and overall leverage.} \]

According to POT, the coefficient on the variable tangibility should be negative, indicating that firms with few tangible assets might be expected to have more asymmetric problems and thus use less equity. In contrast, many traditional capital structure models stress the collateral value of tangible assets and to increase debt levels with more tangibility (Seifert and Gonenc, 2008).

Viswananth and Frierman (1995) define an asset to be more fungible, the lower the sum of the costs associated with variance-increasing actions. Firms’ ability to issue debts differs according to the assets they hold as firms in the same industry are characterized by similar asset holdings. Billett and Rynagaert (1997) mention that the revaluation of firm assets is restricted to non-financial assets on the theory that a bidder acquires the target because it can increase the value of the target by implementing changes in the management of real assets (plant, property, inventories, intangibles and others), but it cannot meaningfully increase the value of target’s financial assets (cash, marketable securities, receivables, investments in other firms) following a takeover.

The Relationship between Leverage and Cost of Financial Distress:

\[ H_5: \text{There is no relationship between cost of financial distress and overall leverage.} \]

Kim (1978) classifies bankruptcy costs into four categories: (i) liquidation cost – fetching only a fractional value of physical assets due to market imperfections; (ii) indirect reorganization costs – adversely affecting the efficiency and/or productivity due to difficulty in obtaining credit; (iii) administrative costs – remuneration to third parties such as lawyers and trustee; and (iv) refusal to obtain tax credit for the tax losses of the bankrupt firms.

Scott (1976) mentions that as the debt ratio rises, it increases not only the probability of failure but also its concomitant costs and this decreases the value of the firm. Management must balance the favorable valuation effects of greater leverage caused by the tax deductibility of interest with the unfavorable effects of the increased probability of incurring bankruptcy costs and these unfavorable effects are not always borne by stockholders. Thus, there would be an optimum short of an all-debt financial structure.

Mehta et al. (1979) mention that when potential bankruptcy costs exist, the intercept includes not only the business risk premium but also a premium for bankruptcy. Even when bankruptcy risk is properly reflected in the valuation process, it cannot be significant unless the business risk component is extremely small. The study conducted indicates that such a decline in business risk would more than offset the concomitant increase in the financial risk resulting from an increase in the debt-equity ratio. On the other hand, during periods of rising interest rates, the strong dividend preference would require shrinkage in debt as a means of overcoming capital inadequacy, rather than additional injections of equity. Kopecky and VanHoose (2004) indicate that relatively larger quantities of government securities expose the unhedged banks to unexpected macroeconomic interest-rate shocks that can also lead to potential bankruptcy.
The Relationship between Leverage and Tax Shield Effects:

H₆: There is no relationship between tax-shields effects and overall leverage.

Modigliani and Miller (1963) find that tax deductibility of interest causes any substitution of debt for equity to increase the value of the firm as banks are subject to the full effects of corporate income taxation and this implies that there will never be capital adequacy. As a matter of fact, there will always be capital abundance for banks and they should utilize as much debt and as little equity as possible.

DeAngelo and Masulis (1980) extend Miller’s (1977) model by incorporating non-debt-related tax shields such as depreciation and show that firms with a greater amount of non-debt tax shields will have lower debt-equity ratios. Givoly et al. (1992) examine the 1986 US Tax Reform Act and find that after the tax reform, firms that had experienced larger drops in the corporate tax rate reduced their use of debt. The 1986 Tax Reform Act affected personal tax at the same time, which will also affect capital structure (Graham, 2003).

**Conceptual Framework**

The conceptual framework is extracted from study by Chen (2004). However, long-term leverage is not included in this study as there is difficulty in identifying and classifying long-term leverage from total liabilities in annual reports for Islamic financial institutions and there is no clear distinction between short- and long-term leverage for financial institutions. There is no literature review about classification of long-term leverage for financial institutions.

**Figure 1: Conceptual Framework for LEV**
Methodology

The dynamic process – the proportionality hypothesis – is emerged in this study. Proportionality refers to the various financial and accounting ratios used as indexes of bank performance (Barners, 1987; Kallunki et al., 1996, Turner, 1997; Reynolds et al., 2000). Panel data is also used to generate robust findings for this study. Book value for debt has been used although market value is theoretically preferable for both equity and debt measures, data limitations preclude its use for debt (Mehta et al., 1979).

Table 1: Measurement of Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent variables</strong></td>
<td></td>
</tr>
<tr>
<td>Overall leverage</td>
<td>LEV Ratio of book value of total debt to total assets</td>
</tr>
<tr>
<td><strong>Independent variables</strong></td>
<td></td>
</tr>
<tr>
<td>Profitability</td>
<td>PROF Ratio of earnings before interest, tax, and depreciation to total assets</td>
</tr>
<tr>
<td>Size</td>
<td>SIZE Logarithm of total assets</td>
</tr>
<tr>
<td>Growth opportunities</td>
<td>GROWTA Sales growth/total asset growth</td>
</tr>
<tr>
<td>Asset structure</td>
<td>TANG Ratio of tangible assets (sum of fixed assets and inventories to total assets)</td>
</tr>
<tr>
<td>Cost of financial distress</td>
<td>EVOL Absolute value of the first difference of percentage Change of operating income</td>
</tr>
<tr>
<td>Tax shields effects</td>
<td>NDTS Non-debt tax shields (ratio of depreciation to total assets)</td>
</tr>
</tbody>
</table>


Panel data, also called as longitudinal data or cross-sectional time series data, is data where multiple cases are observed at two or more time periods. Cross-sectional time-series data are the cross-sectional information reflected in the differences between subjects and the time-series or within-subject information reflected in the changes within subjects over time. Panel data regression techniques allow one to take advantage of these different types of information.
Analysis

Descriptive analysis has been conducted to look for the level of overall leverage of Islamic financial institutions. The summary for descriptive analysis of dependent and independent variables for the panel data – 48 samples – for the study is as:

Table 2: Descriptive Analysis for Dependent and Independent Variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>S.D.</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEV</td>
<td>0.8928</td>
<td>0.1095</td>
<td>0.2469</td>
<td>1.0170</td>
</tr>
<tr>
<td>PROF</td>
<td>0.0101</td>
<td>0.0184</td>
<td>(0.0800)</td>
<td>0.0367</td>
</tr>
<tr>
<td>SIZE</td>
<td>9.7234</td>
<td>0.4019</td>
<td>8.7034</td>
<td>10.3883</td>
</tr>
<tr>
<td>GROWTA</td>
<td>2.2297</td>
<td>6.5485</td>
<td>(18.2900)</td>
<td>38.4802</td>
</tr>
<tr>
<td>TANG</td>
<td>0.0017</td>
<td>0.0046</td>
<td>-</td>
<td>0.0292</td>
</tr>
<tr>
<td>EVOL</td>
<td>0.4831</td>
<td>1.9539</td>
<td>(5.8800)</td>
<td>8.5508</td>
</tr>
<tr>
<td>NDTS</td>
<td>0.0003</td>
<td>0.0005</td>
<td>-</td>
<td>0.0023</td>
</tr>
</tbody>
</table>

From the analysis, the mean for LEV is 0.8928, indicating that overall leverage of Islamic financial institutions is approximately 89.28%. The standard deviation for LEV is 0.1095. Besides, in order to test the relationship between dependent and independent variables for Islamic financial institutions, multiple linear regressions testing is conducted for panel data of 48 samples and the result is as:

Table 3: Multiple Linear Regressions for Panel Data

Dependent variable: LEV - Panel Data
Sample: 48

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Estimated Coefficients</th>
<th>Std. Error</th>
<th>Beta</th>
<th>T-ratio</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>0.8550</td>
<td>0.2260</td>
<td>-</td>
<td>3.7824</td>
<td>0.0005</td>
</tr>
<tr>
<td>PROF</td>
<td>(2.4335)</td>
<td>0.4548</td>
<td>(0.4099)</td>
<td>(5.3509)***</td>
<td>0.0001</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.0095</td>
<td>0.0233</td>
<td>0.0347</td>
<td>0.4048</td>
<td>0.6877</td>
</tr>
<tr>
<td>GROWTA</td>
<td>0.0000</td>
<td>0.0011</td>
<td>0.0011</td>
<td>0.0165</td>
<td>0.9870</td>
</tr>
<tr>
<td>TANG</td>
<td>(28.8898)</td>
<td>3.5224</td>
<td>(1.2134)</td>
<td>(8.2019)***</td>
<td>0.0001</td>
</tr>
<tr>
<td>EVOL</td>
<td>(0.0024)</td>
<td>0.0039</td>
<td>(0.0427)</td>
<td>(0.6116)</td>
<td>0.5442</td>
</tr>
<tr>
<td>NDTS</td>
<td>87.0697</td>
<td>31.6659</td>
<td>0.3977</td>
<td>2.7496***</td>
<td>0.0088</td>
</tr>
</tbody>
</table>

R-squared: 0.8122  * Significant at 10%
R: 0.9012  ** Significant at 5%
F Statistics: 29.5553***  *** Significant at 1%
When leverage is measured by total leverage, profitability and asset structure negatively affect LEV at 0.0001 levels, respectively, while tax-shield effects positively affects LEV at 0.0088 level. R-square for the study is 0.8122, indicating that 81.22% of LEV can be explained by using independent variables. $F$-statistics is 29.5553 ($P = 0.0001$), implying that the independent variables can fit well in the LEV model. In this case, the empirical evidences of the study support $H_1$ and fail to support $H_4$ and $H_6$.

**Discussions**

Descriptive analysis shows that overall leverage of Islamic financial institutions in Malaysia is about 89%. It shows that Islamic financial institutions prefer to have leverage, rather than equity financing. Viswanath and Frierman (1995) mention that debt exists because of its incentive characteristics or because of its tax advantages, in contrast to the traditional economic view that distinguishes between securities in terms of their cash flow characteristics. Myers (1984) and Frank and Goyal (2003) mention that when outside funds are necessary, firm may prefer debt to equity because of lower information costs associated with debt issues. Equity is rarely issued. From the point of view of an outside investor, equity is strictly riskier than debt. Both have an adverse selection risk premium but the premium is large on equity. Therefore, an outside investor will demand a higher rate of return on equity than on debt. From the perspective of those inside the firm, retained earnings are a better source of funds than debt and debt is better deal than equity financing. Accordingly, the firm will fund all projects using retained earnings if possible. If there is an inadequate amount of retained earnings, then debt financing will be used. Equity will not be used and the financing deficit will match the net debt issues.

Inderst and Mueller (2008) mention that all-equity financed banks are too conservative in their credit decisions and banks must lever up sufficiently to have first-best incentives to take on new risks. However, banks may take on too much leverage and consequently engage in excessive risk-taking if they have access to insured deposits without paying a fair premium. Irrespective of the size of insured deposit base, banks would always want to take on additional leverage. If deposits are fairly priced, imposing binding capital requirement makes banks too conservative. Banks are highly levered as: (i) in practice, banks typically take on additional debts over and above their deposit base; (ii) even the safety net provided by deposit insurance and informal guarantees cannot fully account for their substantially higher leverage as compared to non-financial corporations. While it is mainly large banks that benefit from such a safety net, other financial intermediaries have similar capital ratios as banks do; and (iii) given the opaqueness of financial firms’ assets and their potentially greater flexibility to make investments, risk-shifting incentives should weigh especially strong for financial firms (Inderst and Mueller, 2008; Kahn and Winton, 2004).
Profitability

The negative relationship between profitability and overall leverage seems to support POT. It indicates that higher profitability the Islamic financial institutions, the lower level leverage of the financial institutions. Antoniou et al. (2007) observe that leverage is positively related to tangibility and firm size and negatively associated with profitability; growth opportunities and share performance in both capital market and bank-oriented economies and those firms have a target debt ratio.

Haan and Hinloopen (2003) mention firms have preference for internal finance over external finance, according to POT. Availability of internal funds is captured by the variables liquidity and profitability, defined as liquid assets over total assets and earnings over total assets, respectively. These proxies should be positively correlated with the incidence of internal finance and negatively correlated with all external financing types. The greater is the availability of internal funds, the higher is the probability that these funds are used and the lower the external funds are needed. Fama and French (2002) indicate that the negative relationship between profitability and leverage is consistent with POT and with at least 2 issues as: (i) current profitability can serve as a signal of investment opportunities; and (ii) firms may face fixed costs of adjustments that when a firm earns profits, debt gets paid off and leverage falls automatically. Only periodically, will the large readjustments be made in order to capture the tax benefits of leverage (Fischer et al., 1989). Inderst and Mueller (2008) and Gropp and Heider (2006) find that there is negative association between profitability and leverage. A decrease in bank’s profitability due to more intense loan market competition leads to an increase in bank’s optimal debt level and leverage ratio. Based on the notion of financial distress, it has been argued that more profitable firms can sustain higher level of (tax-advantageous) debt financing.

Asset Structure

The negative relationship between asset structure and overall leverage seems not to support POT. Morellec (2001) mentions that the possibility of selling assets provides flexibility to the borrower by allowing it to reduce firm size when there is an economic downturn. Although these capacity reductions are irreversible, they raise equity value for: (i) asset sales allow the firm to increase dividend payments when it is solvent; and (ii) they allow the firm to finance continued operation of its remaining assets without requiring capital injections by shareholders when the firm is solvent on a stock basis but insolvent on a flow basis. By contrast, as they decrease the liquidation value of the firm and change the timing of default, asset sales reduce the value of bondholders’ claim. In a rational expectations model, bondholders recognize the adverse borrower behavior and credit spreads adjust to yield a normal compensation. As a result, the firms substitute equity for debt and thereby reduce leverage. The effect of asset sales on firm value results from a trade-off between the decrease in debt value and the value of the operating flexibility provided to the firm. As a consequence, it depends on the firm and industry characteristics such as asset productivity and demand uncertainty.
The bank is a source of liquidity both for the depositors and entrepreneurs. When some initial depositors want their money back in the ordinary course of business, the bank does not need to liquidate the entrepreneurs. It simply borrows from new depositors who is given the prospective strength of their claim, will willingly refinance (Kashyap et al., 2002). Besides, if banks are competitive, all projects for which the bankers can raise funds by pledging payments to outside depositors and capital are funded (Gorton and Winton, 1995). Diamond and Rajan (2000) advocate a functional approach to banks’ capital structure and find that bank assets and functions are not the same as those of industrial firms. In order to really understand the determinants of capital structure of banks, one is to start by modeling the essential functions banks perform and the role capital plays.

**Tax-Shields Effects**

The negative relationship between tax-shields effects and overall leverage seems not to support POT, instead it supports Trade-Off Theory. Because of the tax-shield, firm has an incentive to issue debt. The design of the debt contract is essential because it affects the type of moral hazard problems associated with financing (Morellec, 2001). Walsh and Ryan (1997) indicate that the positive relationship between tax-shields effects and overall leverage reflects the importance of depreciation tax shields as a non-debt tax shields and that corporate interest payments are tax deductible. By introducing imperfections, later papers show that an optimal debt-equity ratio could hold as a consequence of a tradeoff between positive and negative impacts on the firm’s market value of some combination of taxes, bankruptcy costs, agency costs and/or costs induced by asymmetric information (Kraus and Litzenberger (1973); Kim (1978); Smith and Warner (1979); Scott (1977) and Titman (1984)).

**Conclusions**

Many studies and research have been conducted to look for financial determinants of capital structure and application of different capital structure theories in various countries. However, there is limited study about the financial determinants of Islamic financial institutions in Malaysia. This study is conducted to provide empirical evidence about the application of POT as capital structure pattern for Islamic financial institutions in Malaysia. The study finds that Islamic financial institutions are highly levered as they serve on a functional approach – an important function of banks is to make risky loans in a competitive environment. Banks must lever up sufficiently to have first best-incentives to take on new risks. (Inderst and Mueller, 2008). Besides, the negative relationship between profitability and overall leverage seems to support the application of POT in capital structure pattern for Islamic financial institutions in Malaysia. This may indicate that current profitability can serve as a signal of investment opportunities and firms to earn profits and debts get paid off automatically (Fama and French, 2002). However, the positive relationship between assets structures and overall leverage fails to support the application of POT, or any other capital structure theory, in this industry. Diamond and Rajan (2000) indicate that banks’ functions and assets are different as those of industrial firms. As for this, the financial determinants and capital structure of banks may be different from other firms.
The positive relationship between tax-shields effects and overall leverage fails to support the POT, instead it supports Trade-Off Theory. This may reflect the importance of depreciation as non-debt tax shields and interest payments as tax deductions for the industries. These empirical findings of this study show that Islamic financial institutions tend to use POT and Trade-Off Theory in determining capital structure pattern for Islamic banking and finance industry in Malaysia. In order to better understand the financial determinants and capital structure pattern of this industry, it is important to understand the functions and roles of financial institutions.

**Limitations of the Study and Suggestions for Future Study**

There are some limitations in the study. In this case, debt ratios in this study represent the proportion that debt takes in all accumulated liabilities since the bank’s birth and it is a snapshot of a bank’s complete history of financing choices at a particular point in time. Information on the timing of acquiring debt or issuing equity is ignored. Besides, internal equity and external equity are not distinguished in typical debt ratios. This distinction is essential in considering the effect of asymmetry information on incremental financing choices and there is no clear distinction between short- and long-term leverage to be included in the study, even though long-term leverage is said as most sensitive to the problems of adverse selection and moral hazard. By using it as dependent variable, it can better understand the effect of the bank concentration and institutions on the resolution of problems between firms and debtholders (González and González, 2008).

As for this, there are some suggestions for the future study. It is suggested that more variables be considered in measurement of variables such as agency costs, liquidity and non-financial variables such as rules and regulation, industry characteristic and others. These variables may have profound influences in this industry as Islamic banking and finance environment is an unique industry. Besides, it is suggested that more detailed analysis or evaluation on measurement of variables and financial statements for Islamic banks to be considered as there are various ratios that can be used to generate meaningful result for the study. Since long-term leverage is a better indicator to reflect the effect of leverage on banks, it is suggested to have clear and better distinction between short- and long-term leverage supported by clear definitions and literature reviews. This is to generate better knowledge about this industry.

**References**


