



**THE DETERMINANTS OF DEBT FINANCING AND  
FIRM PERFORMANCE: EVIDENCE ON SHARIAH  
APPROVED FIRMS**

**BY**

**NURSHAMIMITUL EZZA BINTI RAMLI**

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International Islamic University Malaysia**

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## ABSTRACT

The issue of high reliance on debt has raised major concern since it has created several downfalls of large US's corporation such as Enron (2001) and Lehman Brothers (2008) and the 2009 Greek Depression. In Malaysia, statistic shows that after the 2008 global financial crisis, its average corporate debt-to-GDP increased tremendously for the period of 2009 to 2015—from 75.60% to 94.10%. This figure is alarming as financial crises in many emerging countries have been preceded by a rapid growth in debt level of the countries. Further, in the revised Shariah screening methodology in 2013, listed firms on Bursa Malaysia are now required to comply with 33% debt ratio benchmark if they are to be classified as Shariah-approved stocks. Therefore, the first part of analysis focuses on examining factors that affect debt level of Shariah-approved firms in Malaysia. This study covers a balanced panel of 239 Shariah-approved firms listed on the Bursa Malaysia from 2000 to 2014—which a firm must be Shariah-approved firms consistently during that period. The study employs a static panel regression model which includes the pooled OLS, random effect model (REM) and fixed effect model (FEM). The results show that growth opportunity, size, bankruptcy risk, and non-debt tax shield (NDTS) are robust evidence to determine debt level of Shariah-approved firms in Malaysia. Further, industry determinant proxies by Herfindahl-Hirschman (HH) Index and economic determinants that include inflation, GDP and economic crisis are also significantly affect firm's debt level. The study also found that there is a variation of results across the industries that confirms industry nature plays a role in determining debt level of the firms. In the second part of the analysis, it was extended to the performance context aim to assess the impact of debt level on the performance of Shariah-approved firms in Malaysia. Using panel non-linear regression, the analysis proved that a non-linear relationship exists between ROA and debt level. The results are also robust to different performance indicator of ROI and ROE. This suggests that performance of Shariah-approved firms in Malaysia varies according to the debt ratio level. The results were also varied across industries which suggests the relationship between debt and performance depends on its industry. Further, the results suggest Shariah-approved firms in Malaysia, on average, perform better if their debt level is above 33%. Thus, the introduction of the 33% debt ratio benchmark can be concluded as did not enhance the performance of Shariah-approved firms in Malaysia. Due to the financial data only extends through 2014, it is possible that the model did not capture positive effects of debt ratio enforcement on firm performance in such period.

## خلاصة البحث

أثارت مسألة الاعتماد بشكل كبير على الديون قلقاً كبيراً في الصناعة، حيث أدت إلى عديد من حالات الإفلاس في الشركات الأمريكية الكبرى مثل إنرون 2001م، وليمان أند براذرز 2008م، فضلاً عن حالة الركود العامة في اليونان عام 2009م. أما في ماليزيا، فقد بينت الإحصاءات أنه بعد الأزمة المالية العالمية عام 2008م، فقد ارتفع متوسط ديون الشركات مقارنةً بإجمالي الناتج المحلي بشكل كبير خلال الفترة الممتدة من عامي 2009 إلى 2015م، وذلك من نسبة 75.60٪ إلى 94.10٪. وهذه المؤشرات تبعث على القلق، لأن الأزمات المالية في كثير من الدول النامية يسبقها نمو سريع في مستوى الديون في هذه الدول. أضف إلى ذلك في منهجية المراجعة الشرعية المنقحة في عام 2013م كانت الشركات المدرجة في بورصة ماليزيا مطالبة بالامتثال لمعيار نسبة الديون 33٪، وذلك حتى تصنف بوصفها أسهماً متوافقة مع الشريعة الإسلامية. بناءً على ما سبق، يركّز الجزء الأول من التحليل على دراسة العوامل التي تؤثر في مستويات الديون في الشركات المتوافقة مع الشريعة في ماليزيا. وتغطي هذه الدراسة مجموعة متوازنة من البيانات مكونة من 239 شركة متوافقة مع الشريعة الإسلامية ومدرجة في بورصة ماليزيا من عام 2000 إلى عام 2014م، وقد استخدمت هذه الدراسة موديل انحدار متوازن والتي تشمل نظام OLS، وأنموذج التأثير العشوائي (REM) وأنموذج التأثير الثابت (FEM). وخلصت النتائج إلى أن فرص النمو، والحجم، ومخاطر الإفلاس هي متغيرات فعالة في تحديد مستوى الديون للشركات المتوافقة مع الشريعة في ماليزيا. وعلاوة على ذلك، فقد وجد تأثير كبير للعوامل المحددة في الصناعة من قبل مؤشر Herfindahl Hirschman والمحددات الاقتصادية الأخرى التي تشمل التضخم، والناتج المحلي الإجمالي، والأزمة الاقتصادية على مستوى ديون الشركة. وأظهرت الدراسة أيضاً أن هناك اختلافاً عبر مختلف الصناعات، مما يؤكد أن طبيعة الصناعة تؤدي دوراً مهماً في تحديد مستوى الديون للشركات. وفي الجزء الثاني من التحليل، تم توسيع نطاق التحليل ليشمل تقييم الأداء بهدف تقييم أثر مستوى الدين في أداء الشركات. وباستخدام الانحدار غير الخطي أظهر التحليل وجود علاقة غير خطية بين العائد على الأصول، ومستوى الدين للشركات المتوافقة مع الشريعة في ماليزيا. وتشير هذه العلاقة إلى أن أداء الشركات المتوافقة مع الشريعة الإسلامية في ماليزيا يختلف وفقاً لمستوى نسبة الديون. وخلصت النتائج أيضاً إلى وجود تباين في مختلف الصناعات مما يؤكد أن العلاقة بين مستوى الدين والأداء تعتمد على الصناعة. وكانت النتائج تشير إلى أن أداء الشركات المتوافقة مع الشريعة الإسلامية في ماليزيا تكون أفضل إذا كان مستوى ديونها أكثر من نسبة 33٪. وبالنظر إلى أن البيانات المالية المتاحة فقط حتى عام 2014م، فمن المحتمل أن أنموذج لم يلحظ آثاراً إيجابية لتطبيق نسبة الدين على أداء الشركات في فترة من الزمن.

## **APPROVAL PAGE**

The thesis of Nurshamimitul Ezza Binti Ramli has been approved by the following:

---

Gairuzazmi Mat Ghani  
Supervisor

---

Razali Haron  
Co-Supervisor

---

Nor Azizan Che Embi  
Co-Supervisor

---

Dzuljastri Abd. Razak  
Internal Examiner

---

Annuar Md. Nassir  
External Examiner

---

M. Shabri Abd. Majid  
External Examiner

---

Noor Mohammed Osmani  
Chairman

## DECLARATION

I hereby declare that this thesis is the result of my own investigations, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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*To my parents for their endless dua' and support; -*

*Ramli Abdul Manan*

*and*

*Normah Abd. Rahim*

رَبِّ أَوْزِعْنِي أَنْ أَشْكُرَ نِعْمَتَكَ الَّتِي أَنْعَمْتَ عَلَيَّ وَعَلَىٰ وَالِدَيَّ

وَأَنْ أَعْمَلَ صَالِحًا تَرْضَاهُ وَأَدْخِلْنِي بِرَحْمَتِكَ فِي عِبَادِكَ الصَّالِحِينَ

*"My Lord, enable me to be grateful for Your favour which You have bestowed upon me and upon my parents and to do righteousness of which You approve. And admit me by Your mercy into (the ranks of) Your righteous servants."*

*(Qur'an, an-Naml:19)*

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## LIST OF ABBREVIATIONS

FEM	Fixed effect model
GDP	Gross domestic product
HH Index	Herfindahl-Hirschman Index
NDTS	Non-debt tax shield
POT	Pecking order theory
REM	Random effect model
SC	Securities Commission of Malaysia
TOT	Trade-off theory

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 BACKGROUND OF THE STUDY**

The issue of high reliance on debt has raised major concerns since the downfalls of large U.S. corporations such as Enron in 2001 and Lehman Brothers in 2008. The impact of excessive debt is also evident in the 2009 Greek depression. We cannot deny that heavy reliance on debt affects the survival of both a country and a firm. Some researchers perceive the assumption of debt as the best solution to solve financial problems, whether at the firm, household or country level. Given the current uncertainty of the global economic condition, it is important to examine the return from debt in order to ascertain the optimal use of debt.

In finance, the optimal structure of debt is debated in the literature on capital structure. Usually discussed at the firm level, it essentially concerns the firm's optimal combination of debt and equity. It is critical for a firm's top level of management to make decisions regarding capital structure. This is because capital structure plays a vital role in realising the firm's ultimate objective: the maximisation of its value. In a corporate finance field, the discussion between a firm's objectives, capital structure and value will always interrelate and connect. Further, according to Koller, Dobbs and Huyett (2011), it is essential for the top level of management to know the art of creating value for the firm and how that value is measured. An uncertain and ambiguous economic condition pressures top management to plan and craft the most effective strategy for the firm.

Capital structure issues have widely been given attention since the seminal contribution of Modigliani and Miller (1958). Development of the capital structure



theory, such as the trade-off theory (TOT), the pecking order theory (POT) and the agency theory, have furthered the discussion. Although the conventional capital structure theory has existed for more than a hundred years, there is no solid consensus in the literature on the best combination of debt and equity for firms. For example, the TOT itself postulates that debt may increase the overall value of a firm, but additional debt at a particular level may diminish the firm's performance. The theory does not specifically mention or propose the debt level at which this happens, however. The same goes for the POT, which proposes financing preferences ranking but also does not mention the limit of debt.

In contrast to the above, Islam has developed proper guidance and direction regarding how much debt can be assumed. This is based on the Prophet Muhammad (PBUH)'s words that 'one-third is enough', which implies that debt cannot be more than one-third or 33% of our total assets or wealth. This benchmark has been applied as a quantitative Shariah screening methodology to identify whether a firm's stock is Shariah compliant. In fact, all Shariah index providers, including Dow Jones Islamic Index (DJIM), Standard and Poor (S&P) Global Shariah index and Financial Times Stock Exchange (FTSE) Shariah index, are in consensus and adopt the 33% debt ratio as a solid debt benchmark (Ho, 2015).

In Malaysia in 2013, via the Securities Commission (SC) of Malaysia, the main regulator of the capital market revised the Shariah screening methodology in place since 1995. This initiative is consistent with the SC's aspirations to facilitate internalisation and widen market connectivity and participation, as outlined in the Capital Market Master Plan 2. As a result, a quantitative benchmark introduced as part of the Shariah screening assessment comprises the assessment of firms' debt ratio and cash ratio. With this revision, publicly listed firms on Bursa Malaysia are now

required to comply with the 33% benchmark for both debt ratio and cash ratio if they are to be classified as Shariah approved stocks.

The revised Shariah screening methodology in Malaysia is now consistent with that of the aforementioned Islamic index providers. This revision will surely create a broader investment opportunity that will attract both Muslim and non-Muslim investors to invest in the Malaysian capital market. In addition, more investments entering the Malaysian capital market will contribute to stimulating the country's economic activity as a whole.

Although Shariah approved stocks are bound by Islamic principles, their performance is believed to be on par with conventional stocks. This is evidenced by Bakar and Ali (2014), who inferred that Shariah-compliant portfolios in Malaysia performed as well as Shariah non-compliant portfolios during several economic crisis events. Further, Ismail, Kamarudin and Sarman (2015) found that Shariah approved firms have higher earning quality when compared to Shariah non-approved firms in Malaysia.

Because the development of capital structure theory mostly originated in the west, capital structure theory from the Islamic perspective is still under-explored. It is undeniable that recent increasing trends require more research to explore in depth the capital structure decision from the Islamic perspective. Researchers are interested in how Shariah approved firms structure their capital in comparison to the conventional firm practices mostly cited in the mainstream literature. Further study in this area will promote a better understanding of how Shariah approved firms operate, their distinctive Shariah values and how these values shape the Shariah approved firms' business environment.

## 1.2 PROBLEM STATEMENT

Debt requires a long-term financial commitment from a firm. As such, any number of uncertainties during the financing period may affect a firm's ability to keep its commitments. Uncertainty can be caused by numerous factors, including the economy, industry, politics, poor management and other unforeseen conditions. Thus, firms must plan wisely to manage their debt commitment, as failure to manage this issue can easily result in bankruptcy.

Statistically, prior to the 2008 global financial crisis, the Malaysian corporate sector had an average corporate debt-to-gross domestic product (GDP) ratio of around 75.60%, as tabulated in Figure 1.1. However, during the period of 2009 to 2015, the average corporate debt-to-GDP increased tremendously, to 94.10%. In 2015, the growth of the total debt of non-financial corporations stood at 104.80%, almost double (+13.20%) that of the previous year. This is mainly due to the weaker ringgit, which increased external debt obligations in ringgit-equivalent terms (Central Bank of Malaysia, 2015).

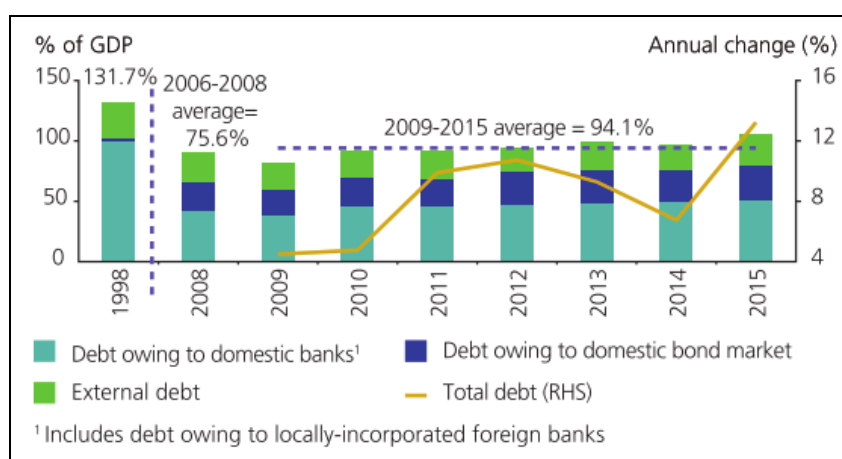


Figure 1.1 Malaysia's Corporate Debt-to-GDP Ratio

Source: Central Bank of Malaysia (2015b)

On a larger scale, in comparison to other emerging countries, the growth of Malaysian corporate debt-to-GDP ratio growth is considered low—less than 5% over the period of 2007 to 2014. However, other emerging countries such as China and Turkey experienced growth of more than 20% in their corporate debt-to-GDP ratio during the same period, as illustrated in Figure 1.2. For the record, on average, emerging countries’ corporate debt-to-GDP ratio has grown by 26%, from about \$4 trillion in 2004 to more than \$18 trillion in 2014 (International Monetary Fund, 2015).

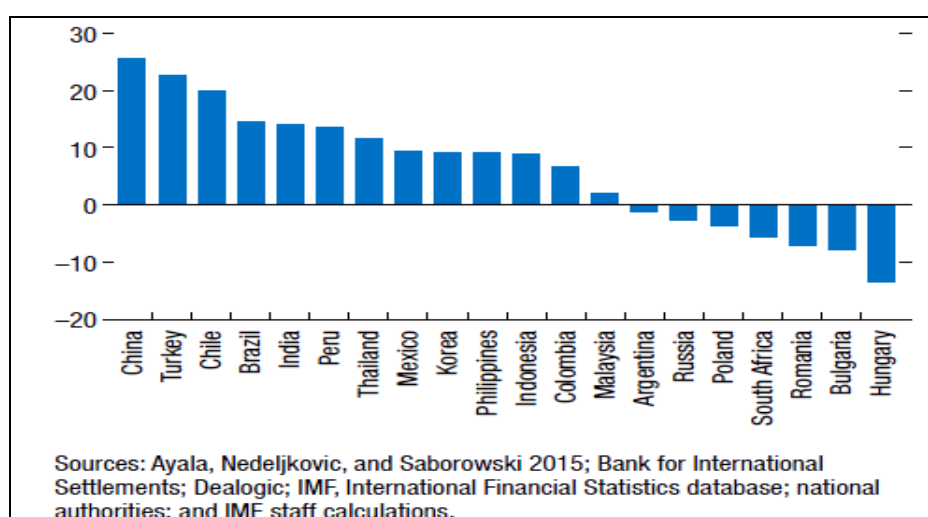


Figure 1.2 Corporate Debt-to-GDP Ratio in Emerging Economies

Source: International Monetary Fund (2015)

This figure is alarming, as we know that the downfall of large U.S. corporations such as Enron in 2001 and Lehman Brothers in 2008 was caused by debt. These increasing trends have raised further concerns, as financial crises in many emerging countries have been preceded by a rapid growth in debt level (International Monetary Fund, 2015). Thus, research that examines firms’ debt determinants and

how debt affects firm performance is needed to prevent history from repeating itself, at least for firms in Malaysia.

We regard the introduction of quantitative analysis in the revised Shariah screening methodology, especially the debt ratio benchmark, as an eye opener for this study. Although the introduction of a revised methodology aims partly to expand the growth of the Islamic capital market in Malaysia, there is an urgency to explore the advantages of this revision from a firm perspective. As firms are naturally profit-oriented organisations, the impact of the revised methodology must be examined through the firms' performance. We further expect that the introduction of the revised Shariah screening methodology will contribute to increasing the performance of Shariah approved firms. If not, it can be regarded merely as an enforcement matter, as it will bring no benefit to the performance of Shariah approved firms. Thus, there is a dire need for further research to assess the impact of the revised Shariah screening methodology on the performance of Shariah approved firms.

Even though the capital structure theory has been discussed for more than a hundred years, we discovered that there is no consensus among prominent finance scholars regarding how firms choose their capital structure. They also cannot determine a solid number or benchmark on the ideal ratio of debt and equity for firms. Given this grey area, an issue of inconclusiveness (Charalambakis and Psychoyios, 2012 and Haron, 2014a) has arisen in the capital structure study arena that further attracts researchers' interest. Moreover, as the economic condition is uncertain, and the way that business is conducted is constantly evolving, a study in this area will uncover new findings to explain the behaviour of firms' financing decisions, especially for Shariah approved firms in Malaysia.

Sometimes, even though firms are recognised as Shariah approved firms, their operation and conduct do not truly follow Islamic teaching. The initiative taken by the SC—introducing the financial ratio as part of their Shariah screening method—provides a strong base for the capital structure theory from which the Islamic perspective can grow and evolve.

### **1.3 RESEARCH OBJECTIVES AND RESEARCH QUESTIONS**

The objectives of this study include:

- i. Identifying debt financing determinants of Shariah approved firms in Malaysia from various industries on Bursa Malaysia;
- ii. Comparing debt financing determinants of Shariah approved firms in Malaysia to various industries on Bursa Malaysia;
- iii. Identifying the influence of debt on the performance of Shariah approved firms in Malaysia from various industries on Bursa Malaysia;
- iv. Comparing the influence of debt on the performance of Shariah approved firms in Malaysia with various industries on Bursa Malaysia;
- v. Showing whether the introduction of debt ratio in the revised Shariah screening methodology improved the performance of Shariah approved firms.

Based on the above research objectives, the research questions for this study are:

- i. What are the debt financing determinants of Shariah approved firms listed on Bursa Malaysia across the industries?

- ii. Do results in (i) vary across the industries?
- iii. Does debt contribute to the performance of Shariah approved firms across the industries?
- iv. Do results in (iii) vary across the industries?
- v. Does the introduction of debt ratio in the revised Shariah screening methodology improve the performance of Shariah approved firms?

#### **1.4 SIGNIFICANCE AND CONTRIBUTIONS OF THE STUDY**

This research aims to explore in depth the determinants that may affect debt financing of Shariah approved firms listed on Bursa Malaysia. The study will fill the gap created by the absence of evidence in previous studies on Shariah approved firms and the issue of inconclusiveness (Charalambakis and Psychoyios, 2012; Haron, 2014a). However, only few study focused on the capital structure issue of the Shariah approved firms and this includes Haron and Ibrahim (2012), Hassan, Shafi and Mohamed (2012) and Ahmad and Azhar (2015). In contrast, much research has been conducted to explore the issue of capital structure determinants from the perspective of the Shariah non-approved firms. To some extent, their work includes both Shariah approved and Shariah non-approved firms in their sample of studies; see Baharuddin, Khamis, Mahmood and Dollah, (2011), Ibrahim and Masron (2011), Mustapha, Ismail and Minai (2011) and Ahmad and Rahim (2013). While our aim seems simple and easy to attain, the capital structure literature fails to answer basic questions, such as whether large or small firms tend to have a higher debt ratio (Welch, 2007). Thus, we hope that the findings of this study will fill the gaps in research, at least—and especially—from the perspective of Shariah approved firms.

The study also incorporates an industry analysis that aims to identify the variation of debt determinants in different industries. Studying an industry analysis despite of only firm's specific determinants, will provide a new perspective in understanding the capital structure strategy of the firm. Neglecting industry roles in debt determinants may lead to misjudgement in such a way that we may simply conclude that a highly levered firm is more likely to go bankrupt etc. Incorporating industry into the analysis will enable us to examine and conclude whether the nature of the industry contributes to the result.

Prior research has recorded multiple ways and means to understand industry behaviour and its relationship with capital structure choice, but only a few studies have characterised industry determinants in the analysis. Some studies have included industry determinants in the form of a dummy variable (Titman and Wessels, 1988; Chen and Strange, 2005; Talberg, Winge, Frydenberg and Westgaard, 2008), while others have examined a very specific industry, such as mining (Islam and Khandaker, 2015), technology (Coleman and Robb, 2012) or shipping (Drobetz, Gounopoulos, Merikas and Schröder, 2013). In this study, then, we measure the impact of the industry with the Herfindahl-Hirschman (HH) Index to determine the debt level of Shariah approved firms.

This study also contributes largely to the sampling selection in which a firm must be consistently Shariah approved during the period of analysis. This is a crucial task, as we need to assess the Shariah status of each individual firm over a 15-year period of analysis. The study relies heavily on the list of Shariah-compliant securities issued by SC's Shariah Advisory Council. As compared to the other study on the Shariah approved firms in Malaysia as mentioned earlier, our study involves a larger sample of the Shariah approved firms that come from the various industries sector that