DETERMINANTS OF FINANCING CHOICES IN THE MALAYSIAN PUBLIC LISTED COMPANIES

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ABSTRACT

This study provides evidence concerning the key determinant factors that influence the choice of securities issuance amongst Malaysian public listed companies for the period of 2000-2009. Two major types of securities namely long term debt and common equity is examined. With regards to the long term debt, the study segregates the debt instruments into Islamic debt (*sukuk*) and conventional debt while the equity offering focuses on the rights issue. In examining the securities choice between the securities, three different groups are used as samples, namely conventional debt and equity, Islamic debt and equity and all debt as well as equity are studied. Besides, this study also investigates the choice between Islamic debt and conventional debt. This is among the first study that investigates the choice of Islamic debt as compared to other financial product as Islamic and conventional products are offered alongside. Using logistic regressions to identify factors that influence choice of related financial instrument, results from this study suggests that firm specific variables play a more prominent role compared to governance variables in determining corporate choice. Specifically, four variables (domestic private fund ownership, firm size, issue size and adjusted run-up) are consistently significant in the all three debt-equity sample groups. With regards to governance variables, managerial ownership, Bumiputera ownership and board size are significant to some degree in certain sample groups. As for Islamic debt and conventional debt, only the board size and adjusted run-up can explain the difference between the two. In general, the results of this study contribute further to the existing literature by providing evidence that debt-equity choice in Malaysia fully support market timing hypothesis, and partial support agency and trade off theory.

Keywords: securities choice, debt-equity, capital structure, corporate governance

ABSTRAK

Kajian ini mengemukakan bukti berkaitan faktor penentu utama yang mempengaruhi pemilihan penerbitan sekuriti dalam kalangan syarikat tersenarai awam di Malaysia bagi tempoh 2000-2009. Dua jenis sekuriti utama, iaitu hutang jangka panjang dan ekuiti biasa telah diteliti. Hutang jangka panjang dikelaskan kepada hutang Islam (sukuk) dan hutang konvensional manakala penawaran ekuiti merujuk terbitan hak. Tiga kumpulan sampel yang berbeza, iaitu hutang konvensional dengan ekuiti, hutang Islam dengan ekuiti, dan semua hutang dengan ekuiti telah dikaji bagi meneliti pilihan sekuriti antara sekuriti yang ada. Selain itu, kajian ini juga meneliti pilihan pembiayaan antara hutang Islam dengan hutang konvensional. Kajian ini merupakan antara kajian awal yang menyelidik pilihan hutang Islam berbanding produk kewangan lain kerana produk kewangan Islam ditawarkan bersama-sama dengan produk kewangan konvensional. Berdasarkan regresi logistik yang mengenal pasti faktor yang mempengaruhi pilihan instrumen kewangan yang berkaitan, hasil kajian ini memperlihatkan bahawa pemboleh ubah spesifik firma memainkan peranan yang lebih penting berbanding pemboleh ubah tadbir urus. Empat pemboleh ubah (pemilikan dana swasta tempatan, saiz firma, saiz terbitan dan peningkatan harga saham terlaras) secara spesifiknya didapati signifikan secara konsisten sebagai pemboleh ubah yang penting dalam ketiga-tiga kumpulan sampel hutang-ekuiti. Bagi pemboleh ubah tadbir urus, pemilikan pengurus, pemilikan Bumiputera dan saiz lembaga pengarah adalah signifikan untuk beberapa tahap dalam kumpulan sampel yang tertentu. Bagi hutang Islam dan hutang konvensional, hanya saiz lembaga pengarah dan kenaikan harga saham terlaras yang dapat menjelaskan perbezaan antara kedua-dua sekuriti. Secara umumnya, hasil kajian ini menyumbang kepada kosa ilmu yang sedia ada dengan menyediakan bukti bahawa pilihan hutang-ekuiti di Malaysia menyokong penuh hipotesis masa pasaran dan menyokong secara separa teori agensi dan teori keseimbangan.

Kata kunci: pemilihan sekuriti, hutang-ekuiti, struktur modal, tadbir urus korporat

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LIST OF ABBREVIATIONS

Accounting and Auditing Organization for Islamic Finance and Institutions	AAOIA
Bank Negara Malaysia	BNM
Capital market master plan	CMP
Capital market securities act	CMSA
Chief executive officer	CEO
Chief financial officer	CFO
Employee Provident Fund	EPF
Gulf Corporation Council	GCC
Initial public offering	IPO
International Organization of securities Commissions	IOSCO
Kuala Lumpur Interbank offering rate	KLIBOR
Malaysia International Islamic Financial Centre	MIFC
Perbadanan Nasional Berhad	PNB
Private debt securities	PDS
Principal Term and Condition	PTC
Labuan offshore financial services	LOFSA
New Economic policy	NEP
Securities Commission	SC
Securities Commission Act	SCA
Securities Industry Central Depositories Act	SICDA
Shariah Advisory council	SAC
Special Purpose Vehicle	SPV
Variance Inflation Factor	VIF

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CHAPTER ONE
INTRODUCTION

1.0 Introduction

This chapter begins with Section 1.1 which presents the background of the study. Section 1.2 provides an overview of capital raising activities in Malaysian capital market. Discussion on an institutional background which Malaysian corporations operate in is written in Section 1.3. It elaborates an overview of Malaysian capital market and regulatory requirement in Section 1.3.1 and 1.3.2 respectively. Section 1.4 discusses the development of Malaysian bond market and Section 1.5 elaborates the development of Malaysian equity market. Some characteristics of Islamic debt, conventional debt and equity are highlighted in Section 1.6. Problem statement is elaborated in Section 1.7. This is followed by research questions and research objectives which are described in Section 1.8 and Section 1.9 respectively. Section 1.10 discusses the significance of the study while Section 1.11 covers the scope of the study. Finally, Section 1.12 illustrates the organization of the study.

1.1 Background

Firms' managers deal with many important and complex decisions in managing the operation of a firm. One crucial decision is related to implementing investment projects which require the need of financing. In financing decisions, managers are left

with several options available to them which are the form, source, timing and pricing of financing. Firms could use retained earnings, equity, debt, mix of equity and debt and other sources of fund such as warrant, preferred stock and convertible debt. These security choices are available either publicly through stock or bond market or privately, through private placement or bank loans. Firms must also decide sources of fund either through short term or long term funds. While firms can use short term financing to fund their short term investments, firms which need to finance long term investment can use long term financing. The choice made by managers is more complex as they need to consider timing and pricing of their financing choice. In each of the alternative, managers must consider the costs and benefits for their firms and how their choices give impact to the firms' market value.

Prior international empirical evidence on corporate financing choice has focused on the choice between debt and equity in the developed market such as in the US (Hovakimian, Opler, & Titman, 2001; Jung, Kim, & Stulz, 1996; Titman & Wessels, 1988), the UK (Marsh, 1982) and Europe (Arrondo & Gomez-Anson, 2003; Gaud, Hoesli, & Bender, 2007; Jong & Veld, 2001; Jong, Verbeek, & Verwimeren, 2011; Panno, 2003). Despite the continuous theoretical debate on capital structure, there is relatively very little empirical evidence on how companies actually select between securities in Malaysia. Studies of corporate securities choice are limited between straight

debt and convertible (see Ibrahim and Hwei, 2010; Kim, 2009). To the author's best knowledge, there is only one study that focuses on debt-equity choice (Ismail & Razak, 2003) but the scope is limited to the financing needs of small and medium companies from financial institutions. Therefore, there is a need to study the choice between debt and equity within the Malaysian market given the unique condition that many companies in Malaysia are controlled by family and government, through government linked investment companies.

This research focuses on establishing factors that could be used to explain the security choice by firms in Malaysia. Specifically, the current study throws some light on a number of interesting questions such as the effect of governance structures on securities choice. In governance structure, this study examines ownership structures and board of directors' characteristics. In addition, other factors known as firm characteristics which are identified from extensive literature reviews are also investigated in this study. For instance, this study examines whether market condition or the firm's historical share price affect firms' choice of issuing certain financial instrument. In particular, it is argued that equity is issued following rising stock market (Bayless & Chaplinsky, 1996). Besides, this study also examines whether firms in similar industry have comparable debt ratios (Marsh, 1982; Opler & Titman, 1994; Taggart, 1977).

A unique characteristic of Malaysian debt market is that it is divided into two which are conventional debt and Islamic debt. The Islamic debt market began its

operation in response to liquidity management problem faced by Islamic financial institutions. As at the initial stage of the market which was from 1990 to 2000, *sukuk* was introduced as an Islamic alternative to conventional bond which serves as fixed income instruments. .During this period, Islamic debt issues were also limited to debt-based *sukuk* either in the form of mark-up sale (*murabahah*[1]) or deferred sale *(Bai' Bithaman Ajil*[2]). However, these kinds of *sukuk* did not gain global acceptance especially from most of the gulf countries due to the differences in *Shariah* interpretation on the mechanism of primary debt and secondary market (Securities Commission, 2009). However, as the Islamic debt market developed, *sukuk* becomes increasingly distinct from conventional debt. In fact, beginning from year 2002 onwards, the market gradually understands that *sukuk* does not necessarily represent debt but can also represent non-debt asset.

1.2 Capital Raising Activities in Malaysia

Companies can raise long term capital from financial institutions or the capital market. In Malaysia, there was a consolidation of public policy and privatization in the 1980s which led to an emergence of new financing pattern. Public sector borrowing had

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1 Also known as profit sharing which is a contract made between two parties to enter into a business venture. The parties consist of the *rabb al-mal* (capital provider) who shall contribute capital to finance the venture, and the *mudharib* (entrepreneur) who will manage the venture. If t he venture is profitable, the profit will be distributed based on a pre-agreed ratio. In the event of a business loss, the loss shall be borne solely by the provider of the capital.

[2]Also known as deferred-payment sale which can be defined as a contract that refers to the sale and purchase of assets on a deferred and installment basis with pre-agreed payment period.

declined but it was compensated with an increase in private sector borrowing. The ratio of bank credit to Malaysian GDP was extremely high at 149% in 1997 as private sectors rely on banking systems for its financing needs.

As the financial crisis of 1997 hit the profitability of the banking system, banks were cautious in extending new credit. As a result, during the post crisis period, for example in 1998 and 1999, loan growth was significantly low which was less than 8% of target loan growth proposed by the government. Consequently, there is an urgent need for an efficient fund raising framework, leading to a tap of capital market. The government expedites the issuance process by centralizing regulations of corporate bond market with Securities Commission (SC).

Financing through capital market is done through issuance of equity, debt and hybrid securities. The importance of the capital market as an avenue to raise capital for Malaysian companies has increased over time. Table 1.1 shows number of corporate submissions to SC for fund raising purpose as well as distribution of amount of new funds raised by the private sector in the Malaysian capital market. It is very clear from the table that Malaysian companies rely more on debt financing compared to equity financing. From 2000 to 2012, the total private debt financing accounts for approximately RM 916,991 billion representing 90.7% of total amount of financing while equity only takes about only RM 94,042 billion representing about 9.3% of total

Table 1.1

No of corporate submission and amount of funds raised by types of issues

Year	Equity[1]			Debt[2]			Total amount of financing (RM mil)
	Total submission	Amount raised (RM mil)	Percentage to total amount of financing	Total submission	Amount raised (RM mil)	Percentage to total amount of financing	
2000	45	8,744	30.83%	36	19,618	69.17%	28,362
2001	17	3,782	7.62%	76	45,877	92.38%	49,659
2002	24	7,104	16.71%	70	35,404	83.29%	42,508
2003	44	3,871	7.56%	62	47,347	92.44%	51,218
2004	82	2,728	5.39%	90	47,841	94.61%	50,569
2005	106	1,946	3.11%	97	60,663	96.89%	62,609
2006	86	3,260	3.94%	94	79,563	96.06%	82,823
2007	124	11,807	6.92%	102	158,802	93.08%	170,609
2008	43	4,800	3.32%	92	139,991	96.68%	144,791
2009	25	15,800	21.56%	40	57,485	78.44%	73,285
2010	26	13,100	17.08%	52	63,600	82.92%	76,700
2011	12	8,300	12.61%	34	57,500	87.39%	65,800
2012	15	8,800	7.85%	81	103,300	92.15%	112,100
Total	**649**	**94,042**	**9.30%**	**926**	**916,991**	**90.70%**	**1,011,033**

[1] Fund raising via issues of equity which excludes IPO but includes rights issues, restricted issues, private placement issue of warrants, etc by listed and unlisted entities.

[2] Fund raising via issues of PDS by listed and unlisted entities

Source: Various issues of Securities Commission annual report

amount of financing. This shows greater importance of debt as compared to equity financing.

In Malaysia, the bond market is classified into the conventional bond market and the Islamic bond market. These markets are monitored by two separate divisions under the SC, Islamic and conventional capital market. Companies can issue various types of bond or various types of Islamic bonds, or *sukuk* similar to those in the developed countries. Table 1.2 shows the breakdown of approved private debt securities (PDS) in terms of number of issues and the respective sizes during 2000-2012. It shows that from the sample period, 2001 to 2009, the sizes of conventional debt are greater than those of Islamic debt in six out of nine years. In the similar fashion, from 2000 to 2012 the total issuances of conventional debt are RM 432, 782 billion (44%) while the corresponding figure for Islamic debt is RM 442,169 billion (45%). In general, although Islamic PDS is relatively new in Malaysian capital market, the issues have gained popularity in recent years which makes them be as widely accepted as conventional PDS.

Despite a higher popularity of bond issuance in the Malaysian capital market, firms are also actively raising funds in the equity market, resorting to Initial Public Offerings (IPO) and new shares offering for financing. Over the years 2001 until 2005, Malaysia's equity market is observed as an important source of capital for corporate sector. In 2005, Bursa Malaysia recorded 79 IPOs which was the highest number of listing since 1997. Rights issue of equity represents the second largest source of capital

Table 1.2
Approved Private Debt Securities by SC from 2000-2012

Year	Conventional			Islamic			Combination[1]			Total (RM mill)
	No of issue	Size of issue (RM mill)	Percentage from total PDS	No of issue	Size of issue (RM mill)	Percentage from total PDS	No of issue	Size of issue (RM mill)	Percentage from total PDS	
2000[2]	14	5,399	49%	18	5,678	1.3%	0	0	0%	11,077
2001	77	25,497	57%	35	18,992	43%	0	0	0%	44,489
2002	137	38,370	69%	34	17,640	31%	0	0	0%	56,010
2003	87	35,299	75%	31	12,048	25%	0	0	0%	47,347
2004	75	32,680	68%	49	15,161	32%	0	0	0%	47,841
2005	50	19,345	31%	77	43,317	69%	0	0	0%	62,662
2006	52	33,814	44%	64	42,019	55%	2	1200	0%	77,033
2007	60	36,700	23%	52	31,802	20%	8	90,300	57%	158,802
2008	52	96,758	69%	43	33,234	24%	4	10,000	7%	139,992
2009	23	23,530	41%	11	33,955	59%	0	0	0%	57,485
2010	33	23,255	37%	25	38,328	60%	1	2,000	3 %	63,583
2011	40	29,927	27%	44	78,903	70%	1	3,500	3 %	112,330
2012	40	32,208	31%	41	71,091	69%	0	0	0%	103,299
Total	740	432,782	44%	524	442,169	45%	16	107,000	11%	981,950

[1]Combination of Islamic and conventional debt issues
[2]Data shown in 2000 is from 1st July to 31 December 2000 since Securities Commission has become the sole regulatory body for the PDS market since 1st July 2000
Source: Various issues of Securities Commission annual report

after IPOs in terms of total fund raised in the equity market. It is estimated that over 20% of total equity funds raised during the sample period of 2000 to 2009 are done through rights issue (various issues of SC annual reports).

1.3 The Malaysian Capital Market and Regulatory Requirements

The following first subsection, 1.3.1 briefly describes the historical and development of capital markets in Malaysia. The second subsection, 1.3.2 explains regulatory framework which regulates capital markets in Malaysia.

1.3.1 The Malaysian Capital Markets

Capital market is a place for medium and long term assets. It is a market that encompasses of public and private debt securities with maturity of more than one year, and corporate stock which have no fixed maturity period. Prior to 1990s, the dominant fund raiser in the in the capital market is the Malaysian government. But towards the late 1980s onwards, there is an increased funding from the private sector. This leads to increased offerings in various types of capital market products and services as well as fund raising capacity.

Although Malaysian capital market is more developed compared to other emerging capital markets, there are still other phases of development needs to be

undertaken (Capital Market Master Plan, 2010). The Capital Market Master Plan (CMP) for the period of 2000-2010 was a national plan to direct the development of Malaysia's capital market. Malaysian capital market had grown from a market size of RM 717.5 billion (US$ 239 billion) in 2000 to RM 2.0 trillion (US$ 667 billion) in 2010 (Securities Commission, 2010). The stock market is complemented by an array of other market segments, offering diversified sources of funding and rising sophistication in financial intermediation. Between the years 2000-2010, Malaysia's stock market capitalization grew by 11.1% annually. Correspondingly, the bond market grew by 10.8% annually; making it the third largest bond market in Asia (measured against GDP).Malaysia's equity market and debt market are relatively large compared to the size of its economy. At the end of 2010, the equity market capitalization and outstanding debt securities were at 165% and 97% respectively as a proportion of nominal GDP (Securities Commission, 2011).

In Malaysia, there are two types of capital markets which are conventional and Islamic capital markets (ICM). ICM is further classified as Islamic debt market and Islamic equity market. The uniqueness of ICM compared to conventional market is that any *Shariah*-compliant securities must be structured using *Shariah* [1] principles (International Organization of Securities Commissions (IOSCO). 2008). For financial products which are not *Shariah*-compliant, they are not considered as part of Islamic capital market. In the conventional debt market, issuing companies sell interest bearing

[1] Islamic ethical values or laws derived mainly from Al Quran and *Sunnah*.

bonds where creditors are paid fixed income plus capital protection. However, in Islamic debt market, interest bearing debts does not comply with *Shariah* requirements. In equity contracts, investors' exposure to market risk indicates that there is no guarantee on dividends payout and capital protections are in place. Companies' involvement in any core activities that are forbidden in Islam such as *gharar* (uncertainty), *riba* (interest), *maisir* (gambling), or immoral activities are generally non *Shariah* compliant.

The emergence of Islamic equity market begins with initiatives made by Bank Islam Malaysia Berhad (BIMB) in introducing the list of *Shariah*-compliant stocks in 1983. The list serves as guidelines for investors who wish to participate in equity and common stock trading which complies with *Shariah* principle. Since 1997, *Shariah* Advisory Council (SAC) has performed the *Shariah* screening process which produce list of *Shariah*-compliant securities to the public twice a year, in May and November. The SAC uses two levels of screening. In the first level of screening, the SAC scrutinizes the companies' primary activities to determine whether or not they are contrary to *Shariah* principles. The second level of screening is applicable to companies which engage in both *Shariah* permissible and *Shariah* non-permissible activities. For this type of company, tolerable level[2] of mixed contributions from permissible and non-permissible activities towards revenue and profit before tax is determined in the evaluation process (Laldin, 2008). In general, although Islamic equity products are almost similar to conventional equity in terms of functions and features, Islamic equity

[2] Contribution of non permissible activities with *Shariah* financial benchmark comprises of three levels of benchmarks which involves 5%, 10% and 25%.

products must comply with two major requirements First, the structure of Islamic products must comply with *Shariah principles*[3] and second, underlying instrument and its use must meet the requirements of *Shariah* (Securities Commission, 2011).

1.3.2 The Regulatory Framework

Both capital markets are regulated by a comprehensive regulatory framework which is mainly administered by Securities Commission (SC). Among key legislations governing issuance of securities are Capital Markets and Services Act 2011 (CMSA), Securities Commission Act 1993 (SCA) and the Securities Industry Central Depositories Act 1991 (SICDA). The CMSA sets out the laws that are related to the regulation of markets, licensing and conduct of financial intermediaries, market misconduct, fund-raising and take-overs. The CMSA also incorporates clear statutory provisions recognizing Islamic financial products to give full effect to the principles of *Shariah*. Figure 1.1 illustrates the regulatory framework of Malaysian capital market.

Section 212 of the CMSA highlights guidelines on the offering of PDS (PDS Guidelines) which govern all issues offers for subscription, purchases, invitations to subscribe and purchase of private debt securities that require the SC's approval. Due to

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[3] A *Shariah* compliant business includes transaction which involved either the main following principles: *Musyarakah* (profit and loss sharing), *Mudharabah* (profit sharing), and *Murabahah (*cost plus sale*) or Ijarah* (leasing).

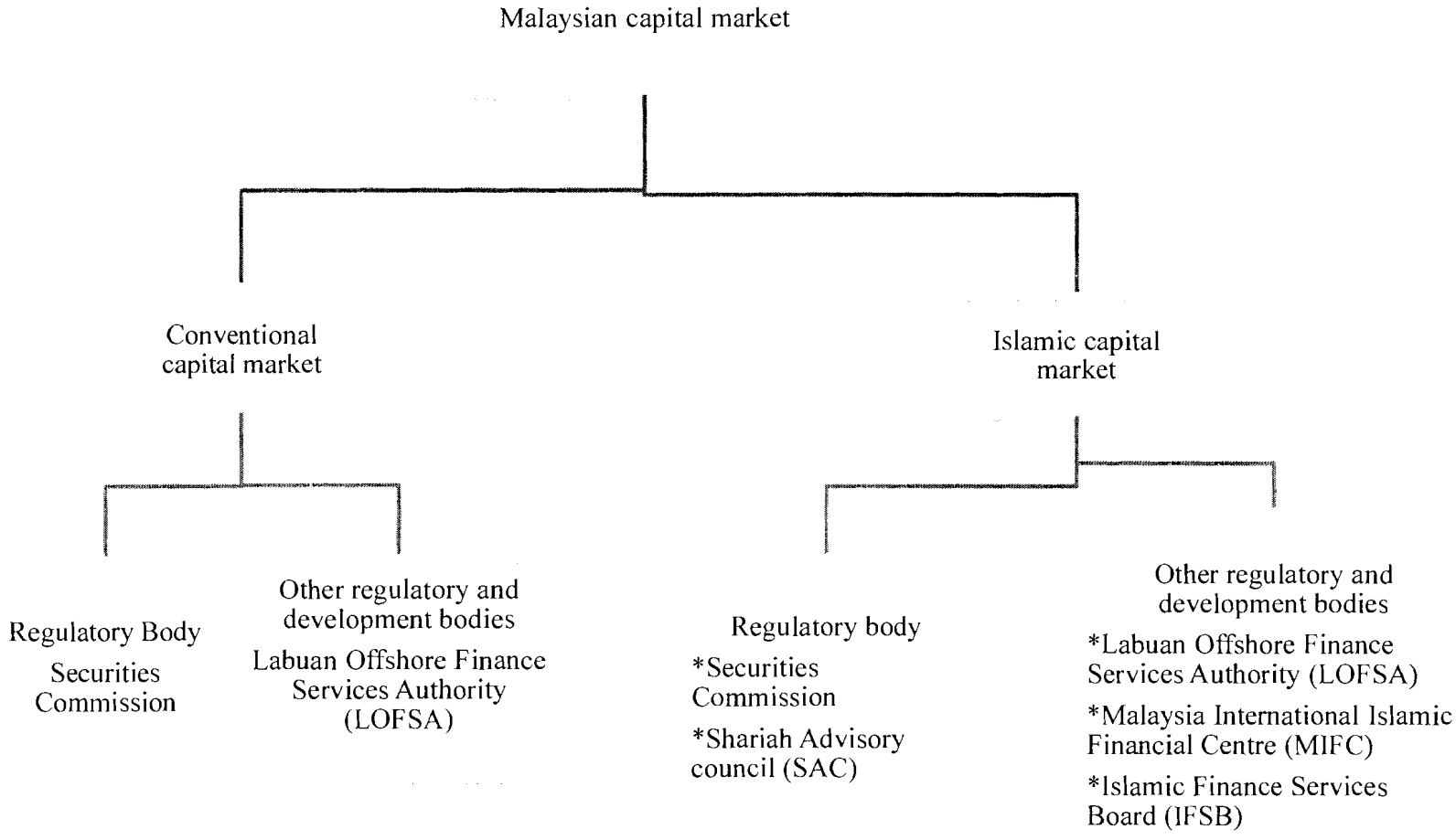

Figure 1.1
Regulatory Framework of Malaysian Capital Market
Source: Capital Market Master plan 2, Securities Commission Malaysia

the transparent requirements laid out in the said guidelines, a submission to the SC indicates that requirements under the PDS Guidelines have been complied. Written approval from the SC will be given within a period of not more than 14 working days from the date of receipt of such declaration. The PDS Guidelines have provided greater transparency to market participants as it highlights the circumstances under which a PDS issuance will be allowed or disallowed.

There are a few additional issuance requirements for issuing Islamic securities on top of issuance requirements stated in the PDS Guidelines. In the Islamic Securities guidelines (IS guidelines[1]), all issues, offers or invitations of Islamic securities that fall under the scope of the CMSA stipulate additional *Shariah* criteria that must be met. The structure[2] of the instrument must be confirmed and approved by a *Shariah* adviser who is appointed by the issuer. A *Shariah* adviser can be an independent *Shariah* adviser approved by the SC or a *Shariah* committee attached to a financial institution that operates Islamic banking activities approved by Bank Negara Malaysia (BNM).

In cases where the structure of an issue, offer or invitation is based on a concept or principle other than that stated in the IS Guidelines, approval from SAC must be obtained prior to the submission of any declaration and information to the SC. SAC

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[1] The guideline which was revised on 12 July 2011 has replaced Guidelines on the offering of Islamic securities.

[2]Various *Shariah* principles and concepts are listed in Appendix 1 of the Guidelines on the Offering of Islamic Securities (Guidelines) which have been endorsed by the Securities Commission *Shariah* Advisory Council (SAC).

advises the SC on all matters related to the comprehensive development of the Islamic capital market in Malaysia, and functions as a reference centre for all issues in this market. Other requirements that are specific to Islamic debt issuance include the following areas: floating rate mechanism, asset securitization, utilization of funds and asset pricing. With respect to floating rate mechanism, the SAC has decided that the mechanism could be used in certain *sukuk* application such as *Bai'Bithaman Ajil*[3], *Mudharabah*[4]and *Istisna'*[5]. By applying the mechanism, an effective profit rate of *sukuk* is benchmarked against the movements of interest rate in the market.

With regards to asset securitization, the SAC has resolved that asset securitization is permissible if the underlying asset for the s*ukuk* is *Shariah*-compliant. However, an asset which is in the form of debt structures such as *Murabahah* and *Bai' Bithaman Ajil* receivables cannot be securitized for the purpose of issuing Islamic asset-backed securities structured along the debt principles of *Murabahah* and *Bai' Bithaman Ajil*, respectively.

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[3] It is also known as deferred-payment sale which can be defined as a contract that refers to sale and purchase of assets on a deferred and installment basis with pre-agreed payment period.

[4]It is also known as profit sharing which is a contract made between two parties to enter into a business venture. The parties consist of the *rabb al-mal* (capital provider) who shall contribute capital to finance the venture, and the *mudharib* (entrepreneur) who will manage the venture. If the venture is profitable, the profit will be distributed based on a pre agreed ratio. In the event of a business loss, the loss shall be borne solely by the provider of the capital.

[5]It is also known as purchase order contract where a buyer requires a seller or a contractor to deliver or construct the asset to be completed in the future according to the specifications given in the sale and purchase contract. The payment term can be as agreed by both parties in the contract.

Utilization of funds is another important aspect that is specific to Islamic securities. Funds which are raised from any issue, offer or asset securitization of *sukuk* must be utilized for *Shariah*-compliant activities. Furthermore, in terms of asset pricing, the SAC has resolved that the purchase price of the asset, if it is sold at a premium, it should not exceed 1.33 times the market value. On the other hand, if the asset is sold at a discount, the purchase price should not be less than 0.67 times the market value. To further facilitate the asset-pricing process, the SAC has resolved that if the market value cannot be identified, then fair value or any other suitable value can be applied as long as it is on a "willing buyer, willing seller" basis, and can be evaluated through appropriate valuation methods.

1.4 Development of Malaysian Bond Market

Much of the financing in Malaysia in the 1970s and 1980s was from banking sector and through public borrowing. In the 1990s, the domestic bond market saw rapid growth from approximately RM 70 billion in issues outstanding in 1990 to over RM 200 billion in 1999. The total amount of fund had grown drastically from RM 44, 488.6in 2001 to RM 139, 991.9 in 2008 (Securities Commissions, 2008). In general, Malaysian bond market can be classified into government bond market and private debt securities. The market for government securities encompasses both conventional and Islamic papers. A Malaysian Government security (MGS) is an example of long term securities while short term securities consist of Malaysian Treasury Bills (MTB). The Islamic equivalents are long term Islamic securities or Government Investment Issues (GII) and

short term Islamic securities or Malaysian Islamic treasury bills (MITB). These securities are issued to raise funds from the domestic capital market to finance government's development expenditure and working capital.

Corporate debt securities market (also known as private debt securities or shortly, PDS) in Malaysia grows remarkably partly due to strong economic expansion as well as support from the regulators. Following the Asian financial crisis in 1997, more needs from the traditional banking sector were directed towards development of the corporate debt securities market to reduce the reliance on the banking sector. The market for corporate debt securities and *sukuk* is as large as the government securities. Figure 1.2 illustrates the amount of outstanding debt securities issued by Malaysian government and corporate sector over years of 2000 to 2009. Compared to the amount of government debt, the amount of corporate debt is relatively higher since the beginning of 2004 and the amount remains high in the subsequent years.

1.4.1 Financing through the Malaysian Bond Market

Financing through the Malaysian bond market can be done by issuing different types of bonds. Among the major ones are straight bonds, Islamic bonds and convertible bonds. In Malaysia, the bond market also covers commercial paper (CP) which is short term debt securities and medium term notes (MTN) which is medium term debt.

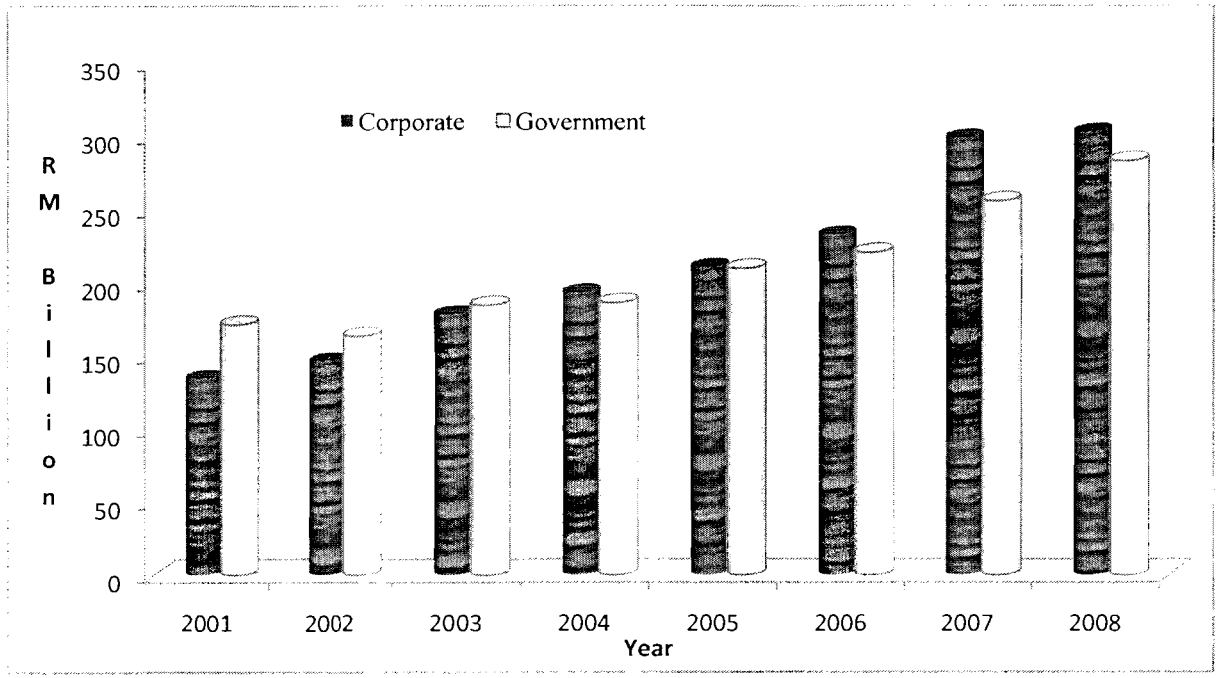

Figure 1.2
Outstanding Malaysian Debt Securities and Sukuk (in RM billion) by Type of Issuers
Source: Securities Commissions Annual report 2008

securities. In this study, the term 'bond' would cover also MTN, while the term 'Private Debt Securities' (PDS) would include CP, MTN and bonds

(I) Straight Bond

Straight bond is a basic form of bond with a fixed coupon rate, and maturity on a date fixed at the time of issue. It is often called "plain vanilla" as these bonds do not carry any other enhancement features but usually carry high interest rate. The coupon is made either semi annually or annually and the principal sum is paid at maturity to the bondholder.

In a sinking fund bond, the issuer periodically puts aside money for the eventual repayment of the debt. This provision may be included in the bond trust deed to protect investors. Sinking fund provision of the corporate bond indenture requires a certain portion of the issue to be retired periodically. The entire bond issue can be liquidated by the maturity date. If that is not the case, then the remainder is called balloon maturity. Issuers may either pay to trustees, which in turn call randomly selected bonds in the issue, or alternatively, purchase bonds in open market, then return them to trustees.

Floating rate notes (FRNs) are bonds that have a variable coupon rate that may be attached to a reference rate such as Kuala Lumpur Inter-bank Offered rate (KLIBOR) plus a spread. The spread is a rate that remains constant. Almost all FRNs have quarterly

coupons, i.e. they pay out interest every three months. At the beginning of each coupon period, the coupon is calculated by taking the fixing of the reference rate for that day and adding the spread. In addition, corporate bond issuers may issue these bonds on the basis of fixed rate or without interest (zero-coupon bond).

(II) Islamic bond (*sukuk*)

Sukuk is an Arabic term for Islamic securities. Its literal meaning as defined by Accounting and Auditing Organization for Islamic Finance and Institutions (AAOIFI) is:

"*certificates of equal values representing undivided shares in ownership of tangible asset,usufruct and services*"

Sukuk can be structured in various forms depending on underlying *Shariah* principles such as *Al Bai Bithaman Ajil*, *Murabahah, Salam*, *Istisna'*, *Ijarah, Musyaraka*, *Mudharabah* and *Wakalah* (Kamil, 2008). These can be classified into three main groups: cost –plus sale based *sukuk,(Al Bai Bithaman Ajil, Murabahah, Salam, Istisna'*, lease based *sukuk* (*Ijarah*) and equity based *sukuk* (*Musharaka, Mudharabah and Wakala*). In the current study, *sukuk* issued by Malaysian companies are also structured according to different types of *Shariah* principles and this is shown in Figure 2.3. The largest proportion of Islamic debt used as samples in this study is in the form of *Murabahah* principle, which takes about 34% from Islamic debt sample. The second

largest *Shariah* principal structured used in the sample is *Al Bai Bithamin Ajil.* This supports the statistics reports that most corporate *sukuk in Malaysia* is in the form of debt-based or cost-plus sale financing structure (Jalil, 2005). The smallest portion (2%) is shared between *Mudharabah* and Combination of *Shariah* principals.

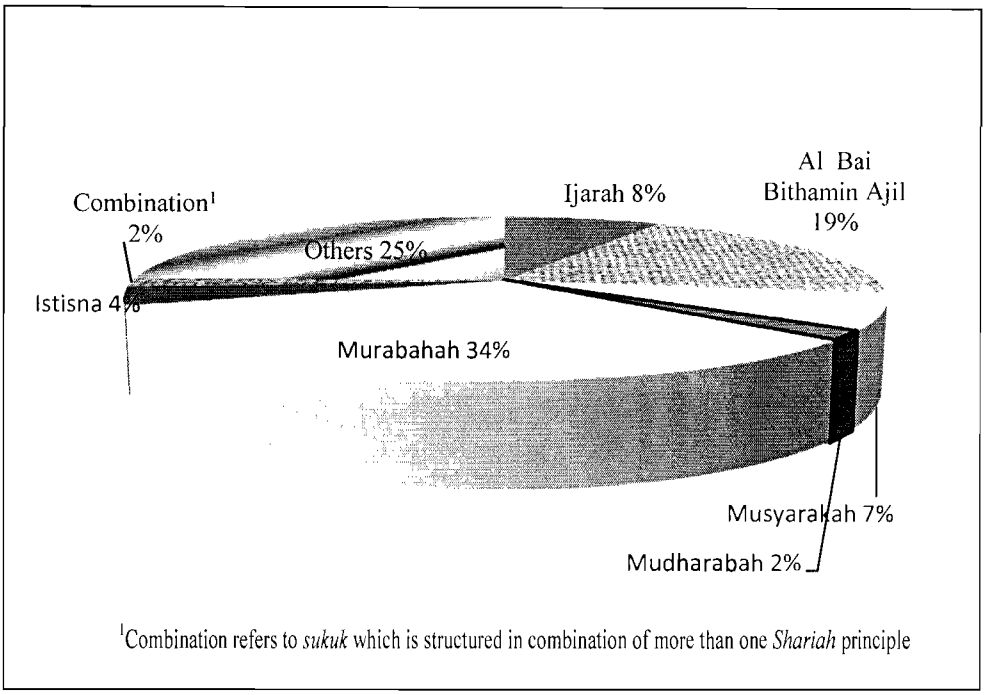

Figure 1.3
Distribution of Corporate Sukuk According to Shariah Principles
Source: Author's own

Sukuk is based on an underlying transaction which creates a close link between financial and productive flows. The use of fund should be channeled for productive purposes such as project financing, instead of speculative activities. Therefore, the risk of exposure lies in the project instead of uncertainties or activities that have no real economic benefits. .Technically, s*ukuk* is not an exchange of paper for money with the

imposition of an interest but rather an exchange of *Shariah*-compliant asset for some financial consideration applying various *Shariah* principles, such as *Al Bai' Bithaman Ajil* (BBA), *Murabahah, Ijarah, Mudharabah* and *Musyarakah* that allow the investors to earn profits from the transactions. Therefore, the feature distinguishes *sukuk* from conventional bond as the former represents investment certificates, comprising ownership claims in an asset while the latter is based on interest bearing securities (Memon, 2008).

The Malaysian bond market offers a unique feature as Islamic securities or *sukuk* co-exist with the conventional debt. The ICM is fairly new in Malaysia. The first local *sukuk* issuance was done by Shell (Malaysia) in 1990 while in the global market, Malaysian first sovereign *sukuk* was issued in 2002. Malaysia is the dominant *sukuk* market, handling 74% of the $135 billion of Islamic bond issuance in 2012 (Hamdan, 2013). This is followed by an outpacing of *sukuk* over conventional bonds in the Gulf Cooperation Council countries such as United Arab Emirates, Saudi Arabia, Kuwait, Bahrain, Qatar and Oman. The increasing volume of Islamic bonds has contributed to the development of the PDS market over the last few years.

The government has taken several efforts to promote Islamic debt. For example, tax neutrality[1] has been provided by some countries such as Malaysia, Singapore, UK

[1]Income Tax act (ITA) (1967) highlights rules for the taxability of income and deductibility of expenses. It makes certain provision on Islamic transaction, namely profits associated with *sukuk* similar to conventional financing. Islamic financial transaction is more likely to be subjected to additional tax burden since most of the Islamic financial transactions require the existence of underlying asset such as sale and purchase of company's properties. Thus, this triggers additional tax liability such as real property

and Indonesia. The rule exists in Malaysia and has been drafted into the tax legislation. Profit portion which will be treated as interest for tax purposes is tax deductible. Furthermore, asset disposal as long as transaction has been approved by Bank Negara or Securities Commission is also tax deductible (Chang, 2008). To illustrate, in a *Musyarakah* structure of *sukuk,* the pperiodic payments representing "profit" portion would be treated as "interest" for tax deduction purposes. In addition to that, there is no stamp duty and the issuing cost is tax deductible.

The Malaysia International Islamic Financial Centre (MIFC) was established in 2006 as a one-stop centre to facilitate the issuance of *sukuk* against the background of growing competition with other centers of Islamic finance. The following incentives[2] are given to the related parties involve in *sukuk* issuance.

Incentives for Special Purpose Vehicles

- Tax exemption on income received by Special Purpose Vehicles (SPV) in issuing *sukuk* (excluding asset-backed securities).

- Companies that establish SPV for the purpose of issuing Islamic securities are allowed a tax deduction on the issuing costs incurred by the SPV. This incentive

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gains and double stamp duty. With this limitation, ITA has made provision to provide tax neutrality to the Islamic financing products in which the Section 2(8) of the ITA allows the underlying sale of asset or leases to be tax exempted. This permits Islamic financing to continue without any tax issue relating to asset transfer or lease, hence placing the Islamic financial transaction as on equal footing as conventional financing.

[2] http://www.mifc.com/

is extended to SPV established under the Offshore Companies Act 1990 electing to be taxed under the Income Tax 1967.

Incentives for issuer

- Tax deduction on expenses incurred in the issuance of Islamic securities approved by the Securities Commission until year of assessment 2015. This incentive is extended to expenditure incurred on the issuance of Islamic securities approved by Labuan Financial Services Authority (Labuan FSA).

Incentives for instruments

- Stamp duty exemption on instruments used to issue *sukuk*in any currency.

1.4.2 Differences between Islamic Debt and Conventional Debt

Usmani (2008) highlights significant differences between conventional debt and Islamic debt in views of the followings:

a) Ownership of asset

Conventional bond does not represent ownership in asset for which the bonds are issued. On the other hand, *sukuk* represents ownership shares in assets that bring profits or revenues.

b) Distribution of income

Conventional bondholders receive interest payment on interval basis. The amount of interest is determined as a percentage of capital invested instead of percentage of actual profit. On the other hand, for *sukuk*, distribution of profits from their enterprises is paid based on fixed percentage interest rates. However, a paragraph included in the contract states that if actual profits of the issuers are in excess of percentage based on interest rates, then the whole amount of excess shall be paid to the enterprise manager(i.e. partner, *mudarib* or investment manager) as an incentive to manage project in an effective manner. However, if the actual profits are less that the prescribed percentage based on interest rate, managers will take it upon himself to pay out the difference of actual profits and prescribed percentage to the *sukuk* holder. As an interest free loan to *sukuk* holders, that loan will be recovered by the lending manager either from the amount in excess of interest rate during subsequent periods or from reducing the repurchased asset at the time the *sukuk* are redeemed.

c) Guaranteed return of principal

Conventional bondholder is guaranteed the return of principal when the bond is redeemed at maturity regardless whether the project is profitable or not. On the other hand, in true commercial enterprises, where the *Shariah* ruling is concerned, return of investors' capital should not be guaranteed. Instead, they have a right to the true value of the *sukuk*'s asset, regardless whether their value exceeds their face value or not.

d) Event of late payment

In the event of conventional debt borrower fails to repay in time, interest is accrued depending of the length of time funds are utilized by borrower in addition to principal. On the other hand, for *sukuk* borrower, a markup (profit) is charged over the principal of repayment when delayed or default occurs. However, the delayed amount is not added to the principal and no additional amount is imposed.

1.5 Development of Malaysian Equity Market

The Malaysian equity market develops since delisting of Malaysian and Singaporean companies from the other stock exchange at the end of 1989. Since then, the equity market has contributed to the development of private sector, with IPOs and issuances of new shares which enables many companies to obtain cheap financing. Equity investments by individual, institutional, and foreign investors increased substantially, and market infrastructure was developed accordingly.

In recent years, the market saw a comprehensive revamp of the equity fundraising framework and board structure. The new framework was aimed to improve access to the capital market and to position Bursa Malaysia as an attractive fund raising platform for domestic and foreign companies. On 8th May 2009, the SC and Bursa

Malaysia launched the new fund-raising framework which also entailed the merging of Bursa Malaysia's main board and second board into a single board, known as the Main Market, for established corporations. In addition, it involved transforming the MESDAQ market into the ACE market. The two new markets came on-stream on 3rd August 2009 (Securities Commission, 2009).

Under the new regulatory approach, all other equity-based corporate proposals, such as acquisitions (other than reverse take-over and backdoor listings), disposals, placements of securities, rights offerings and issuance of warrants will no longer require the SC's approval under Section 212 of the Capital Market and Service Act (CMSA).In implementing the new framework, rules and processes for equity fund-raising were streamlined to shorten time-to-market, reduce regulatory costs, and facilitate or improve access to the equity and bond markets.

1.5.1 Financing through the Malaysian Stock Market

Financing through the Malaysian stock market can be done by issuing common shares, preferred shares, and warrants.

(I) Common shares

Common shares or usually known in Malaysian capital market as "ordinary shares" have been dominated equity securities. In Malaysia, most companies would

issue only one class of common shares. However, for some companies, they issue more than one class of common or ordinary shares. Shareholders of each class would have different voting rights that are set out in the Articles of Association of a company (Securities Commission, 2002). The shareholders who are also the owners of companies have ownership and voting rights on the affairs of the company. As owners of the companies, they have ultimate control of the company and they can exercise this control by voting on the affairs of company. For instance, general matters, such as appointment of directors can be voted by shareholders. Besides, certain transaction proposed by public listed companies would require shareholders' approval as specified under the Bursa Malaysia listing requirements.

(II) Preference shares

Similar to common shareholders, preferred shareholders also have claim on company's earnings. However, their claims always rank below debt holders despite the priority they have on claims over common shareholders in the event of liquidation. Preference shareholders do not have the same voting rights as common shareholders although they typically vote on matters affecting their dividends and claims. They normally do not share residual value of the company. Major characteristics of preference shares are as follow.

a) Fixed dividend

Like debtholders, preferred shareholders receive a fixed dividend but the dividend is at discretion of the directors of company. No dividends will

be paid to common stockholders until preferred shareholders are paid. In such situation, dividends may not be paid on common shares until all past dividends have been paid on preference shares.

b) Voting rights

Preference shareholders enjoy little voting privilege. Their rights are specified in the Memorandum and Articles of Association of the company. Company needs to seek their consent regarding all matters affecting seniority of their claims' taxation. Dividends paid to preferred shareholders are not tax-deductible from corporate income. Preference dividends are paid out of after-tax income.

(III) Warrants

Warrants are equity-linked securities issued by a company which allows the holders of a warrant an option to purchase common shares in that company for a fixed price on or before the exercise date. The warrants are normally sold together with other securities where they act as sweeteners. A warrant contract would set out exercise price and exercise period. In general, warrant holders can either exercise their warrants, or alternatively dispose their warrants in the market if they are listed.

1.5.2 Rights Issue as a Popular Issuing Method

In Malaysia, rights offering are the most common method used to raise capital where firms offer new equity to existing shareholders. From 2000 until 2009, approximately an average of RM 20 billion of Malaysian capital was raised through this method. New rights shares are offered in proportion to the shares already owned by current shareholders. This is to ensure that there will be no dilution in the proportion shareholding provided that each shareholder subscribes to his or her full entitlement. Current shareholders would have pre-emptive rights in which shares are offered to them. Rights issues are usually offered at a price lower than a market price. The ex-rights price is computed based on the price of rights shares and number of shares issues. There are several purposes for companies to implement rights issue such as raising additional capital for investment, paying debts, diversification, acquisition or working capital.

1.6 Some Distinguished Features of Malaysian Corporate Conventional, Islamic Bond and Equity

Table 1.3 summarizes the main features of three main securities examined in this study which are Islamic debt, conventional debt and equity.

Table 1.3
Differences in Main Features of Securities

Features	Islamic debt	Conventional debt	Equity
Definition of financial instrument	Trust certificates that represent a proportional or undivided interest in an asset or pool of assets and the claim embodied in sukuk is not simply claim to a cash flow but an ownership claim.	Interest bearing securities.	A document issued by a company, which entitles its holder to be one of the owners of the company.
Ownership	Ownership holdings or stakes in existing and or well defined assets, economic activities and services related to the company.	No ownership claim by the holders. It is purely debt on the issuer.	Ownership stakes of the entire company.
Return	Sukuk holders' returns are tied to the returns earned through the underlying assets.	The issuer is contractually obliged to pay to bondholders, on certain specified dates, interest and principal.	Equity holders might get return on their investment in the form of dividends which depends on firms' performance.
Coupon rate/profit rate	Can be fixed and floating, issued at par.	Carry fixed coupon rate typically issued at discount or par	Not applicable.
Event of late payment	Profit mark up is charged over principal of repayment. Delayed amount is not included to the principal and no additional amount is imposed.	Interest is accrued depending on length of time funds are utilized by borrower in addition to principal	Not applicable.

Source: Mokhtar, Rahman, Kamal, and Thomas (2009).

1.7 Problem Statement

Capital structure is one of the most crucial decisions for listed companies due to its influence on share price as postulated by modern finance theories. Through proper

management of investment and financing activities, companies can maximize the market value of firm which will consequently benefit the shareholders. On the other hand, a faulty financing decision could lead to deterioration in firms' value, financial distress or even bankruptcy. Many theories have been proposed to understand the motivation for using debt as opposed to equity. The most prominent theories that are directly related to this study are agency theory, trade off theory, information asymmetry theory and timing theory. Agency model relies on the argument that managers might sometimes pursue their own objectives, such as choosing a type of security to maximize their utility. Trade off theory suggests that a firm will employ debt up to the point where marginal benefit of tax savings on an additional unit of debt is offset by increase in the present value of possible cost of financial distress. As such, it predicts that by moving toward target debt ratio, firms will increase their value while firms will decrease their value if they move further from their target debt ratio. The theory has been tested in numerous papers (see for example Bradley, Jarrell, & Kim, 1984; De Angelo & Masulis, 1980).

Myers (1980) and Myers and Majluf (1984) described in their models that equity may be mispriced in case where insiders are more informed about the value of firm compared to outsiders. This problem is known as information asymmetry which also explains pecking order theory where firms will use a less risky form of financing (Myers & Majluf, 1984) such as maintaining financial slack in the company. After internal fund, debt is preferred to outside equity. The existence of financial slack increases adverse selection cost and makes an equity issue more costly relative to debt issue. Finally, market timing theory states that firms time their equity issuance (Asquith & Mullins,

1986; Choe, Masulis, & Nanda, 1993; Jung *et al.*, 1996; Lucas & McDonald, 1990; Marsh, 1982; Taggart, 1977).

Prior studies on capital structure have made notable contributions in understanding the behavior of firms with respect to the typical choice between the use of debt or equity (Marsh, 1982; Masulis, 1988; Berger, Ofek & Yermack, 1997; Hovakimian *et al.*, 2001). However, these studies mainly examine securities choice in the developed markets which have different capital raising flotation method than that of the developing markets such as in Malaysia. While most of the listed US companies prefer public offerings to new shareholders, the Malaysian companies are shown to prefer seasoned equity public offerings through rights issues to current shareholders. As shown in Eckbo and Masulis (1992), rights offerings have disappeared almost completely in the US market. With new equity issues come in the form of rights offering, the signaling effect of debt financing in an asymmetric information framework coined by Myers and Majluf (1984) might be less applicable in the Malaysian setting. One of the main reasons is that most equity issues through rights offerings are taken up by controlling shareholders. Thus, wealth transfers from existing shareholders to new shareholders are less likely to happen. Due to this unique feature of Malaysian equity raising exercise, different factors influencing debt-equity choice are anticipated relative to those found in the extensive existing US studies. For instance, asymmetry information level of firm is expected not to be significant in the debt-equity choice in Malaysia since signaling role of debt is no more relevant when equity is issued in the form of rights offering.

The separation of ownership and control as advanced by agency theory calls for necessity of an effective corporate governance in order to alleviate the agency problems. One important governance structure that affects debt-equity choice is ownership structure of a firm. Since the seminal contribution by Jensen and Meckling (1976), more work has employed an agency theory in explaining variations of capital structure. The benefit and cost of leverage and equity associated with agency cost are also well documented in previous studies. For instance, as argued by Jensen (1986) and Stultz (1988), firms utilizing debt can reduce agency costs of managerial discretion, resulting in an increase in firms' value as agency costs are reduced. On a similar vein, issuing equity is associated with low monitoring and increased in managerial discretion relative to issuing debt (Stultz, 1988).At the same time, Zwiebel (1996) argues that the probability of management will lose control through corporate control action will also increase if equity is issued inappropriately.

The perspective of agency theory where managers' owners might have different interest is more relevant to firms with dispersed ownership. In emerging markets, ownership is not dispersed but concentrated. Claessens, Djankov, and Lang (2000) argued that Asian firms are perceived to be highly concentrated, family dominated corporations with a controlling majority. Claessens *et al.* (2000) reported that Malaysian firms' ownership concentration was the second largest after Indonesia with the family shareholders controlling about 67% of all corporations. From a corporate governance point of view, concentration of ownership is important as it enables the owners who usually serve as managers to determine corporate policies such as dividend, investment

and financing policy (La Porta, Lopez-de-Silanes, & Shleifer, 1999). Nonetheless, concentrated ownership in the hands of controlling shareholders might also give them the power to control corporate resources and they might try to treat themselves preferentially at the expense of other stakeholders (La Porta *et al.*, 1999). Therefore, large shareholders can pressure managers to make decisions that are in the best interest of the large shareholder group and they can also influence the financial instruments choices made of management. Furthermore, family owned firms might appoint members of the families to serve as executives. This could increase the agency problems between majority shareholders such as. families and minority shareholders.

Past empirical studies have failed to consistently support the relationship between ownership and leverage level. Some studies find positive relationship between ownership concentration and leverage levels (Agrawal & Mandelker, 1987; Brailsford, R.Oliver, & Pua, 2002; Mehran, 1992) while other studies found no relationship (Chaganti & Damanpour, 1991; Holderness, Kroszner, & Sheehan, 1999). Such inconsistencies are partly due to the various definitions of ownership structure. For instance, most of the US research has focused almost exclusively on managerial equity ownership. However, in emerging markets including Malaysia, it is important to further categorize ownership structure into several components such as family ownership, institutional ownership and Bumiputera ownership. Thus, the present study will decompose the ownership structure variable and investigate the relationship of each variable with the choice of securities in Malaysia.

Good corporate governance practices will possibly have substantial impact on company's strategic decisions such as external financing, made by board of directors. The Malaysian Code of Corporate Governance (MCCG)[3] which was first issued in 2000 sets out principles and best practices of good governance. As one of main elements of the corporate governance, a board of directors is responsible to oversee the firm's operation. Consists of individuals who are nominated by the company's shareholder, it serves as an effective internal monitoring and controlling mechanism to reduce the agency conflict (Saad, 2010). Therefore, having a good independent board is important in order to achieve good company performance and subsequently increase the stock value. Past literature argues that having good internal corporate governance could substitute or complement the role of debt in disciplining management. Hence, given this relationship, it is the aim of this study to examine the association of four board characteristics namely board size, presence of family directors on board, presence of insiders on board and presence of outside directors on board with securities choice.

Corporate governance has been identified in previous studies to influence firms' financing or capital structure decisions which also affect performance (see Berger *et al.*, 1997; Friend & Lang, 1988). The results of these empirical studies which mainly emphasize on developed economies often give inconclusive results. However, with the exception of Heng and Azrbaijani (2012) and Saad (2010),there is scarce research on corporate governance especially with respect to firms' financing decisions in Malaysia.

[3] MCCG has set out three forms of recommendations are set out which are: Part 1: Principles of corporate governance. Part 2: Best practices in Corporate Governance and Part 3: Principles and best practices for other corporate participants.

With this managerial perspective, capital structure is not only explained by internal and external factors of the firm but also by values, goals or preferences of the managers.

Malaysia also has its own unique historical background resulting from the cultural influence. These multiracial groups fall into two main categories: those with cultural affinities indigenous to the region, classified as the Malays or Bumiputeras (literally meaning "sons of the soil"), and those whose cultural affinities lie outside, classified as non-Bumiputra who mainly consist of Chinese, Indians and others (Rahman & Ali, 2006). Another characteristic of directors that can influence debt-equity choice is risk-taking propensity of Bumiputera directors or shareholders. Hence, they are expected to a lesser risk type of security. In this case, since debt is riskier than equity, Bumiputera directors are anticipated to prefer equity over debt. The examination of the effect of ethnicity such as percentage of shares owned by Bumiputera and presence of Bumiputera directors on board with securities choice will therefore contribute to the existing knowledge in multiracial society like Malaysia.

To date, there is no study looking at the choice of another debt security known as Islamic debt (or *sukuk*) which plays an important role in Malaysian capital market. In Malaysia, the emergence of Islamic debt as an alternative to the conventional debt began in 1997. The market has shown remarkable progress since its introduction. Since then, the government has promoted aggressively the Islamic debt market. Currently, it is estimated that 85% of the total global Islamic bonds that have been issued were issued in

Malaysia, making Malaysia one of the world's largest Islamic bond markets (Iqbal & Tsubota, 2007). In addition to that, with the great effort that the government has put to establish Malaysia as an Islamic capital hub in the region, the issuance of Islamic debt securities as one of the capital raising instruments is claimed to fuel the rapid growth. Only in recent years, studies have been conducted in examining the announcement effect of Islamic debt on shareholders' wealth (see for example Ashhari, Chun & Nassir, 2009; Godlewski, Turk-Ariss, & Weill, 2011; Ibrahim & Minai, 2009). In addition, a more recent study on determinants of Islamic debt issuance by Shahimi and Sapiyi (2013)has also ignored corporate governance factor in their study.

To the best knowledge of the author, there is no specific theory explaining the economic benefit of Islamic debts relative to conventional debts. Nevertheless, the Islamic finance theory defines Islamic financial product as *Shariah*[4]-compliant. Islamic financial products are specially designed to cater for Islamic marketplace although non-muslims are not constrained to subscribe the products or services. They are distinguished from their conventional counterparts by their compliance with *Shariah* in terms of the contractual and structural underpinning although they appear to be similar from the economic perspective.

The concept of risk in an Islamic financial system can be best understood when it is viewed from two perspectives: prohibition of "gharar" (uncertainty) and freedom of

[4]*Shariah* refers to Islamic ruling based on Al- Quran and Al-Hadith

contract (Ariffin & Archer, 2009). According to *Shariah* (Islamic law), "gharar" is a component of chance involving asymmetric information, uncertainty, risk or even speculation. Thus, any resultant profits are not permissible and must be excluded. Delorenzo (2007) argues that most concerned Muslims, investors, or consumers pay particular attention to compliance and restricts only to product what is good and wholesome ("*halal un tayyib*") while restraining from what is foul, unjust and sinful. Therefore, this study attempts to explore the characteristic of company that issue Islamic debt relative to conventional debt. It is anticipated that ownership structure plays an important role since directors' preference for *Shariah* compliant product can be linked to their faiths or beliefs. Thus, Bumiputera ownership and the presence of Bumiputera directors on board are included in research framework to gain further understanding of the choice between Islamic debt and conventional debt particularly and corporate financing decision in general.

1.8 Research Questions

The study focuses on four financing choices: First, equity and debt, second, equity and Islamic debt, third, equity and conventional debt and finally Islamic debt and conventional debt. The following research questions related to financing choices are examined.

1. Does issuers' ownership structure (where ownership is composed by managerial ownership, ownership concentration, Bumiputera ownership, family ownership,

State ownership, Institution ownership and separation of cash flow and control right) influence firms' financing choice?

2. Does issuers' board of directors' characteristics (where board size, Bumiputera directors on board, inside directors on board, and independent directors on board) influence firms' financing choice?
3. Does issuers' firm specific characteristic (where firm size, growth opportunity, stock price run up, financial slack, issue size, profitability, Beta, total risk, tangibility, deviation of total debt from industry, nondebt tax shield and taxshield) influence firms' financing choice?

1.9 Research Objectives

The main objective is translated into the following specific objectives:

1. To investigate whether issuers' ownership structure influence the financing choice between debt and equity and the financing choice between Islamic debt and conventional debt.
2. To investigate whether issuers' board structure influence the financing choice between debt and equity and the financing choice between Islamic debt and conventional debt.
3. To examine whether issuers' firms characteristic influence the financing choice between debt and equity and the choice between Islamic debt and conventional debt.

1.10 Significance of the Study

The current study will contribute to the existing literature in five ways. First, this study could be used by other researchers to understand about the choice of securities in Malaysia, being an advanced emerging market. It provides a thorough analysis on the factors that contribute to the issuance of one financial instrument over another. There are limited studies in which the governance structure plays an important role in determining the choice between debt and equity. This is especially true in the Malaysian context in which the governance structure plays an important role in determining the choice between debt and equity.

Second, this study applies relevant mainstream corporate finance theories in explaining the influencing factors of issuance of Islamic debt securities. This is because the empirical finding on determinants of Islamic debt issuance is scarce. Third, this study looks at debt-equity choice in different setting from developed market since equity is issued in the form of rights which would weaken the information asymmetry argument. Fourth, this study is carried out in a market where family firms and government owned is prevalent. Thus, this study attempts to test whether ownership variable plays an important role in influencing securities choice. In addition to agency theory, the study also adopts trade off theory in order to gain better understanding the issue relating to securities choice in the Malaysian setting. Therefore, it is hoped that this

study will contribute new knowledge in corporate financing decision both theoretically and empirically.

1.11 Scope of the Study

This study focuses only on actual issuance of commonly issued long term financing instruments by Malaysian listed companies for a period between the 1st January 2000 until 31st December 2009. Since there is a major change in board structure and listing rules[5] ,which takes effect on 3rd August 2009, the sample period chosen for this study ends in 2009 since the difference in fund raising activities can be observed for companies in Main Board and Second Board. The studied financial instruments cover straight debts (Islamic and conventional) and rights issue of ordinary equity. Initial public offerings are excluded from this study because audited detailed financial statements prior to issuance of these companies are unavailable.

1.12 Organization of the Study

The study is organized into five chapters. Chapter 1 is the introductory chapter of the study. It covers background of the study, overview on capital raising activities in Malaysia, problem statement, research questions, research objectives, significance of the

[5] New Framework For Listings And Equity Fund-Raisings Main Market Technical Briefing Kemal Rizadi Arbi Deputy General Manager & Head, Securities Issues Department 6 July 2009.

study and finally scope of the study. Chapter 2 describes the critical reviews of literature related to debt and equity financing. In specific, various theories and hypotheses are used to explain capital structure, securities choice and Islamic financing. Finally, empirical evidence on capital structure and securities choice is discussed in the chapter.

Chapter 3 begins with description of data, samples selection procedures, variables selection and definitions. This is followed by the discussion on the study framework, methodology and statistical method employed for hypothesis testing. Chapter 4 discusses findings based on univariate test and logistic regression method. Finally, Chapter 5 wraps up the study by summarizing the findings, discussing the contribution of the study, documenting implications and limitations of the study, as well as providing suggestions for future research.

CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction

This chapter begins with a detailed discussion of main theories that are directly related to capital structure in Section 2.1. The section also discusses several hypotheses with regard to the interrelationship between agency cost and ownership structure on debt-equity choice. This is followed by Section 2.2 which presents existing literature on capital structure and Islamic financing. Finally, in Section 2.3, empirical evidences on securities choice are discussed.

2.1 Theoretical Literature on Securities Choice

2.1.1 Irrelevance of the Financing Decision

Modigliani and Miller (MM) (1958) were the first to initiate the modern theory of corporate capital structure. In their proposition, they assume a perfect capital market with no transaction cost, no constrained regulation, and existence of perfect information and capital market. Their premise is that valuation of firms relies on the company's investment policy and not on how they are financed. Although the theory depends on unrealistic assumptions, it serves as a beginning point to search for factors that influence

firms' capital structure policy. Since then, there have been numerous studies which reject the theory of capital structure irrelevancy.

2.1.2 Asymmetric Information Theory

This theory assumes that informational efficient market does not exist, thus information is costly because market participants do not receive information simultaneously. In general, firm managers are better informed about characteristics of firms' cash flow and investment opportunities than investors. Myers and Majluf (1984) develop a model where capital structure is designed to reduce inefficiencies in the firms' investment decision caused by information asymmetry. They show that better informed managers will forego positive net present value projects in an attempt to maximize the best interest of existing shareholders.

If the firm's asset in place is significantly undervalued, the dilution faced by existing shareholders can be greater than gains from undertaking new projects. Thus, management would neither accept new project nor issue equity. The decision not to issue new equity and invest in the project signals an undervaluation of asset in place which leads to increase in share price. Firms can avoid underinvestment problem if they can finance new projects using securities that are not severely undervalued by the market. In this case, firms' capital structure is driven by the preference to finance new investment first by internal funds, followed by low risk debt and finally by equity as the

last resort. Myers (1984) refers to this financing hierarchy as pecking order theory. The financing hierarchy as predicted by this theory suggests that firms prefer internal over external financing. Whenever external funds are required, firm will prefer to issue the "safest" securities first. "Safest" securities refer to securities that attract least discipline and monitoring. That is, they start with debt, followed by hybrid securities such as preferred stock or convertible securities and finally equity as a final source.

The basic model has been adapted by a number of researchers including Krasker (1986). He argues that cost of adverse selection may be directly related to the size of issue which allows firms to choose size of new investment projects and accompanying equity issue. Existing shareholders will lose when security offers are large, thus probability of equity should decline as security offer size increases. He shows that firms with overpriced shares will have greater incentives to choose larger offer.

The adverse selection problem highlighted by Myers and Majluf (1984) could arise due to wealth transfers from existing shareholders to new shareholders. However, this problem does not occur if existing shareholders take up all new shares. Eckbo and Masulis (1992) argue that adverse selection costs under rights issues are higher when shareholder takeup is high and vice versa. Furthermore, they argue that frequency of rights issue should be higher for small and closely held firms. This is because the value of expected take up level increases as ownership equity capitalization increases and degree of share ownership dispersion decreases.

Adverse selection problem and cash flow is one of the competing hypotheses which is highlighted in literature of wealth effect. Furthermore, it is argued that investor associate high debt with higher quality and higher future cash flow. Lower quality firms cannot follow high quality firms by taking more debt as they have higher expected bankruptcy cost at any level of debt. On the other hand, firms' decision to issue new equity and invest in a project could convey signal of exceptionally valuable projects and /or overvaluation of assets in place. In short, the model predicts that new equity issues will convey negative information.

2.1.3 Market Timing Theory

This theory states that management issue securities during certain market conditions. The theory however, is closely related to asymmetric information theory. In specific, market timing posits that securities issuance by management is largely depend on time varying relative cost of debt and equity. The issuance decision has permanent effect on capital structure because the observed capital structure at date t is the outcome of securities issuance decisions. Therefore, it was expected that when the cost of equity is low, firms are more likely to issue equity and vice versa.

Building from the model of Myers and Majluf (1984), Lucas and McDonald (1990) provide explanation for a rise in the price of share market price as a whole prior to equity issues. While undervalued firms will wait for their price to rise so that the

average price prior to offering is upward sloping, overvalued firms do not wait for profitable opportunities, thus their price path prior to issue will be flat. General market rise occurs in a period in which an above average number of firms have private information that they are undervalued. Their model predicts that a pre-announcement price run up should be negatively correlated with adverse selection effect of an equity offer. On a similar vein, Choe, Masulis, and Nanda (1993) maintain that firms' financing decision depend on their business cycle and good investment opportunity. They suggest that firms are more likely to issue equity in periods of high economic growth.

Dynamic models examine the timing of equity issues in relation to the market and to the business cycle of firms. Firms which expect a rise in the market will issue equity to capture an increase in the anticipated increase in their shares price. Lucas and McDonald (1990) developed a model established from Myers and Majluf (1984) to explain why equity issues are preceded by an increase in share price and the market in general. They predict that stock price run up is negatively related with the adverse selection effect of an equity offer.

The impact of business cycle on equity issues as well as debt issues is examined by Choe *et al.* (1993). In their model, a firm's financing choice is influenced by the degree of adverse selection on cost of equity, agency cost of debt and flotation cost. They argue that firms' choice of debt versus equity financing is influenced by market uncertainty about firms' asset in place and the investment period. Thus, they hypothesize

that firms are more likely to issue equity rather than debt as their business conditions improve. As market uncertainty over the value of firms' asset in place increases, adverse selection effect increases, therefore number of equity issuing firms decreases, but the number of debt issuing firms increases.

Signaling model proposed by Ross (1977) was developed from asymmetric information. The model posits that management uses different ways such as percentage of ownership concentration, level of cash flow and debt to reduce information asymmetry that exist between management and shareholders. Researchers have examined managerial risk aversion to obtain signaling by management (Grinblatt & Hwang, 1989; Leland & Pyle, 1977). They argue that increases in firm leverage enable managers to hold a larger percentage of equity which in turn depends on the quality of the projects. Good quality project leads managers to retain their shareholdings by not issuing equity as it signals good performance of company. Therefore, the model suggests that the higher the percentage of ownership hold by managers, the higher the implied quality of the firm. Thus, equity issuance or options can decrease ownership concentration and this will cause them to issue more debt.

Furthermore, it is argued that investors associate high debt with higher quality and higher future cash flow. Lower quality firms cannot follow high quality firm by taking more debt as they have higher expected bankruptcy cost at any level of debt. Insiders have greater access to private information about the expected future earnings

and cash flow which is unavailable to outside investors. Since managers know more about the firm compared to outside investors, changes in the firm's investment, dividend or financing decision can represent a signal to investors concerning the assessment of expected future value and the market value of the firm. Ross (1977) posits that signals conveyed by capital structure change are credible because firm will be penalized with bankruptcy if the implied future cash flow does not occur.

2.1.4 Trade off Theory

The trade-off theory perceives that firm will substitute debt for equity and equity for debt in order to maintain an optimal target capital structure and maximize the value of firm. Firm's optimal target capital structure will deviate temporarily if random events occur from within or outside the firm. In addition, it also predicts that firms determine their optimal leverage by trading off the cost and benefit of marginal dollar of debt.

Benefit of debt includes tax deductibility of interest and reduction of free cash flow problem. As argued by Modigliani and Miller (1958) in their proposition 1 (with corporate tax), value of firms with leverage is more than value of firms without leverage by the present value of the interest tax shield. This is due to the fact that interest on debt is tax deductible while cash flow on equity (i.e. dividend) is not tax deductible. Therefore, assuming other things remain constant, the higher the marginal tax rate, the more debt a firm will have in its capital structure. De Angelo and Masulis (1980)

suggest that firms' expected cash flow induce positively correlated changes in optimal leverage levels. Therefore, a decline in leverage as a result of equity offering conveys a negative signal about firms' value. The model is applied by Masulis (1983) who points that changes in management's information about expected cash flow of firm will influence them to adjust financial leverage to maximize firms' value.

Firm can balance benefit and cost of using debt by weighting the marginal tax of additional borrowing with additional cost of financial distress in such a way that debt is optimized. Therefore, optimal leverage is achieved when marginal benefit of last dollar of debt equals to its marginal cost and as such firms tend to sustain a target leverage ratio in order to maximize benefit of debt. The potential bankruptcy cost can be severe especially for managers. In an event that the borrowing company fails to make payment, it may face bankruptcy and this may result in losing employment or jeopardizing managers' reputation. Therefore, the cost of debt will reduce firms' likelihood to increase its debt level.

2.1.5 Agency Cost Theory

The argument of "separation of ownership and control" advanced by Berle and Means (1932) stated that in an operating company, management might pursue their own interest at the expense of shareholders. Ever since the stated argument, numerous studies on the impact of debt on suboptimal managerial discretion emerged. A large strand of

research has been devoted to models in which capital structure is influenced by agency cost. The model which relates ownership structure is examined in debt-equity choice studies (see for example Jensen, 1986; Jensen & Meckling, 1976; Myers, 1977).

Subsection 2.1.5.1 discusses some of the theories that explain the relationship between debt-equity choice and agency problem. These include overinvestment problem raised by Jensen (1986), asset substitution problem argued by Jensen and Meckling (1976) and underinvestment or debt overhang problem highlighted by Myers (1977). In subsection 2.1.5.2, hypotheses or theories on the relationship between debt-equity choice and ownership structure are explained. They are active monitoring hypothesis, internal monitoring hypothesis and managerial entrenchment hypothesis.

2.1.5.1 Hypothesis/Theories on the Relationship between Debt Choice and Agency Problem.

(a) Overinvestment problem

One of the major perspectives put forward by Jensen (1986) is the overinvestment problem where managers engage in costly activities such as investing in unprofitable empire building. This problem emerges as a result of separation between corporate equity ownership and managerial control. However, one way to mitigate this problem is by employing leverage since leverage demands mandatory interest and principal payment. Besides, by employing debt, free cash flow problem can be reduced due to its role of disciplining mechanism to management. This circumstance leads to a

fall of free cash flow to be spent by managers to consume perquisites. Furthermore, it is argued that if a firm's fund is solely from equity raising, management of a firm with high free cash flow left each year is more likely to be inefficient.

In Jensen (1986) model, managers are shown to have an incentive to increase the size of the firm at shareholders' expense. They will do so unless their interests coincide with those of shareholders. One way in which shareholders' interests coincide is if they are one and the same. Equity ownership on the part of managers can align shareholders' and managers' interests and thereby reduce the overinvestment problem. Hence, for firms with more internally generated funds than investment opportunities, debt financing has a positive effect on firms' value.

(b) Underinvestment problem

Although leverage can reduce the overinvestment problem of shareholders-debtholders, leverage can also lead to another problem which is underinvestment problem or "debt overhang" problem. This problem occurs when maximizing firms value is not equivalent to equity maximization (Myers, 1977). As a result, shareholders have incentive to take action that is beneficial to them at the cost of bondholders. For instance, shareholders prefer managers to undertake risky projects and pay large dividends, bondholders favor managers to take on less risky projects and repay principals and interest on time.

Underinvestment problem is severe for firms with high growth opportunities. This is because these companies are required to service their debt while at the same time they need to implement their investment projects. In that particular situation, companies are better off to issue equity instead of debt.

(c) Asset substitution problem

Conflict between debtholders and stockholder arises due to the debt contract which provides incentives to equity holders to invest suboptimally. Debtholders will incur losses in the event of failing investment but stockholders will benefit when investment gives high return as they have limited liability. Therefore, although firms invest in risky projects, equity holders may still benefit in the value decreasing project which reduce debt value. Debtholders' correct anticipation about equity shareholders' future behavior will cause equity holders to bear this cost in the form of lower debt prices or higher yields. This cost is known as asset substitution or risk shifting problem (Jensen & Meckling, 1976). Thus, an increase in outside ownership from an equity issue increases agency cost and subsequently has a negative impact on firms' value.

2.1.5.2 Hypotheses/Theories on the Relationship between Debt Choice and Ownership Structure.

The explanation in Section 2.1.2 of asymmetric information theory depends on how certain conditions occur due to an increased in information asymmetry. However, the following hypotheses examine how information asymmetry is reduced. They are active monitoring hypothesis and managerial entrenchment hypothesis.

(a) Active monitoring hypothesis

Agency conflicts between managers and shareholders can be reduced through monitoring mechanism. Jensen and Meckling (1976) develop a classical owner-manager agency problem and advocate that the managerial share-ownership helps to align the interest of managers and shareholders which in turn lowers agency cost. Accordingly, manager monitoring could be achieved by having large institutional investors. Grossman and Hart (1982) and Shleifer and Vishny (1977) suggest that the block holders or the unaffiliated shareholders have incentives to monitor managers. Besides, external blockholders are argued to reduce managerial opportunism, resulting in lower direct agency costs between management and shareholders. As the economic stake of blockholders increases due to the increases in the level of share ownership, the incentive of blockholders to protect their investments and consequently monitor management can be expected to increase.

External monitoring hypothesis posits that outsiders can mitigate the valuation problem caused by private information by monitoring the firm. Management has several alternatives to find a credible mechanism by which outside market participants can learn about the quality of the firm. One of them is institutional ownership. Brous and Kini (1994) argue that higher institutional ownership will provide institutional investors a greater incentive to protect their investment in the firms. They will carefully monitor the use of proceeds of equity to ensure that the fund is utilized for productive purposes.

Apart from different ownership structures that could curb the misalignment of interest between managers and shareholders, debt also serves as a monitoring role (Grossman & Hart, 1982; Stultz, 1990). Debt covenants will limit managerial discretion since it reduces level of free cash flow by committing firms to pay out cash (Jensen, 1986). The strategic use of debt as a disciplining mechanism for reducing agency costs is made by aligning the interest of shareholders and managers. Jensen (1986) refers to this as "control hypothesis"

However, debt function is weakened in institution where management consists of controlling block of insider shareholders (Faccio, Lang, & Young, 2001). In such corporation that are largely prevalent in Asia and Continental Europe, debt is argued to be used by controlling insiders as mechanism for expropriation of minority shareholders as well as other outside stakeholders, i.e. creditors. This can be referred as "expropriation hypothesis." A substantial shareholding by managers does not only lead

to managerial entrenchment which is described in the following subsection but also a mechanism to expropriate minority shareholders' wealth.

(b) Managerial entrenchment hypothesis

Entrenchment is defined as the extent to which managers are disabled to be disciplined from the full range of corporate governance and control mechanism such as monitoring by board, threat of dismissal and stock compensation-based incentives (Berger, Ofek, & Yermack, 1997). Hence, entrenched managers by definition, have discretion on choices of leverage. Substantial research on capital structure emerges subsequent to Jensen and Meckling (1976) in using agency theory. They argue that managers do not always adopt capital structures with the aim to maximize firms' value. In certain circumstances, managers appear to be entrenched against pressures from internal and external corporate mechanism.

Several explanations are advanced regarding the relationship between leverage and extent of managerial entrenchment. First, Fama (1980) argues that managers prefer less leverage than optimal due to a desire to reduce firms risk to secure their under diversified human capital and dislike of performance pressures related to commitments to disgorge large amount of cash (Jensen, 1986). On the contrary, entrenched managers may increase leverage beyond the optimal point in order to reduce the possibility of takeover attempts. For instance, they adopt excess leverage as a signaling device that

conveys commitment to sell or restructure asset. Therefore, takeover attempts by outsiders who have different plans for increasing firm value can be prevented.

2.2 Existing Literature on Capital Structure and Islamic Financing

There are relatively a very limited number of literatures focusing on Islamic finance particularly from corporate finance perspectives. Among the earliest study is a study which examines and compares behavior of Islamic banking activity to the non Islamic counterparts (Aggarwal & Yousef, 2000). Their findings show that although Islamic banks are or should be based on the profit-and-loss sharing principle, given the economic environments in which they operate, using only this type of financing may not be possible. Moral hazard problem suggests the need for some sort of debt-like instrument. Furthermore, as investors and banks monitor the performance of fund raisers, the finding intuitively points that the choice for Islamic finance depends on information costs between corporate insiders and outsiders. Therefore, the use of mark-up contracts is a rational response to the informational problems.

Nagano (2009) looks at the order of Islamic finance in Malaysia and Islamic banking borrowers in Gulf Corporation Council (GCC) countries. Using two stage least squares and Tobit estimation model in examining the choice of bond issuance (i.e. *sukuk* and non *sukuk*), results shows support for pecking order theory. This is because the information cost measured by the ratio of accumulated *sukuk* issued in prior years to the

book value of liability is between normal debt finance and equity. *Sukuk* is also chosen prior to the above external financial order when financing choice provides managerial benefits to the issuers.

More recently, Shahimi and Sapiyi (2013) attempt to extend the study by Nagano (2009) by identifying determinants of firms in issuing *sukuk* as opposed to conventional debt. In their model, the effect of relevant variables such as leverage and taxes are added besides other variables such as firm size, return on asset, firm past *sukuk* issuances, firm past bond issuance, and capital investment. Results show that firm size, past *sukuk* issuance and tax incentives are the variables that significantly influence the choice of a firm to issue Islamic debt over conventional debt.

Two surveys are carried out among financial managers to investigate Islamic financing choice. First, a regional survey study of Indonesian capital market (Kartikasasi *et al.*, 2009) attempts to document factors that influence public and private companies to opt for *sukuk* issuance. The findings reveal that external factor such as liquidity in marketplace is the most influencing factor that leads these companies to issue *sukuk*. The second survey is conducted by Chazi and Zanella (2010) who adopt survey questions from Graham and Harvey (2001) regarding cost of capital, capital budgeting and capital structure. In their study, an additional question regarding frequency of issuance of various Islamic financial instruments is asked to Middle Eastern companies' CFOs. Their findings reveal that about three-quarters of respondents use Islamic financial

instruments occasionally, with *Murabahah* as the most commonly issued Islamic financial instrument.

Other empirical studies on *sukuk* alone or in comparison with conventional debt are mainly on post announcement stock market reaction on issuers (Godlewski, Turk-Ariss, & Weill, 2010, 2011; Ibrahim & Minai, 2009). Others include studies on exploring economic differences between Islamic debt and conventional debt (Ravindran, Shanmugam, & Mohd Hanif, 2011; Safari, 2011). Ravindran *et al.*, 2011) compare durations and convexities of conventional and Islamic bonds. The results show that *sukuk* stands better in these sensitivity measures compared to conventional bonds. When empirically analyzed for *sukuk*'s riskiness, the results reveal that they are moderately riskier than conventional debt. Safari (2011) found that yield to maturity of *sukuk* is significantly different from its conventional counterparts, holding same issuer and issue's tenure. Besides, the study finds that issuers' risk as measured by absolute changes in beta is significantly different before and after issuance of security.

2.3 Empirical Evidence on Determinants of New Securities Issues and Security Choice

Section 2.1 discusses the theories related to securities issuance in which firms choose securities by assessing the benefit and the cost associated with debt and equity financing. In order to determine which theories explain the capital structure of a firm,

one needs to first explore the determinants of leverage. Once the determinants of leverage are identified, theoretical predictions of relationship between leverage and these determinants under various theories of capital structures will be established. This section will review empirical evidence on debt-equity choice and leverage level. The literature is reviewed according to variables examined and associated tested theories. With regards to governance variables, majority of the variables are taken from literature on determinants of leverage and these are described in Subsection 2.3.1. As for firm specific characteristics, the variables are identified from debt-equity choice studies which are described in Subsection 2.3.2. Both subsections end with table of summary of literature on relationship of corporate governance and firms characteristics respectively.

2.3.1 Prior Studies on the Effect of Corporate Governance on Debt-Equity Choice or Leverage Level.

In previous studies, corporate governance has been identified to influence a firm's financing or capital structure decisions. Corporate governance refers to how companies are managed, controlled and directed .Firms with better corporate governance will be more advantageous in terms of greater access to financing, lower cost of capital, and more favorable treatment of all stakeholders (Claesens, Djankov, Fan, & Lang, 2002) which in turn affect performance (Berger *et al.*, 1997; Friend & Lang, 1988). Wide array of corporate finance and governance literature recognize debt or equity as an important mechanism to reduce agency problem. Williamson (1988) argues that the role

of debt and equity is not as merely financial instruments but they also serve as alternative "governance structure." Table 2.1 presents literature summary of the effect of corporate governance on debt-equity choice and debt level.

(a) Managerial ownership

Panel A of Table 2.1 looks at the effect of managerial ownership on debt-equity choice or debt level. A study from Arrondo and Gomez-Anson (2003) looks at the effect of corporate governance variables on debt-equity choice in Spain. They examine 48 equity rights issue and 62 bond issues from 1990 to 1998 based on binary logistic model. Using managerial ownership as a proxy for agency cost, they find that in some regressions, results show positive relationship between managerial ownership and choice of equity. This is consistent with the argument that managerial ownership could align interest of shareholders and managers (Jensen, 1986). Therefore, firms with larger level of managerial ownership should issue more equity. The results seem to be consistent with leverage level study such as in Moh'd *et al.* (1998). Using 311 firms between 1972-1989 in the US market, they find significant negative coefficients at 1% between managerial ownership and leverage level in all-time series, cross sectional and pool regressions model. The findings are associated with risk adversity of managers to increase debt level since increasing managerial ownership will raise personal wealth and human capital invested in the firm. Thus, to reduce overall risk, managers will be less likely to employ debt.

On the other hand, the results above are in contrast with other capital structure studies (Florackis & Ozkanlorackis, 2009; Mehran, 1992). Florackis and Ozkanlorackis (2009) study whether the presence of managerial incentives and corporate governance gives impact to corporate governance in UK firms during period 1999-2004 using OLS and fixed effects model. The results show a highly positive significant relationship between managerial ownership and leverage level. They attribute the relationship due to managers' incentives to keep borrowing at higher levels to avoid value decreasing activities. Similar results are found in Mehran (1992) who examine 124 manufacturing US firms during 1979-1980.

(b) Ownership concentration

Besides managerial ownership, Arrondo and Gomez-Anson (2003) also examine the effect of ownership concentration on debt-equity choice which is shown in Panel B of Table 2.1. Their results show that ownership concentration is significantly positively related at 5% and 10% with equity choice. It is consistent with the fact that shareholders will gain less benefit from debt issues due to monitoring roles played by other investors. Shleifer and Vishny (1986), highlight the influence of large investors such as banks or institutional investors in monitoring activities. Furthermore, firms with more concentrated ownership are expected to have less agency costs related to managerial opportunistic behaviour and thus managers have less need to issue debt as their action will be monitored by the concentrated shareholders. Wiwattanakantang (1999) examines 363 non financial listed firms in Thailand. She finds that ownership concentration is

negatively significant at 10% and 5% which suggests that a concentrated ownership structure induces a higher level of monitoring. This in turn implies the reduction in managerial discretion. Therefore, debt financing which is used to mitigate the moral hazard problem is less widely adopted in highly concentrated firms.

On the other hand, mixed results are found by Margaritis and Psillaki (2010)in French market. Examining two different types of industries (i.e. manufacturing and R&D industries), they find that in general, firms with more concentrated ownership carry more debt in their capital structure. However, mid to high leveraged firms in the computers and R&D industry carry less debt in their capital structures.

(c) Bumiputera ownership

There are no studies which associates Bumiputera ownership with debt-equity choice except for one study that attempts to link the effect of the ethnicity with debt level. As described in Panel C, Suto (2003) examines 375 non-financial firms in Malaysian market from 1995 to 1999. The results show that Bumiputera shareholdings, including direct holdings of individuals and indirect holdings through institutions is not significantly related to the debt ratio.

(d) Family ownership

Panel D of Table 2.1 summarizes the studies on the relationship between family ownership and debt level. This relationship is examined in Anderson, Mansi, and Reeb (2002, 2003), King and Santor (2008) and Wiwattanakantang (1999). In one of the debt-equity studies, Anderson and Reeb (2003) analyze the determinants of levered firms based on logistic regression model. Their sample includes 1,992 S&P 500 industrial firms over the period of 1993-1999. Using binary logistic which equals to 1 to represent firms have greater than 5% of long term debt and 0 to represent all or near all-equity firms, they do not find significant result in either binary family firm or fraction of family directors sit on board divided by family ownership. Besides, adopting panel regression and random effect regression in Canadian market, King and Santor (2006) provide empirical evidence that, a dummy for family controlled of individual or family group is positively significant at 1% with debt level. The authors argue that moral hazard problem can be controlled due to the easy communication within a family. The owner manager thus uses debt to signal to minority shareholders that he has put the firm under debt covenants and will not pursue non value maximized activities. Similarly, a finding of Wiwattanakantang (1999) is consistent with study of the study of King and Santor (2006). Wiwattanakantang (1999) investigates a more detailed measure of family ownership such as directors ownership of single family-owned and CEO ownership of single family owned. Significant positive coefficients at 1% are found for both family ownership measurements.

Anderson *et al.* (2002) look at the relationship between family ownership and cost of debt. Using yield spread as a proxy for cost of debt, they find that family firms have lower cost of debt. Plausible explanation is that the long term commitment to the firm and undiversified portfolios of founding families reduces the agency conflicts between the shareholders and debtholders which would lower the cost of debt financing. Consequently, this implies a higher adoption of debt.

(e) State ownership

With regards to state ownership, Wiwatanakantang (1999) assigns a dummy for State owning of more than 10% which is shown in Panel E of Table 2.1. The result nevertheless is insignificant to debt level. Debt arguably substitutes monitoring function of institutional investors apart from being a signal about expectation of firm performance to market participants. Greater institutional investors would enable them to engage in low cost monitoring since information is expected to be more symmetric between insiders and outside investors. A lower degree of asymmetric information would in turn reduce the management's need to use debt as a signaling device of favourable performance to other market participants.

(f) Institutional ownership

As illustrated in Panel F, most prior empirical evidence documents negative relationships between institutional ownership and leverage level (Bathala, Moon, & Rao,

1994; Chaganti & Damanpour, 1991; Crutchley & Jensen, 1996; Grier & Zychowicz, 1994; Tong & Ning, 2004). Grier and Zychowicz (1994) use three measures of institutional ownerships such as percentage of total shareholding held by either all, four or five institutional investors. They find a significant negative relationship between institutional ownership and debt level. In other words, ownership by institutional investors lead to lower debt level. According to Suto (2003), foreign ownership shows a negative relation with the debt ratio in most cases especially before and after the crisis of 1997. Thus, this suggests that increasing foreign ownership contributes to better disciplining of managers. However, Wiwattanakantang (1999) finds that foreign ownership does not influence debt level.

(g) Separation of control rights and cash flow rights

A distinctive feature of ownership structure is reported in majority of East Asian companies where they are often characterized by the separation of ownership and control rights (Claessens, Djankov, & Lang, 2000). In these countries, control rights of the largest owners are often greater than corresponding cash flow rights which are mainly caused by pyramidal ownership structure and crossholding. A direct result of this pyramidal ownership structure is divergence of cash flow rights from control rights in the hand of the largest shareholders (Claessens *et al.*, 2000). This situation may give rise to agency problem.

More recent research conducted on managers' owned firms has emphasized on the issue of separation of cash flow rights and control rights (see for example Du & Dai, 2005; Drieffield, *et al.* 2007; Boubaker, 2007). Cash flow rights refers to the rights of claiming dividends whereas control right is the right of a common stockholder to vote whether in person or by proxy for members of the board of directors and other corporate policies such as significant changes in operations or issuance in securities. Prior empirical evidence on determinants of leverage documents that separation of control and cash flow rights gives positive and negative effects to leverage level. The variable is investigated in several empirical studies as summarized in Panel G of Table 2.1.

Du and Dai (2005) investigate leverage level in nine East Asian countries. Results show that the ratio of control rights and cash flow rights is at least significantly positive at 10%. The positive effect suggests that controlling shareholders may prefer debt as it will not dilute controlling position of shareholders. This effect is also known as "non dilution entrenchment effect." Furthermore, they also associate the positive relationship as a signal to market participants that firm corporate governance is sound despite the existence of divergence of cash flow and control rights. Mat Nor and Ariffin (2005) examine twenty five Malaysian financially distressed companies in 2002 and find insignificant results for ratio of cash flow and control rights variable although control rights alone shows a positively significant relationship.

(h) Board size

Apart from ownership structures variables, there are other internal corporate governance such as board size and board composition that are shown to influence capital structure decisions. Panel H and I of Table 2.1 illustrate relevant studies that investigate board characteristics and board composition respectively. Panno (2003) examines the effect of board size on debt-equity choice in the UK and Italy. He argues that debt choice is expected to be negatively related to the number of directors on board because directors may be pursuing goal of creating financial empire. On the other hand, a positive relationship could be expected between the number of directors and debt choice as debt could be used to mitigate agency conflict by reducing free cash flow available to directors. Using logit and Probit regressions, he finds insignificant relationship in both UK and Italian samples. However, Abor (2007) documents board size affects debt level positively at 1% in twenty two firms in Ghana market. The results show that board size is significant at 10% for regression which consists of percentage of shares owned by CEOs.

On the other hand, significant negative relationship at 1% is found in Berger *et al.* (1997) who examine 434 non financial firms in the US. Similarly, in the Malaysian market, Heng, Azrbaijani, and San (2012) find an inverse association at 5% between board size and leverage level. The results are consistent with the prediction that since entrenched CEOs pursue lower leverage, CEOs with small boards are less entrenched due to superior monitoring by the board of directors. However, Wen, Rwegasira, and

Bilderbeek (2002), and Wiwattanakantang (1999) report that board size is not significant to leverage level.

(i) Independent directors on board of directors.

Empirical evidence on the relationship between presence of independent board and capital structure is shown to be mixed. For instance, Berger *et al.* (1997), Heng *et al.* (2012) and Mehran (1992) find positively significant results between board independence and debt level. They associate their results to effective monitoring by independent directors who are more creditworthy from the perspective of lenders. On the other hand, negative results are recorded in Mande, Park and Son (2011) and Wen *et al.* (2002). Wen *et al.* (2002) argue that outside directors tend to monitor managers more effectively which cause them to adopt lower leverage to get improved performance. In a similar vein, Mande *et al.* (2011) investigate 288 equity issuances and 1,761 debt issuances in the US market and find that as corporate governance becomes stronger, firms will tend to choose equity rather than debt.

Table 2.1

Summary of literature of the relationship between corporate governance and debt-equity choice or leverage levels

Author(year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Panel A: Managerial ownership				
Arrondo and Gomez-Anson (2003)	Spanish	62 bond issues and 48 equity issues (1990-1998).	1= Equity; 0=debt (Logistic regression)	Managerial ownership is significantly positive at 10% with equity choice.
A.Moh'd, G.Perry, and N.Rimbey (1998)	US	311 firms (1972-1989).	Book value of long term debt divided by sum of by of long term debt +MV of equity (Time series cross sectional, pooled TSCS, and time series regression)	Managerial ownership is negatively related to leverage level (at 1%).
Florackis and Ozkanlorackis (2009)	UK	956 listed firms (1999–2004).	Leverage as total debt divided by total assets (book leverage) and ratio of total debt to the sum of book debt and the market value of equity (market leverage) (OLS and fixed effect)	Managerial ownership is positively significant to leverage (at 1%).
Mehran (1992)	US	124 manufacturing firms (1979-1980).	Leverage ratio measured by long term debt divided by market value of asset. (OLS regression).	Managerial ownership is positively significant to leverage ratio (5%).
Lundstrum (2009)	US	74 equity, 37 straight debt t(1989-1993).	Dummy 1=equity; 0=straight debt (Logistic regression).	Managerial ownership is not significant to debt-equity choice.
Panel B: Ownership concentration				
Arrondo and Gomez-Anson (2003)	Spanish	62 bond issues and 48 equity issues (1990-1998)	1= Equity; 0= debt. (Logistic regression).	Ownership concentration is positively significant at 5% and 10% with equity choice.
Wiwattanakantang (1999)	Thailand	363 non-financial listed firm (Period Jan 1-1996-Dec 1996).	Book and market leverage (OLS).	Ownership concentration is negatively significant at 10% and 5% level.

Table 2.1 (Continued)

Author(year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Margaritis and Psillaki (2010)	France	French firms from two traditional mfg industries (textiles and chemicals) and a growth industry (computers and related activities and R&D).(2002 to 2005).	Debt to asset ratio (OLS regression]	Ownership concentration is positively significant to debt ratio particularly in high levered firms. However, for R, &D industries, negatively significant at 5% in high levered firms 10%
Panel C: Bumiputera ownership				
Suto (2003)	Malaysia	375 non financial firms (Period from 1995 through 1999)	Debt to total asset, book value and market value (time series, cross sectional and panel data regression)	Bumiputera ownership is insignificant to debt level.
Panel D: Family ownership				
Anderson and Reeb (2003)	US	1992 S&P 500 Industrial firms (1993- 1999).	Long term debt/total asset and Binary 1=debt (OLS and logistic regression)	Family firms are not significant to leverage or debt choice.
King and Santor (2008)	Canada	613 firms (1998 to 2005).	Debt to total asset (Panel regression, random-effects specification)	Dummy family controlled by individual or family group is positively significant at 1%.
Wiwattanakantang (1999)	Thailand	363 non-financial listed firm (Period Jan 1 1996-Dec 1996].	Book and market leverage (OLS)	Family ownership, family director ownership is positively significant at 1% with leverage.
Anderson et al. (2002)	US	1,052 firm-year observations on 252 firms for the period (1993-1998)	Yield spread (OLS).	Dummy for family ownership is negatively significant (1%) with a lower cost of debt.

Table 2.1 (Continued)

Author(year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Panel E: State ownership				
Wiwattanakantang (1999)	Thailand	363 non-financial listed firm (1996- 1996).	Book and market leverage (OLS).	Dummy for state ownership of more than 10% is not significant to debt level.
Panel F: Institutional ownership				
Grier and Zychowicz (1994)	US	295 firms (1979-1988)	Debt ratio measured by BV of debt/(BV debt + MV equity. (OLS)	Institutional ownership is negatively significant (1%) with debt level.
Suto (2006)	Malaysia	375 non financial firms. (Period from 1995 through 1999).	Debt to total asset, book value and market value. (Cross sectional regression).	Foreign ownership is negatively significant at 1% level in most regressions.
Wiwattanakantang (1999)	Thailand	363 non-financial listed firm (Period Jan 1 1996-dec 1996).	Book and market leverage (OLS)	Foreign ownership is not significant with debt level.
Panel G: Separation of control and cash flow rights				
Du and Dai (2005)	Nine East Asian economies	1473 firms in the sample for the market, 1484 firms in the sample for book leverage analysis (1994–1996)	Book leverage: BV of total debt/BV of total debt +BVof equity; Market leverage: BV of total debt/BV of total debt +MV of total equity (OLS).	Ratio of control rights and cash flow rights is positively significant (10% or lower) with leverage for Malaysia.
Fauzias and Ariffin (2005)	Malaysia	25 Malaysian financially distress companies (2002)	Log of total liabilities (OLS)	Ratio of control rights and cash flow rights is insignificant; Control right is positively significant at 10%.
Panel H: Board size				
Panno (2003)	UK and Italy	87 issues o(UK)and 63 issues(Italy). (Period 1992-1996)	1= Equity 0=Debt (Logit and Probit regression)	Board size is not significant with securities choice in either UK or Italian mkt

Table 2.1 (Continued)

Author(year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Panel H: Board size				
Berger *et al.* (1997)	US	434 industrial companies (1984-1991)	Book value and market value of leverage (OLS)	Board size is negatively significant (1%) with leverage level.
Abor (2007)	Ghana	22 firms (1998 to 2003)	TD/TE+TD (OLS)	Board size is positively significant at 1% with debt level.
Heng *et al.* (2012)	Malaysia	75 nonfinancial firm (2005-2008)	Debt ratio (OLS)	Board size is negatively significant at 5% with leverage level.
Panel I: Board independence				
Mehran (1992)	US	124 manufacturing firms (1979-1980)	Long term debt/BV of asset and Long term debt/MV of Asset (OLS)	Proportion of independent directors on board is positively significant with leverage level (at 1%) in regressions of CEO only
Berger (1997)	US	434 industrial companies (1984-1991)	Book value and market value of leverage (OLS)	Proportion of independent directors on board is significantly positive with debt level.
Heng et al. (2012)	Malaysia	75 nonfinancial firm (2005-2008)	Debt ratio (OLS)	Proportion of independent directors on board is positively significant at 10% level.
Mande, Park and Son (2011)	US	2,049 observations consisting of 288 equity issuances and 1,761 observations debt issuances (1998–2006).	1 if a firm issues equity greater than 5% of the initial total assets of the firm, 0 if a firm issues debt greater than 5% of the initial total assets (Binomial logistic, 2SLS)	Proportion of independent directors on boards positively contributed to good corporate governance which in turn is positively related to equity financing.
Wen *et al.*(2002)	China	180 observations for 60 listed firms(1996-1998)	Book value of leverage (OLS regression)	Proportion of independent directors on board is negatively significant at 1% level.

2.3.2 Prior Empirical Studies on the Effect of Firms Characteristics on Debt-Equity Choice or Leverage Level

(a) Growth opportunity

Relationship between growth opportunity and leverage level can be explained using signaling, agency and trade off theories. Higher growth opportunities provide incentives to invest suboptimally, or to accept risky projects that expropriate wealth from debtholders. This raises the cost of borrowing and thus growth firms tend to use internal resources or equity capital rather than debt. In Myers (1977), firms with high asset intangibility use less debt to reduce agency cost of debt since they do not wish to bind themselves to possible restrictions imposed by lenders. Panel A of Table 2.2 summarizes empirical evidence of selected debt-equity choice studies. For instance, Jung *et al.* (1996) investigate 192 equity and 276 straights debts issued by US firms from 1977 to 1984 which shows that growth opportunity is positively related to equity choice while Arrondo and Gomez-Anson (2003) and Jong and Veld (2001) show insignificant results.

(b) Stock price run up

According to model of Myers and Majluf (1984), managers will issue equity as a response to an overvalued stock and issuing equity is more costly when there is asymmetric information between firms' insiders and outsiders. As such, firms for which the information asymmetry is high should time equity issues accordingly. As argued by Lucas and McDonald (1990), firms are more likely to have good projects and hence time

equity issuance after a period of high returns. To test their predictions, the study use pre issue stock returns. Furthermore, since asymmetric information increases the cost of external financing, Korajczyk, Lucas and McDonald (1991) suggest that firms should issue equity during periods of low asymmetric information. With the existence of information asymmetry between managers and insiders, equity is mispriced. Projects are foregone as values of projects are lower than the mispriced which leads to a foregone in project. Their prediction is verified by Jong and Veld (2001) who use a sample of 110 private and public equity and 137 straight debts issued from 1977 to 1996. In their studies, positive significant relationship is observed between the variable of past 12-months excess return and equity choice. The results also corroborate with other debt-equity choice studies (Arrondo & Gomez-Anson, 2003; Jong & Veld, 2001; Jung *et al.*, 1996).

Similarly, market timing hypothesis states that firms time equity issuances following high market performance and strong share price performance. With the timing model, managers issue equity when they anticipate that their stock is overpriced. Hovakimian *et al.* (2001) examine 4,558 long term debt, 2,231 common equity and 390 preferred stock between 1979 to 1997 in the US market. A significant negative coefficient at 1% for 2-year prior stock return is found in their study. They interpret their results as managers having superior private information which enable them to time their equity issuances. Similar results are found in other US market study by Jung *et al.* (1996). Using past 11-month cumulative excess return to proxy for adjusted stock run

(c) Financial slack

Presence of information asymmetry is argued to increase adverse selection problem and makes equity financing costlier than debt issue. The implication of asymmetric information will lead to mispriced equity. In a situation where underinvestment occurs, firms have a preference to maintain financial slack to ensure there is available internal funds for projects. After internal funds, debt is favored than outside equity. Arrondo and Gomez-Anson (2003) find a significant positive relationship at 1% between debt choice and financial slack while Jong and Veld (2001) find a marginally significant coefficient in certain models. Therefore, full support for pecking order is found in the former study while only partial support for adverse selection model is observed in the latter study. Panel C of Table 2.2 illustrates these results.

(d) Issue size

Besides financial slack, issue size is another variable that can be associated with information asymmetry argument. Cost of adverse selection is related to the size of security issue as large issue subsequently increases the potential wealth loss by existing shareholders. Results in Jong and Veld (2001), Jung *et al.* (1996) support adverse selection problem argument that decrease in stock price due to mispricing will increase with large issue size as summarized in Panel D. Thus, firms will be better off if they issue debt since adverse selection problem could be reduced.

(e) Profitability

Pecking-order theory postulates that managers prefer to finance projects internally because of the informational asymmetry between managers and outside investors (Myers, 1984). Profitable firms prefer not to raise external equity in order to overcome information asymmetric problem as well as to avoid potential dilution of ownership. Thus, a negative relationship is expected between profitability and leverage. This is consistent with the studies of determinants of leverage level (Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001; Margaritis & Psillaki, 2009, 2010; Moh'd *et al.*, 1998; Wiwattanakantang, 1999). The negative and significant result for profitability and leverage is consistent with the predictions of the pecking order theory, showing that firms prefer to use internal sources of funding when firms' profitability is high. In the debt-equity choice studies as summarized in Panel E, results of Jong and Veld (2001) and Hovakimian *et al.* (2001) shows that firms with high past profitability is more likely to issue debt. This is evident by significant results of 10% and 1% respectively. However, other debt-equity choice studies such as Jung *et al* (1996) and Panno (2003) indicate that profitability is not an important factor in securities choice.

(f) Risk

Panel F describe the studies that use either total or systematic risk. Jung *et al.* (1996) argue that increase in either business or financial risk increases the expected costs of bankruptcy which influence firms to issue securities. Using stock return volatility and beta (as a measure of systematic risk), they find marginally significant positive

coefficients with equity choice in certain regressions. This is consistent with the study of Panno (2003) who finds positive results in Italy and UK sample. Positive relationship between beta and equity issuance, is also found in Schatzberg and Weeks (2004). Using principal component analysis and logit regression, they examine 193 debt and 303 equity offerings of US firms. The results show that market risk is significant at 1% with equity choice. With regards to total risk, Lundstrum (2009) does not find any significant result.

(g) Asset tangibility

The relationship between asset tangibility and debt level can be argued from perspective of agency theory and trade off theory. In terms of agency theory, it is suggested that firms with high leverage tend to underinvest, or invest suboptimally, and thus debtholders' wealth is transferred to equityholders. These cause lenders to require collateral because the use of secured debts can help to alleviate this problem. Furthermore, according to trade off theory, liquidation value of firm increases with the tangibility of assets and decreases the probability of mispricing in the event of bankruptcy. Firms which unable to provide collaterals will have to pay higher interest, or will be forced to issue equity instead of debt (Scott, 1977).Thus, a positive relationship between tangibility of assets and leverage is anticipated. As shown in Panel G, studies of debt-equity choice that incorporate asset tangibility in their models include Marsh (1982) and Panno (2003). While Marsh (1982) find that firms with fewer fixed asset is more likely to issue equity, Panno (2003) does not show significant relationship between equity choice and asset tangibility either in UK or Italian sample companies.

between tangibility of assets and leverage is anticipated. As shown in Panel G, studies of debt-equity choice that incorporate asset tangibility in their models include Marsh (1982) and Panno (2003). While Marsh (1982) find that firms with fewer fixed asset is more likely to issue equity, Panno (2003) does not show significant relationship between equity choice and asset tangibility either in UK or Italian sample companies.

(h) Firm size

Empirical evidence on the association of firm size and debt-equity choice according to information asymmetric is mixed. Securities choice literature which examine firm size are by Arrondo and Gomez-Anson (2003), Jung *et al.*(1996), Marsh (1982), Panno (2003) and Schatzberg and Weeks (2004). Using logit analysis, Marsh (1982) examines firms' choice between straight debt and equity issue in the UK market during 1959-1970. The results show that smaller companies are more likely to issue equity which is shown by negative coefficients at 5% level. This suggests that due to asymmetric information problem, firms would choose securities that are less affected by the problem in order to reduce adverse selection cost. Larger firms which has low asymmetric problem will be less affected by adverse selection problem compared to small firms. Since larger firms tend to provide more information to lenders than smaller firms, the monitoring cost should be less for larger firms (Fama & Jensen, 1983). Furthermore, large firm is more diversified, thus they have greater leverage capacity to borrow than smaller firms (Arrondo & Gomez-Anson, 2003). Similarly, Panno (2003) find that in Italian sample, the evidence also indicates that size of firms has a highly

significant positive effect on the choice of equity while in the UK sample, coefficients are not significant. In the similar vein, Jung *et al.* (1996) argue that since large firms are followed more closely by analyst and have stricter reporting requirements, they are expected to have lower information asymmetry. They report a significant positive at 1% level between firm size and equity issuance choice.

Apart from asymmetric information argument, trade-off theory postulates a positive relation between firm size and debt, since larger firms have been shown to have lower bankruptcy risk and relatively lower bankruptcy cost. The theory is tested by Schatzberg and Weeks (2004) who find significant positive relationship at 5% level. Similarly, Wiwattanakantang (1999) shows a significant positive relationship at 1% and 5%. Another theory which can explain this relationship is agency cost. Large firms arguably have lower agency costs of debt due to lower underinvestment and asset substitution problem (Chung, 1993). Thus, large firms could minimize these problems because they could attract s more creditors which will consequently lead them to employ higher debt.

(i) Deviation from target debt/target equity

Based on static trade off theory, firms have an optimal capital structure where they aim for target debt level or target equity debt to total capital. In the framework, optimal capital structure is determined by cost of bankruptcy, tax structure and agency problem. Firms would tend to move towards optimal capital structure if this theory fully

firms would issue equity to move towards optimal equity ratio if the actual equity level is lower than target equity level. Similarly, the result is consistent with results reported for Italian sample companies as opposed to UK sample companies according to study by Panno (2003).

(j) Non debt taxshield

With regard to debt-equity choice study, there is lack of study that examines the effect of nondebt taxshield. However, in capital structure study, a negative relationship between non debt tax shield and leverage level is reported in Wiwattanakantang (1999). This is consistent with the view of substitution effect between non debt tax shield and interest deductibility of debt. In the study, negative coefficients at 5% are reported in all regressions. In contrast, positive relationships are found in Moh'd *et al.*(1998) who find significant results in regression analysis either using cross sectional regression, time series or pooled time series cross section. The result refutes the argument made by De Angelo and Masulis (1980) that firm with high level of fixed asset gain higher taxable income due to presence of non cash tax shield or depreciation.

(k) Tax shield

Empirical evidence on the effect of firms tax status on securities choice is initiated by MacKie-Mason (1990). Examining three measures of tax namely tax loss carry forward, investment tax credit (ITC), and interaction of ITC and bankruptcy

predictor, the study finds support for tax hypothesis which is firms with high tax shields are less likely to issue debt. The results of Jung *et al.* (1996) support the agency cost model as they find that firms with higher tax shields are more likely to issue debt which shows significant negative results between 1% and 5%. Furthermore, as interest expenses are tax deductible, gain from debt financing relative to equity financing increases with the firm's tax rate. Likewise, in a study on determinants of leverage, Moh'd *et al* (1998) finds a negatively significant coefficient at 1% level in time series regression, pooled time series cross sectional and OLS regression. However, Lundstrum (2009) does not find any support for the variable.

Table 2.2

Summary of literature on the relationship of firms' characteristics and debt-equity choice or leverage levels

Author(year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Panel A: Growth opportunity				
Arrondo and Gomez-Anson (2003)	Spanish	62 bond issues and 48 equity issues (1990-1998)	1= Equity; 0= debt (Logistic regression]	Investment opportunity is insignificant to equity choice
Jong and Veld (2001)	Netherland	110 equity issues (public & private) and 137 straight (1977 -1996]	1=equity; 0==Debt Logistic regression	Growth opportunity is insignificant to equity choice.
Jung et al. (1996)	US	192 equity, 276 straight debt (1977-1984]	1= equity, 0=straight debt	Investment opportunity is positively significant at 1% with equity choice.
Panel B: Stock run up				
Hovakimian, Opler, and Titman (2001)	US	4558 long term debt, 2,231 common equity, 390 preferred stock (1979 - 1997]	1= straight debt; 0= equity Logistic regression and multinomial regression	2-year prior stock return is negatively significant at 1%
Arrondo and Gomez-Anson (2003)	Spanish	62 bond issues and 48 equity issues (1990-1998)	1= Equity; 0= debt (Logistic regression]	Difference between firm's cum-dividend stock return market return over the year prior of issuance of first announcement .is not significant

Table 2.2 (Continued)

Author(year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Panel C: Financial slack				
Jong and Veld (2001)	Netherland	110 equity issues (public & private) and 137 straight (1977 -1996]	1=equity; 0=Debt Logistic regression	Financial slack is negatively significant at 10%
Arrondo and Gomez-Anson (2003)	Spanish	62 bond issues and 48 equity issues (1990-1998)	1= Equity; 0= debt (Logistic regression]	Financial slack is negatively significant at 5% and 10%
Jung *et al.*(1996)	US	192 equity and 276 straights debts (1977 -1984)	1= equity, 0=straight debt	Financial slack is not significant with debt-equity choice
Panel D: Issue size				
Jong and Veld (2001)	Netherland	110 equity issues (public & private) and 137 straight (1977 -1996)	1=equity; 0=Debt Logistic regression	Issue size is negatively significantly at 1%
Jung et al.(1996)	US	192 equity and 276 straights debts between 1977 to1984	1= equity, 0=straight debt	Issue size is negatively significant at 1%
Panel E: Profitability				
Hovakimian, Opler, and Titman (2001)	US	4558 long term debt, 2,231 common equity, 390 preferred stock (1979 to 1997)	1= straight debt; 0= equity Logistic regression and multinomial regression	Profitability is positively significant at 1% with debt choice.

Table 2.2 (Continued)

Author(year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Jong and Veld (2001)	Netherland	110 equity issues (public & private) and 137 straight (1977 -1996)	1=equity;0=Debt Logistic regression	Profitability is negatively significant at 10%
Panno (2003)	UK and Italy	87 issues of debt and equity made by UK companies 63 issues made by Italian companies in the period 1992-1996.	1= Equity 0=Debt (Logit and Probit regression)	Profitability is insignificant in both UK and Italian sample
Jung *et al.*(1996)	US	192 equity and 276 straights debts between 1977 to1984	1= equity, 0=straight debt (Logit regression)	Profitability is insignificant with th securities choice.
Panel F: Risk				
Jung *et al.*(1996)	US	192 equity and 276 straights debts between 1977 to 1984	1= equity, 0=straight debt (Logit regression)	Stock return volatility is positively significant at 1% and 10% in certain regressions
Panno (2003)	UK and Italy	87 issues of debt and equity made by UK companies 63 issues made by Italian companies in the period 1992-1996.	1= Equity 0=Debt (Logit and Probit regression)	Beta is positively significant at 10% in the UK sample but insignificant in Italian sample.
Schatzberg & Weeks,(2004)	US	193 debt and 303 equity between 1976 to Dec 1993	*Principal component analysis *Logit regression 1= Debt; 0=Equity	Market risk is negatively significant at 1%
Lundstrum (2009)		74 equity, 37 straight debt 1989-1993	Dummy 1=equity; 0=straight debt (Logistic regression)	Total risk is insignificant with issuance choice

Table 2.2 (Continued)

Author (year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Panel G: Asset Tangibility				
Marsh (1982)	UK	399 Straight debt and 349 common equity (1959-1970)	1=equity; 0= debt (Logit and Probit analysis)	Asset tangibility is negatively significant at 1%.
Panno (2003)	UK and Italy	87 issues of debt and equity made by UK companies 63 issues made by Italian companies in the period 1992-1996.	1= Equity 0=Debt (Logit and Probit regression)	Asset composition is insignificant with securities choice
Panel H: Firm Size				
Marsh (1982)	UK	399 Straight debt and 349 common equity (1959-1970)	1=equity; 0= debt (Logit and Probit analysis)	Firm size is negatively significant at 5%
Panno (2003)	UK and Italy	87 issues of debt and equity made by UK companies 63 issues made by Italian companies in the period 1992-1996.	1= Equity 0=Debt (Logit and Probit regression)	Firm size is insignificant in the UK sample; negatively significant at 1% in the Italian market.

Table 2.2 (Continued)

Author (year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Schatzberg & Weeks,(2004)	US	193 debt and 303 equity between 1976 to Dec 1993	*Principal component analysis *Logit regression 1= Debt; 0=Equity	Firm size is significantly positive with debt choice.
Wiwattanakantang (1999)	Thailand	363 non-financial listed firm (Period Jan 1 1996-dec 1996).	Book and market leverage (OLS)	Firm size is positively significant at 1% with debt level.
Chung (1993)	US	1444 firms during 1980-1984	Short term and long term debt.(OLS)	Firm size is positively significant with long term debt
Panel I: Deviation of target debt or equity				
Jong and Veld (2001)	Netherland	110 equity issues (public & private) and 137 straigh t(1977 - 1996)	1=equity;0=Debt Logistic regression	Deviation of actual equity ratio from the expected equity ratio is positively significant at 10%.
Marsh (1982)	UK	399 Straight debt and 349 common equity (1959-1970)	1=equity; 0= debt (Logit and Probit analysis)	Firms with current long term debt below than target debt ratio are significantly at 5% to issue debt, Firms which current short term debt is above than target debt ratio will issue equity. The result is significant at 5%
Panno (2003)	UK and Italy	87 issues of debt and equity made by UK companies 63 issues made by Italian companies in the period 1992-1996.	1= Equity 0=Debt (Logit and Probit regression)	Deviation of actual equity ratio from the expected equity ratio has a positive significant at 10% level in Italian companies and insignificant result in the UK sample.
Panel J: Non debt tax shield				
Wiwattanakantang, (1999)	Thailand	Period Jan 1 1996- Dec 1996 of 363 non-financial listed firm	Book and market leverage (OLS)	Non debt taxshield is negatively significant at 5% with debt level.

Table 2.2 (Continued)

Author(year)	Country	Sample (period)	Dependent variable (Method)	Key finding
Panel J: Non debt tax shield				
Moh'd et al. (1998)	US	311 firms /1972-1989	Book value of long term debt divided by sum of by of long term debt +MV of equity (Time series cross sectional, pooled TSCS, and time series regression)	Non debt tax shield is positively significant at 10% in pooled TSCS and Time Series regression and 5% in cross sectional regression alone.
Panel K: Taxshield				
(Mackie-Mason, 1990)	US	1797 observations; during 1977-1987	Dummy 1=Debt, 0= Equity (Probit regression)	3 different tax measures shows relationship with debt choice 1) Negative in tax loss 2) Insignificant to ITC 3) Significant negative to interaction of ITC and probability of incurring operating loss.
Jung et al. (1996)	US	192 equity and 276 straights debts between 1977 to1984	1= equity, 0=straight debt	significant negative results between 1% and 5%
Moh'd et al (1998)	US	311 firms (1972-1989)	Book value of long term debt divided by sum of long term debt plus MV of equity(Time series cross sectional, pooled TSCS, and time series regression)	Taxshield is significantly negative at 1% in pooled TSCS and Time Series regression
Lundstrum (2009)	US	74 equity, 37 straight debt 1989-1993	Dummy 1=equity; 0=straight debt (Logistic regression)	Taxshield is insignificant with issuance type.

2.4 Conclusion

This chapter presents extant literature which shows mixed evidence on the influence of both corporate governance and firms characteristics on securities choice and debt level. Previous studies are discussed according to the variables examined in this study. For corporate governance structure variables, agency cost theory is the prevailing theory that has been used to explain how various types of ownership structure and board characteristics influence debt-equity choice in the developed and emerging markets. As for firms characteristics, various standard capital structure theories such as asymmetric information, market timing theory and trade off theories are elaborated with conjunction to selected variables that examine the tested theories.

CHAPTER THREE
HYPOTHESIS DEVELOPMENT AND RESEARCH FRAMEWORK

3.0 Introduction

In Chapter 2, several prior studies reviewed done on determinants of capital structure has focused in international markets. Studies in other countries mainly in the UK and the US found that ownership structures do play significant roles in determining securities choice. However, there exist mixed results in studies of the market with concentrated ownership such as in Japan, Australia and Malaysia. Due to the inconclusive previous evidence in various markets, the present study uses a more extensive classification of ownership structures which is incorporated in the research model. Furthermore, this study also introduces an internal corporate governance mechanism variable into the existing study.

The major objective of this study is to examine factors that influence the choice of Malaysian firms in issuing securities namely debt and equity. There are unique features of securities offerings observed in the Malaysian context: debt comprises of Islamic and conventional debt, equity issuance is primarily done through rights offering and capital markets are institutionalized which caters for different types of debt and equity issuances. The chapter is segmented into five sections. The first section, Section 3.1 discusses variables as well as hypothesis developed in the study. This is followed by a discussion of theoretical framework on the determinants of securities choice in Section 3.2. In Section 3.3, the measurement

of dependent and independent variables is discussed in detail. Moreover, Section 3.4 shows a model used in this study. Section 3.5, details variables used and sample selection procedure and finally Section 3.6 summarizes the chapter.

3.1 Hypothesis Development and Variables Selection

Drawing from documented evidence as well as objectives of this study, we develop 24 sets of hypotheses. The predictions of each hypothesis on the selected variables as well as proxies are identified in the following subsection. Variables are derived from theoretical framework examined in Chapter 2. In particular, they are categorized into ownership structure variables, board attributes, and firm specific characteristic variables.

3.1.1 Dependent Variable

In this study, the dependent variable is a categorical variable which takes the value of either 0 or 1. Companies which issue debt during a particular year are assigned the value of 1; and 0 if they issue equity. In the model of choice between Islamic and conventional debt, the company which issues Islamic debt takes value of 1, while conventional debt is assigned a value of 0.

3.1.2 Independent Variables

Prior empirical research has documented that ownership structure, board structure and firm characteristics could affect firms' financing decisions. Leland and Pyle (1977) and Jensen (1986) were among the first to approach this issue. There are also well established empirical evidence in the developed market (Driffield, Mahambare and Pal (2007) in the US market; King and Santor (2008) in the Canadian market and Boubaker (2007) in the French market. However, except for Booth *et al.* (2001), there is scarce empirical studies for developing countries which study the stated relationship.

In this study, several ownership structures which are more appropriate in the Malaysian setting are analyzed thoroughly in relation to securities choice. Some of these ownership structures variables reflect different cultural, institutional or organizational frameworks in which Malaysian companies operate. Among these are the pervasiveness of family-owned business of owners who are actively involved in the management of firm, highly concentrated ownership, and high control rights relative to cash flow rights. The following section will develop hypothesis depicting how these factors play a role in defining securities choice of Malaysian firms.

In examining the difference between Islamic debt and conventional debt issuers, the same variables used in all debt-equity choice frameworks are analyzed as there is no clear theoretical literature that could explain this choice. However, certain governance structure variables such as Bumiputera ownership and presence of

Bumiputera directors on board are anticipated to have different effects on the choice between the two securities. Thus, in addition to debt-equity choice, the choice between Islamic debt and conventional debt is examined with similar types of ownership, internal governance structure and firm characteristics.

3.1.2.1 Variables Associated With Corporate Governance

Most corporate governance variables such as managerial ownership, ownership concentration and family ownership are hypothesized to influence the choice between Islamic debt and equity, and conventional debt and equity in a similar manners the debt-equity choice decisions due to several similar characteristics between Islamic debt and conventional debt, both being debt-like instrument. Nevertheless, variables such as Bumiputera ownership, presence of Bumiputera on board and foreign fund ownership can be associated with preference of specific type of instruments; hence influence the choices in a different manner. In examining the choice between Islamic debt and conventional debt, hypotheses are stated for certain variables where applicable.

(a) Managerial Ownership

Past literatures that document the relation between managerial share ownership and corporate debt is inconsistent and unclear. For instance, a negative relationship documented in prior studies suggests that corporate financing decisions are influenced by managers' incentive to act opportunistically (Agrawal & Nagarayan, 1990; Shleifer & Vishny, 1986). A negative relationship between debt

ratios and managerial ownership also exists due to management risk aversion (Fama, 1980; Friend & Lang, 1988). As argued by Fama (1980), higher leverage will bring higher chance of financial distress to firms which will adversely affect managers' reputation, earnings capacity and their undiversified portfolio. Furthermore, a negative relationship between managerial ownership and financial leverage is hypothesized by agency cost theory which argues that managerial ownership can substitute the monitoring role of debt.

On the contrary, a positive relationship between managerial ownership and debt choice has also been posted. Managers tend to use debt simply to maintain their own voting control (Harris & Raviv, 1988; Stultz, 1988). Managerial ownership serves as a mechanism that can potentially align the managers and shareholders interest (Jensen & Meckling, 1976; McConnell & Servaes, 1990). As they have to bear part of the cost for their actions, the tendency to engage in value decreasing activities is low. This argument leads to high leverage since a higher than optimal leverage ratio is expected to increase firms' value. Furthermore, with high managerial ownership, incentives to expropriate shareholders' wealth and engaging in other non maximizing behavior (i.e. financing growth beyond optimal level or insulate themselves against takeover) could be reduced (Berger, Ofek, & Yermack, 1997; Harris & Raviv, 1988; Stulz, 1988). According to both argument of negative and positive effects of managerial ownership and debt level, a hypothesis proposed in this study is:

Hypothesis 1: There is a relationship between managerial ownership and debt-equity financing choice.

(b) Ownership Concentration

The incentive to supervise management effectively is more likely to occur among large shareholders compared to small shareholders. If a concentrated ownership structure induces a higher level of monitoring, this would reduce management discretion (Shleifer & Vishny, 1986). Therefore, there is less need of debt to mitigate moral hazard and agency problem which leads to a negative relationship between ownership concentration and debt financing. The negative relationship between ownership concentration and debt level can also be viewed in supporting the signaling model. Zechauser and Pound (1990) argue that the likelihood of asset substitution is less likely to occur since large shareholders guarantee active monitoring and therefore it serves as a signal that companies will not engage in non-profit maximization activities. Furthermore, the effect of concentrating ownership is prominent when major shareholders substitute the role of board in monitoring management (Mehran, 1992). On the other hand, a positive effect of debt level and ownership concentration is found by Lefort and Urzúa (2008) who argue that these shareholders are not diversified, thus they will prefer debt than equity as issuing equity leads to losing or sharing controls. Given the arguments above, there are both positive and negative predictions of the relationship between ownership concentrations on debt financing choice. Thus, the following hypothesis is developed:

Hypothesis 2: There is a relationship between ownership concentration and debt-equity financing choice.

(c) Bumiputera Ownership

Another important and unique aspect about ownership structure of Malaysian firms is associated with historical and political backgrounds of the corporate system. A company is regarded as 'Bumiputera-controlled company' when either one of the following two criteria[1] is satisfied which is more than 50% of its equity is owned by Bumiputera shareholders; or at least 35% of its equity is owned by an identified Bumiputera shareholder (Securities Commission, 2000).

In Malaysia, by convention, it is generally considered that all Malays are Bumiputeras. The implementation of the New Economic Policy (NEP) introduced in 1970, is developed to overcome ownership discrepancy to enhance the economic status of the Malays. The policy has influenced equity ownership in the capital market. Particularly, Malaysian government has used Malaysian institutional investors to narrow the gap between the various ethnic groups by increasing Bumiputera ownership in the capital market (Tan, 2004). The five largest public institutional investors are two pensions funds such as the Employee Provident Fund (EPF), Armed Forces Fund, Pilgrim Fund Board, an investment fund (Permodalan Nasional Berhad (PNB) and an insurance company National Social Security Organization (SOCSO). Overall, their shareholdings represent about 70% of total institutional shareholdings on the Bursa Malaysia's Main Board[3] (Abdul Wahab *et al.*, 2007).

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[1]Other criteria include the identifiable non-Bumiputera groups should not own more than 24 percent of the voting power of the company (Marimuthu, 2010). Besides, the shareholding of the Bumiputera group is not associated directly or indirectly with any non-Bumiputera group.

[3] In 2009, Bursa Malaysia merged Main Board and Second Board to create Main Market.

Despite the success of the policy to increase the Bumiputera corporate ownership from 3% in 1971 to 30% over a 20-year period (Ghee, 1995), conflict of interest in information asymmetry among small shareholders arise. This situation has led to free rider problems in equity markets (Suto, 2003). Enhancing Bumiputera or Malays ownership is expected to increase agency cost of equity. This is because it is likely that Bumiputeras have fewer incentives to monitor the firms they invest in because they can escape fiduciary responsibility owing to government intervention in fund management. This implies that firms with high level of Bumiputera owned or controlled is less likely to choose debt over equity.

Other study on Bumiputera controlled companies deals with performance on the short and long term basis (Marimuthu, 2010). The study concludes that the poor performance of these companies is attributable to high financial leverage. However, result documented by Suto (2003) revealed that Malay shareholdings, including direct holdings of individuals and indirect holdings through institution are not significantly related to the debt ratio. Therefore, it is hypothesized that:

Hypothesis 3a: There is a negative relationship between firms with high Bumiputera ownership and debt-equity financing choice.

Furthermore, since majority of Bumiputera are Muslims, it is their religious duty to refrain themselves from being involved in the non *Shariah*-compliant securities. Thus, with regard to securities choice, firms with Bumiputera ownership is

expected to prefer Islamic debt relative to conventional debt Therefore, the next hypothesis is:

Hypothesis 3b: There is a positive relationship between firms with high Bumiputera ownership and Islamic debt-conventional debt financing choice.

(d) Family Ownership

Family firms are a unique class of large shareholder with a special incentives structure (Margaritis & Psillaki, 2010). They have stronger incentives to mitigate agency conflict with debt claimants due to their long term commitment to the firm. The controlling shareholders may act for their own interest and therefore expropriate wealth from non-controlling shareholders. Among wealth transfer behaviors that could be done are using firms' cash flow to benefit themselves and secure jobs for their family members.

As this problem is noticeable by outside shareholders, the owner-managers may utilize debt to minority shareholders that wealth expropriation does not occur. In other words, the controlling family will not pursue the non value maximization activities. A positive relationship between family ownership and debt level is also observed because debt is used by management to increase their voting power for a given level of equity investment (Harris & Raviv, 1988; Stulz, 1988). Furthermore, for family firms, as they hold large stakes, then the threat of hostile takeover is almost nonexistent. That could be a reason why hostile takeover in Malaysia is unheard of.

On the contrary, prior empirical argues that concentrated ownership reduces the agency cost of free cash flow as substantial shareholders will not undertake investments of negative NPV projects. However, since families are ill diversified, they might tend to hold more cash and this reduces their reliance on debt. This creates another problem between family (majority shareholders) and minority shareholders who are well diversified (Shleifer & Vishny, 1986).This argument is supported by Anderson, Mansi and Reeb (2002) who find that founding family ownership in their sample of 252 US industrial firms have significantly lower agency cost of debt.

The lower level of agency cost of debt exists in such companies is due to "undiversified family holdings" and desire to pass their firms onto subsequent generations (Anderson *et al.*, 2002; Anderson & Reeb, 2003). Thus, family firms can reduce firms risk in two ways. First, family firms can diversify their investment decision. Second, family firms can mitigate firm risk by employing source of financing which have low probabilities of default. This suggests a higher dependence on equity financing in their capital structure. This argument is similar to Friend and Lang (1988) who argue that an increase in insider ownership may push firms to reduce leverage for fear of bankruptcy or losing controls to banks. Given both positive and negative effects of family ownership on debt equity choice, it is therefore hypothesized that:

Hypothesis 4: There is a relationship between family ownership and debt-equity financing choice.

(e) State Ownership

There are two arguments why companies that have state as their major shareholder may have higher debt ratios. First, creditors are willing to provide loans to companies that have the state as their major shareholder because the debt is secured (Wiwattanakantang, 1999). This is supported by a study conducted by Okuda and Take (2009) who highlight the role of agency cost with regards to creditors. They posit that if a company is seen as being supported or guaranteed by the government, the credit risk in financing the company is mitigated. Secondly, it is widely acknowledged that in many developing countries, management of state-owned firms deviates from firms' value decreasing activities and transfers the firm's resources to their benefits (Wiwattanakantang, 1999). Hence, similar to free cash flow problem, higher debt would be observed in this type of firms as a disciplinary tool for the management. Therefore, it can be hypothesized that:

Hypothesis 5: There is a positive relationship between state ownership and debt-equity financing choice.

(f) Institutional Ownership

Institutional investors and individual investors are different in several ways. First, institutional investors are more successful in monitoring the performance of the management team (Shleifer & Vishny, 1986).They are also expected to play more participatory[4] role in a firm in which they hold substantial amount of equity. Second,

[4] Participatory role include i) internally where institutional investors play an active role in the firm's management. For example; institutional investors serve as a representative on board of directors and other committees (audit, remuneration etc). ii) Externally where institutional investors pressure firms by means of litigation, media pressure, proxy voting and shareholders proposals.

they are better informed because of their access to various news resources (Lev, 1988). They have vast experience in collecting information regarding a firm's future performance. Thus, an abundance of information helps them to select profitable stocks. Finally, unlike most individual investors, institutional investors are fiduciaries. They make investments on behalf of others, and are therefore subject to agency conflicts.

Despite major differences between individual and institutional investors, debt has played an important role in reducing agency problems caused by managers who consume corporate resources for their own benefit at the expense of outside shareholders. High institutional ownership also signifies the ability for large shareholder to influence corporate governance process. The disciplinary role of debt as highlighted by Friend and Lang (1988)may be substituted by the prevalent role of institutional ownership. With a greater ownership concentration by institutions, information is expected to be more symmetric between outsiders and insiders. This enables the shareholders to engage in low cost monitoring activities. Thus, a lower level of asymmetric information would in turn reduce the management's need to use debt as a signaling device to inform market participants regarding expectations of firm performance.

Prior empirical findings show a linkage of institutional ownership and leverage with mostly record negative relationship between institutional ownership and leverage level (Bathala *et al.*, 1994; Chaganti & Damanpour, 1991; Cruthcley & Jensen, 1996; Grier & Zychowicz, 1994; Tong & Ning, 2004). For instance, Tong

and Ning (2004) found that firms with high institutional investors will prefer lower leverage ratio as excessive leverage ratio will give financial risk to their shareholdings. With regards to the financing choice between debt and equity, this study hypothesizes that:

Hypothesis 6: There is a negative relationship between institutional ownership and debt-equity financing. Specifically,

Hypothesis 6a: There is a negative relationship between foreign fund ownership and debt-equity financing choice.

Hypothesis 6b: There is a negative relationship between domestic fund ownership and debt-equity financing choice.

However, the effect of domestic fund ownership on the choice of Islamic debt and conventional debt is not clear. As for foreign fund ownership, it is expected that firms with high foreign fund ownership would prefer conventional debt due to the fact that they are more familiar with conventional debt relative to Islamic debt. Therefore, we hypothesize that:

Hypothesis 6c: There is a negative relationship between foreign fund ownership and Islamic debt-conventional debt financing choice.

Hypothesis 6d: There is no relationship between domestic fund ownership and Islamic debt-conventional debt financing choice.

(g) Separation of Ownership and Control Rights

Du and Dai (2005) point that the separation of cash flows right and control right can increase or decrease the corporate leverage. The controlling shareholder may prefer debt because debt rising will not dilute the controlling position among

equityholders. This effect is known as "non-dilution entrenchment effect." In addition, high level of debt is shown as a signal to the outside capital market that its corporate governance is sound despite the presence of divergence of cash flow rights and control rights. On the other hand, a high level of debt would constraint the power of the controlling shareholders to transfer corporate resources which may lead firm to reduce its leverage. This is known as "reduce debt for tunneling effect."In this case, this will lead to wealth expropriation from minority shareholders. Du and Dai (2005) expect the effect to be stronger in firms with higher separation of control rights and cash flow rights.

There are mixed empirical evidence with regard to the relationship of this variable and capital structure choice. For instance, a study by Boubaker (2007) has disentangled the role played by debt depending on discrepancy level between ownership rights and control rights. When there is large discrepancy between separations of these rights, controlling shareholders might pursue their own objectives. In such situation, debt played an important role depending on degree of discrepancy level. He found a non linear relationship between control in excess of cash flow rights and debt level. For instance, at below than a cutoff point of 10.2% of control in excess of cash flow right, higher debt level can constrain wealth expropriation. On the other hand, above the point, higher debt level is shown to facilitate expropriation. Given the mixed evidence, this study hypothesizes that:

Hypothesis 7: There is a relationship between divergence of control and cash flow rights and debt-equity financing choice.

Part a until g in sub-sections 3.1.2.1 discuss ownership characteristics that would influence corporate financing decision. The following four parts (h until k) in the same sub-sections discuss the effect of board characteristics on corporate financing decision. Despite a growing literature on corporate governance issues, discussions on the functions of directors in corporate financing decision have not been extensively explored. Numerous studies have considered the association between various corporate governance mechanisms and corporate performance (Grace, Ireland, & Dunstan, 1995; Heng *et al.,* 2012; Shamser & Annuar, 1993). Board composition has an effect to its internal corporate governance mechanism. In general, it is argued that a balanced number of inside directors and outside directors could enhance the board's role as an internal control mechanism.

The following discusses the development of hypotheses relating to corporate governance variables as examined in this study. Board of directors is the major agent in large corporations as they are elected to represent the shareholders in a company's decision making process amongst others investment and financing decisions. In general, there is an agreement that good governance requires an effective board of directors. Therefore, our variables consist of measures for effectiveness of monitoring by directors. It is considered that board size and board independence are important criteria to measure monitoring role of managers. The greater is the monitoring of management by board, the smaller are the adverse selection problem and information asymmetry about management's action.

(h) Board Size

Past studies have recognized board size as one of the imperative factors in corporate governance (Jensen, 1993; Lipton & Lorsch, 1992). These studies indicate that size of board is an important determinant as it affects the extent of monitoring, decision making and controlling. Nonetheless, empirical evidence found mixed result with regard to association of board size and corporate governance. For instance, Jensen (1993) suggests that free riding problem amongst directors are more likely to occur with larger board size. Moreover, he adds that an increase in board size makes the board less effective in monitoring management and increase decision making time. Similarly, larger board size prevent board from reaching consensus on decision which indicate weak corporate governance system (Wen *et al.*, 2002). With regard to financing, agency theory views that debt financing acts as a bonding device for reducing agency cost associated with free cash flow. This leads to fewer needs for other governance mechanism such as board size to monitor management behavior. For instance, Chava, Kumar, and Warga (2010) suggest that covenants in debt contract could reduce agency risk that bondholders face which subsequently lead to higher debt level.

On the contrary, prior empirical studies argue that larger boards are positively associated with leverage (Anderson, Mansi, & Reeb, 2004; Jensen, 1986; Wen *et al.*, 2002). Jensen (1986) argues that larger board membership could result in difficulty in arriving at a consensus in decision making. This conflict arises from larger board size that has the tendency of weakening corporate governance which consequently leads to higher leverage. Another reason suggests that large boards, which are more entrenched due to superior monitoring by regulatory bodies, pursue higher leverage

to raise company value (Wen *et al.*, 2002). Anderson *et al.* (2004) also show that the cost of debt is lower for larger boards, presumably because creditors view these firms as having more effective monitors of their financial accounting processes.

Since prior studies show mixed results with regards to relationship between board size and level of debt, the next hypothesis is as follows:

Hypothesis 8: There is a relationship between board size and the debt-equity financing choice.

(i) Bumiputera Directors on Board

As pointed in Chuah (1995), Malaysian managers are said to be associated by race, education and type of organization they work for. Race is selected as it signifies class relations and provides a principle according to which "conflicts over wealth and state power takes place" (Van Fossen, 1998, p.89). Furthermore, the effect of race may be of significance in multicultural societies where ethnic groups prefer to maintain its ethnic identity (Sendut, 1991). Alhabshi (1994) suggests that in general, managers perform the same functions but the way they do it could be different as it may be associated by one's own tradition, values, beliefs and culture. Malays are normally associated with high uncertainty avoidance, which may be attributed to their strong belief in religion (Haniffa & Cooke, 2002).Further, this is portrayed by the values of non assertiveness, conflict avoidance and uneasiness in dealing with ambiguities and uncertainties (Abdullah, 1992). On the contrary, Chinese are rated low on uncertainty avoidance, as evidenced by their greater acceptance of new

challenges and willingness to take greater risk. Since debt is perceived to be higher risk relative to equity, the following is hypothesized:

Hypothesis 9a: There is a negative relationship between the proportion of Bumiputera directors on board and debt-equity financing choice.

Furthermore, since Bumiputera directors are usually Muslims, it is religious obligation for Muslims to stay away from securities that are not comply to *Shariah* standards. Thus, it is hypothesized that:

Hypothesis 9b: There is a positive relationship between proportions of Bumiputera directors on board and Islamic debt financing choice.

(j) Family Members on Board of Directors

A representation of family directors might also have an influence on financing decisions. Generally, in countries where families have large shareholding in corporations, managers and owners of capital are basically the same persons (Nicholls & Ahmed, 1995). As such, capital owners are less likely to monitor their investments by using debt due to the risk of bankruptcy caused by excessive debt. Thus, choice for debt will generally become lower. In Malaysian corporate case, numerous listed companies with substantial family shareholdings elect family members to sit on boards. They would choose financing that will protect their shareholdings and since equity is raised in the forms of rights, their capital will most likely not to be adversely affected.

However, agency problem between family members and minority shareholders could also be severe. In that case, families might use debt as a contracting instrument to prevent them from engaging in non-value maximizing activities that would affect the wealth of minority shareholders. Therefore, it is hypothesized that:

Hypothesis 10: There is a relationship between family members on board and debt-equity financing choice.

(**k**) Inside Directors on Board

Number of inside directors on board may lead to an increase and decrease in firms' leverage. A higher leverage is more likely to occur as leverage increases share prices and subsequently the value of managerial shareholdings. However, if there are too many insiders serve on board, the board will no longer independent which leads to less efficient decision made by board of directors. In this case, it is necessary for other parties to monitor the managers' action. One of the monitoring agents is creditors who would replace the monitoring role from directors. Furthermore, a high level of leverage will increase the probability of bankruptcy which consequently leads to job loss of directors. Thus, companies may want to reduce the risk of firm by employing lower debt. Thus, stated as a testable hypothesis:

Hypothesis 11: There is a relationship between firms with higher proportion of insiders' directors on board and choice of debt financing.

(l) Independent Directors on Board of Directors

Being monitored by outside board members arguably helps to improve the financial structure of a firm (Morck, Schleifer, & Vishny, 1988). However, there are no clear predictions of the relationship of non executive directors with debt financing choice. Positive relationships are posited by Berger *et al.*(1997), Fama and Jensen (1983) and Heng *et al.* (2012). They suggest that the presence of outside directors on the board reflect that the managers are being monitored more effectively (DeFond & Hann, 2005; Denis, Denis, & Sarin, 1997). This will subsequently makes them more creditworthy by lenders. Furthermore, a higher proportion of outside directors (outsiders) is associated with stronger governance as directors' independence is associated with lower agency cost between investors and management. Therefore, raising debt financing would be easier for the companies.

On the other hand, with greater monitoring by independent board, debt financing is less needed to monitor management. This is because free cash flow can now be used for profitable investment or can be returned to shareholders. Negative relationships are found in the study of Mande, Park and Son (2012) and Wen *et al.* (2002). Wen *et al.* (2002) argue that by having more outside directors, managers can be monitored more effectively which leads to in order to improve performance, Mande *et al.* (2011) find that as corporate governance becomes stronger, firms will tend to choose equity rather than debt. The above explanation is therefore, suggest the following hypothesis:

Hypothesis 12: There is a relationship between firms with high independent non-executive directors and debt-equity financing choice.

3.1.2.2 Variables Associated with Firm Characteristics

Since there is no difference in explaining the choice of Islamic debt over other financial instruments, it is anticipated that all firm characteristics variables examined in the choices of Islamic debt and equity and conventional debt and equity follows the argument hypothesized in all debt and equity choice. Furthermore, as there is no difference between Islamic debt and conventional debt, it is hypothesized that none of the variables are significant in explaining the choice between Islamic debt and equity.

(a) Growth Opportunity

Growth opportunity is negatively associated with debt level according to agency and trade off theories. Trade off theory postulates that firms with more investment growth opportunities will borrow less to avoid committing themselves to debt servicing as revenue from intangible growth opportunities may not be available when needed. This also means that actions of managers in high growth firms are more difficult to monitor which would lead to higher financing cost. This is because firms with high growth opportunities provide incentives to invest suboptimally or to accept risky projects that expropriate wealth from debtholders. Furthermore, Myers (1977) asserts that the underlying underinvestment problem associated with investment opportunities is more likely to occur as large proportion of firm value is in the form of growth opportunities. Thus, firms with growth opportunities would use less debt according to agency theory. Significant negative relationships are found in

these studies (Bradley, Jarrell, & Kim, 1984; Moh'd *et al.*, 1998; Rajan & Zingales, 1995).

High growth firms have arguably high information asymmetry. However, growth itself can serve as an alternative signal of firms 'good quality other than debt. Thus, there is less need for growth firm to use debt to signal its good quality which leads to a negative relationship between growth opportunities and debt. On the contrary, pecking order theory predicts that growth firms have huge and continuous cash flow that they do not have to rely on internal financing. As a result, growth firms are more likely to utilize debt. This will lead to positive relationship between growth opportunities and debt is expected. Due to the mixed relationship examined by different types of theories, it is hypothesized that:

Hypothesis 13: There is a relationship between growth opportunities and debt-equity choice.

(b) Stock Price Run Up

Choe, Masulis, and Nanda (1993) argue that periods of high equity market return indicate small adverse selection cost, and hence lower cost of raising equity or equity-linked capital. Lucas and McDonald (1990) construct a model which suggest that firms time their equity issues when information asymmetry is small. They argue that equity issues tend to follow general rise in equity market. They also state that undervalued firm will wait until the mispricing is reduced but overvalued firms will wait until share price reflect the true value. The model shows that firms issue equity

after they experience a positive abnormal return in which mispricing is reduced during this period. This leads to the next hypothesis:

Hypothesis 14: There is a negative relationship between stock price run up and debt-equity choice.

(c) Financial Slack

Myers and Majluf (1984) discussed the effect of information asymmetry between managers and investors on the value of a project. As a result of the asymmetric information, firms with a positive NPV project will always be underpriced and forgone by the market. This underinvestment problem can be mitigated by using a less risky form of financing. Usually, firms have preference to maintain slack in order to have internal funds available for upcoming projects. Increase in financial slack is likely to reduce probability of equity issuance as a large amount of financial slack is associated with high cost of adverse selection problem (Myers & Majluf, 1984). The financing hierarchy as described in pecking order theory in Section 2.1.2 from Chapter 2 leads to the next hypothesis that debt would be preferred over outside equity. Thus, as financial slack is presumed to increase adverse selection cost, equity issue is more costly compared to a debt issue.

Hypothesis 15: There is a positive relationship between financial slack and debt-equity financing choice.

(d) Issue Size

Myers and Majluf (1984) show that a potential loss in firm value due to asymmetric information between management and outside shareholders is most likely to occur when external sources of funds are used for financing investment projects. They argue that the larger the issue size relative to total asset, the greater is the potential loss in firm value due to asymmetric information. As larger offer size would lead to greater shareholders' loss, there is an increase probability that firm will issue debt.

Krasker (1986) modifies model of Myers and Majluf (1984) in which insiders determine the issue size of investment projects. In this model, the decrease in the stock price due to the mispricing will increase with the relative issue size. He postulates that the cost of adverse selection is directly influenced by the size of securities issued, thus increase potential loss of shareholders. This is supported by Ibrahim and Minai (2009) who argue that the bigger the issue size, the greater is the information content of debt issuance announcement. Furthermore, Jung, Kim and Stultz (1996) reports that size of the issue is negatively related to probability of issuing equity. For these reasons, it can be hypothesized as follows:

Hypothesis 16: There is a positive relationship between relative issue size and debt-equity financing choice.

(e) Profitability

Assuming there is a constant dividend and investment in the short run and debt financing is a dominant mode of external financing, changes in profitability will

lead to changes in firms' leverage. Firms with lower profitability faces threat of bankruptcy and associated loss of entrenchment, thus debt is avoided by managers (Jong & Veld, 2001). Thus, for profitable firms, with higher excess cash flow, the tendency for managers to overinvest is also high which will lead to reduction in firm value. Consequently, firms are expected to issue debt to refrain managers from engaging suboptimal investment. For this reason, it is expected that firms with low profitability is more likely to issue equity while firms with greater profit will issue debt. However, according to pecking order theory, firm with higher profitability will use less external financing. In other words, firms with higher profitability will not use either debt or equity. Given the effect of profitability on securities choice is less clear, the next hypothesis is:

Hypothesis 17: There is a relationship between profitability and debt-equity financing choice.

(f) Firm Risk

Firm risk can also affect its capital structure. As debt and firm risk increase, the expected costs of financial distress and bankruptcy become higher (Jung *et al.*, 1996; Suchard & Singh, 2006). Consequently, it influences a firm's decision to issue securities. Firms with higher leverage have higher risk and are expected to have a lower probability of issuing debt. It is therefore hypothesized in this study that:

Hypothesis 18: There is a negative relationship between risk and debt financing choice.

(g) Asset Tangibility

The association of asset tangibility with debt is elaborated from the perspectives of agency cost, financial distress, trade off, and pecking order theories. First, according to the agency cost theory, a wealth transfer from creditors to shareholders is more likely to occur as firms may shift to riskier investment following the issuance of debt (Jensen & Meckling, 1976). Myers (1977) suggests that shareholders in leveraged firms have an incentive to invest sub-optimally in order to expropriate wealth from debtholders. When collateralizable debts are provided, firms have less incentives to use the borrowed fund inappropriately which will restrict the misuse of debt. This situation makes asset substitution and debt overhang less likely to occur (Myers, 1977). With high tangibility of asset, lenders' risk could be reduced as creditors have claims on assets values in case of default (Galai & Masulis, 1976; Myers, 1977). Cost of borrowing might be very high with the absence of collateralizable asset. Therefore, the existence of asset may increase borrowing opportunities and thus a positive relationship to debt is expected.

Myers (1984) argues that cost of actual financial distress depends on the tangibility of assets. Firms with more intangible assets face the lack of active secondary market where it can sell its intangible assets. In financial distress situation, firms with more tangible assets get liquidation as an additional strategic choice (Harris & Raviv, 1991) to avoid greater loss of value. Thus, if a firm with high amount of intangible portion in its asset composition issues more debt, its financial distress costs are higher than a firm with more tangible assets.

Another theory which posits a positive association between asset tangibility and debt level is the trade off theory. Firms which follow trade-off behavior will identify their optimal leverage by weighting benefits and cost of debt. Having a large portion of tangible asset, these firms will have a higher liquidation value which in turn reduce bankruptcy cost and leads them to take up more debt. Similarly, according to pecking order theory, a positive relationship is predicted between amounts of leverage raised by firms with collateral value of asset. As argued by Myers and Majluf (1984), issuing secured debt could avoid cost associated with information asymmetry. Therefore, firms may find it beneficial to sell secured debt as compared to issue equity due to lower cost of debt. This leads to an expectation that firms with more collateralizable assets will employ more debt. Bradley *et al.* (1984), Hovakimian *et al.* (2001) and Rajan and Zingales (1995) find that asset tangibility influences leverage level while Marsh (1982) find that asset tangibility is influenced by securities choice. Therefore, a testable hypothesis is stated:

Hypothesis 19: There is a positive relationship between asset tangibility and debt-equity financing choice.

(h) Firm Size

The effect of firm size on leverage level is unclear. According to bankruptcy cost argument, larger firms have lower bankruptcy risk and relatively lower bankruptcy cost. Thus, a positive relationship between firm size and debt is expected (Deesomsak, Paudyal, & Pescetto, 2004; Shapiro & Titman, 1985).Similarly, based on agency theory, larger firms may have lower agency costs associated with the asset substitution or underinvestment problem (Myers, 1977), which would discourage

creditors from providing credits to firms. Therefore, larger firms could use more debt.

From the information asymmetric argument, both positive and negative effects are found. A positive relationship is expected because large firms are more diversified and have lower variance of earnings. This allows them to employ higher debt. On the other hand, smaller firms may find it more costly to resolve amount of information asymmetries with lenders, thus they would use lower debt. Negative association is also expected from asymmetric information perspectives due to the fact that size is negatively related to the degree of information asymmetry between outside investors and insiders (Rajan & Zingales, 1995). Being large, these firms may favor equity financing since cost of equity financing due to information asymmetry is smaller for them. Furthermore, small companies, due to limited access to the equity market, tend to rely heavily on bank loans for their financing needs(Marsh, 1982; Titman & Wessels, 1988). As a result, small firms become more indebted than larger companies. Thus, the testable hypothesis is:

Hypothesis 20: There is a relationship between firm size and debt-equity choice.

(i) Deviation from Target Debt Ratio

Firms tend to move towards their target debt ratio when they make capital structure changes (Bayless, 1994; Opler & Titman, 1994). Jong and Veld (2001) argue that if the trade off theory fully explains the choice between new debt and equity issuance, then firms generally tend to move towards optimal capital structure. Empirically, Marsh (1982) examines how actual debt ratio deviates from target debt

ratio could explain debt to equity choice of UK companies. The result shows that companies which are below their long term or above their short term debt targets are more likely to issue debt. In the choice of debt from dual offering study, Yaman (2004) argues that firms with high leverage would choose convertible debt with more equity-like features due to its high probability of conversion. This will result in lower expected debt ratio for levered firms subsequent to the issuance and thus moves the firms' existing debt ratio closer to the target debt ratio., with regards to equity issuance, firms with actual equity ratio below than target equity ratio, will be more likely to issue equity. Stated in a formal hypothesis:

Hypothesis 21: There is a negative relationship between deviations from target debt ratios and debt-equity financing choice.

(j) Non-Debt Tax Shield

Firms will take advantage on the tax deductibility of interest. Therefore, firms will raise debt in order to capture the benefit of tax shield. However, firms can still enjoy the tax deduction from non-debt tax shield such as from depreciation and investment tax credit. Thus, according to the tradeoff theory, firms could reduce the use of debt as they can enjoy taxshield from other accounting items.

De Angelo and Masulis (1980) establish h an optimal capital structure model which shows the presence of non-cash tax shield or depreciation. Larger non-debt taxshield infers a larger chance of having no taxable income. Prior empirical studies generally found mixed results. Negative relationships are found in Fama and French (2002), Korajczyk and Levy (2003) and Rajan and Zingales (1995) while, Bradley *et*

al. (1984) and MacKie-Mason (1990) find significant positive association between leverage and non debt tax shield by using sum of annual depreciation charges and tax credit scaled by EBIT. However, Long and Malitz (1985) and Titman and Wessels (1988) do not find a link between leverage and the non-debt taxshield. Hence, this study hypothesizes that:

Hypothesis 22: There is a relationship between non-debt tax shield and debt-equity financing choice.

(k)Tax Shield

There is a general agreement in corporate finance literature that tax consideration is imperative in the capital structure decisions. Based on trade off theory, firms with high marginal tax rates prior to the deduction of interest are expected to have higher interest tax shield. Empirically, MacKie-Mason (1990) who focuses on incremental financing decision using discrete choice analysis provides evidence that the likelihood of using debt financing increases with the effective additional tax rate. Similarly, other studies argue that compared to equity financing, firms' gain from debt financing increases with firms' tax rate (Jung *et al.*, 1996; Mackie-Mason, 1990; Suchard & Singh, 2006). On the other hand, some studies fail to find significant associations between financing decision and tax effect (Bradley *et al.*, 1984; Marsh, 1982; Titman & Wessels, 1988). MacKie-Mason (1990) attributes the insignificant relationship as a result of minor effect of tax shield on marginal tax rate for most firms. This study hypothesizes as follows:

Hypothesis 23: There is a relationship between tax shield and debt-equity financing choice.

3.1.2.3 Shariah and Non-Shariah Classification

The classification[6]comprises of *Shariah* and non *Shariah*-compliant companies listed on Bursa Malaysia within the year of 2000 to 2009. The *Shariah* Advisory Council (SAC) uses two levels of screening. In the first level, the primary activities of listed companies are scrutinized to determine whether they follow *Shariah* principles or otherwise. In the second level of screening, companies which involves in both *Shariah* permissible and non-permissible activities are examined with four additional criteria: permissible core activity, subsidiary activity occurs in the forbidden areas must be insignificant relative to the core activities; good public perception or image and the core activities must be considered *maslahah* to the *ummah* and non permissible element must be minimum and unavoidable (Bursa Malaysia, 2005).

It is anticipated that *Shariah* compliant companies would choose Islamic debt or equity while non compliant companies would choose either conventional debt or equity. For the *Shariah* approved companies, the debt to equity ratio is anticipated tobe lower than the non-*Shariah* approved companies due to the prohibition of interest payment associated with debt financing. On the other hand, non-*Shariah* compliant companies do not have constraints in the use of debt financing in their

[6]SAC of the Securities Commission performs *Shariah* screening process in which the list of *Shariah* compliant securities is released by the SAC twice a year in May and November. The status of Shariah[h] compliant is not always permanent. As such, the SAC undertakes periodic reviews to ensure that *Shariah*-approved companies have not engaged in non permissible elements. The reviewing process may lead to the reclassification of *Shariah* approved companies to become non Shariah-compliant companies and vice versa.

capital structure. Thus, to capture the choice made by these types of companies, the current study use categorical variable of dummy=1 for *Shariah*-compliant companies and dummy=0 for non *Shariah* compliant companies. Thus, it is hypothesized that:

H24: There is a positive relationship between firms with Shariah-compliant companies' status and debt financing choice.

3.2 Research Framework

Securities choice is defined as the choice of financial instruments made by a listed company in a particular year. Basic securities choice model in this study is adapted from Marsh (1982) and Jung *et al.* (1996), with some modification in terms of ownership structure and board composition. A more detail construct of ownership variable is examined as the nature of the structure in Malaysian corporation is highly concentrated. In addition, this study considers the important role of board of directors as the main decision maker particularly in financing decision. Figure 3.1 illustrates the research framework applied in this study.

3.3 Research Method

The study adopts incremental financing decision using discrete choice analysis. Specifically, a binary logistic regression model is used instead of debt-equity used in studying capital structure decisions. The model allows the researcher

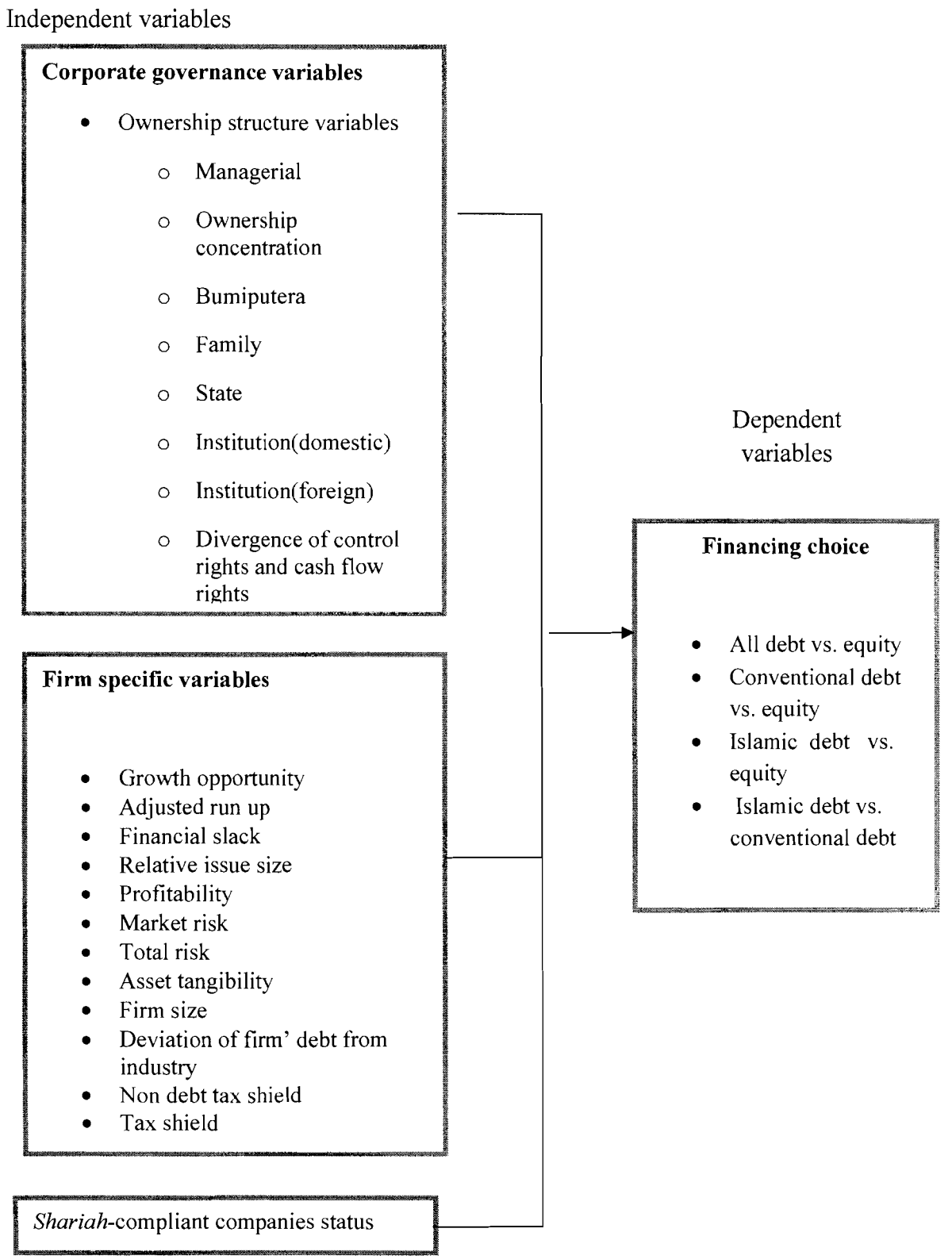

Figure 3.1
Research Framework for Financing Choice

to predict a discrete outcome or a group membership (debt/equity and Islamic debt/conventional debt) from a set of variables (predictors) that may be continuous, discrete, and dichotomous or combination of any of these attributes. While most prior research looks at these ratios as cumulative result of years of separate decisions, the incremental choice method provides better measurement. Amongst others include individual financing choice focuses on actual decisions made by firms at a given point of time. In addition, the decision to opt for a dichotomous choice to model their financing decision, relies on the necessity to discriminate those companies that decided to resort to a particular financing option (i.e. debt) from those which opted for the other financing instrument (i.e. equity). This is done in order to gain some indication of factors that could account for the particular decision they made. Thus, the test should have greater statistical power compared to those based on an historical aggregate of decisions (Mackie-Mason, 1990).

Logistic regression differs from linear regression in several ways. First, the logistic regression applies maximum likelihood while linear regression applies ordinary least squares (OLS) estimation. Furthermore, logistic regression computes changes in the log-odds of dependent variable unlike changes in the dependent variable itself as OLS regression does.

3.4 Variables Definition and Measurement

In the following two subsections, measurement of variables is discussed.

Section 3.4.1 describes the measurement of the dependent variable and Section 3.4.2 discusses the measurement of the independent variables.

3.4.1 Dependent Variable (SC)

The dependent variable employed in this study is securities financing choice. Since the dependent variable is in a binary form, the study takes the value of one for debt and zero for equity. Therefore, a positive coefficient indicates that firms are more likely to issue debt (i.e. conventional debt and Islamic debt) while negative coefficients indicates that firm are more likely to issue equity. Another financing choice is between Islamic debt and conventional debt where positive coefficients indicate that firms are more likely to choose Islamic debt while negative coefficients indicate that firms are more likely to choose conventional debt.

3.4.2 Independent Variables

Altogether, there are 26 independent variables tested in this study. The following sections describe measurement of variables which are grouped into the following: They are 13 variables which represent corporate governance variables (a until m) and 12 variables represent firm specific variables (n until y) and 1 variable to capture the effect of *Shariah* complaint status (z).

The choice between debt and equity is examined using bivariate logit model. In the model, y is the random variable that represent the observed outcome, j, of the debt financing, where j=1 if debt financing, j=0 if otherwise. Assume that the error term follows a logistic distribution, we have a logit model. The probability of issuing debt can be specified as below.

$$P_i = E(FC=1/X_1) = \beta_1 + \beta_2 X_i \quad \text{(Eq 3.1)}$$

where *i* represent firm *i* and FC is financing choices. In specific, the financing choices are described in the following equation. Definitions and measurement of variables are explained subsequently.

$$\text{Ln}(P_i/1\text{-}P_i) = \beta_0 + \beta_1 + MOWN_i + \beta_2 CONOWN_i + \beta_3 BUMIOWN_i + \beta_4 FAMOWN_i + \beta_5 STATE_i + \beta_6 DOMPFUND_i + \beta_7 FORFUND_i + \beta_8 CRCFR_i + \beta_9 BRDSIZE_i + \beta_{10} BUMIBRD_i + \beta_{11} FAMBRD_i + \beta_{12} INSBRD_i + \beta_{13} INDPBRD_i + \beta_{14} FSIZE_i + \beta_{15} GROWTH + \beta_{16} ADJRUNUP_i + \beta_{17} FSLACK_i + \beta_{18} ISSIZE_i + \beta_{19} PROFIT_i + \beta_{20} BETA_i + \beta_{21} RISK_i + \beta_{22} TANG + \beta_{23} ADJTD2TA_i + \beta_{24} NDTAX_i + \beta_{25} TAX + \beta_{26} DUMSHC_i + \varepsilon \quad \text{(Eq 3.2)}$$

MOWN	=	Managerial ownership
CONOWN	=	Ownership concentration
BUMIOWN	=	Bumiputera ownership
FAMOWN	=	Family ownership
STATE	=	State ownership
DOMPFUND	=	Domestic private fund
FORFUND	=	Foreign fund
CRCFR	=	Separation of control rights and cash flow rights
BSIZE	=	Board size
BUMIBRD	=	Percentage of Bumiputera directors on board
INSBRD	=	Percentage of insiders on board
INDPBRD	=	Percentage of independent directors on board
GROWTH	=	Growth opportunity
ADJRUNU	=	Stock price run up adjusted to the market
FSLACK	=	Financial slack
ISSIZE	=	Relative issue size
PROFIT	=	Profitability
BETA	=	Market risk
RISK	=	Total risk
TANG	=	Asset tangibility
FSIZE	=	Firm size
ADJTD2TA	=	Deviation o f firms' debt from their industry
NDTAX	=	Non debt tax shield
TAX	=	Tax shield
DUMSHC	=	Dummy for Shariah–compliant companies

3.4.2.1 Measurement of variables

a) Managerial ownership (MOWN)

Managerial ownership is calculated by accumulating the percentage of shares owned by executive directors served on board.

b) Ownership concentration (CONOWN)

This variable is measured by accumulating percentage of shares owned by the top five shareholders as appeared in the 30 largest shareholders of respective companies' annual reports.

c) Bumiputera ownership (BUMIOWN)

Individual Bumiputera ownership is measured by accumulating total shareholding of Bumiputera shareholders as identified from the 30 largest of shareholders of each sample companies' annual reports. This includes nominees account held on behalf of Bumiputera shareholders. As government-linked [7] institutional corporation is controlled or owned by government, who are committed to improve Bumiputera's well-being, shares owned by the eight largest government institutional ownership namely PNB, EPF, LTH, LTAT, KNB, KWAP, SOCSO and MOF are summed with the shares owned by individual Bumiputera.

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[7]GLC is included in the Bumiputera ownership category because the government is staffed mainly by Bumiputeras (Malays) and these companies have adopted policies that give strong preferences to Bumiputeras. In addition, government-controlled companies rely heavily on Bumiputera suppliers and vendors besides outstanding shares of these companies are substantially held by government-linked investment companies (GLICs) (Yatim, Kent, & Clarkson, 2006)

d) Family ownership (FAMOWN)

Family ownership is measured by aggregating the percentage of shares owned by directors who are related by blood or marriage.[8] A firm is identified as family- owned if the largest related shareholders own at least 20%[9] and two family directors serve on board.

e) State ownership (STATE)

State ownership is derived by adding all shares owned by state government in Malaysia through various State Economics Development Corporations (SEDCs) such as Perbadanan Kerajaan Negeri Kedah (PKNK).

f) Domestic private fund (DOMPFUND)

Domestic private fund ownership includes shares ownership by local insurance companies, pension funds, unit trust funds and professional managers who hold shares on behalf of individuals.

g) Foreign fund (FORFUND)

Foreign funds ownership includes shares ownership by foreign companies or foreign fund management companies such as Capital International Emerging Investment fund etc.

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[8] According to the Code of Corporate Governance (2001), effective from January 2001, all listed companies are required to disclose relationship among their directors in their companies' annual report. This information could be extracted from section of directors' profile section in an annual report.

[9] Dummy for Family ownership is also analyzed in this study (i.e. Dummy 1=ownership of 20% or more, 0=otherwise and Dummy 1= ownership of 10% or more, 0=otherwise).

h) Separation of control rights and cash flow rights (CRCFR)

This study employs ratio of control rights to cash flow rights. Cash flow rights represent the owners' actual ownership in a company. It is measured by the sum of direct block ownership and indirect blocks held by managers and their families (Claessens *et al.*, 2000; Lins, 2003). On the other hand, control rights represent voting rights for the controller. It is claimed as the weakest link in the line of control (Claessens *et al.*, 2000; La Porta, Lopez-de-Silanes, & Shleifer, 1999). Control value of more than 1 indicates control rights are greater than cash flow rights.

i) Board size (BSIZE)

Board size refers to the numbers of directors sitting on the board. The date of new director's appointment is carefully taken care of in this computation. Directors have to serve at least six months to be included in the board size.

j) Percentage of Bumiputera directors on board (BUMIBRD)

This variable is derived by summing the number of Bumiputera directors divided by board size.

k) Percentage of family director family on board (FAMBRD)

The variable is obtained by computing the number of family directors divided by board size.

l) Percentage of insiders on board (INSBRD)

This variable is obtained by dividing number of executive managers serve on board divided by board size.

m) Percentage of independent directors on board (INDPBRD)

The variable is obtained by dividing number of independent directors who serves on board by board size.

n) Growth opportunity (GROWTH)

Market to book ratio is used to proxy for growth opportunity. It is measured by a ratio of market value to book value of equity.

o) Stock price run up adjusted to the market (ADJRUNUP)

Stock price runup is measured by the difference between stock return and market return over a period of 12-month preceding the issue.

p) Financial slack *(FSLACK)*

Financial slack is computed by summing cash or other liquid assets (i.e. marketable securities) divided by total asset.

q) Relative issue size (ISSIZE)

The issue size is defined as the gross proceeds of the issuance divided by total asset.

r) Profitability (PROFIT)

Profitability of firm is derived by dividing earnings before interest, taxes and depreciation with total asset.

s) Market risk (BETA)

Market risk or beta is defined as ratio of covariance of stock return of the company with the market return and the variance of return of the Bursa Malaysia Composite Index which is represented by following formula:

$$\left(\frac{Cov\,(RitRmt)}{Var(Rmt)}\right)$$

t) Total risk (RISK)

Total risk is measured by daily stock return volatility over a period of 253 days to 60 (-253,-60) days prior to issuance. It is also measured over period of (-253, +60).

u) Asset tangibility (TANG)

Asset tangibility is measured by ratio of gross fixed asset divided by total asset.

v) Firm size (FSIZE)

Company size is measured by taking natural logarithm of the total asset in the preceding year.

w) Deviation o f firms' debt from their industry (ADJTD2TA)

The study determines long term debt ratio[10] in which the deviation from target debt ratio is defined as difference between target debt ratio and current debt ratio. Since

[10] Debt ratio is computed using book value despite argument by capital structure theorist that the ratio should be measured in market values terms. For instance, Myers (1984) emphasizes that there exist theoretical justification of using book values since it is associated with value of asset in place and usually exclude the capitalized value of growth opportunity. Besides, prior empirical work tends to use book value than market value as it is generally easier to be retrieved and is more accurate. Marsh

only actual debt ratio is observable, while target debt ratio is unobservable, one needs to estimate the target debt ratio by its average. One possible approach is to use the average of debt ratios of firms in the same industry. This approach assumed that firms in the same industry have similar target debt ratio (Jong & Veld, 2001). The industry average debt ratio is measured using industry classification of the Worldscope.[11] For each security debt issue of a firm, researcher takes the average debt ratio in the same industry in the year preceding the issue. Issuing firm is however excluded from the measure of average.

x) Non debt tax shield (NDTAX)

We measure this variable by dividing total depreciation with total asset.

y) Tax shield (TAX)

TAX is obtained by dividing total tax payment with total asset.

z) Dummy for *Shariah*–compliant companies (DUMSHC)

A dummy of 1 represents *Shariah* compliant companies and 0 for Non *Shariah* compliant companies.

3.4.3 Summary of variables

Table 3.1 depicts variables as used by previous researchers and their expected relationship with the dependent variable.

(1982) employs both book value and market values and obtained similar results although market value ratio provides less explanatory power.

[11] This study uses industry classification of Worldscope which consist of 32 different industries.

Table 3.1
Summary of Variables and Measurements

Dependent variable			
FC_{jt}	=	Securities choice equals to 1 if a firm issues debt, 0 for equity or it is equal to 1 if firm issues Islamic debt and 0 if a firm issues conventional debt	
Independent variables			
Variables	**Expected Sign**	**Measurement**	**Variable used by**
MOWN	-ve/+ve	Percentage of shares owned by executive directors	Moh'd, G.Perry, & N.Rimbey (1998), Florackis and Ozkanlorackis (2009), Margaritis & Psillaki,(2010).
CONOWN	-ve/+ve	Total percentage of shares owned by the five largest shareholders	Arrondo& Gomez-Anson (2003), Khan (2006),Mat Nor and Sulong (2007), Mehran (1992), Suto (2003), Wiwattanakantang (1999).
BUMIOWN	-ve	Percentage of shares held by Bumiputera shareholders	Haniffa & Cooke (2002), Suto (2003),Yatim, Pamela Kent & Clarkson (2006)
FAMOWN	-ve/+ve	Total percentage of shares owned by directors who are related by blood or marriage.	La Porta *et al.*(1999), King and Santor(2008)
STATE	+ve	Total percentage of shares owned by State government	Wiwattanakantang (1999)
DOMPFUND	-ve	Total percentage of shares owned by insurance companies, pension funds, unit trust funds and professional managers who hold shares on behalf of individuals	Moh'd *et al.*(1998)
FORFUND	-ve	Total percentage of shares owned by foreign companies or foreign fund management companies.	Suto (2003), Wiwattanakantang (1999)
CRCFR	+ve/-ve	Share of control rights divided by share of cash flow rights	Du & Dai (2005), Nor & Ariffin (2005)
BRDSIZE	-ve/+ve	Number of directors (excluding alternate director) on board.	Abor, J & Biekpe, N (2005), Al-Najjar & Hussainey (2011), Berger *et al.*(1997), Florackis & Ozkanlorackis (2009), Mehran (1992)
BUMIBRD	-ve	Proportion of Bumiputera directors to board size	Haniffa and Cooke (2002), Rahman and Ali (2006), Yunos *et al.* (2012)
FAMBRD	-ve	Proportion of family directors to board size	-
INSBRD	-ve/+ve	Proportion of inside directors to board size.	Kim and Sorensen (1986)
GROWTH	-ve/+ve	Market value divided by book value of equity.	Boubaker (2007), Jung *et al.*(1996), Jong, Kabir and Nguyen (2008), Suto (2003)

Table 3.1 (Continued)

Independent variables			
Variables	**Expected Sign**	**Measurement**	**Variable used by**
ADJRUNUP	-ve	Stock return minus market return over a period of 12 months preceding issue	Jong & Veld (2001) Jong and Veld (2001); (Jong & Veld, 2001; Lucas & McDonald, 1990); Suchard and Singh (2006)
FSLACK	+ve	Cash and marketable securities divided by total assets	Suchard & Singh (2006); Jong & Veld (2001)
ISSIZE	+ve	Gross proceed of issue / Book value of total asset	Suchard & Singh (2006) Lewis *et al.(* 1990)
PROFIT	+ve	Earnings before interest taxes and depreciation to Book value of total asset	Du and Dai (2005), Jong *et al.* (2008)
BETA RISK	-ve	$(\frac{Cov\,(RitRmt)}{Var(Rmt)})$ Daily stock return volatility	Jung *et al.* (1996), Lundstrum (2009), Marsh (1982), Suchard & Singh (2006)
TANG	ve/+ve	Asset tangibility measured by ratio of Gross fixed asset divided by Total asset	Boubaker (2007), Du& Dai (2005), Rajan & Zingales (1995), Suto (2003)
FSIZE	-ve/+ve	Firm size measured by natural logarithm of the book value of total assets and market value of equity	Marsh (1982), Rajan & Zingales (1995), Titman & Wessels (1988)
ADJTD2TA	-ve/ +ve	Difference between firms' long term debt ratio and average industry's long term debt ratio	Yaman (2004), Panno (2003)
NDTAX	-ve/+ve	Ratio of depreciation to total assets	Dutordoir & Gucht, (2009), Jung *et al.* (1996), MacKie-Mason, (1990)
TAX	+ve	Tax payment over total asset.	Bayless (1994), Graham (1996), Jung *et al.* (1996), Lundstrum (2009), Mackie-Mason (1990)
DUMSHC	-ve	Dummy 1 if company is Shariah compliant, Dummy 0 if company is non *Shariah* compliant	Hassan, Shafi, & Mohamed (2012)

3.5 Sample Selection Procedure for Financing Choice Study

The following subsections explain the sample selection process for securities choice. The process begins with identifying source of information about debt issuers

and equity issuers sample. Next, required data such as financial variables and ownership variables are identified from a few sources.

3.5.1 Information Sources

There are three different sources of information for this study. Data on equity and debt issuing companies are obtained from the websites of Bursa Malaysia[12]and Securities Commission Malaysia[13].Since listed companies which intend to issue equity are required to submit their prospectus to Bursa Malaysia, thus prospectus on the issuances are accessible from Bursa Malaysia. On the other hand, firms are required to receive approval from SC for debt issuances and summary of their application, known as Principal Term Sheet is available from SC websites.

For ownership and board attributes data, information is hand collected from annual reports. Data relating to the directors profile, board independence, shareholding statistic, statements of directors' shareholding were extracted and scrutinized carefully to obtain information on the 13 governance variables. Data about board of directors is collected mainly from annual reports. Since the effectiveness of KLSE Revamped Listing requirement, most companies reported information on board in the directors' profile sections in the annual reports or corporate governance sections. Information about family relationship among directors, board size, Bumiputera directors, family directors, inside directors and

[12] www.bursamlaysia.com
[13] www.sc.com.my

independent directors or substantial shareholders is also obtained from directors profile's section. Furthermore, more complete information such as, directors' designation is also reported in annual reports of companies with a year end after 30 June 2001. For some sample companies which annual reports end before the period, information is requested from Bursa. In the published annual reports, information for board composition also includes alternate directors for some companies. However, we took note on directors' appointment date whereby shareholding by directors who resign before the cut off period is not considered as they are less likely to involve in the management decision.

In addition to that, data from annual report is cross referenced to other sources during data gathering to enhance data accuracy. For instance, information on directors' shareholding is also gathered from Bursa Malaysia database. In situation when there is a discrepancy of information between the annual report and Bursa Malaysia database, source of information which is the nearest to the issuance date[15] is chosen. Information on firm specific variables is either gathered from prospectus, Principal Term and Condition (PTC) from SC or Thomson financial datastream.

[15] Information on directors' shareholding of sample companies as appeared in annual report occasionally ends a few months after the fiscal year end. However, Bursa Malaysia database always provide directors' shareholding at the end of each year.

3.5.2 Population and Sample Selection

Unit of analysis in this study is securities choice of Malaysian public listed companies. The population of this research comprises of securities issued by companies traded and listed on the main market and ACE market[19]. As for equity issuance, only Rights issues are considered. The samples are identified from the Bursa Malaysia announcements.

As for bond issuers, samples consist of bonds issued by publicly listed companies which are identified from the Securities Commission websites. The study includes all rights issue of equity, conventional straight debt, and Islamic debt issues during the period of 2000-2009. We do not include issues prior to year 2000 as there are not many companies issue securities before this period and to avoid selecting sample companies that are mostly affected by financial crisis in 1997-1998. The corporate securities issued are selected on the basis of availability of data based on the type of security, issuing companies, issuing date, and amount of issue.

3.5.3 Data Collection Procedure

The initial step in selecting samples from total issues is the elimination of all issues by financial institutions. Next, we identify whether potential samples are

[19]Despite of the merge of Bursa Malaysia's first board and second board into main market in 2009, this study still identifies sample companies according to their former respective boards.

unlisted or subsidiary of listed companies. Details on the issuers are checked through announcement of listed company from Bursa Malaysia websites. If no particular information is available, we assume that the sample is not associated with listed company, thus they will be excluded from the total samples.

The next step is to eliminate issues of dual offering, such as common stock and convertible debt or common stock and straight debtsince they share some of debt or equity characteristics which could obscure the analysis. To be included in the sample, an observation must also satisfy these criteria:

1) On the preceding year of issuance, there must be only one type of financial instrument made by a firm.

2) There must be only one observation in a financial year end. In situations when there are two different issues fall within the same financial-year end fiscal year, only the earlier issuance will be considered.

3) Firms must have daily stock returns at least 240 days before issuing date.

4) Both financial and ownership data are available in the year prior to the issuance year.

The initial total number of corporate securities comprises of conventional debt, Islamic debt and equity issues are 254, 203 and 89 respectively. In identifying sample companies, we also take note of changes in the companies' names. Appendix

The initial total number of corporate securities comprises of conventional debt, Islamic debt and equity issues are 254, 203 and 89 respectively. In identifying sample companies, we also take note of changes in the companies' names. Appendix D shows the identified sample companies according to their issuing type. It also provides information of the new names and date of name changes. This approach is important for us to determine the exact potential candidates to be included in our sample companies. Furthermore, without carefully scrutinizing the companies' names, we might lose some observations if we could not match their new names with available annual reports.

Table 3.2 shows the sample selection process. First, the issues are examined to exclude issues made by financial institutions. Then, issues made by non listed companies are eliminated from the samples. Since this study deals with long term securities, we also exclude observations involving commercial paper which are issued mainly for shorter term financing. Next, if more than one type of financial security is issued in a year, all observations are excluded from the total sample. The exclusion process continues with the elimination of sample due to the unavailability of data of stock prices and financial variables at the time of security issuance. Therefore, the remaining issuing firms are valid candidates to be included in the sample.

Table 3.2
Sample Selection Process

	Conventional debt	**Islamic debt**	**Equity**
Total number of securities issuance from 2000-2009	259	203	89
(-) Financial firms	(68)	(6)	(0)
(-) Issues made by non listed companies	(30)	(61)	0
Total number of issuance after excluding issues made by non listed firms, financial firms	*153*	*136*	*89*
(-) Firms which issue more than one type of securities within an examined year	(7)	(10)	(1)
(-) Firms which has no available financial data, share price data and ownership data	(100)	(16)	(25)
Total sample size	***46***	***110***	***57***

3.6 Summary

This chapter describes conceptualization of the research theoretical framework. The hypotheses for securities choice are developed based on agency theory, asymmetric information theory, timing theory and trade off theory. Furthermore, information on measurements of variables as used by prior empirical finding is gathered. Consequently, the developed hypotheses are tested and analyzed in the following chapter.

CHAPTER FOUR
DATA ANALYSIS AND RESULTS

4.0 Introduction

This chapter presents the results of the securities choices made by Malaysian Public Listed Companies (PLCs) in their financing activities. The choices examined are between debt and equity and also between Islamic debt and conventional debt. The chapter is divided into four major sections. It begins with the description of the sample and summary statistics in Section 4.1. The univariate analysis based on independent samples t-test and Mann-Whitney U test are reported in subsections 4.2.1 to 4.2.4. Section 4.3 reports the results of fitting the binary logit regression models to identify the multivariate determinants of various securities choice. The chapter ends with a summary in Section 4.4.

4.1 Sample Description and Sample Statistics

The sample of the study consists of all Islamic debt, conventional debt and equity issuing exercises by companies listed on the Main Board and Second Board of Bursa Malaysia that take place between 2000 to 2009. After the screening process, 213 security issuing exercises are eligible to be included in the analysis. Table 4.1 illustrates the profile of the companies associated with the issuing exercises, referred to as sample companies, which are classified according to board types. Table 4.2 displays the profile of sample companies which are classified according to Bursa

Malaysia sectors. The profile of sample companies classified according to issuance year is shown in Table 4.3. In Table 4.4, selected characteristics of ownership structure such as managerial ownership are highlighted in Panel A while family ownership is highlighted in Panel B.

a) Type of Stock Exchange

As shown in Table 4.1, majority number of securities in the sample is issued by companies in the Main Board of Bursa Malaysia. This is shown by 159 companies or 74.6% of total issuance. For Main Board companies, about 85% of issuers issue debt with larger issuance in Islamic debt as compared to equity (15%). Besides, there are 50 securities issuances or about 23.5% of issuances are made by companies in Second Board. Out of these 50 companies, 62% of them or a total of 31 companies choose to issue equity. Meanwhile, 32% of them are the Islamic debt issuers and the other 6% are the conventional debt issuers.

The least percentage of security issued is from companies classified in the Mesdaq market. It comprises of only 1.8% of total issuance during the sample period with equal distribution of Islamic debt and equity issuance. One possible explanation is that companies in Mesdaq market are generally small with minimum paid up capital of only RM2 million. These companies have generally lower paid up capital than other companies from other boards. Furthermore, raising capital for this type of market is arguably more difficult as Mesdaq market serves for growth and technology companies.

Table 4.1

Profile of Sample Companies Classified According to Types of Board[1]

Items	Islamic debt issuers[3]	Conventional debt issuers[3]	Equity issuers[3]	All securities issuers[4]
Main Board[2]	92 (57.9)	43 (27)	24 (15.1)	159 (74.6)
Second Board[2]	16 (32)	3 (6)	31 (62)	50 (23.5)
Mesdaq[2]	2 (50)	0 (0)	2 (50)	4 (1.8)
Total	**110**	**46**	**57**	**213 (100)**

[1] Before 3rd August 2009, there are three boards on Bursa Malaysia: Main, Second, and Mesdaq. Following reorganization of Bursa Malaysia, Main Board and Second Board are merged into Main market while Mesdaq becomes ACE market, an acronym for "Access, Certainty, Efficiency" market. Consequently, after the merge, three companies from Islamic debt issuers, three companies from conventional debt issuers and four companies from equity issuers are classified on the Main market. One of the equity issuers is classified on ACE market.

[2] Quantitative requirements for listing on the Main, Second Boards and Mesdaq of Bursa Malaysia are minimum paid-up capital of RM 60 million, RM 40 million and RM 2 million respectively (Listing requirements, www.bursamalaysia.com.my).

[3] Percentages in parentheses represent proportion of each type of securities issuer in respective board.

[4] Percentages in parentheses represent proportion of all securities issuers in respective board.

b) Type of Sector

In Table 4.2, samples companies are classified according to nine sectors which are Consumer Products, Constructions, Hotel, Industrial Products, Infrastructure Project Companies (IPC), Plantation, Properties, Technology and Trading & Service. Total companies classified in each sector are provided in the first column of Table 4.2. Overall, the total securities offerings in this study represent only 19% of the total companies in all sectors. Industrial sector issues the greatest number of securities followed closely by Trading & Services. Industrial sector issued securities representing 28.64% of total issue with 30 Islamic debt securities, 9 conventional debt securities and 22 equity offering. Meanwhile, Trading & Services.

Table 4.2
Profile of Sample Companies According to Bursa Malaysia Sectors

Types of sectors	Number of companies[1]	Islamic debt Issuers[2]	Conventional debt issuers[2]	Equity Issuers[2]	All securities issuers[3]
Consumer product	152	9 (8.2)	6 (13.3)	9 (15.8)	24 (11.27)
Construction	65	15 (13.6)	5 (11.11)	6 (10.5)	26 (12.21)
Hotel	5	0 (0)	1 (2.2)	0 (0)	1 (0.47)
Industrial product	327	30 (27.3)	9 (20)	22 (38.6)	61 (28.64)
Infrastructure project companies (IPC)	7	4 (3.6)	7 (15.6)	1 (1.8)	12 (5.63)
Plantation	49	7 (6.4)	1 (2.2)	3 (5.3)	11 (5.16)
Properties	112	10 (9.1)	7 (15.6)	3 (5.3)	20 (9.39)
Technology	127	3 (2.7)	0 (0)	1 (1.8)	4 (1.88)
Trading & services	229	32 (29)	10 (22)	12 (21)	53 (24.88)
Total	**1153**	**110 (100)**	**46 (100)**	**57 (100)**	**213 (100)**

[1] Total companies classified in each sector as at 31 Dec 2009.

[2] Percentage in parentheses represent proportion of each type of securities issuance in respective sector that issue relevant securities. For example, in Consumer Product, there are 9 companies issue Islamic debt which represents 8.2 % (9/110) from all companies in the sector.

[3] Percentages in parentheses represent proportion of all securities issuers within the same sector to total issuers from all sectors

issued 53 securities which represent 24.88% of all securities offering with 32 Islamic debt, 10 conventional debt and 12 equity The two sectors with the lowest securities offering are Hotel with 1 security offering and Technology with 4 securities offering. Hotel industry has the lowest number of issuance since there are only 5 companies in this industry. Thus, companies from this sector are not expected to be active capital raisers. As for Technology industry, companies face a lot of uncertainties and competitions in the industry. Therefore, it is not expected that they will use a lot of debt. For that reason, out of 127 companies in the industry, only 3 companies or

75% issue debt securities, all being Islamic debt and only 1 company (1.8%) issue equity.

By examining each type of issuer, it is found that the highest number of companies which issue Islamic debt is from Trading and Services sector which is 32 companies or 29%. On the other hand, none of the Islamic debt issuers is from the Hotel sector. For conventional debt issuers, the highest number of issuance is recorded from the Industrial Product (20%) and Trading & Services sector (22%). No issuance is reported from the Technology Sector. For equity, about 38.6% of the issuers or 22 companies belong to Industrial Products while no equity issuer is from Hotel sector. Although there are 7 companies in the IPC sector, they issue 12 securities which show that this type of companies have higher needs for funds as they have higher capital expenditures.

c) Year of Issuance

Table 4.3 presents profile of sample companies according to issuance year. During the initial sample period, fewer securities are issued. This is partly due to a recovery period in which many Malaysian companies emerge from Asian financial

Table 4.3

Profile of Sample Companies Classified According to Issuance Year and Issue Size

Year	**Islamic debt issuers**		**Conventional debt issuers**		**Equity Issuers**		**All securities Issuers**	
	No of Issuance	Issue size (RM 000)	No of Issuance	Issue size (RM 000)	No of issuance	Issue size (RM 000)	No of Issuance[1]	Issue size[2] (RM 000)
2000	0	-	0	-	5	268,412	6 (2.82)	268,412 (0.32)
2001	4	771,000	0	-	5	108,385	8 (3.76)	879,385 (1.06)
2002	5	965,000	3	886,000	10	320,750	20 (9.39)	2,171,750 (2.62)
2003	9	3,640,000	4	5,336,980	15	590,082	26 (12.21)	9,567,062 (11.54)
2004	19	6,799,000	8	4,077,000	4	146,863	31 (14.55)	11,022,86 (13.29)
2005	24	12,332,000	5	1,340,000	5	210,782	34 (15.96)	13,882,78 (16.74)
2006	19	7,204,000	8	3,408,000	0		27 (12.68)	10,612,00 (12.80)
2007	12	9,180,000	12	5,171,900	4	261,783	28 (13.15)	14,613,68 (17.62)
2008	15	8,629,000	3	1,820,000	5	324,058	23 (10.80)	10,773,05 (12.99)
2009	3	5,400,000	3	3,150,000	4	596,431	10 (4.69)	9,146,431 (1.03)
Total	110	54,920,000	46	25,189,880	57	2,827,545	213 (100)	82,937,425 (100)

[1] Percentages in parentheses represent proportion of all securities in a year to total issuance during sample period. For example, in 2000, there is a total of six issuances which represent 2.82% (6/213)

[2] Percentages in parentheses represent proportion of issue sizes of all securities in a year to total issue size during sample period. For example, in 2000, there is a total issue size of RM 268,411,810 which represents 0.32% (RM 268,411,810/RM 82,937,424.61).

crisis[35] in 1998. For instance, there are only six and eight companies issuing securities in 2000 and 2001 respectively. However, securities issuance is relatively stable between 2002 and 2008 with at least 20 issuances each year. The greatest number of issuance occurs in year 2005 with 34 issuances or 15.96% from total issuance. However, as Malaysia is not excluded from another financial turmoil[36] in the end of 2008, there is a drastic drop of securities issuance in 2009. It is observed that the percentage of issuance in 2009 drop to 4.69% from 10.8% in 2008.

The decline of securities issuance in 2009 could be attributed to a drop in Malaysian GDP. In the fourth quarter of 2008, Malaysia has experienced one of its lowest growths of real GDP of 0.1%. This pulled down the economic growth for the whole 2008 to 4.73 % (Bank Negara Malaysia, 2009). As in 2009, the impact of global financial crisis to Malaysian economy has been intensified. Malaysian economy was announced to be in recession, with two quarters of negative growth. Table 4.4 illustrates the real growth rate of Malaysian GDP during the sample period of this study. The implication of decelerating real GDP growth rate has led to amongst others; a decreasing demand in manufacturing products, which also encourage many companies to adjust their investment strategies. Consequently, they have to postpone some of their investment activities and these reduce their financing activities.

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[35]The Asian financial crisis 1998 leads to significant drop in real GDP of -7.4% (a drop from 7.3% in 1997) which is the worst downturn since independence.

[36] The global financial crisis of 2008-2009 has adversely affected the world economy particularly in many dependent Asian economies, including Malaysia. The global financial crisis has led to collapse in exports and slow down in foreign direct investment (Abidin & Rasiah, 2009).

Table 4.4

Real GDP at Current Price and GDP Growth Rrate in Malaysia

YEAR	GDP (RM Billion)	GDP GROWTH RATE (%)
1999	305.31	5
2000	356.4	8.6
2001	352.6	0.3
2002	383.2	4.2
2003	418.77	5.3
2004	474.05	7.1
2005	522.45	5.2
2006	574.44	5.9
2007	639.78	6.3
2008	736.68	4.6
2009	674.44	-1.7
2010	724.42	7.2
2011	780.81	5.1

Source: Malaysian Department of Statistic, various years

With respect to issue sizes, the largest amount sizes raised by sample companies occur in 2007 which is about RM 14,613 million representing 17.62% of the total issue size raised by all issuing companies. This is followed closely in 2005 when issuing companies issue securities approximately RM 13,882 million or 16.74% of total issue size in the particular year. Following the low number of issuance in 2000 and 2001, issuing firms raise about RM 268 million and RM 879 million respectively. These amount accounts only 0.32% and 1.06% respectively. However in 2002, although there are a total of 20 issuances in the year, the amount raised is only RM 2,171 million or 2.62% of the total issuance. In Table 4.5, selected variable of ownership structure are displayed in Panel A where numbers of issuing companies are classified according to certain types of ownership structures such as managerial and family ownership. Managerial ownership structure is further categorized into ownership of greater than 5% or less than 5%. Overall, the number.

Table 4.5

Profile of Sample Companies Classified According to Selected Ownership Structures

Items	Islamic debt issuers	Conventional debt issuers	Equity issuers	All securities issuers
Panel A: Managerial ownership structure[1]				
Managerial ownership lower than 5%	45 (41%)	29 (63%)	29 (51%)	103 (48%)
Managerial ownership greater than 5%	65 (59%)	17 (37%)	28 (49%)	110 (52%)
Total	**110**	**46**	**57**	**213**
Panel B: Family ownership structure[1]				
Non- family ownership[2]	61 (55.5%)	26 (56.5%)	29 (51%)	116 (54.5%)
Family ownership between 5% and 10%	2 (1.8%)	0 (0%)	0 (0%)	2 (0.9%)
Family ownership between 10% and 20%	5 (4.5%)	1 (2.2%)	3 (5%)	9 (4.2%)
Family ownership greater than 20%	42 (38.2%)	19 (41.3%)	25 (44%)	86 (40.4%)
Total	**110**	**46**	**57**	**213**

[1] Percentages in parentheses represent proportion of relevant issuers in the respective range of ownership types.

[2] The current study considers nonfamily ownership as companies which do not have the followings: at least 2 family members on the board and family does not own at least 5% shareholdings.

of securities issuers is almost equally divided between managerial and non managerial ownership This implies that securities choice is determined by managerial ownership to certain extent. 110 issuing companies are classified as being managers' controlled companies as directors own more or equal to 5% of companies shares direct or indirectly. The remaining 103 companies are considered as non managerial owned companies. Managers own more than 5% shares in 65 Islamic debt issuers which represents 59% out of 110 issuers. On the other hand, managers own 5% or less in majority of conventional debt and equity issuers. For instance, for each conventional debt and equity issuers, there are 29 issuers who comprise of 63% and 51% respectively.

These two observations show that the greater the managerial ownership, the more likely managers to choose Islamic debt over conventional debt issuers or Islamic debt over equity issuers. This implies that managerial ownership could play an important role in Islamic debt issuing companies. As for the equity issuance, it seems that managerial ownership does not affect its choice as the number of issuance is 29 (51%) if managers own less than 5% and 28 (49%) if managers own more than 5%.

With respect to family ownership, we classify the ownership into non-family, and three ranges of family ownership which are between 5% to 10%, 10% to 20% and 20% and greater. Percentages of companies in respective range of family ownership are shown in parentheses. In general, majority of issuers are considered as non-family ownership companies. This is because about 55% or 116 companies do not have family shareholdings while 97 issues or 45.54% are classified as family[37] companies of different range of ownership. Besides, while there is only 5.1% of issuers that have small family ownership of 20% or less, a higher number of issuers (86 companies or 40.4%) are found to have family ownership of 20% and more. In short, although the sample of current study consists more of non-family ownership, those family ownership companies own higher percentage of shareholdings. The number of companies that have family ownership of 20% or more is highest in equity issuers which are 25 companies or 44%. This is followed by conventional debt issuers (19 companies or 41%) and finally Islamic debt issuers (42 companies or 38%).

[37] Various measures of family business are found across finance literature. Miller, Breton-Miller, Lester, and Jr (2007) provide an excellent reviews of family firms definitions

Table 4.6 provides descriptive analysis for all issuers. The table presents means, medians, minimum, maximum and standard deviation for all relevant continuous variables used in this study. Noting on the corporate governance characteristics, it can be observed that the average (median) of managerial ownership (MOWN) is almost equal to the average (median) of Bumiputera ownership (BUMIOWN) which are 22% (11%) and 21% (10.7%) respectively. In contrast, a higher percentage of managerial ownership and Bumiputera ownership are found in other studies such as Amran and Ahmad (2010) who report that the average managerial ownership (MOWN) is 28% and Suto (2003) records a 32% average in Bumiputera ownership.

Besides, the average of shares owned by the five largest shareholders (CONOWN) in this study is 16.4% which implies that less than 50% of shares ownership is owned by five largest shareholders in the sample companies. The percentage is lower than the average of sample companies in Haniffa and Hudaib (2006) who record a mean of 61.58% in their studies. Similarly, a mean of 57% in ownership concentration is documented in Nor and Sulong (2007) where on average family owns about 20% of the shares outstanding. The mean of family ownership (FAMOWN) for issuing companies is relatively smaller (19.8%) than other studies related to family ownership in Malaysia. For instance, Musalam (2013) records a higher mean in family ownership of 30% while Amran and Ahmad (2010) report an average of 21% in family ownership. There is also small shareholding of institutional ownership such as domestic and foreign fund with means of only 4.5% and 4.6% respectively. This suggests that they are diversified investors.

Table 4.6

Descriptive Statistics for Securities Issuers in the Sample

VARIABLES	Mean	Median	Min	Max	Std dev
MOWN	0.223	0.111	0.000	0.891	0.251
CONOWN	0.164	0.120	0.001	0.779	0.138
BUMIOWN	0.206	0.107	0.000	0.877	0.235
FAMOWN	0.198	0.000	0.000	0.796	0.242
STATE	0.014	0.000	0.000	0.615	0.078
DOMPFUND	0.045	0.020	0.000	0.342	0.059
FORFUND	0.046	0.008	0.000	0.502	0.089
CRCFR	1.098	1.000	1.000	16.752	1.091
BRDSIZE	8.155	8.000	4.000	17.000	2.191
BUMIBRD	0.455	0.400	0.000	1.167	0.284
FAMBRD	0.201	0.000	0.000	0.796	0.244
INSBRD	0.368	0.400	0.000	1.000	0.190
INDPBRD	0.421	0.400	0.000	1.000	0.139
FSIZE (RM million)	3,690	605	37	60,000	8,810
GROWTH	1.255	1.077	-1.466	8.299	0.872
ADJRUNUP	0.060	0.035	-2.584	1.672	0.390
FSLACK	0.099	0.073	0.000	0.663	0.100
ISSIZE(RM000)	389,000	120,000	995	4,500,000	747,000
PROFIT	0.108	0.098	-0.240	0.697	0.091
BETA	0.892	0.795	-0.714	3.470	0.665
RISK	0.029	0.026	0.005	0.135	0.016
TANG	0.582	0.545	0.002	2.913	0.361
ADJTD2TA	0.107	0.103	-1.352	2.719	0.270
TD2TA_Sample	0.343	0.310	0.000	2.916	0.256
TD2TA_Industry	0.251	0.227	0.000	1.724	0.192
NDTAX	0.030	0.022	0.000	0.259	0.033
TAX	0.016	0.012	-0.025	0.175	0.022

With respect to board attributes, the mean for board size in the sample companies is eight directors ranging from a minimum of four to a maximum of seventeen directors. The board size of eight is consistent with Jensen's (1993) suggestion of a maximum of seven or eight directors. Previous studies in the Malaysian market also report a similar result. (Ibrahim, Samad, A.F, & Amir, 2010; Rahman & Ali, 2006; Yatim *et al.*, 2006). Yatim *et al.* (2006) document that board size of Malaysian firms is between 3 to 16, with an average of 7.51 while Ibrahim *et al.* (2006) report an average of eight.

About 46% of overall board members are Bumiputera directors; 20% of board directors have family relationship; 37% of board of directors have managerial interest in their firms. About 42% of board members are considered outsiders which is indicated by the average of non-executive directors on boards. This is slightly higher than findings reported by Rahman and Ali (2006) which states that independent directors comprise of 39% of the board members in their samples. Nevertheless, the mean value of independent directors' size in the current study meets the recommendation of the Malaysian Code on Corporate Governance[38] that representation of independent directors on the board is a minimum of one-third.

With regards to firms' characteristic, the average firm size of issuers is (RM 3,690 million) which is tremendously lower than Spanish issuers (6,595 million

[38] Malaysian Code on Corporate Governance (2001,2007, Part 2 AA XII)

Euros)[39] as reported in Arrondo and Gomez-Anson (2003). For both markets, firms size are significantly larger compared to issue size raised by issuing firms. While in the Malaysian market, companies raise almost RM 390 million, Spanish firms only raise 88 million Euros (equivalent to RM 378.4 million). Relative to each average of firms size, these issue size figures are translated into 10.5% (RM 390 million / RM 3,690 million) in Malaysian market as compared to only 1.3% (88 million Euro/6,595 million Euro) in Spanish market. The mean value of investment opportunities (GROWTH) is 1.25, slightly higher than the Spanish issuers of 1.18. With regards to financial slack (FSLACK), the amount is relatively lower (0.099) than the financial slack reported in Suchard and Singh (2006) of 0.11. Other variables include profitability (PROFIT), asset tangibility (TANG), adjusted leverage (ADJTD2TA), non debt taxshield (NDTAX) and taxshield (TAX) have mean values of 0.108, 0.582, 0.107, 0.03 and 0.016 respectively. As for ADJTD2TA, when the ratio is segregated into two groups i.e sample firms and their matching industries, it is found that leverage level or TD2TA of sample is greater (0.343) than of the matching industries (0.251). Furthermore, the average of issuers' systematic risk as measured by BETA is lower (0.892) than the market. Finally, the mean for firms' total risk (RISK) is 0.029.

4.2 Univariate Analysis

Two types of univariate tests namely parametric and non-parametric tests are conducted in this study. The first type of univariate test is independent t-test which is

[39]As at 1st November 2013, the current cross currency between Malaysian ringgit and Spanish Euro is 1 Euro= RM 4.30. Thus, 6595 million Euro is equal to RM 28,358.5 million.

performed to examine differences in mean for each type of securities choice. Independent t-tests are performed after checking for equality of variances between two samples using Levene's equality of variances test. For instance, if Levine statistic shows that for variable managerial ownership (MOWN), the F=0.041 and the corresponding level of significance is $p>0.05$, the assumption that the population variances are equal is not rejected, thus equal variances assuming t-test statistic should be used. On the contrary, if the corresponding level of significance in Levene statistic is small ($p<0.05$), assumption that the population variances are equal is rejected and the equal variances not assumed t-test statistic should be used. Therefore, it can be concluded that the two groups are different.

Another univariate test is non-parametric Mann Whitney U-test. This technique is employed to test for differences between two independent groups in ordinal data or higher (Pallant, 2007). This test is an alternative to the t-test for independent samples. The Mann-Whitney test is a rank-order test for assessing not differences of means or medians but the scores of two independent groups which have a similar ranked distribution. It combines observations from each of two independent groups, listing them in rank order where it converts scores on the continuous variable to ranks, across the two groups. For scores that have ties, an average rank is assigned. The rank should be randomly arranged between the two groups when they are drawn from the same underlying distribution. The computation for the rank sum is how many times an observation rank from the first group precedes an observation rank from the second group. Thus, the test examines whether the ranks for the two groups vary significantly.

Tables 4.7 to 4.10 in the subsequent sections show results of descriptive analyses together with univariate tests of independent t-test and Mann Whitney U-test in parenthesis for each group of sample. Section 4.2.1 will discuss result of descriptive and univariate test for equity and total debt. Similarly, the same test result is presented for conventional debt and equity in Section 4.2.2. This is followed by univariate test result for Islamic debt and equity in Section 4.2.3. Finally, Section 4.2.4 reports result of univariate test for Islamic debt and conventional debt sample.

4.2.1 The Choice between Debt and Equity

Table 4.7 compares descriptive analysis of the two main sample groups which are debt and equity. As discussed in Chapter 3, 26 variables are identified as potential variables contributing towards firms' securities choice between debt and equity. The table displays the relevant variables and their continuous measures such as mean, median, minimum, maximum and standard deviation for the sample group By examining the table, one can draw several important differences between debt and equity issuers with respect to ownership structure.

First, debt issuers have significantly higher Bumiputera ownership (BUMIOWN) compared to equity issuers. The mean (median) for debt issuers is 23.6% (14%) while) for equity issuers, it is only 12.3% (6.1%). The difference in BUMIOWN between debt and equity issuers is significantly different at 1%

Table 4.7

Descriptive Analysis Result for All debt and Equity sample

VARIABLES	Equity (n=57 firms)					Debt (n=156 firms)					Indp t-test	MW U-test
	Mean	Med	Min	Max	Std dev	Mean	Med	Min	Max	Std dev	t-stat (p-value)	z-stat (p-value)
MOWN	0.214	0.038	0.000	0.828	0.249	0.227	0.150	0.000	0.891	0.252	-0.330 (0.742)	0.603 (0.546)
CONOWN	0.171	0.150	0.000	0.710	0.141	0.162	0.110	0.000	0.780	0.137	0.428 (0.669)	-0.619 (0.536)
BUMIOWN	0.123	0061	0.000	0.760	0.152	0.236	0.140	0.000	0.877	0.253	-3.175 (0.002)[c]	-3.269 (0.001)[c]
FAMOWN	0.232	0.157	0.000	0.732	0.252	0.186	0.000	0.000	0.796	0.238	1.225 (0.222)	1.111 (0.267)
STATE	0.009	0.000	0.000	0.471	0.062	0.016	0.000	0.000	0.615	0.084	-0.623 (0.534)	-1.792 (0.073)[a]
DOMPFUND	0.019	0.000	0.000	0.178	0.040	0.054	0.035	0.000	0.342	0.062	-4.731 (0.000)[c]	-5.643 (0.000)[c]
FORFUND	0.028	0.003	0.000	0.406	0.068	0.053	0.009	0.000	0.502	0.094	-2.139 (0.034)[b]	-1.844 (0.065)[b]
CRCFR	1.276	1.000	1.000	16.752	2.086	1.033	1.000	1.000	2.751	0.197	1.445 (0.150)	-0.732 (0.464)
BRDSIZE	7.298	7.000	4.000	11.000	1.658	8.468	8.000	4.000	17.000	2.282	-4.095 (0.000)[c]	-3.283 (0.001)[c]
BUMIBRD	0.388	0.300	0.000	1.000	0.268	0.479	0.429	0.000	1.167	0.287	-2.082 (0.039)[b]	-2.180 (0.029)[b]
FAMBRD	0.229	0.222	0.000	1.113	0.253	0.169	0.000	0.000	0.692	0.207	1.742 (0.083)[c]	1.463 (0.143)
INSBRD	0.364	0.400	0.000	0.714	0.171	0.369	0.400	0.000	1.000	0.197	-1.860 (0.853)	-0.043 (0.966)
INDPBRD	0.439	0.429	0.000	1.000	0.153	0.414	0.400	0.000	0.800	0.134	1.135 (0.258)	0.817 (0.414)

Note: a,b, and c denotes significance level of 10%, 5%, 1% respectively.

Table 4.7 (Continued)

VARIABLES	Equity (n=57 firms)					Debt (n=156 firms)					Indp t-test	MW U-test
	Mean	Med	Min	Max	Std dev	Mean	Med	Min	Max	Std dev	t-stat (p-value)	z-stat (p-value)
FSIZE (RM mill)	762	124	42	15,900	2,400	4,760	1,210	37	60,000	9,990	-8.798 (0.000)[c]	-7.531 (0.000)[c]
GROWTH	1.043	0.986	-1.466	2.241	0.497	1.332	1.116	0.499	8.299	0.963	-2.163 (0.032)[b]	-2.145 (0.032)[b]
ADJRUNUP	0.288	0.188	0.003	1.401	0.323	-0.024	-0.045	-2.584	1.672	0.380	5.514 (0.000)[c]	6.431 (0.000)[c]
FSLACK	0.078	0.046	0.001	0.301	0.085	0.106	0.077	0.000	0.663	0.105	-1.817 (0.071)[a]	-2.609 (0.009)[c]
ISSIZE (RM 000)	49,600	29,900	995	365,000	63,300	514,000	200,000	1,900	4,500,000	839,000	-1.688 (0.093)[a]	-1.817 (0.069)[a]
PROFIT	0.114	0.089	0.012	0.422	0.074	0.105	0.098	-0.240	0.697	0.096	0.665 (0.507)	0.678 (0.498)
BETA	0.867	0.774	0.013	3.470	0.623	0.902	0.806	-0.714	2.689	0.682	-0.335 (0.738)	-0.462 (0.644)
RISK	0.036	0.031	0.016	0.089	0.015	0.026	0.023	0.005	0.135	0.015	4.196 (0.000)[c]	5.178 (0.000)[c]
TANG	0.641	0.599	0.107	1.379	0.297	0.560	0.534	0.002	2.913	0.380	1.450 (0.148)	1.904 (0.057)[a]
ADJTDTA	0.106	0.037	-0.285	2.719	0.420	0.108	0.111	-1.352	0.558	0.190	-0.043 (0.966)	-2.566 (0.010)[c]
NDTAX	0.031	0.028	0.001	0.082	0.019	0.030	0.020	0.000	0.259	0.036	0.372 (0.710)	2.280 (0.023)[b]
TAX	0.015	0.013	0.000	0.049	0.013	0.016	0.012	-0.025	0.175	0.025	-0.360 (0.719)	-0.360 (0.552)

Note: a,b,c denote significance value of 10%, 5% and 1% respectively.

according to both tests. Previous study also shows a higher average and median for Bumiputera ownership. For instance, Suto (2003) records an average (median) of Bumiputera ownership of 32% and 28% in their sample companies.

Similarly, shares owned by domestic private fund (DOMPFUND) for debt issuers are higher than equity issuers. The mean (median) for debt issuers and equity issuers are 5.4% (3.5%) and 1.9% (0%) respectively. Similarly, shares owned by domestic private fund (DOMPFUND) for debt issuers is higher than equity issuers. The mean (median) for debt issuers and equity issuers are 5.4% (3.5%) and 1.9% (0%) respectively It seems that companies which have high DOMPFUND prefer to finance using debt than equity. In general, using both univariate tests, these variables are significantly different between debt and equity issuers at 1% level.

Secondly, by observing board attributes, for example Bumiputera directors on board (BUMIBRD), one can also notice a big difference between the two sample groups where the mean(median) for BUMIBRD in debt issuer sample is higher which is 48% (43%) than equity issuers sample which accounts 39% in mean and 30% in median. In contrast, proportion of family directors sitting on the board (FAMBRD) is observed to be lower in debt issuers compared to equity issuers. The mean (median) for debt issuers is 16.9% (0%) while the mean and median of equity issuers is 22.9% and 22% respectively. The variable shows significant difference although at 10% according to the t-test. The average (median) for number of directors (as measured by BRDSIZE) in equity and debt sample is 7 and 8 respectively. According to parametric and non-parametric tests used in this study,

BUMIBRD is found to be significantly different between debt and equity issuers at 5% level while BRDSIZE is significantly different between these groups at 1% level.

Third, the size of debt issuing firms is larger and raises more fund through the issue than equity issuing firms. This is indicated by higher mean (median) of FSIZE of RM 4,760 million (RM 1,210 million) and higher mean (median) of issue size (ISSIZE) of RM 514 million (RM 200 million). On the contrary, equity issuing firm shows smaller mean (median) of RM762 million (RM 124 million) in firm size and RM 49.6 million (RM 29.9 million) in issue size, respectively. Firm size is significantly different between two issuers group at 1% according to t-test and Mann Whitney-U test while issue size shows difference between the two issuers at 10% when both tests are applied.

Table 4.7 also shows two different risk measures namely systematic risk as measured by BETA and total risk which is indicated by RISK. Both univariate analyses suggest a substantial difference between debt issuers and equity issuers when risk is measured using total risk (RISK) but there is no difference between the two groups for systematic risk (BETA). Total risk for debt issuers is significantly lower (mean of 0.026) than that of equity issuance (mean 0.036).

It is also observed that the stock price run up adjusted to the market (ADJRUNUP) is positive in equity issuing firms (mean of 0.289) but negative(-0.024) in debt issuing firms. This result implies that issuing equity firms present

higher pre-issue market adjusted raw returns than debt issuing firms. Thus, the result suggests that equity issuing companies issue securities when their pre-issue stock price is high while debt issuing companies issue securities when their pre-issue stock price is low. The finding is in agreement with prior evidence reported in the US market such as in Asquith and Mullins (1986), Mikkelson and Partch (1986) and Jung *et al.* (1996) who document positive abnormal return for firms issuing equity and negative return for debt issuing firms.

Next, from Table 4.7, it can be seen that firms issuing debt havebetter investment opportunity (as indicated by GROWTH) than firms issuing equity. The mean (median) values of market to book ratio is 1.043(0.986) for firms issuing equity and 1.332(1.12) for firms issuing debt. The result is inconsistent with what was reported by Jung *et al.* (1996) who argue that firms will mainly issue equity when they have good investment opportunity. With respect to leverage level, equity issuing firms are found to have slightly lower leverage (indicated by ADJTD2TA) than debt issuing firms. The mean (median) in equity sample and debt sample are 10.6% (3.7%) and 10.8% (11.1%) in the current study. This result contradicts the findings documented by Jung *et al.* (1996) who finds that equity issuing firms present higher debt ratios than debt issuing firms in the US market. However, it is consistent with Arrondo (2003) who finds that the ratio of leverage is higher for firms issuing debt than firms issuing equity in the Spanish market.

In short, agency variables that are significant based on both tests include BUMIOWN, DOMPFUND, FORFUND, BRDSIZE and BUMIBRD while STATE

and FAMBRD are significant only based on either the parametric test or parametric test respectively. Meanwhile, FSIZE, GROWTH, ADJRUNUP, FSLACK, ISSIZE and RISK are significant based on both tests. Finally, TANG, ADJTD2TA and NDTAX are significant only according to the nonparametric test.

4.2.2 The Choice between Conventional Debt and Equity

In this section, conventional debt issuers are compared to equity sample issuers. As shown in Table 4.8, ownership variables reported to be significant based on independent sample t-test result are BUMIOWN, DOMPFUND, FORFUND, BRDSIZE, FSIZE, GROWTH, ADJRUNUP, FSLACK, and RISK. On the other hand, similar variables are found to be significant based on Mann-Whitney U-test. In addition, variables MOWN, BUMIBRD, ADJTD2TA and NDTAX are also significant based only on Mann-Whitney U-test.

The average for managerial ownership (MOWN) in equity issuers is significantly higher (mean of 22%) compared to MOWN in conventional debt (mean of 16%) which suggests that there are more insiders' ownership in equity issuers. However, the variable is significant at 5% level only when it is tested using the non parametric test. Bumiputera shareholders ownership (BUMIOWN) is shown to have lower average (mean of 12.3%) in equity issuers than conventional debt issuers (mean of 18.4%). When tested using both tests, the different means are statistically significant at 10%. Overall, institutional ownership is found to be slightly lower in

Table 4.8

Descriptive Analysis and Univariate Test Result for Equity and Conventional Debt Sample

VARIABLES	Equity (n=57 firms)					Conventional debt (n=46 firms)					Indp. t-test t-stat (p-value)	MW U-test z-stat (p-value)
	Mean	Med	Min	Max	Std dev	Mean	Med	Min	Max	Std dev		
MOWN	0.214	0.038	0.000	0.828	0.249	0.164	0.000	0.000	0.847	0.248	1.02 (0.31)	2.341 (0.019)[b]
CONOWN	0.181	0.150	0.000	0.710	0.141	0.173	0.115	0.010	0.780	0.162	-0.058 (0.953)	-0.345 (0.730)
BUMIOWN	0.123	0.061	0.000	0.760	0.152	0.184	0.111	0.000	0.877	0.201	-1.698 (0.093)[a]	-1.749 (0.080)[a]
FAMOWN	0.232	0.157	0.000	0.732	0.252	0.198	0.000	0.000	0.620	0.236	0.692 (0.49)	0.657 (-0.511)
STATE	0.009	0.000	0.000	0.471	0.062	0.007	0.000	0.000	0.201	0.03	0.238 (0.812)	-0.027 (-0.978)
DOMPFUND	0.019	0.000	0.000	0.178	0.040	0.053	0.038	0.000	0.226	0.060	-3.275 (0.002)[c]	-4.690 (0.000)[c]
FORFUND	0.028	0.003	0.000	0.406	0.068	0.077	0.019	0.000	0.502	0.122	-2.43 (0.018)[b]	-2.407 (0.016)[b]
CRCFR	1.276	1.000	1.000	16.752	2.086	1.043	1.000	1.000	1.979	0.201	0.840 (0.404)	-1.209 (0.227)
BRDSIZE	7.298	7.000	4.000	11.000	1.658	8.891	9.000	4.000	13.000	2.496	-3.717 (0.000)[c]	-3.307 (0.001)[c]
BUMIBRD	0.388	0.300	0.000	1.000	0.268	0.469	0.400	0.100	1.000	0.247	-1.572 (0.119)	-1.913 (0.056)[a]
FAMBRD	0.229	0.222	0.000	1.143	0.253	0.171	0.000	0.000	0.667	0.217	1.238 (0.219)	0.998 (0.318)
INSBRD	0.364	0.400	0.000	0.714	0.171	0.358	0.354	0.000	1.000	0.198	0.154 (0.878)	0.472 (0.637)
INDPBRD	0.439	0.429	0.000	1.000	0.153	0.428	0.429	0.000	0.750	0.135	0.356 (0.723)	0.183 (0.000)[c]

Note: a,b, and c denotes significance level of 10%, 5%, 1% respectively..

Table 4.8 (Continued)

VARIABLES	Equity (n=57firms)					Conventional debt (n=46 firms)					Indp. t-test t-stat (p-value)	MW U-test z-stat (p-value)
	Mean	Med	Min	Max	Std dev	Mean	Med	Min	Max	Std dev		
FSIZE (RM mill)	762	124	41.7	15,900	2,400	5,420	1,930	37.1	30,400	8,160	-7.685 (0.000)[c]	-6.355 (0.000)[b]
GROWTH	1.043	0.986	-1.466	2.241	0.497	1.484	1.177	0.668	8.299	1.272	-2.217 (0.031)[b]	-2.282 (0.023)[b]
ADJRUNUP	0.288	0.188	0.003	1.401	0.323	0.088	0.062	-0.773	1.672	0.389	2.859 (0.005)[c]	3.178 (0.002)[c]
FSLACK	0.078	0.046	0.001	0.301	0.085	0.114	0.078	0.006	0.539	0.108	-1.899 (0.006)[c]	-2.514 (0.012)[b]
ISSIZE (RM 000)	49,600	29,900	995	365,000	63,300	548,000	250,000	1,900	2,920,000	673,000	-0.557 (0.579)	-0.080 (0.937)
PROFIT	0.114	0.089	0.012	0.422	0.074	0.108	0.099	-0.240	0.697	0.137	0.285 (0.776)	0.723 (0.469)
BETA	0.867	0.774	0.013	3.470	0.623	0.934	0.927	-0.450	2.246	0.691	-0.516 (0.607)	-0.816 (0.415)
RISK	0.036	0.031	0.016	0.089	0.015	0.027	0.022	0.009	0.112	0.017	2.962 (0.004)[c]	3.974 (0.000)[c]
TANG	0.641	0.599	0.107	1.379	0.297	0.584	0.521	0.007	1.920	0.374	0.852 (0.396)	1.267 (0.205)
ADJTD2TA	0.106	0.037	-0.285	2.719	0.420	0.138	0.113	0.000	0.558	0.135	-0.541 (0.590)	-2.653 (0.008)[c]
NDTAX	0.031	0.028	0.001	0.082	0.019	0.031	0.018	0.000	0.195	0.039	0.138 (0.891)	2.023 (0.043)[b]
TAX	0.015	0.013	0.000	0.049	0.013	0.019	0.014	-0.002	0.175	0.029	-1.083 (0.281)	-0.056 (0.955)

Note: a,b, and c denotes significance level of 10%, 5%, 1% respectively.

equity than conventional debt issuing companies. For instance, shares owned by domestic private fund (DOMPFUND) in equity shows below 5% (2.8% in average).although foreign fund (FORFUND) is found to be slightly higher (7.78%). In short, both variables are significantly different at 1% and 5% respectively

Comparing the group difference in terms of board attributes namely board size (BRDSIZE) and proportion of Bumiputera directors on board (BUMIBRD) revealed that they are significantly different at 1% and 10% respectively according to the non parametric test. However, BUMIBRD is only significant based on non parametric test while for BRDSIZE, it is also significant based on parametric test. In equity issuing firms, proportion of family directors on board (FAMBRD) and proportion of managerial directors on board (INSBRD) record a mean(median) of 23.2% (15.7%) and 36.4% (40%) respectively. These values are relatively the same in conventional debt issuing firms. As a matter of fact, they are not significantwhen examined using both tests.

The mean value for board independence (INDPBRD) in this study is 43.9% for equity issuers and 42.8% for conventional debt issuers. This implies that, on average, board of directors in Malaysian firms is equally composed of independent and non-independent directors. The mean value is higher than the mean value of 38.5%, reported by Ibrahim and Samad (2008). The range for board independence is from 0% to 100% with a standard deviation of 15.3% in equity issuers while the maximum value for INDPBRD in conventional debt is 75% with standard deviation

of 13.5%. Variable INDPBRD shows a significant difference at 1% only according to Mann Whitney U-test.

As for other firm characteristics such as firm size, the average is RM 762 million for equity issuing firms but significantly higher for conventional debt issuing firms which account RM 5,420 million. The range of firm size in equity issuers sample is between RM 41.7 million and RM 15,900 million with a standard deviation of RM 2,400 million. However, in the conventional debt issuers sample, the lowest value of firm size is RM 37.1 million and the highest value is RM 30,400 million with a standard deviation of RM 8,160 million. Accordingly, they are significant at 1% level when univariate t-test and non-parametric are employed.

With respect to growth opportunity (GROWTH), it is found to be significant at 1% level based on both tests. While the average (median) in conventional debt issuers is 1.484 (1.177), the average (median) for GROWTH in equity issuers is significantly lower which is 1.043 (0.986).Stock price run up (ADJRUNUP) is also found to be significantly different between the two groups according to both tests. The mean (median) for equity issuing firm is 28.8 % (18.8%) with the minimum of 0.003 and maximum values of 1.401. On the other hand, conventional debt issuing firms have lower average and median of stock run up where the lowest value is -0.773 and the highest value is 1.672.

As depicted in Table 4.8, equity is issued during lower market risk but higher total risk than conventional debt. This is evident by lower mean of 0.87 in systematic risk (BETA) and 0.036 in total risk (RISK). In contrast, conventional debt is issued during a higher market risk (mean of 0.934 in BETA) but lower total risk (mean of 0.027). Even though systematic risk is not different in the two groups, an overall risk indicates that there is substantial difference between these two groups. Finally, the existing adjusted leverage (ADJTD2TA) and non-debt taxshield (NDTAX) are found to be different between the two groups at 1% and 5% respectively when non parametric test is used. Although the mean for ADJTD2TA is higher (11.3%) in conventional debt than in equity (10.6%), the average of NDTAX is equal (0.031) in both issuers.

In summary, firm size (FSIZE), growth opportunity GROWTH), adjusted runup (ADJRUNUP), and financial slack (FSLACK) are shown to be significantly different for the two groups using Mann Whitney U-test and independent t-test. The average of the above variables in conventional debt issuers are shown to be greater than equity issuers except for ADJRUNUP variable, which shows noticeable lower percentage of 8.8% as opposed to 28.8% in equity issuing companies. An examination based on Mann Whitney U-test indicates the same significant variables as have been identified in the independent t-test except for MOWN, BUMIBRD, INDPBRD, ADJTD2TA, and NDTAX. These variables are found significant only in the non parametric tests.

4.2.3 The Choice between Islamic Debt and Equity

Similar to the previous sample, in this section debt is further categorized into Islamic debt which is then compared to equity sample. We drop four non-*Shariah* compliant companies from equity issuers in this sample group. Thus, the sample of equity issuers is reduced from 57 to 53 observations. The reason for omitting these observations is because non *Shariah*-compliant companies have high probability to choose equity instead of Islamic debt. As shown in Table 4.9, Bumiputera ownership (BUMIOWN) is significantly different between two groups with higher significant level (1%) in parametric test rather than nonparametric test (10%). In Islamic debt sample, Bumiputera owns more (26%) as compared to equity sample (12%). However, state ownership (STATE) shows significantly different at 5% according to non-parametric test. Domestic private fund ownership (DOMPFUND) ownership appears to be higher in Islamic debt as opposed to equity sample with a significant difference of 1% for both tests.

An examination of board attributes reveals that number of directors are almost equally distributed among Islamic debt and equity sample (mean of BRDSIZE is seven directors for equity sample and eight directors for Islamic debt). However, the proportion of Bumiputera directors on board (BUMIBRD) is significantly higher in Islamic debt sample (mean of 48.3%) compared to equity (mean of 38.8%).BRDSIZE and BUMIBRD are significantly different at 1% and 5% respectively according to both tests. As for other board attributes such as proportion of family directors on board (FAMBRD), proportion of insiders on board (INSBRD),

Table 4.9

Descriptive Analysis and Univariate Test Result forEquity and Islamic Debt sample

VARIABLES	Equity (n=53 firms)					Islamic debt (n=110 firms)					Indpt t-test	MW U-test
	Mean	Med	Min	Max	Std dev	Mean	Med	Min	Max	Std dev	t-stat (p-valuet)	z-stat (p-value)
MOWN	0.221	0.097	0.000	0.828	0.251	0.253	0.225	0.000	0.891	0.250	-0.765 (0.445)	(-0.172) (0.863)
CONOWN	0.164	0.150	0.000	0.710	0.131	0.157	0.111	0.001	0.550	0.126	0.331 (0.741)	-0.528 (0.597)
BUMIOWN	0.117	0.077	0.000	0.523	0.128	0.257	0.146	0.000	0.845	0.268	-3.602 (0.000)[c]	-3.270 (0.081)[a]
FAMOWN	0.241	0.173	0.000	0.732	0.253	0.181	0.000	0.000	0.796	0.241	1.473 (0.143)	1.360 (0.174)
STATE	0.010	0.000	0.000	0.471	0.065	0.021	0.000	0.000	0.615	0.097	0.752 (0.453)	-2.103 (0.035)[b]
DOMPFUND	0.018	0.000	0.000	0.178	0.040	0.054	0.032	0.000	0.342	0.063	-4.370 (0.000)[c]	-5.234 (0.000)[c]
FORFUND	0.029	0.003	0.000	0.406	0.071	0.043	0.008	0.000	0.390	0.079	-1.149 (-1.333)	0.252 (0.183)
CRCFR	1.297	1.000	1.000	16.752	2.164	1.029	1.000	1.000	2.751	0.196	1.294 (0.197)	-0.304 (0.761)
BRDSIZE	7.264	7.000	4.000	11.000	1.643	8.291	8.000	4.000	17.000	2.173	-3.352 (0.001)[c]	-2.781 (0.005)[c]
BUMIBRD	0.374	0.300	0.000	1.000	0.246	0.483	0.449	0.000	1.167	0.303	-2.290 (0.023)[b]	-2.216 (0.034)[b]
FAMBRD	0.240	0.222	0.000	0.256	0.256	0.168	0.000	0.000	0.204	0.204	-1.916 (0.057)[a]	1.708 (0.088)[a]
INSBRD	0.368	0.400	0.000	0.714	0.171	0.374	0.400	0.000	0.714	0.198	-0.210 (0.834)	1.321 (0.186)
INDPBRD	0.435	0.429	0.000	1.000	0.156	0.408	0.400	0.000	0.800	0.133	1.143 (0.225)	0.770 (0.441)

Note: a,b, and c denotes significance level of 10%, 5%, 1% respectively.

Table 4.9 (Continued)

VARIABLES	Equity (53 firms)					Islamic debt (n=110 firms)					Indpt t- test	MW U- test
	Mean	Med	Min	Max	Std dev	Mean	Med	Min	Max	Std dev	t-stat (p-value)	z-stat (p-value)
FSIZE (RM mill)	579	124	41.7	15,900	2,180	4,490	760	63.6	60,000	10,700	-7.598 (0.000)[c]	-7.111 (0.000)[c]
GROWTH	1.055	1.003	-1.466	2.241	0.512	1.269	1.087	0.499	7.841	0.799	-1.781 (0.077)[a]	-1.417 (0.157)
ADJRUNUP	0.302	0.203	0.003	1.401	0.331	-0.070	-0.090	-2.584	0.803	0.367	6.425 (0.000)[c]	6.951 (0.000)[c]
FSLACK	0.080	0.046	0.001	0.301	0.087	0.103	0.076	0.000	0.663	0.104	-1.381 (0.169)	-2.072 (0.038)[b]
ISSIZE (RM 000)	44,000	29,900	995	244,000	47,300	351,000	100.000	995	4,500,000	770,000	-1.616 (0.108)	-2.096 (0.036)[b]
PROFIT	0.117	0.089	0.012	0.422	0.076	0.104	0.098	-0.058	0.678	0.074	1.072 (0.285)	0.758) (0.448)
BETA	0.883	0.778	0.013	3.470	0.633	0.888	0.795	-0.714	2.689	0.681	-0.043 (0.966)	-0.046 (0.963)
RISK	0.037	0.032	0.016	0.089	0.015	0.026	0.023	0.005	0.135	0.015	4.474 (0.000)[c]	5.176 (0.000)[c]
TANG	0.638	0.599	0.107	1.379	0.296	0.550	0.535	0.002	2.913	0.384	1.612 (0.109)	1.860 (0.063)[a]
ADJTD2TA	0.111	0.037	-0.285	2.719	0.433	0.096	0.109	-1.352	0.529	0.208	0.251 (0.803)	-2.030 (0.042)[b]
NDTAX	0.032	0.031	0.001	0.082	0.020	0.029	0.020	0.000	0.259	0.035	0.684 (0.495)	2.154 (0.031)[b]
TAX	0.015	0.013	0.000	0.049	0.013	0.015	0.011	-0.025	0.166	0.022	0.134 (0.893)	0.831 (0.406)

Note: a,b, and c denote significance level of 10%, 5% and 1% respectively.

equity issuing firms show slightly higher percentage of ownership compared to Islamic debt issuing firms. However, the proportion of independent directors on board (INDPBRD) is shown to be lower (40.8%) in Islamic debt than in equity issuers (43.5%). Neither of these variables is significantly different between the two issuers groups.

The firms that issue Islamic debt are on average larger in size. They also raise more fund through the issue compared to the firms that issue equity. This is indicated by higher mean (median) of FSIZE of RM 4,490 million (RM 760 million) and higher mean (median) of ISSIZE of RM 351 million (RM 100 million). On the contrary, equity issuing firms show smaller mean (median) of RM 579 million (RM 124 million) in firm size and RM 44 million (RM 29.9 million) in issue size, respectively. Firm size is significantly different between two issuers group at 1% according to t-test and Mann Whitney-U test while issue size shows difference between the two issuers at 5% when Mann Whitney U-test is applied.

Next, in Table 4.9, it can be seen that firms issuing Islamic debt present better investment opportunity (as indicated by GROWTH) than firms issuing equity. The mean (median) values of market to book ratio is 1.055 (1.003) for firms issuing equity and 1.269 (1.087) for firms issuing Islamic debt. The result is inconsistent with what has been reported by Jung *et al.* (1996) who argue that firms will mainly issue equity when they have good investment opportunity.

It is also observed that the stock price run up adjusted to the market (ADJRUNUP) is positive in equity issuing firm (mean of 0.302) but negative (-0.070) in Islamic debt issuing firms. This result implies that issuing equity firms present higher pre-issue market adjusted raw returns than Islamic debt issuing firms. Thus, the result suggests that equity issuing firms issue securities when their pre-issue stock price is high while Islamic debt issuing companies issue securities when their pre-issue stock price is low.

Table 4.9 also shows two different risk measures namely systematic risk as measured by BETA and total risk which is indicated by RISK. Both univariate analyses suggest a substantial difference between Islamic debt issuers and equity issuers when risk is measured using total risk (RISK) but there is no difference between the two groups for systematic risk. Total risk for Islamic debt issuers is significantly lower (mean of 0.026) than that of equity issuance (mean of 0.037).

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With respect to leverage level, equity issuing firms are found to have slightly higher leverage (indicated by ADJTD2TA) than Islamic debt issuing firms. The mean (median) in equity sample and Islamic debt sample are 11.11% (3.7%) and 9.6% (10.9%) in the current study. This result corroborates the findings documented by Jung *et al.* (1996) who finds that equity issuing firms present higher debt ratios than debt issuing firms in the US market.

In short, similar to total debt and equity samples, while variables such as FSIZE, ADJRUNUP, and RISK are significant based on both tests, variables, STATE, TANG, ADJTD2TA and NDTAX are significant only according to the nonparametric test. In contrast, to the total debt and equity sample, this sample group shows a slight difference: GROWTH is only significant at 10% in independent t-test while FSLACK is significant at 5% according to Mann Whitney U-test.

4.2.4 The Choice between Islamic Debt and Conventional Debt

This section discusses the choice between Islamic debt and conventional debt. Similar to the sample groups discussed before, univariate tests as depicted in Table 4.10 are performed to examine the differences between the two groups. To understand the nature and characteristics of different issuers of conventional debt and *sukuk,* the table also describes statistics by issuer of each security. Sample of issuers for conventional debt becomes 38 firms (instead of 46) as 8 firms have to be dropped since they are non *Shariah*-compliant entities. Since non *Shariah*-compliant firms have a high tendency to choose conventional debt, these observations are dropped in analyzing with Islamic debt. It is found that firm size as measured by total asset is slightly greater in conventional debt than Islamic debt sample (mean of RM 5,420 million and RM 4,490 million respectively). Similarly, on average, conventional debt are considerably issue larger size than Islamic debt, with respective means for the amount issued equal to RM 538,000 million and RM 499,000 million. The mean for managerial ownership (MOWN) in Islamic debt is significantly higher (mean of 25%) compared to MOWN in conventional debt (mean of 18%) which suggest that.

Table 4.10

Descriptive Analysis and Univariate Test Result for Conventional Debt and Islamic Debt Sample

VARIABLES	Conventional debt (n=38 firms)					Islamic debt (n=110 firms)					Indp t-test	MW U-test
	Mean	Med	Min	Max	Std dev	Mean	Med	Min	Max	Std dev	t-stat (p-value)	z-stat (p-value)
MOWN	0.178	0.000	0.000	0.847	0.260	0.253	0.225	0.000	0.891	0.250	-1.570 (0.119)	-2.220 (0.026)[b]
CONOWN	0.169	0.120	0.010	0.780	0.152	0.157	0.111	0.001	0.550	0.126	0.491 (0.624)	0.382 (0.702)
BUMIOWN	0.201	0.132	0.003	0.877	0.217	0.316	0.121	0.000	7.120	0.713	-1.290 (0.201)	-0.766 (0.444)
FAMOWN	0.222	0.053	0.000	0.620	0.244	0.181	0.000	0.000	0.796	0.241	0.906 (0.366)	0.780 (0.436)
STATE	0.008	0.000	0.000	0.201	0.035	0.021	0.000	0.000	0.615	0.097	0.791 (0.430)	-1.591 (0.111)
DOMPFUND	0.059	0.047	0.000	0.226	0.065	0.054	0.032	0.000	0.342	0.063	0.433 (0.665)	0.536 (0.592)
FORFUND	0.070	0.013	0.000	0.502	0.121	0.043	0.008	0.000	0.390	0.079	1.275 (0.208)	1.00 (0.317)
CRCFR	1.052	1.000	1.000	1.979	0.221	1.029	1.000	1.000	2.751	0.196	0.603 (0.547)	1.355 (0.175)
BRDSIZE	9.000	9.000	4.000	13.000	2.691	8.291	8.000	4.000	17.000	2.173	1.628 (0.106)	1.491 (0.136)
BUMIBRD	0.470	0.400	0.100	1.000	0.254	0.483	0.449	0.000	1.167	0.303	-0.251 (0.802)	-0.138 (0.899)
FAMBRD	0.201	0.127	0.000	0.667	0.227	0.168	0.000	0.000	0.692	0.204	0.776 (0.441)	0.786 (0.432)
INSBRD	0.355	0.333	0.000	1.000	0.208	0.374	0.400	0.000	0.714	0.198	-0.506 (0.613)	-0.688) (0.492)
INDPBRD	0.427	0.423	0.000	0.750	0.147	0.408	0.400	0.000	0.800	0.133	0.729 (0.467)	(0.383) (0.702)

Note: a,b, and c denotes significance level of 10%, 5%, 1% respectively

Table 4.10 (Continued)

VARIABLES	Conventional debt (n=38 firms)					Islamic debt (n=110 firms)					Indp t-test	MW U-test
	Mean	Med	Min	Max	Std dev	Mean	Med	Min	Max	Std dev	t-stat (p-value)	z-stat (p-value)
FSIZE (RM mill)	5,000	1,910	37	27,700	7,560	4,490	760	63.6	60,000	10,700	0.669 (1.408)	1.585 (0.113)
GROWTH	1.336	1.177	0.668	5.390	0.777	1.269	1.087	0.499	7.841	0.799	0.448 (0.655)	0.854 (0.393)
ADJRUNUP	0.124	0.062	-0.686	1.672	0.386	-0.070	-0.090	-2.584	0.803	0.367	2.779 (0.006)[c]	3.090 (0.002)[c]
FSLACK	0.108	0.074	0.006	0.539	0.107	0.103	0.076	0.000	0.663	0.104	0.260 (0.795)	0.217 (0.828)
ISSIZE (RM 000)	538,000	250,000	1,900	2,920,000	700,000	499,000	195,000	20,000	4,500,000	901,000	-0.617 (0.538)	-1.258 (0.209)
PROFIT	0.091	0.099	-0.240	0.551	0.107	0.104	0.098	-0.058	0.678	0.074	-0.781 (0.436)	-0.549 (0.583)
BETA	0.892	0.927	-0.450	2.246	0.654	0.934	0.927	-0.450	2.246	0.691	0.03 (0.976)	0.399 (0.689)
RISK	0.028	0.022	0.009	0.112	0.018	0.026	0.023	0.005	0.135	0.015	0.627 (0.053)	0.532 (0.958)
TANG	0.569	0.457	0.007	1.920	0.407	0.550	0.535	0.002	2.913	0.384	0.266 (0.790)	-0.132 (0.895)
ADJTD2TA	0.146	0.119	0.000	0.558	0.142	0.096	0.109	-1.352	0.529	0.208	1.396 (0.165)	0.931 (0.352)
NDTAX	0.028	0.016	0.000	0.174	0.033	0.029	0.020	0.000	0.259	0.035	-0.208 (0.836)	-0.533 (0.594)
TAX	0.016	0.013	-0.001	0.099	0.018	0.015	0.011	-0.025	0.166	0.022	0.338 (0.736)	0.551 (0.582)

Note: a, b, and c denotes significance level of 10%, 5%, 1% respectively.

there are more insiders' ownership in Islamic debt issuing firms than conventional debt issuing firms. However, the variable is significant at 5% level according to the nonparametric tests Other variable which is worth to be highlighted is the percentage of Bumiputera directors on board (BUMIBRD). It is equally the same for both groups. It is found that the mean for Bumiputera directors in Islamic debt is 48.3% while in conventional debt issuers, the mean is 47%. Accordingly, Bumiputera shareholders (BUMIOWN) are notably higher in Islamic debt, which is 31.6%, as compared to only 20% in conventional debt sample.

Firms that issue Islamic debt are shown to have share price which is lower than the market at the time of issuance but the situation is opposite for firms that issue conventional debt. This is indicated by the variable adjusted stock price run up (ADJRUNUP) which is -7.0% for Islamic debt and 10.8% for conventional debt sample. In addition, Islamic debt is issued during period of high market risk. This is shown by systematic risk (BETA) which is higher for Islamic debt compared to conventional debt (0.934 vs. 0.892).

4.3 Multivariate Analysis

This section reports result of multivariate analyses that are used to determine the relationships between securities choice and firm's ownership structure, board attributes and firm's characteristics. It begins with correlation analyses, logistic regression assumptions such as multicollinearities and outliers tests. This is followed by logistic regression results in the subsequent section.

4.3.1 Correlation Analysis

Correlation analysis is performed to show the association between two variables. It is important to run the correlation analysis in order to overcome multilticollinearity problems in the subsequent analyses. Pallant (2006, 2007) highlights a few guidelines regarding the strength of variables relationship. It is considered small when the correlation lies between 0.1 to 0.29; medium when correlation between 0.3 to 0.49 and large for correlation is between 0.5 to 1. Due to these correlations, correlated variables fall in the large region warrants further investigations. If correlation is greater than 0.5, several regressions are run to ensure that relevant variables are included in separate models to ensure that the results do not suffer from multicollinearity problem.

Table 4.11 reports the result of Pearson correlation between two variables involved in total debt and equity sample. Three ownership variables are found to be highly correlated with correlation statistic at least 0.5. The variables are family ownership (FAMOWN), managerial ownership (MOWN) and proportion of family members on board (FAMBRD). The findings are anticipated because family owned firms are involved in firms' management. While the highest correlation is found between FAMBRD and FAMOWN which is 0.788, MOWN is highly correlated with

Table 4.11

Pearson Correlation Results for Selected Variables in All debt and Equity

	MOWN	BUMIOWN	FAMOWN	BUMIBRD	FAMBRD	GROWTH	PROFIT	TANG	NDTAX	TAX
MOWN	1									
BUMIOWN	-.171*	1								
FAMOWN	***.524*** **	-.261**	1							
BUMIBRD	-.194**	***.596*** **	-.262**	1						
FAMBRD	***.516*** **	-.272**	***.788*** **	-.338**	1					
GROWTH	-0.115	0.01	-.159*	0.013	-.160*	1				
PROFIT	-0.088	-0.001	-0.029	-0.132	-0.035	***.663*** **	1			
TANG	-0.115	0.083	-0.029	-0.043	-0.031	-0.055	0.042	1		
NDTAX	-0.035	0.077	-0.04	-0.052	-0.045	.163*	.367**	***.613*** **	1	
TAX	-0.026	-0.013	-0.026	-0.117	-0.026	***.684*** **	***.646*** **	.140*	.280**	1

Notes: The statistic reported is Pearson correlations between related correlated variables identified in the analysis. *** ,** ,* indicates correlation is significant at 1%, 5% and 10% levels (2-tailed) respectively.

FAMOWN and FAMBRD at 0.524 and 0.516 respectively. Furthermore, BUMIOWN is correlated with BUMIBRD at 0.596. Among firm characteristics variables, growth opportunity (GROWTH) is highly correlated to profitability (PROFIT) and Taxhield (0.663 and 0.684 respectively). PROFIT is also highly correlated with Taxhield (0.646). Other variables are TANG and NDTAX which are correlated at 0.613.

Table 4.12 describes the result of correlation test for conventional debt and equity sample. The correlation of 0.769 between family ownership (FAMOWN) and percentage of family members on board (FAMBRD) is statistically significant at 5%. Among firms characteristics variables, growth opportunity are highly correlated to profitability (PROFIT) and Taxhield (0.626 and 0.788). PROFIT is also highly correlated with Taxhield (0.714). Other variables are TANG and NDTAX which is correlated at 0.636.

Table 4.13 depicts the result of correlation test between Islamic debt and equity sample. It is clear that the highest correlation can be observed between FAMOWN and FAMBRD which yields a correlation of 0.759. Other variable which is also correlated with FAMOWN and FAMBRD is MOWN. The variable is correlated with at 0.514 and 0.506 respectively. Moreover, while GROWTH and PROFIT are correlated with each other at 0.502, GROWTH and TAX are correlated at 0.521. Finally, TAX is also correlated with PROFIT at 0.503.

Table 4.12

Pearson Correlation Results for Selected Variables in Conventional Debt and Equity Sample

	MOWN	BUMIOWN	FAMOWN	BUMIBRD	FAMBRD	GROWTH	PROFIT	TANG	NDTAX	TAX
MOWN	1									
BUMIOWN	-0.059	1								
FAMOWN	.480**	-0.131	1							
BUMIBRD	-0.087	.415**	-0.108	1						
FAMBRD	.407**	-0.157	***0.769*** **	-0.116	1					
GROWTH	-0.05	-0.052	-0.098	-0.06	-0.095	1				
PROFIT	-0.123	0.024	-0.107	-.201*	-0.106	***.626*****	1			
TANG	-0.146	0.15	-0.1	-0.058	-0.107	0.062	0.053	1		
NDTAX	-0.107	0.099	-0.135	-0.046	-0.138	.338**	.449**	***.636*****	1	
TAX	0.014	0.009	-0.027	-0.043	-0.02	*.788***	*.714***	-0.071	.208*	1

Notes: The statistic reported is Pearson correlations between related correlated variables identified in the analysis. ***, **, * indicates correlation is significant at 1%, 5% and 10% levels (2-tailed) respectively.

Table 4.13

Pearson Correlation Results for Selected Variables in Islamic Debt and Equity Sample

	MOWN	BUMIOWN	FAMOWN	BUMIBRD	FAMBRD	GROWTH	PROFIT	TANG	NDTAX	TAX
MOWN	1									
BUMIOWN	-.206**	1								
FAMOWN	***.514***	-.277**	1							
BUMIBRD	-.235**	*.657***	-.276**	1						
FAMBRD	***.506***	-.293**	***.759***	-.345**	1					
GROWTH	-.106	.048	-.168*	.074	-.168*	1				
PROFIT	-.102	-.025	-.009	-.099	-.017	***.502***	1			
TANG	-.113	.025	.013	-.057	.012	-.155*	.002	1		
NDTAX	-.004	.038	.008	-.092	.004	.006	.257**	*.627***	1	
TAX	-.015	.004	.009	-.103	.009	***.521***	***.503***	.202**	.266**	1

Notes: The statistic reported is Pearson correlations between related correlated variables identified in the analysis. ***, **, * indicates correlation is significant at 1%, 5% and 10% levels (2-tailed) respectively

Table 4.14 illustrates the correlation analysis in Islamic debt and conventional debt sample. It is shown from the table that family ownership (FAMOWN) and proportion of family on board (FAMBRD) are significantly correlated at 0.571 Managerial ownership (MOWN) is correlated with FAMOWN and FAMBRD at 0.571 and 0.564 respectively. Meanwhile, Bumiputera ownership (BUMIOWN) is observed to be positively correlated with BUMIBRD (0.623, p-value 0.05). Furthermore, growth opportunity (GROWTH) is correlated with firms' profitability (PROFIT) at 0.711, and TAX at 0.623 respectively. Finally, TANG and NDTAX is positively correlated at 0.634.

4.3.2 Logistic Regression Assumption Diagnostics

Logistic model for securities choice is used to estimate the relationship between independent variables, which could be categorical or continuous and dependent variable which takes the value of either 0 or 1. Since the dependent variable is limited in nature, OLS regression is not appropriate. Thus, logistic regression is used in this study.In order to make logistic regression analysis to be valid, the models have to meet some assumptions. Hair *et al.* (2006) and Pallant (2007) highlight a few assumptions applied in logistic regression. One of them is the absence of multicollinearity problem. The problem which is caused by intercorrelation among explanatory variablesbetween independent variables is detected through Collinearity Diagnostic Test.

Table 4.14

Pearson Correlations Results for Selected Variables in Islamic debt and Conventional Debt Sample

	MOWN	BUMIOWN	FAMOWN	BUMIBRD	FAMBRD	GROWTH	PROFIT	TANG	NDTAX	TAX
MOWN	1									
BUMIOWN	-.232**	1								
FAMOWN	***.571*****	-.315**	1							
BUMIBRD	-.211*	***.623*****	-.330**	1						
FAMBRD	***.565*****	***-.318*****	***.816*****	-.341**	1					
GROWTH	-0.154	0.007	-.204*	0.031	-.208*	1				
PROFIT	-0.005	0.026	0.046	-0.126	0.037	***.711*****	1			
TANG	-0.088	0.151	-0.022	0.005	-0.023	-0.045	0.078	1		
NDTAX	0.001	0.113	-0.018	-0.044	-0.025	0.143	.393**	***.634*****	1	
TAX	-0.015	-0.022	-0.048	-.163*	-0.051	***.623*****	*.610***	.240**	.365**	1

Notes: The statistic reported is Pearson correlations between related correlated variables identified in the analysis. *** ,** and * indicates correlation is significant at 1%, 5% and 10% levels (2-tailed) respectively.

In the Stata and SPSS, a set of diagnostic tools can be found in the Tolerance and Variance Inflation factor (VIF). As the value range from 0 to 1, multicollineraity is indicated for a particular variable if the tolerance value is 0.01 or less. Alternatively, the VIF is the reciprocal of the tolerance that measures linear association between a particular independent variable and remaining independent variable in the analysis. VIF greater than 10 indicates multicollinearity. Table 4.15 reports the collinearity statistics for each sample groups. It shows that there is no evidence of multicolinearity as both VIF and tolerance value are less than 10 and more than 0.01 respectively.

Another assumption underlying logistic regression model deals with the absence of specification error, in which all models incorporate all relevant independent variables and exclude irrelevant independent variables. Since all variables suggested by literature are included, it is expected that the specification error problem does not exist. The third assumption is outliers, which is referred to unusually low or high value on a variable or a unique combination of values across several variables that will misrepresent statistical result (Hair *et al.*, 2006). Cases with standardized residuals of more than 3.3 or less than -3.3 are classified as outliers (Pallant, 2007).

Table 4.15

Collinearity Statistic Result- Test of Multicollinearity

	INDEPENDENT VARIABLES	Debt and equity		Conventional debt and equity		Islamic debt and equity		Islamic debt and conventional debt	
		VIF	1/VIF	VIF	1/VIF	VIF	1/VIF	VIF	1/VIF
1	MOWN	1.750	0.573	1.740	0.574	1.830	0.545	1.930	0.519
2	CONOWN	1.480	0.676	1.530	0.654	1.490	0.672	1.730	0.577
3	BUMIOWN	2.240	0.447	2.060	0.486	2.490	0.401	2.570	0.389
4	FAMOWN	3.590	0.278	3.410	0.293	3.440	0.291	5.060	0.198
5	STATE	1.200	0.831	1.340	0.744	1.240	0.807	1.290	0.774
6	DOMPFUND	1.180	0.844	1.230	0.816	1.260	0.796	1.210	0.826
7	FORFUND	1.390	0.718	1.470	0.679	1.300	0.770	1.860	0.537
8	CRCFR	1.190	0.841	1.380	0.722	1.280	0.782	1.250	0.802
9	BRDSIZE	1.450	0.692	1.650	0.606	1.460	0.684	1.670	0.600
10	BUMIBRD	2.320	0.431	2.250	0.445	2.650	0.377	2.420	0.414
11	FAMBRD	3.010	0.332	3.050	0.328	2.700	0.370	4.370	0.229
12	INSBRD	1.870	0.533	2.060	0.486	1.980	0.505	2.370	0.423
13	INDPBRD	1.430	0.698	1.590	0.631	1.490	0.671	1.700	0.590
14	FSIZE	2.760	0.363	2.960	0.338	2.740	0.365	3.760	0.266
15	GROWTH	2.990	0.334	4.610	0.217	2.340	0.427	3.700	0.270
16	ADJRUNUP	1.230	0.813	1.580	0.632	1.330	0.754	1.340	0.746
17	FSLACK	1.380	0.726	1.940	0.516	1.360	0.738	1.560	0.640
18	ISSIZE	1.210	0.828	1.400	0.714	1.200	0.833	1.440	0.697
19	PROFIT	2.940	0.340	4.770	0.209	2.140	0.467	4.070	0.246
20	BETA	1.370	0.731	1.730	0.578	1.340	0.749	1.390	0.718
21	RISK	1.740	0.574	2.330	0.429	1.790	0.558	2.060	0.486
22	TANG	2.050	0.489	2.560	0.390	2.240	0.447	2.270	0.440
23	ADJTD2TA	1.400	0.715	2.090	0.478	1.470	0.681	1.460	0.687
24	NDTAX	2.210	0.453	3.100	0.323	2.170	0.461	2.730	0.367
25	TAX	2.680	0.373	5.020	0.199	2.130	0.469	2.680	0.373
26	DUMSHC	1.160	0.865	1.360	0.737				
	MEAN VIF	**1.890**		**2.320**		**1.870**		**2.310**	

As shown in Table 4.16, across all sample groups, the minimum standard residual is -2.828, and the maximum standard residual is 2.68. This shows that outliers have not been found across all sample groups in this study.

Table 4.16
Residual Statistics-Test of Outliers

Debt and equity						Conventional debt and equity					
	Min	Max	Mean	Std. Dev	N		Min	Max	Mean	Std. Dev	N
Predicted Value	-0.190	1.444	0.732	0.324	213	Predicted Value	-.66	1.27	.45	.438	103
Residual	-0.891	0.869	0.000	0.303	213	Residual	-.574	.662	.000	.241	103
Std. Predicted Value	-2.846	2.193	0.000	1.000	213	Std. Predicted Value	-2.533	1.878	.000	1.000	103
Std. Residual	-2.749	2.680	0.000	0.934	213	Std. Residual	-2.060	2.375	.000	.863	103
Islamic debt and equity						Islamic debt and conventional debt					
	Min	Max	Mean	Std. Dev	N		Min	Max	Mean	Std. Dev	N
Predicted Value	-.24	1.50	.67	.369	163	Predicted Value	-.06	1.14	.74	.201	148
Residual	-.863	.742	.000	.291	163	Residual	-.996	.647	.000	.389	148
Std. Predicted Value	-2.471	2.244	.000	1.000	163	Std. Predicted Value	-3.999	1.958	.000	1.000	148
Std. Residual	-2.723	2.342	.000	.920	163	Std. Residual	-2.369	1.539	.000	.926	148

The first 13 variables in the logit models are included to test the predictions of agency cost theory. The next five variables are included to test the predictions of the asymmetric information theory. The following four variables in the model are entered to test the predictions of financial distress theory. This is followed by one variable to test prediction of trade off theory and two variables to examine

predictions of taxation theory. Finally, a variable that classifies whether a company is a *Shariah*-compliant (DUMSHC) or otherwise is included in the research framework.

McFadden pseudo R^2 values are used to measure the strength of association between the dependent variable and the independent variables. The higher the values of the R-squares, the greater the fit of the model(Hair, Anderson, Tatham, & Black, 2006; Pallant, 2007). Likelihood ratio test (LR test), classification table and Hosmer-Lemeshow test are among the common goodness of fit used in the logistic regression model. The LR-test of the overall model is also known as Omnibus test which examines the null hypothesis that there is no significant difference between the model with the predictors and the reduced model with only the intercept (Garson, 2010; Leech, Barrett, & Morgan, 2005; Pallant, 2007). Chi-square (χ^2) from the likelihood ratio in logistic regression is used as a significance test for logistic model. In general, a well fitted model is established when the chi-squared value is significant at 5% or lower. This signifies the rejection of hypothesis that knowing the independent variables makes no difference in predicting the dependent variable (Hair *et al.*, 2006).

To examine other goodness of fit of the logit model, an indicator of the predictive[40]ability of the estimated models in which a 2 X 2 matrix of the hits and misses (1 indicates correct prediction, 0 otherwise) of a particular prediction is used. For instance, predictions could be made based on the estimated P' terms where if

[40] Greene (2003) provides detailed explanation about the goodness of fit of logit model.

(Y=1) is more than 0.5, one predicts the case to be a 1 (debt issue), while if $\hat{P}$(Y=1) is less than 0.5, one predicts that Y will be 0; in particular case (equity issue).The overall classification accuracy and the classification accuracy of the individual preference (i.e. debt versus equity) indicate proportion of preferences correctly expected by logistic regression. The accuracy of prediction could be obtained from classifications table (Garson, 2010; Pallant, 2006; Tabachinick & Fidel, 2007;). Several percentages could be obtained such as the followings:

1	Hit rate	=	The total percentages of correct predictions
2	Specificity rate	=	The percentage of correct predictions in the non event category of the dependent variable (i.e. in the equity issuing company)
3	Sensitivity rate	=	The percentage of correct predictions in the event category of the dependent (i.e. the debt issuing company)
4	False negative rate	=	The percentage of firms predicted wrongly as equity issuing firm(i.e:[1- Sensitivity])
5	False positive rate	=	The percentage of firms predicted wrongly as debt issuing firms (i.e: [1- Specificity])

The classification table is not recommended to be employed as a goodness of fit because it does not consider actual predicted probabilities. Furthermore, the table uses dichotomized predictions based on a cut off which leads to markedly different result by sample for the same logistic model. Since the classification table has some weaknesses, Pallant (2007) recommends that Hosmer-Lemeshow goodness of fit test should be used to test the goodness fit of a model. This test provides comprehensive measures of predictive accuracy that based on the actual prediction of the dependent variable. The goodness of fit test of the null hypothesis explains whether the model sufficiently fits the data. The null hypothesis that there is no difference between the observed and model predicted values of the dependent variable is rejected if the Hosmer-Lemeshow goodness of fit is 0.05 or less (Pallant, 2007). On the other hand,

when result of Hosmer-Lemeshow's goodness-of-fit test shows p-values of more than 5% level, it infers that the model shows a good fit between the actual and predicted value of independent variables.

4.3.3 Logistic Regression Model Result

As reported in the Section 4.3.2, the standardized residual for all sample groups are less than 3.3 or -3.3 respectively. Thus, it can be concluded that there is no outliers in the samples employed. Hence, all firms are included in this analysis.

A model for securities choice is developed to include the potential determinant variables as identified in Chapter 3. Before the final predictive model can be derived, a number of logit analyses are carried out using all variables presented. However, after each analysis, the variables which were not significant were excluded from the final model. As a result, the final model consists of only significant variables obtained after conducting several regressions. This process ensures the robustness of the results.

To test between the two models, the LR-test between the full model and its reduced counterpart is performed. The discussion of significant variables and their relationships with debt-equity choice will be presented in respective subsections.

The basic model proposed in Chapter 3 is illustrated again.

$$\text{Ln}(P_i/1-P_i)= \beta_0+ MOWN_i+\beta_2 CONOWN_i+\beta_3 BUMIOWN_i+\beta_4 FAMOWN_i+\beta_5 STATE_i+ \beta_6 DOMPFUND_i+\beta_7 FORFUND_i+\beta_8 CRCFR_i+\beta_9 BRDSIZE_i+\beta_{10} BUMIBRD_i+ \beta_{11} FAMBRD_i+\beta_{12} INSBRD_i+\beta_{13} INDPBRD_i+\beta_{14} FSIZE_i+\beta_{15} GROWTH+ \beta_{16} ADJRUNUP_i+\beta_{17} FSLACK_i+\beta_{18} ISSIZE_i+\beta_{19} PROFIT_i+\beta_{20} BETA_i+\beta_{21} RISK_i+ \beta_{22} TANG+\beta_{23} ADJTD2TA_i+\beta_{24} NDTAX_i+\beta_{25} TAX_1+\beta_{26} DUMSHC_i \quad \text{Eq (4.1)}$$

Logistic regression result for all debt and equity is described in subsection 4.3.3.1. Results on subsample of debt that is conventional debt and equity choice are presented in subsection 4.3.3.2. This is followed by the result of logistic regression on Islamic debt and equity choice which is explained in Section 4.3.3.3. Finally, the logistic regression result for the Islamic debt and conventional debt is presented in Subsection 4.3.3.4.

4.3.3.1 Logistic Regression Result for Debt and Equity Samples

The outcomes of the logit regression in which debt-equity choices are explained are presented in Table 4.17. In all regression specifications, the dependent variable takes the value of one for debt choice and zero for equity choice. Therefore, a positive coefficient indicates that firms are more likely to issue debt while negative coefficients indicate that firms are more likely to issue equity. Results of coefficients of independent variables are reported while the p-values are shown in the parentheses below the coefficients.

One of the objectives in this study is to investigate the effect of ownership structure on the choice of debt or equity. Among variables that are used in this study are family ownership (FAMOWN) and proportion of family directors on board (FAMBRD). However, FAMOWN and FAMBRD are not analyzed in the same regression as they have relatively high VIF values (3.59 and 3.01 respectively). Furthermore, the Pearson correlation for these two variables is very high (0.7828). Since multicollinearity[41] between FAMOWN and FAMBRD might exist, separate regressions are built to overcome this problem. Table 4.17 shows the result for FAMOWN while a summary result for model that incorporates FAMBRD is displayed in the first column of Appendix J.

Table 4.17 presents five main regression models in Panel A, B, and C. In each main model (full or unrestricted), reduced (restricted) models that examine only significant variables from their respective unrestricted models are also run. Panel A incorporates governance variables which comprise of ownership structure and board attributes. The full models and their respective reduced models are displayed in Model 1 until Model 3. Model 2a and Model 3a are derived to see whether the significance of variables changes when correlated variables are considered. Overall, the table shows a clear acceptable model for all regressions as p-values in the likelihood ratio test equal 0.000. A comparison between full model and its reduced model are carried out in order to decide which model is better.

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[41] Discussion on highly correlated variables that would be considered in the logistic model are described according to the sample groups

Table 4.17

Logistic Regression of Total Debt and Equity (N=213)

	Panel A					
Variables	**Model 1a**	**Model 1b**	**Model 2a**	**Model 2b**	**Model 3a**	**Model 3b**
CONST	-1.959	-2.774	-1.973	-2.227	-1.693	-2.227
	(0.118)	(0.002)	(0.116)	(0.005)	(0.165)	(0.005)
MOWN	1.450[a]	1.199[a]	1.233		1.425	
	(0.099)	(0.097)	(0.115)		(0.104)	
CONOWN	0.011		-0.135		0.179	
	(0.994)		(0.923)		(0.900)	
BUMIOWN	1.937[a]	2.229[b]	1.975[a]	2.074[b]	2.368[b]	2.074[b]
	(0.090)	(0.018)	(0.082)	(0.028)	(0.023)	(0.028)
FAMOWN	-0.481				-0.577	
	(0.585)				(0.509)	
STATE	-0.344		-0.294		0.051	
	(0.897)		(0.912)		(0.985)	
DOMPFUND	14.099[c]	14.949[c]	14.204[c]	15.042[c]	14.493[c]	15.042[c]
	(0.002)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)
FORFUND	4.527[a]	4.628[a]	4.684[b]	4.109[a]	4.522[a]	4.109[a]
	(0.060)	(0.051)	(0.050)	(0.081)	(0.061)	(0.081)
CRCFR	-0.143		-0.160		-0.110	
	(0.519)		(0.470)		(0.611)	
BRDSIZE	0.319[c]	0.313[c]	0.314[c]	0.283[c]	0.312[c]	0.283[c]
	(0.003)	(0.002)	(0.003)	(0.004)	(0.003)	(0.004)
BUMIBRD	0.780		0.833			
	(0.366)		(0.330)			
INSBRD	0.078		0.030		-0.132	
	(0.949)		(0.981)		(0.911)	
INDPBRD	-2.220		-2.181		-2.054	
	(0.141)		(0.147)		(0.167)	
Pseudo R^2 (%)	19.70	18.01	19.58	16.86	19.36	16.86
LR χ^2	48.74	44.57	48.44	41.71	47.90	41.71
(Prob)	(0.000)	(0.000)	(0.00)	(0.000)	(0.000)	(0.000)
Hosmer-Lemeshow (Prob)	5.60 (0.692)	7.40 (0.495)	3.26 (0.917)	7.64 (0.469)	7.94 (0.439)	7.64 (0.469)
Percentage correct	75.59	75.59	77.0	72.77	74.65	72.77
% of debt correct	91.67	91.93	92.95	91.03	90.38	91.03
% of equity correct	31.58	33.33	33.33	22.81	31.58	22.81
LR test between full and reduced model		4.17 (0.7604)		6.73 (0.458)		6.19 (0.518)

Notes: The model used is a logistic regression in which the dependent variable is a dummy variable which takes value 1 for total debt issues and 0 for equity. p-values for the coefficients are shown in brackets, b, and c denotes significance at a 10%, 5% and 1% level respectively. Definitions of variables are provided in Table 3.2 of Chapter 3.

Table 4.17 (Continued)

	Panel B		Panel C	
Variables	**Model 4a**	**Model 4b**	**Model 5a**	**Model 5b**
CONST	-33.908	33.975	-38.360	-36.410
	(0.000)	(0.000)	(0.000)	(0.000)
MOWN			1.172	
			(0.417)	
CONOWN			-2.581	
			(0.238)	
BUMIOWN			3.269	
			(0.124)	
FAMOWN			0.032	
			(0.981)	
STATE			4.446	
			(0.558)	
DOMPFUND			16.078[c]	15.118[c]
			(0.004)	(0.002)
FORFUND			2.412	
			(0.519)	
CRCFR			-0.025	
			(0.949)	
BRDSIZE			0.171	
			(0.363)	
BUMIBRD			-1.737	
			(0.217)	
INSBRD			-0.268	
			(0.891)	
INDPBRD			-2.117	
			(0.386)	
FSIZE	1.573[c]	1.583[c]	1.754[c]	1.671[c]
	(0.000)	(0.000)	(0.000)	(0.000)
GROWTH	0.636		0.793	
	(0.199)		(0.178)	
ADJRUNUP	-3.606[c]	-3.537[c]	-4.340[c]	-3.994[c]
	(0.000)	(0.000)	(0.000)	(0.000)
FSLACK	-0.838		0.657	
	(0.812)		(0.887)	
ISSIZE	4.704[c]	4.602[c]	5.343[c]	4.914[c]
	(0.000)	(0.000)	(0.000)	(0.000)
PROFIT	-2.327		-2.338	
	(0.648)		(0.671)	
BETA	0.800[a]	0.460	0.939[a]	0.629[a]
	(0.057)	(0.181)	(0.070)	(0.083)
RISK	-25.435		-14.310	
	(0.309)		(0.551)	
TANG	-1.321		-0.798	
	(0.253)		(0.527)	
ADJTD2TA	0.047		-0.016	
	(0.962)		(0.990)	
NDTAX	19.269		12.940	
	(0.163)		(0.384)	
TAX	-16.204		-28.371	
	(0.353)		(0.189)	
DUMSHC	3.094[c]	2.388[b]	2.672[b]	2.386[b]
	(0.005)	(0.018)	(0.028)	(0.025)

Notes: The model used is a logistic regression in which the dependent variable is a dummy variable which takes value 1 for total debt issues and 0 for equity. p-values for the coefficients are shown in brackets, b, and c denotes significance at a 10%, 5% and 1% level respectively. Definitions of variables are provided in Table 3.2 of Chapter 3

Table 4.17 (Continued)

	Panel B		Panel C	
	Model 4a	**Model 4b**	**Model 5a**	**Model 5b**
Pseudo R^2 (%)	52.07	49.48	60.97	54.53
LR χ^2	128.84	122.44	150.88	134.93
(Prob)	(0.000)	(0.000)	(0.000)	(0.000)
Pearson χ^2	708.29	394.64	2307.14	462.94
(Prob)	(0.000)	(0.000)	(0.000)	(0.000)
Hosmer-Lemeshow (Prob)	20.84 (0.008)	10.01 (0.265)	99.71 (0.000)	(19.94) (0.011)
Percentage correct	88.73	87.32	92.49	90.61
% of debt correct	94.87	94.87	96.79	95.51
% of equity correct	71.93	66.67	80.70	77.19
LR test between full and reduced model		6.40 (0.603)		15.94 (0.661)

This study employs likelihood ratio[42] (LR) statistic, computed as the difference between full model and reduced model or the difference between their respective Chi-square The likelihood ratio test can easily be performed using STATA software. The p-value of the LR test between Model 1a and Model 1b for instance, show insignificant value of 0.7604 which indicates that variables dropped to form a reduced model are not significant. Thus, reduced model is preferred than its respective full model.

Different types of ownership structures might have different impact on debt-equity choices. In this study, eight ownership variables are used to demonstrate their

[42] Equation for log likelihood test is $-2(LR_R - LR_{UR})$ where LR_R represents likelihood ratio result for restricted model and LR_{UR} represents likelihood ratio result for unrestricted model.

relationships with total debt to equity choice (i.e. managerial ownership, ownership concentration, Bumiputera ownership, family ownership, state ownership, domestic fund ownership, foreign fund ownership, separation of control rights and cash flow rights). Among the ownership variables, managerial ownership (MOWN), Bumiputera ownership (BUMIOWN), domestic private fund ownership (DOMPFUND) and foreign fund ownership (FORFUND) are positively significant. While DOMPFUND is significant at 1%, MOWN, BUMIOWN and FORFUND are marginally significant at 10%.

The result of positive significant for variable managerial ownership (MOWN) appears to support Berger (1997) who argues that managers will pursue more leveraged capital structure to increase the value of firm when their financial incentives are more closely tied to shareholders wealth. Similarly, this view is also consistent with Stultz (1988) who suggests that by increasing leverage, managers would consolidate their own voting control.

There is limited support received for ownership concentration (CONOWN) variable. As debt brings more monitoring toward management, firms with concentrated ownership may prefer less debt since they themselves have incentives and voting power to put pressure on management. On the other hand, firms will prefer debt over equity if issuing equity leads to losing or sharing control. These justifications might lead to insignificant result for the variable.

The result in Model 1a shows that BUMIOWN, as proxied by percentage of shares owned by Bumiputeras shareholders, has a significant positive relationship with debt financing choice. This indicates that firms with high Bumiputera ownership are more likely to issue debt. This implies that risk avoidance of Bumiputera shareholders is not an important factor. Similarly, it is inconsistent with Suto (2003) who finds that Bumiputera ownership does not explain debt level.

It is hypothesized that the effect of family ownership (FAMOWN) on the debt–equity choice is not clear and our findings support the prediction. Both negative and positive effects argued in Chapter 3 indicate insignificant results in determining the relationship between family ownership and debt choice. One possible explanation is often referred to as "reduce debt for tunneling effect." Firms with high family ownership is expected to conduct inter corporate revenue transfer to tunnel corporate financial resources. Family as the largest shareholders will monitor performance of firm. Thus, low debt level is expected for this type of firm since there is less need for debtholders to monitor the actions of manager.

On the contrary, a high debt level is used by family owner-managers to signal to minority shareholders or market that they do not pursue non-value maximizing activities. With the presence of debt covenants, the behavior of the controlling shareholders is restricted as corporations are forced to pay out excess cash. Moreover, debtholders would ensure that managers do not engage in negative NPV projects. Additionally, debt can be used by management to increase their voting power by ensuring that their families remain as the largest shareholders and hold the

controlling power. As a result, debt is likely to be chosen. Due to the both positive and negative effects, an insignificant result of family ownership is observed in this study.

In this study, institutional ownership can be divided into two which are domestic fund ownership (DOMPFUND) and foreign fund ownership (FORFUND). Model 1a shows that DOMPFUND has a significant positive coefficient of 14.10with p-value of less than 1% and the coefficient for FORFUND is positively significant at 10% level. The results show that as institutional ownership increases, firms are more likely to choose debt financing. However, in contrast to previous findings (Al-Najjar & Taylor, 2008; Bathala *et al.*, 1994; Chaganti & Damanpour, 1991; Shleifer & Vishny, 1986), the findings from the present study do not indicate that institutional shareholders serve a useful role in limiting agency problems in the firm. Specifically, the presence of institutional investors does not improve monitoring as their holdings are relatively small. The average of DOMPFUND and FORFUND are 4.5% and 4.6% respectively and the ownerships are spread out among a number of institutional investors. Thus, the incentives to monitor the performance of a firm are very weak. The logistic regression result is in line with the results of univariate analysis that supports the argument that debt financing firms have on average higher institutional ownership compared to equity financing. The overall models for both unrestricted and restricted models are significant at the 1% level according to the model chi-square statistic.

With regards to the separation of control rights and cash flow rights, the offsetting effects of two motives (i.e "reduce debt for tunneling effect" and "non-dilution entrenchment effect (Du and Dai, 2005)) are expected to cause the insignificant result. When there is a large discrepancy between separations of these rights, controlling shareholders might pursue their own objectives. In such situation, debt played an important role depending on degree of discrepancy level. While for a low level of separation of control rights and cash flow rights, higher debt level can constrain wealth expropriation, a higher level of separation of these rights would facilitate expropriation. In the "reduce debt for tunneling effect" motive, a greater debt level will constrain controlling shareholder from tunneling corporate resources to related firms. This could be done because with high leverage, firms are forced to pay surplus cash to creditors and that would restrain the ultimate controlling shareholder from expropriating the interests of minority shareholders. On the other hand, "non-dilution entrenchment effect" suggests that by raising debt, the position of controlling shareholders will not dilute among equity holders in the corporation. This motive for debt financing is expected to be particularly strong in the case of the separation of cash flow rights and control rights as equity financing can introduce into the corporation a new large shareholder who may influence the shareholding dominance of the existing controlling shareholder.

With respect to board attributes, only size of board (BRDSIZE) is significant (positive coefficient of 0.319 and p-value of 0.003). Empirical results in table 4.17 show that the size of board of directors (BRDSIZE) does not have the expected negative sign. Thus, the present study provides no evidence to support the findings of prior studies (Berger *et al.*, 1997; Heng *et al.*, 2012). Berger *et al.* (1997) argue that

CEOs with large boards are more entrenched due to less monitoring by this body. Thus, a negative relationship between board size and leverage is consistent with the prediction that entrenched ceos pursue lower leverage.

In this study, however, we find a positive significant sign for this variable which suggests that larger number of directors in a board does not substitute the role of debt in monitoring managers. However, the results corroborate previous research reviewed in earlier studies (Abor, 2007; Anderson *et al.*, 2004; Lorca, Sa´nchez-ballesta, & Garci´a-meca, 2011; Wen *et al.*, 2002) which suggest a positive relationship between board size and capital structure. Possible arguments to respond for positive relationship between board size and level of debt is provided by Anderson *et al.* (2004) who show that boards size is significantly related to lower cost of debt due to its effective monitoring role by board of detectors in financial accounting process. Meanwhile, Lorca *et al.* (2011) view that the likelihood of default in loan payment can be reduced with the ability of large board in decreasing opportunistic behavior of managers. Thus, it is argued that a lower cost of debt would consequently leads to higher debt level. Similarly, when board size is large, directors become less likely to be controlled by managers. This would in turn reduce free cash flow problem in a company. The estimated coefficients of the state, bumibrd and insbrd variables show that they are not significant. These results reveal that there are no differences in the debt-equity choice between firms that have the following characteristics: state ownership, firms with bumiputera directors on board and firms with insiders on board than firms that do not have those characteristics. The proportion of independent directors on board (indpbrd) is also found to be insignificant in all regressions. The absence of a significant relationship between the

percentage of independent directors and firm's debt or equity choice suggests that not all outside directors have the ability to monitor managers' financial decisions. Instead, they are probably appointed to provide other services to the firm (Brickley & James, 1987).

In Model 2a, we check whether the significance of MOWN is related to correlation with FAMOWN. MOWN turns out to be insignificant while other significant variables retain their significance. MODEL 3a is examined and shown to ensure that the significance value of BUMIOWN is not because of its correlation with BUMIBRD. The result shows that BUMIOWN is now becoming positively significant at 5%.

Model 4a of Panel B consists of variables from firm characteristics. Results show that firm size (FSIZE) and relative issue size (ISSIZE) are highly significant (p-value of 0.000).The coefficients of FSIZE are highly significant positive across Model 4a to Model 5a which indicates that large firms are more likely to issue debt. The result reinforces the explanation offered by prior studies, amongst others are Booth *et al.* (2001), Rajan and Zingales (1995), Panno (2003), Schoubben and Van Hulle (2004) and Alnajjar and Hussain (2011). They concluded that as large firms tend to be more diversified, they are less susceptible to financial distress. Thus, large firms could have a higher amount of debt. In Malaysia, where ownership is tightly owned, financing by equity will increase risk in family as their wealth is tied up with firms' performance. Furthermore, one of the ways for family ownership not to dilute the family's control is to increase the debt level. Thus, these firms can afford to have

a higher level of debt financing. This finding is inconsistent with asymmetric information theory which predicts a negative relationship between debt level and firm size. As posited by asymmetric information theory, large firm has lower asymmetric information problem. Thus, these firms have less need for debt to reduce information asymmetry which leads to negative relationship between firm size and choice for debt.

Furthermore, positive relationships (p-value of 0.000) in relative issue size (ISSIZE) across all models from Model 4 and Model 5 are found. Firms which issue large amount of securities are more likely to choose debt than equity. The results for this relationship thus affirm the findings that the probability of equity issue will be inversely associated with potential loss in firms' value as a result of information asymmetry (Jung *et al.*, 1996; Lewis, Rogalski, & Seward, 1999; Myers & Majluf, 1984). Besides, the potential loss in firm value due to asymmetric information also increases with offering size (Bayless & Diltz, 1994). As larger issues are associated with larger wealth losses by existing shareholders, the probability of equity to be issued is also lowered. The finding further supports the hypothesis by Krasker (1986) regarding the association between adverse selection, issue size and the pecking order in general. In his model, Krasker suggests that insiders can choose the investment size. Consequently, as issue increases, there is greater stock price decline associated with mispricing which leads to low probability for firms to issue equity.

Across Models 4a to 5b of Table 4.17, a dummy variable representing firms' *Shariah*-compliant status also shows a positive significant value. The coefficient and

p-value of DUMSHC in Model 4a are 3.094 and 0.005 respectively. The results suggest that *Shariah*-compliant status has a significant influence in determining the choice of debt over of equity. The coefficient for DUMSHC has a positive sign which is significant at 5% and 1% level as shown in Model 4a and Model 5a. This shows that *Shariah*-compliant firms tend to choose debt over equity.

Possible explanation for the relationship is that our sample is dominated by *Shariah*- compliant firms. The observation for non *Shariah*-compliant firms is very small (12 observations) compared to a larger number of *Shariah*-compliant firms (201 observations). Despite its small number of observations, the size is bigger than *Shariah* compliant firms. The average total asset for non-*Shariah*- compliant is RM 6,004,442,419 which is about twice bigger than *Shariah*-compliant firms which accounts only RM 3,554,029,635. Furthermore, *Shariah*-compliant firms have larger managerial and family ownership (23% and 20%) compared to non *Shariah*-compliant firms. The means for managerial and family ownership in non *Shariah*-compliant is 10.25% and 9.3% respectively. Since non *Shariah*-compliant firms are larger and presumably have more needs for fund besides having lower average of managerial and family ownership, then dilution of their stakes is not a problem to them. This allows non *Shariah*–compliant companies to use more equity compared to *Shariah*-compliant firms. In other words, for *Shariah*-compliant firms, they are more likely to choose debt than equity and vice versa.

Another possible justification why non *Shariah* complied companies are more likely to issue debt than equity is that by issuing debt, the companies could

market their *sukuk* product to a larger market base. Non S*hariah* complied bonds would only be bought by conventional investors while *Shariah* compliant *sukuk* could be bought by both conventional and Shariah compliant investors (i.e Islamic Unit trusts).

In addition, it is shown from the Model 4a and Model 5a, that systematic risk (BETA) is marginally significant at 10% level. The coefficient of market risk (BETA) is positive in these models (p-value of 0.057 and 0.07 respectively). Thus, the results suggest that firms with high market risk are more likely to issue debt than equity. The present study however provides no evidence to support the findings of other studies such as in Panno (2003) and Schatzber and Weeks (2004) who argue that firms' preference for equity increases with market risk. In short, firms are more likely to issue debt when they are large, issue large amount of security, have larger market risk (BETA) and belong to *Shariah*-compliant firms.

The present study finds that firms are more likely to issue equity when they experience significant increases in market returns before the issue. This is evident by significant negative coefficients (p-value) of -3.606(0.000) in variable ADJRUNUP. This finding is consistent with previous evidence in the US market (Asquith & Mullins, 1986; Jung *et al.*, 1996; Mikkelson & Partch, 1986). Their findings document positive abnormal returns for firms issuing equity and negative returns for firms issuing debt. This also means that firms with prior high stock return are more likely to choose equity than debt. Results of the present study suggest that firm's overvaluation or adverse selection seems to play an important role in the security

issue decision. As asserted by pecking order model, firms are more likely to issue equity when the stock prices experience positive abnormal returns prior the issue. Thus, the result shows an evidence of adverse selection problem. Another alternative explanation for this result is provided by Opler and Titman (1997) who conduct a survey on managers' perspectives towards financing decision. The managers view that issuing equity after stock price run ups occur as market prices are too volatile and to respond to inefficient market.

Following our expectation on financial slack (FSLACK), the insignificant result for this variable suggests that we do not find evidence for the adverse selection model which argue that presence of financial slack signals increased in adverse selection cost and makes an equity issue more costly than debt issue. Similarly, we do not find a relationship between growth opportunity (GROWTH) and debt-equity choice. The insignificant result is most likely driven by both effects of growth opportunity for the security choice. As high growth firms have a lower possibility of financial distress, these firms can have easy access to debt financing as compared to low growth company. On the other hand, cost of asymmetric information could be reduced with the expected profitability of new projects as reflected in the value of growth opportunity. This would lead to higher likelihood for a firm to choose equity instead of debt.

The coefficient of total risk also lacks significance, inconsistent with Jung *et al.* (1996), Lewis *et al.* (1999) and Suchard and Singh (2006). Besides, the coefficient estimates for profitability (PROFIT), total risk (RISK) and asset

tangibility (TANG) are observed to be insignificant. The argument that firms' capital structure which deviate from its target (ADJTD2TA) does not support static trade off theory. Finally, the relationship between non-debt tax shield and debt-equity choice is insignificant and therefore does not support tax based theory. In brief, the argument that non-debt taxshield is a substitute for debt does not receive support in this study. The insignificant result may be attributable to the fact that the effect of negative relationship between leverage ratio and non-debt taxshield is not similar for all firms (Mackie-Mason, 1990).

Highly profitable firms with high taxable income may have high non-debt taxshield that permits them to utilize higher debt. On the other hand, firms which pay little tax or no tax (tax exhaustion) are less likely to issue debt as the associated interest savings is offset by non debt tax shield. As a result, a stronger negative relationship is more likely to occur in these firms. Similarly, taxshield(TAX) does not influence the debt-equity choice as it shows insignificant result. One possible reason is that the tax deductibility of interest affects all firms in the same way and at a given point in time and thus cannot explain the cross sectional differences between sample firms (Mackie-Mason, 1990).

When all ownership, board characteristic and firm-related characteristic variables are used as shown in Model 5a of Panel C, the reported LR-test is 150.88, with p-values of 0.000. However, there are several changes in the result compared to prior models. BUMIOWN and BRDSIZE are no longer significant in this model. Nevertheless, DOMPFUND, FSIZE, ISSIZE and DUMSHC are still positively

related to debt financing, while ADJRUNUP is negatively related to debt financing. Model 5b shows reduced form of Model 5a and indicates that all significant variables in the full model remain.

A comparison of Model 5a and Model 5b from Panel C of Table 4.17 could be done by performing likelihood ratio test (LR-test). To illustrate, in the model where all variables are incorporated (Model 5a), the LR statistic of Model 5a and Model 5b is 15.95 which is derived from the χ^2 value of 150.88 in Model 5a minus the χ^2 value of 134.93 in Model 5b. Next, this LR statistics should be compared with the critical value of χ^2 at 5% significance level with the degree of freedom (df) equivalent to the number of excluded variables (q) from the restricted model. Since "q" in the reduced model equals to 19 variables, $\chi^2_{5\%,19}=32.8523$ is used as critical value. It is evident that the critical value is greater than the difference in χ^2 value of 15.94 from Model 5a and 5b. Thus, the restricted model (Model 5b) is preferred than the unrestricted model (Model 5a) because the null hypothesis that all the excluded variables in Model 5a is not statistically different from zero is not rejected. These variables predict 91% to 92% of the security issue choice model and it has an explanatory power of 54.53% to 60.97%. However, it is relatively higher than previous studies: 74% to 81% of decisions is reported in Jung *et al.* (1996) while models in Marsh (1982) correctly classify from 73% to 75% of decisions.

Several logistic regression models that separate other highly correlated variables are also developed since the results could change the result when the variables are examined together. However, results show that the significant variables

remain even when highly correlated variables as identified in Section 4.3.1 are examined in our model. Details for the result are shown in Reg 1 until Reg 7 of Appendix J. For instance, Bumiputera ownership (BUMIOWN) and proportion of Bumiputera directors on board (BUMIBRD) which have positive correlation of 0.596 are separated in Reg 1 and Reg 2 respectively. Besides, as shown in Reg 3 until Reg 7 when growth opportunity (GROWTH), profitability (PROFIT), taxshield (TAX), asset tangibility (TANG) and non-debt taxshield (NDTAX) are run one at a time, it is found that the significant variables in Models 1 and Model 2 in Table 4.17 remain significant. However, Reg 1 and Reg 2 do not show significant result in BETA. Thus, Likelihood ratio (LR) test is performed to ensure whether BETA is indeed an important factor. When LR test is employed in these regressions, it is evident that BETA is significant at 10% as the p-values shows 0.0804.

A robust test is performed to examine whether there are changes in present result when status of *Shariah* approved firms are omitted. For that purpose, we exclude twelve[43] observations that belong to non *Shariah* approved firms. It is found that similar variables (DOMPFUND, FSIZE, ADJRUNUP and ISSIZE) are significant while BETA is not significant in any regression. The result is shown in the final column of the table in Appendix J.

Models which consist of governance structure (Panel A) show that the overall model is significant at the 1% level according to the chi-square statistic. The model

[43] After excluding 12 observations from *Shariah*-compliant companies, the final sample become 201. Four of the tvelve observations are equity issuers while eight observations are conventional debt issuers.

predicts between 73% to 76% correctly while the McFadden R^2 is between 16.86% to 19.7%. However, when firm characteristics are examined as shown in Panel B, the prediction increases from 87% to 89% with greater R^2 (49.48% to 52.07%) than models which examine governance structures only.

Test of model's predictive ability for this sample group are also carried by adopting cut off probability of 0.5. The prediction shows that if $P\{Y = 1)$ is greater than 0.5, the case is predicted to be a 1(All debt issue), while if $P\{Y = 1)$ *is* less than 0.5, *Y*is predicted to be 0 in that case (equity issue). Overall, across Model 1 to Model 5, prediction of debt is done more accurately than equity. Furthermore, as shown in Panel C, the predicted group which consists of all variables has the highest classification ability of 92.49%. Detail of classificatory ability for Model 5a is shown in Table 4.18. In specific, the results show that percentage of All debt correctly predicted is 96.79 % (151/156), while the percentage of equity correctly predicted is 80.7 %(46/57).

Table 4.18
Predictive Value of Logit Analysis in Model 5a for All debt and Equity Sample

	ACTUAL OUTCOMES		
PREDICTED OUTCOME	All debt	Equity	TOTAL
All debt	151	11	162
Equity	5	46	51
TOTAL	**156**	**57**	**213**

4.3.3.2 Logistic Regression Result for Conventional Debt and Equity Sample

The results of logit analysis for the determinants of choice between conventional debt and equity are presented in Table 4.19. In all regression specifications, the dependent variable takes the value of one for conventional debt and zero for equity. Therefore, a positive coefficient indicates that firms are more likely to issue conventional debt while negative coefficients indicates that firms are more likely to issue equity.

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Similar to the all debt and equity sample group, family ownership (FAMOWN) and proportion of family members on board of directors (FAMBRD) have the largest VIF values (3.41 and 3.05 respectively). Furthermore, the Pearson correlation between these two variables is high (0.769). Thus, there is a possible evidence of multicollinearity between family ownership and proportion of families on board (FAMBRD) and these variables should not be examined simultaneously. Results on regression consisting FAMBRD is shown in the second column of Appendix K. The correlations between other corporate governance variables are not greater than 0.5 with VIF values of less than 1. Thus, we estimate only one model based on governance characteristics which is summarized in Model 1a of Table 4.19. Results show that the coefficients of domestic private fund (DOMPFUND) and size of board (BRDSIZE) are 15.325 and 0.431 which are positively significant at 1% level while foreign fund ownership (FORFUND) is significant at 5% level.

Table 4.19

Logistic Regression of Conventional Debt and Equity (N=103)

Variables	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
CONST	-4.692	-4.25	-30.256	-26.277	-57.923	-28.844
	(0.007)	(0.000)	(0.000)	(0.000)	(0.011)	(0.000)
MOWN	-0.503				-6.007[a]	-2.499[a]
	(0.688)				(0.074)	(0.093)
CONOWN	0.241				-8.241	
	(0.889)				(0.213)	
BUMIOWN	0.119				9.193	
	(0.944)				(0.141)	
FAMOWN	0.206				2.307	
	(0.864)				(0.481)	
STATE	-3.442				26.457	
	(0.557)				(0.122)	
DOMPFUND	15.325[c]	15.411[c]			38.338[b]	19.694[c]
	(0.002)	(0.001)			(0.011)	(0.004)
FORFUND	6.141[b]	6.367[b]			7.607	
	(0.029)	(0.016)			(0.283)	
CRCFR	-0.211				0.440	
	(0.535)				(0.579)	
BRDSIZE	0.431[c]	0.395[c]			0.627	
	(0.002)	(0.001)			(0.125)	
BUMIBRD	1.664				-6.324	
	(0.161)				(0.119)	
INSBRD	-0.560				-4.288	
	(0.749)				(0.274)	
INDPBRD	-0.247				-6.544	
	(0.901)				(0.278)	
FSIZE			1.427[c]	1.294[c]	3.005[b]	1.408[c]
			(0.000)	(0.000)	(0.011)	(0.000)
GROWTH			1.027		0.679	
			(0.140)		(0.541)	
ADJRUNUP			-2.437[b]	-2.007[b]	-7.366[b]	-2.592[c]
			(0.028)	(0.026)	(0.021)	(0.008)
FSLACK			-3.170		-23.484	
			(0.443)		(0.110)	
ISSIZE			3.754[c]	3.904[c]	6.021[b]	4.415[c]
			(0.004)	(0.001)	(0.012)	(0.000)
PROFIT			-4.475		-27.945	
			(0.510)		(0.131)	
BETA			0.488		1.609	
			(0.363)		(0.263)	
RISK			1.907		24.488	
			(0.943)		(0.570)	
TANG			-2.679[a]	-0.996	-11.037[a]	-1.100
			(0.090)	(0.292)	(0.051)	(0.320)
ADJTD2TA			0.589		1.928	
			(0.676)		(0.482)	
NDTAX			23.158		137.574	
			(0.273)		(0.108)	
TAX			-17.707		48.127	
			(0.572)		(0.379)	
DUMSHC			0.991		0.298	
			(0.372)		(0.862)	

Notes: The model used is a logistic regression in which the dependent variable is a dummy variable which takes value 1 for conventional debt issues and 0 for equity. P-values for the coefficients are shown in brackets a, b, and c denotes significance of 10%, 5% and 1% level respectively.

Table 4.19 (Continued)

	Model 1a	Model 1b	Model 2a	Model 2b	Model 3a	Model 3b
Pseudo R^2 (%)	26.3	23.22	50.58	45.65	72.31	54.22
LR Chi^2	37.185	32.89	71.765	64.639	102.400	76.776
(Prob)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Hosmer Lemeshow	5.16	91.67	10.86	7.66	0.88	12.35
(Prob)	(0.7405)	(0.266)	(0.209)	(0.4677)	(0.999)	(0.136)
% correct	75.73	75.73	89.32	87.38	92.23	88.35
% of conventional debt correct	67.39	65.22	86.96	84.78	91.3	84.78
% of equity correct	82.46	84.21	91.23	89.47	92.98	91.23
LR-test of full modeland reduced model	4.3 (0.891)		7.13 (0.624)		25.62 (0.141)	

These results are similar to Model 1a and 1b of Table 4.17 except that BUMIOWN is significant in only debt and equity sample..This means that an increase in domestic fund ownership, foreign fund ownership and large board size leads to higher probability of firms to issue conventional debt compared to equity. Similar justification is also provided for both variables. For board size, an increase in board size causes directors to have less incentive to control managers. Furthermore, large board is associated with greater efficiency of firm as they can ensure that managers do not consume excess cash for themselves. In this case, board of directors can force managers to take additional debt.

The significance of foreign and domestic fund ownership suggests that institutional ownership has no incentives to monitor the management as their holdings are small. When LR test is carried out to compare unrestricted model of Model 1a with restricted model of Model 1b, the test shows value of 4.30 with probability of 0.891 which indicates that the omitted variables is not significant at

1% level. The coefficients of DOMPFUND and BRDSIZE remain significant at 1% level while FORFUND is significant at 5% level.

In Model 2a, we test the effect of firm characteristics on the choice of conventional debt and equity. Results show that firm size (FSIZE) and relative issue size (ISSIZE) are positively significant at 1%. The coefficients are 1.427 and 3.754 respectively. On the other hand, prior stock run up is negatively significant at 5% level (coefficients of -2.437). The finding supports the argument that firms with higher stock market price prior to issuance is more likely to issue equity than debt. Furthermore, asset tangibility (TANG) shows a negative coefficient of -2.679 (p-value of 0.09). We run a reduced model which is shown in Model 2b. The results show that variable TANG is not significant as its p-value is 0.292. Model 2a is reapplied to test whether the significance of asset tangibility (TANG) is influenced by its correlation with non-debt taxshield (NDTAX). The marginally significant result of asset tangibility (TANG) might be driven with its correlation with non-debt taxshield. Therefore, we reexamine Model 2a by dropping NDTAX. The results are shown in Reg 2 of Appendix K. Results from the table show that TANG is not significant anymore as coefficient yields -3.435 with p-value is 0.321.

Model 3a includes all variables from both corporate governance and firm specific characteristic. Similar to prior models, results show that DOMPFUND, FSIZE and ISSIZE consistently show positive coefficients at 1% level (coefficients of 38.338, 3.005, 6.021 respectively). Meanwhile, managerial ownership (MOWN) turns out to be negatively significant at 10% level. This relationship shows that firms

with high managerial ownership are more likely to issue equity than conventional debt which appears to support argument by Brailsford *et al.* (2002). They argue that managers have less incentive to reduce debt when they hold a significant proportion of firms' shares as management entrenchment is more likely to occur. This leads to management opportunism which therefore reduces debt ratio. Thus, with respect to the firms' choice between conventional debt and equity, it is found that firms with high managerial ownership are more likely to choose equity. Variable TANG improves its significance although it remains at 10% level. A reduced form derived from this model which is summarized in Model 3b shows that MOWN is only marginally significant at 10% while TANG is not significant anymore.

Model 3a is also reestimated to examine whether the significant variables are associated with correlated variables. For instance, PROFIT, GROWTH and TAX are examined separately and displayed in Reg2 until Reg6 of Appendix K. The results indicate that variables MOWN, DOMPFUND, FSIZE, ISSIZE and ADJRUNUP remain significant in these regressions.

With respect to the predictability of the model, all specifications show higher classification of between 76% and to 92%. This is higher than predictive models by Jung *et al.* (1996) and Marsh (1982). Both studies record correctly classified model between 71% to 73% and 75% respectively. Among all models in Table 4.19, Model 3a has been identified to be more superior to the other models in terms of overall model fit. The McFadden-R^2 value is 72.31% while the correct prediction is 92.23%, which are the highest compared to other models in the table. It is also observed that

in all models, the prediction of equity is done more accurately than prediction of conventional debt.

Similar to the above sample group, model's predictive ability for this sample group is employed by adopting cut off probability of 0.5. The logistic regression result shows that the classified predicted group for full models in Model 3a has the highest classification ability of 92.31%. However, it is also found that percentages of equity correctly predicted are slightly higher than percentages of conventional debt correctly predicted across all models. In specific, the results show that percentage of conventional debt correctly predicted is 91.3 % (42/46), while the percentage of equity correctly predicted is 92.9%(53/57). Detail of classificatory ability for Model 3a is shown in Table 4.20

Table 4.20
Predictive Value of Logit Analysis for Model 3a in Conventional Debt and Equity sample

	ACTUAL OUTCOMES		
PREDICTED OUTCOME	Conventional debt	Equity	**TOTAL**
Conventional debt	42	4	**46**
Equity	4	53	**57**
TOTAL	**46**	**57**	**103**

4.3.3.3 Logistic Regression Result for Islamic Debt and Equity Sample

Table 4.21 presents the logistic regression result of the choice between Islamic debt and equity. The dependent variable takes the value of one for Islamic debtwhile zero indicates firms' choice in issuing equity. Therefore, a positive coefficient indicates that firms are more likely to issue Islamic debt while negative coefficient indicates that firms are more likely to issue equity.

In Model 1a of Panel A, corporate governance variables are tested. Result shows that MOWN and BUMIOWN are statistically positively significant. The coefficients (p-values) of MOWN and BUMIOWN are 2.232 (0.027) and 2.634 (0.055) respectively. This indicates that firms with high Bumiputera ownership are more likely to issue Islamic debt than equity. In Model 2a, FAMOWN is omitted as it is positively correlated with MOWN at 0.514. The significant result in thevariables remains in this model except that MOWN is now significant only at 10%.

In Model 3a, we exclude BUMIBRD as it is moderately correlated (0.425) with BUMIOWN. Result suggests that BUMIOWN gains higher significance level of 5%. This indicates that managers and Bumiputera owners prefer Islamic debt than equity. Possible reason for this relationship is that managers or Bumiputera owners would want to show to creditors that by issuing Islamic debt, firms have imposed borrowing related constraints on firms' managers. An argument made byJensen (1986) is that debt financing requires firms to make periodic payments of interest and

Table 4.21

Logistic Regression Results for Islamic Debt and Equity Sample (N=163)

	Panel A					
Variables	**Model 1a**	**Model 2a**	**Model 3a**	**Model 1b-3b**	**Model 4a**	**Model 4b**
CONS	-2.986	-2.929	-2.804	-3.307	-3.104	-3.629
	(0.039)	(0.042)	(0.048)	(0.001)	(0.029)	(0.001)
MOWN	2.232[b]	1.638[a]	2.228[b]	1.634[b]	2.277[b]	1.676[b]
	(0.027)	(0.063)	(0.027)	(0.042)	(0.024)	(0.042)
CONOWN	0.768	0.286	0.939		1.041	
	(0.645)	(0.858)	(0.570)		(0.523)	
BUMIOWN	2.634[a]	2.659[b]	3.094[b]	2.906[c]		
	(0.055)	(0.050)	(0.011)	(0.010)		
FAMOWN	-1.267		-1.357		-1.330	
	(0.205)		(0.171)		(0.179)	
STATE	0.013	0.189	0.329		0.108	
	(0.996)	(0.949)	(0.913)		(0.966)	
DOMPFUND	14.484[c]	14.658[c]	14.711[c]	15.067[c]	15.277[c]	15.992[c]
	(0.003)	(0.003)	(0.003)	(0.003)	(0.002)	(0.002)
FORFUND	2.736	3.243	2.787		2.490	
	(0.284)	(0.199)	(0.275)		(0.332)	
CRCFR	-0.101	-0.148	-0.072		-0.162	
	(0.650)	(0.516)	(0.740)		(0.472)	
BRDSIZE	0.346[c]	0.329[c]	0.343[c]	0.344[c]	0.372[c]	0.375[c]
	(0.006)	(0.009)	(0.006)	(0.003)	(0.003)	(0.001)
BUMIBRD	0.681	0.838			1.744[b]	1.29[a]
	(0.498)	(0.395)			(0.045)	(0.062)
INSBRD	0.924	0.763	0.764		0.788	
	(0.499)	(0.573)	(0.568)		(0.556)	
INDPBRD	-2.138	-2.055	-1.990		-2.185	
	(0.190)	(0.206)	(0.215)		(0.170)	
Pseudo R^2 (%)	22.37	21.57	22.14	18.92	20.35	16.59
LR Chi^2	45.98	44.35	45.52	38.91	41.85	34.12
(Prob)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Hosmer-Lemeshow (Prob)	4.25	1.39	6.23	6.49	5.82	4.90
	(0.834)	(0.994)	(0.621)	(0.593)	(0.667)	(0.768)
Percentage correct (%)	74.23	73.62	74.23	74.88	76.69	74.85
% of Islamic debt correct	86.36	86.36	85.45	88.18	89.09	89.09
% of equity correct	49.06	47.17	50.94	47.17	50.94	45.28
LR test between full model and reduced model	7.08	5.44	6.61		7.73	
	(0.528)	(0.606)	(0.471)		(0.357)	

Notes: The model used is a logistic regression in which the dependent variable is a dummy variable which takes value 1 for Islamic debt issues and 0 for equity. p-values for the coefficients are shown in brackets a,b,c denotes significance at a 10%, 5% and 1% level respectively.

Table 4.21 (Continued)

Variables	Panel B		Panel C	
	Model 5a	Model 5b	Model 6a	Model 6b
CONS	-31.809	-31.835	-35.720	-38.584
	(0.000)	(0.000)	(0.001)	(0.000)
MOWN			3.338[a]	2.443[a]
			(0.066)	(0.065)
CONOWN			-1.630	
			(0.572)	
BUMIOWN			2.057	
			(0.466)	
FAMOWN			-1.194	
			(0.485)	
STATE			3.214	
			(0.659)	
DOMPFUND			11.552[a]	12.248[b]
			(0.064)	(0.020)
FORFUND			0.295	
			(0.957)	
CRCFR			-0.030	
			(0.959)	
BRDSIZE			0.070	
			(0.745)	
BUMIBRD			-0.122	
			(0.945)	
INSBRD			-0.854	
			0.715)	
INDPBRD			-2.562	
			(0.378)	
FSIZE	1.706[c]	1.657[c]	1.820[c]	1.890[c]
	(0.000)	(0.000)	(0.000)	(0.000)
GROWTH	0.177		0.342	
	(0.754)		(0.641)	
ADJRUNUP	-4.755[c]	-4.271[c]	-5.531[c]	-5.257[c]
	(0.000)	(0.000)	(0.001)	(0.000)
FSLACK	1.082		3.375	
	(0.800)		(0.530)	
ISSIZE	5.702[c]	5.223[c]	5.583[c]	5.343[c]
	(0.000)	(0.000)	(0.001)	(0.000)
PROFIT	-1.275		3.099	
	(0.835)		(0.688)	
BETA	0.830		0.673	
	(0.104)		(0.256)	
RISK	-75.823[b]	-38.513	-48.104	
	(0.022)	(0.130)	(0.274)	
TANG	-1.793		-0.555	
	(0.263)		(0.759)	
ADJTD2TA	0.416		-0.022	
	(0.708)		(0.989)	
NDTAX	24.118		15.456	
	(0.241)		(0.535)	
TAX	-23.912		-41.804	
	(0.272)		(0.106)	

Notes: The model used is a logistic regression in which the dependent variable is a dummy variable which takes value 1 for Islamic debt issues and 0 for equity. P-values for the coefficients are shown in brackets .a,b,c denotes significance at a 10%, 5% and 1% level respectively.

Table 4.21 (Continued)

	Panel B		Panel C	
	Model 5a	**Model 5b**	**Model 6a**	**Model 6b**
Pseudo R^2 (%)	59.62	56.6	65.71	60.81
LR Chi^2	122.58	116.38	135.1	125.04
(Prob)	(0.000)	(0.000)	(0.000)	(0.000)
Pearson Chi^2	650.16	309.03	2487.15	1043.29
(Prob)	(0.000)	(0.000)	(0.000)	(0.000)
Hosmer-Lemeshow	43.65	16.77	188.95	31.37
(Prob)	(0.000)	(1.033)	(0.000)	(0.001)
Percentage correct (%)	92.02	89.57	93.87	91.41
% of Islamic debt correct	94.55	94.55	95.45	95.45
% of equity correct	86.79	79.25	90.57	83.02
LR test between full model and reduced model	6.2 (0.625)	-	10.06 (0.9514)	-

principal. This would in turn reduce the control that the managers have over the firm's cash flow, which in turn acts as an incentive-compatibility constraint. This view is also consistent with Grossman and Hart (1986) who argue that the existence of debt forces the managers to consume fewer perks and become more efficient because this reduces the possibility of bankruptcy and the loss of control and reputation. Thus, similar to Islamic debt particularly in *Ijarah sukuk* structure, managers value their ownership stake in an existing or well-defined asset or project as *sukuk* also gives an indication of good creditworthiness of the issuer (Mirakhor & Zaidi, 2007). Therefore, managers who have ownership in firms are more likely to choose Islamic debt as compared to equity.

Even though managerial ownership (MOWN) either appears to be insignificant, as in all debt and equity sample (shown in Table 4.17), or negatives, as in conventional debt and equity samples (summarized in Table 4.20), MOWN in this sample group is positively significant at 5% level. This indicates that managers

prefer Islamic debt compared to equity. However, both arguments can be used in explaining the choice of conventional debt against equity. But, the question is why managers prefer equity compared to conventional debt. With reference to Model 3a and 3b of Table 4.19, managerial ownership (MOWN) is negatively significant at 10% which infers that managers would prefer equity than conventional debt.

For the purpose of comparison, we exclude twelve[2] observations which consist of non *Shariah*-compliant firms from the conventional debt and equity sample group. Results for the full model show that MOWN is negatively significant at 10%, (coefficient of -5.518 and p-value of 0.08 as shown from the last column of the table in Appendix K). This means that managers are more likely to issue equity than conventional debt. Thus, we imply that managers prefer Islamic debt than equity but they are more likely to choose equity as opposed to conventional debt. This leads to financing preference hierarchy for managers who have shares in the issuing company: Islamic debt, equity and conventional debt. We conclude that when there is a choice between Islamic types of financing such as Islamic debt or equity, managers would choose Islamic debt over equity but when there is a choice for conventional debt and equity, managers would prefer an Islamic types of financing which is equity in this case. One possible reason is due to the government determination in developing Malaysia as an Islamic capital market hub. In order to make it attractive, managers expect the government would introduce certain

[2] Results on MOWN are rechecked for sensitivity when non Shariah-compliant companies are excluded. 12 observations of conventional debt and equity observations are taken out. This has resulted in the total final observation of 91 instead of 103.

incentives in the future. Hence, in this case, managers would prefer to issue Islamic debt rather than conventional debt or equity.

Model 1a of Table 4.21 shows that there is a positive relationship between Islamic debt financing choice and DOMPFUND and BRDSIZE. These variables show higher level of significance (p-values of 0.003 and 0.006). According to Pearson correlation illustrated in Table 4.13, MOWN and FAMOWN have a positive correlation of 0.514. Thus, we run Model 2a to examine whether the significance of MOWN is due to its correlation with FAMOWN. When FAMOWN is dropped from Model 2a, MOWN is still significant although its significance reduces to 10% level while BUMIOWN becomes more significant at 5%. As for other significant variables, there are no changes in the results observed. In Model 3a, BUMIBRD is excluded from the regression. The reason of excluding the variable is because BUMIBRD is highly correlated with BUMIOWN at 0.657. Thus, the significance of variable BUMIOWN might be associated with its correlation with BUMIBRD. Result shows that BUMIOWN remains significant at 5%. A reduced model derived from Model 1a to Model 3a is summarized as Model 1b-3b and shown in the fifth column of Table 4.21. The finding shows positively significant signs for variables MOWN, BUMIOWN, DOMPFUND and BRDSIZE. When we run LR-tests between the full model of Model 1a to Model 3a with their reduced models, it is found that every omitted variables do not significantly influence the choice.

In Model 4a, BUMIOWN from the model is removed. The result shows that BUMIBRD becomes significant at 5% (coefficient of 0.372 and p-value of 0.045).

Thus, this indicates correlation effect between BUMIBRD and BUMIOWN, which causes insignificant coefficient of BUMIBRD in Model 1a and 2a. In Model 4b, when insignificant variables from Model 4a are removed, it is found that BUMIBRD is still significant but at 10% level while other significant variables remain.

Model 5a of Panel B is employed to examine the effect of firm characteristics on firms' choice of Islamic debt or equity. Results show that firm size (FSIZE) and relative issue size (ISSIZE) are positively significant at 1% level. This implies that large firms and firms which issue large amount are more likely to choose Islamic debt than equity. On the other hand, negative relationships are obtained in prior adjusted stock run up (ADJRUNUP) and total risk (RISK). Nevertheless, a reduced form of this model (Model 5b) shows that RISK is not an important factor since LR-test indicates an insignificant value (p-value of 0.625).

Model 6a of Panel C combines all variables from corporate governance and firm characteristics. Results show that positive relationships are obtained in MOWN, DOMPFUND, FSIZE, and ISSIZE while negative relationship is found in ADJRUNUP. MOWN is only significant at 10% level in both full and reduced model. Similarly, DOMPFUND is also marginally significant 10% level. The other significant variables such as FSIZE, ISSIZE and ADJRUNUP remain significant at 1% level as in prior models.

The logistic regression result also shows that the classified predicted group for full models in Model 6a has the highest classification ability of 93.87%. It is also found that percentages of Islamic debt correctly predicted are greater than percentages of predicted equity. Detail of classificatory ability for Model 6a is shown in Table 4.21. In specific, the results show that percentage of Islamic debt correctly predicted is 95.45 % (105/110), while the percentage of equity correctly predicted is 90.57%(48/53).

Table 4.22
Predictive Value of Logit Analysis for Model 6a in Islamic debt and Equity sample

	ACTUAL OUTCOMES		
PREDICTED OUTCOME	Islamic debt	Equity	**TOTAL**
Islamic debt	105	5	**110**
Equity	5	48	**53**
TOTAL	**110**	**53**	**163**

4.3.3.2.1 Summary of comparison between debt (All debt, conventional debt Islamic debt) and equity

Based on our analyses of the three debt security choices, it is found that four variables namely domestic fund ownership (DOMPFUND), firm size (FSIZE), issue size (ISSIZE) and adjusted run up (ADJRUNP) are constantly significant at 1% except DOMPFUND which is significant at 5% in certain regressions in Islamic debt and equity sample. While DOMPFUND, FSIZE and ISSIZE are positively significant to debt financing choice, ADJRUNUP shows a negative coefficient to debt financing choice which indicates that firms will choose to issue equity when prior stock market is good.

An examination of governance variables of the three groups shows that there are several similar significant variables which are Bumiputera ownership (BUMIOWN) and board size (BRDSIZE). For instance, in all debt & equity as well as Islamic debt & equity sample group, BUMIOWN and BRDSIZE are significant. In addition, proportion of Bumiputera directors on board (BUMIBRD) is also significant in the Islamic debt and equity sample group. For conventional debt and equity sample group, only BRDSIZE is significant. However, by including firm characteristics in the same models, it is found that, these variables are not significant in any of the sample groups.

An interesting finding emerged from these analysis is that managerial ownership (MOWN) reveals opposite directions in Islamic debt & equity sample,

and conventional debt & equity sample. A positive relationship shown in Islamic debt and equity sample suggests that managers would prefer Islamic debt as opposed to equity. Nevertheless, a negative relationship in conventional debt and equity infers that managers are more likely to issue equity when they make a choice between conventional debt and equity. However, when two debt samples (Islamic debt and conventional debt) are pooled together, MOWN appears to be insignificant. In short, out of 26 variables tested in this study, there are 21 variables considered not significant in the debt-equity choice study.

4.3.3.4 Logistic Regression Result for Islamic Debt and Conventional Debt Sample

Results of logit analysis for the determinants of choice between Islamic debt and conventional debt are presented in Table 4.23. In all regression specifications, the dependent variable takes the value of one for Islamic debt and zero for conventional debt. Therefore, a positive coefficient indicates that firms are more likely to issue Islamic debt while negative coefficient indicates that firms are more likely to issue conventional debt.

Table 4.23

Logistic Regression Results for Islamic Debt and Conventional Debt (N=148)

	Panel A					
Variable	**Model 1a**	**Model 1b**	**Model 2a**	**Model 3a**	**Model 4a**	**Model 2b-4b**
CONS	3.671	1.815	3.975	3.507	3.694	2.190
	(0.032)	(0.025)	(0.019)	(0.037)	(0.02)	(0.003)
MOWN	2.309[b]	2.358[b]	1.435		1.438	
	(0.037)	(0.023)	(0.138)		(0.138)	
CONOWN	-1.878		-2.376	-1.638	-2.434	
	(0.246)		(0.131)	(0.317)	(0.121)	
BUMIOWN	2.055[a]	1.259	2.390[b]	1.932[a]	2.099[b]	1.341
	(0.078)	(0.161)	(0.038)	(0.093)	(0.038)	(0.115)
FAMOWN	-2.302[a]	-1.855[a]		-1.217		
	(0.059)	(0.079)		(0.246)		
STATE	2.111		2.108	2.573	1.800	
	(0.560)		(0.551)	(0.531)	(0.595)	
DOMPFUND	-4.403		-3.987	-4.409	-4.000	
	(0.187)		(0.220)	(0.181)	(0.218)	
FORFUND	-3.069		-2.040	-3.520	-2.053	
	(0.184)		(0.357)	(0.124)	(0.352)	
CRCFR	-0.548		-0.879	-0.299	-0.897	
	(0.542)		(0.322)	(0.736)	(0.320)	
BRDSIZE	-0.154[a]	-0.136	-0.164[a]	-0.181[b]	-0.159[a]	-0.166[b]
	(0.085)	(0.117)	(0.068)	(0.038)	(0.075)	(0.050)
BUMIBRD	-0.770		-0.508	-0.622		
	(0.433)		(0.592)	(0.521)		
INSBRD	0.584		0.031	1.279	0.247	
	(0.673)		(0.982)	(0.348)	(0.847)	
INDPBRD	-0.838		-1.203	-0.595	-1.159	
	(0.632)		(0.483)	(0.728)	(0.498)	
Pseudo R^2 (%)	10.62	6.71	8.39	7.85	8.22	3.16
LR Chi^2	17.9	11.32	14.14	13.23	13.86	5.32
(Prob)	(0.119)	(0.023)	(0.225)	(0.278)	(0.179)	(0.069)
Hosmer- Lemeshow	3.3	0.07	2.98	3.2	4.69	6.39
(Prob)	(0.914)	(0.260)	(0.936)	(0.92)	(0.790)	(0.604)
Prediction (%)	75	74.3	71.62	73.65	72.97	74.32
% of Islamic debt correct	96.36	97.27	94.55	95.45	94.55	100
% of conventional debt correct	13.16	7.89	5.26	10.53	10.53	0.00
Likelihood ratio test of full and reduced model	6.58		8.82	7.91	8.54	
	(0.582)		(0.454)	(0.543)	(0.383)	

Notes: The model used is a logistic regression in which the dependent variable is a dummy variable which takes value 1 for Islamic debt issues and 0 for conventional debt issues p-values for the coefficients are shown in brackets a,b,c denotes significance level at a 10%, 5% and 1% respectively..

Table 4.23 (Continued)

	Panel B		Panel C	
Variables	**Model 5a**	**Model 5b**	**Model 6a**	**Model 6b**
CONS	6.202	1.104	8.674	-3.523
	(0.105)	(0.000)	(0.117)	(0.001)
MOWN			1.702	
			(0.121)	
CONOWN			-3.418[a]	-1.661
			(0.091)	(0.279)
BUMIOWN			2.411[a]	1.049
			(0.075)	(0.244)
FAMOWN				
STATE			2.031	
			(0.580)	
DOMPFUND			-5.053	
			(0.169)	
FORFUND			-2.089	
			(0.437)	
CRCFR			-1.382	
			(0.153)	
BRDSIZE			-0.251[b]	-0.208[b]
			(0.034)	(0.021)
BUMIBRD			-0.992	
			(0.388)	
INSBRD			-0.750	
			(0.634)	
INDPBRD			-3.295	
			(0.117)	
FSIZE	-0.236		-0.068	
	(0.178)		(0.797)	
GROWTH	-0.04		0.407	
	(0.924)		(0.432)	
ADJRUNUP	-1.735[c]	-1.70[c]	-1.918[c]	-1.455[c]
	(0.010)	(0.007)	(0.013)	(0.018)
FSLACK	-0.251		-1.102	
	(0.913)		(0.673)	
ISSIZE	-0.127		-0.198	
	(0.828)		(0.717)	
PROFIT	4.271		2.659	
	(0.205)		(0.582)	
BETA	0.554		0.704	
	(0.129)		(0.105)	
RISK	-19.951		-34.338[a]	-16.059
	(0.291)		(0.098)	(0.267)
TANG	-0.125		0.016	
	(0.875)		(0.983)	
ADJTD2TA	-1.490		-2.585*	-1.541
	(0.297)		(0.094)	(0.218)
NDTAX	2.576		-2.383	
	(0.802)		(0.809)	
TAX	-14.710		-21.476	
	(0.298)		(0.180)	

Notes: The model used is a logistic regression in which the dependent variable is a dummy variable which that takes value 1 for Islamic debt issues and 0 for conventional debt issues. p-values for the coefficients are shown in brackets a,b,c denotes significance level at a 10%, 5% and 1% respectively.

Table 4.23 (Continued)

	Panel B		Panel C	
	Model 5a	**Model 5b**	**Model 6a**	**Model 6b**
Pseudo R^2 (%)	9.75	5.10	18.95	9.88
LR Chi^2	16.43	8.61	31.95	16.67
(Prob)	(0.172)	(0.003)	(0.101)	(0.010)
Hosmer-Lemeshow (Prob)	6.49 (0.593)	5.70 (0.681)	5.29 (0.726)	7.86 (0.4473)
Percentage correct (%)	75.68	73.65	75.70	75.68
% of Islamic debt correct	93.36	92.27	90	95.45
% of conventional debt correct	15.79	5.26	34.2	18.42
LR test between full model and reduced model	7.83 (0.728)		18.29 (0.503)	

Other variables that are found to be highly correlated are Bumiputera ownership (BUMIOWN) and proportion of Bumiputera directors on board (BUMIBRD), which are correlated at 0.623.

The regressions are grouped into six main models. The first model, Model 1a in Panel A consists of governance variables which combine ownership variables and board characteristics. The variants of Model 1a are shown in Model 2a until Model 4a.As shown in Model 1a, managerial ownership (MOWN) and Bumiputera ownership (BUMIOWN) are positively significant at 5% level and 10% respectively. A possible explanation for a positive relationship for MOWN with Islamic debt financing choice is due to tax incentives given by the government. The government has provided a wide range of tax incentives across Islamic finance spectrum; amongst others include a tax exemption on expenses incurred on the issuance cost of Malaysian ringgit Islamic securities issued in Malaysia that use the *Shariah* principle of *Mudharabah, Musyarakah, Ijarah, Istisna* or other Islamic securities

approved by SC or Labuan FSA up to year assessment 2015. Thus, for managers who have large shareholdings, the decreased of after tax cost of issuance in Islamic debt financing could increase their earnings.

Furthermore, the government also provides a comprehensive tax treatment known as tax neutrality. This is the same tax treatment provided to conventional securities. With tax neutrality, there will be stamp duty exemption on the underlying sale and disposal of an asset (Malaysian Institute of Accountant, 2012). Similarly, as Bumiputera ownership (BUMIOWN) is also significant in this model, we anticipate that this result supports the notion that Bumiputera shareholders are Muslim, thus they prefer a financial debt instrument that meet *Shariah* compliance.

On the other hand, BRDSIZE and family ownership (FAMOWN) are found to be negatively significant at 10% level. BRDSIZE is reported to have significant negative relationship with probability of Islamic debt issuance in this model although the variable is insignificant in restricted model. The marginally significant of BRDSIZE variable (coefficient of -0.154 and p-value of 0.085) suggests that the greater is the board size the lower is the likelihood of issuing Islamic debt. One possible reason is that larger board size might be less effective in making timely strategic decision, such as financing. As a board gets too big, it becomes difficult to coordinate. This also means that a smaller numbers of board members lead them to make timely decision compared to larger boards (Zahra & Pearce, 1989).Thus, as Islamic debt is relatively new compared to conventional debt, large board members

are less likely to reach consensus of issuing financial instrument that they are not familiar with.

In Model 2a, we reestimate the previous unrestricted model of Model 1a since FAMOWN is positively correlated with MOWN. In this model, we drop FAMOWN and found that MOWN is no longer significant. Likewise, when MOWN is omitted in Model 3a, the result shows that FAMOWN is not significant. Hence, we conclude that MOWN and FAMOWN are not important in determining the firms' choice of Islamic debt and conventional debt. As for BRDSIZE, the significant coefficient obtained in Model 2a and 3a improves with p-value of 0.068 and 0.038 respectively.

In Model 4a, FAMOWN is omitted to see whether there are changes in the result for BUMIOWN. It is found that BUMIOWN improves its significant level as compared to Model 3a. Even though BUMIOWN is significant in this model, the result might change as this model also includes BUMIBRD, a variable which is positively correlated at 0.623 with BUMIOWN. Thus, we exclude BUMIBRD in Model 4a. The result shows that BUMIOWN is still significant while BRDSIZE reduce its significance according to the model. The reduced form of Model 2a until Model 4a are summarized in column 7 of Table 4.23. It is shown that only BRDSIZE is significant at 5%.

Model 5 of Panel B is tested to examine how firm characteristics influence the choice between Islamic debt and conventional debt. The results show that the

adjusted stock price run-up (ADJRUNUP) is highly significant (coefficient of -1.735 and p-value of 0.01). The negative relationship between adjusted stock price run-up and issuance of Islamic debt infers that issuers with high prior stock return will choose to issue conventional debt while issuers with lower prior stock return will consider issuing Islamic debt. The finding appears to support previous empirical results by Godlewski, Turk-Ariss, and Weill (2010). They observe differences in the characteristics of the issuers in terms of profitability and debt level. Firms issuing *sukuk* are in worse financial and operating shape than those issuing conventional bonds. These weaker firms may have economic incentives to prefer issuing a security based on a profit-and-loss sharing principle rather than a fixed-income instrument that imposes more financial burden. They argue that s*ukuk is* issuance is likely to send a negative signal on the financial state of the issuing firm. Thus, low stock return prior to issuance of securities is associated with profitability of issuers.

Suchard and Singh (2006) argue that during a period of rising stock market, interest rates are relatively high. In this scenario, issuers who expect high stock return will prefer interest based financing (conventional debt) to maximize their gain in the likely event of success. On the other hand, if issuers expect a lower stock price, they will prefer profit and loss sharing financing scheme (Islamic debt) to minimize their loss in the likely event of failure. Thus, firms with lower adjusted stock price is more likely to issue Islamic debt, while firms with higher stock price run up is more likely to choose conventional debt.

Model 6 of Panel C is employed to examine all variables from governance and firm characteristic variables. However, FAMOWN is not considered here as it is found to be correlated with MOWN and it is not an influencing factor in determining choice of Islamic debt and conventional debt. Result from this model shows that BUMIOWN is marginally significant at 10% (coefficient of 2.411 with p-value of 0.075), while BRDSIZE is negatively significant at 5%. With regards to firm characteristic, unrestricted model in Model 6a shows that adjusted run up (ADJRUNUP), total risk (RISK) and adjusted total debt to total asset (ADJTD2TA) show significant results (coefficients of -1.918,-34.338 and -2.585 respectively). A reduced form of Model 6 shows that BRDSIZE and ADJRUNUP are significant at 5% and 1% respectively, while BUMIOWN and RISK are not significant anymore.

Apart from the above mentioned correlated variables, there are also other variables which are found to be correlated with each other. Thus, to ensure no further multicollinearity problems exist, variables PROFIT, GROWTH, and TAX are examined in separate regressions which are shown in Appendix M. The result shows that there is no change in the significant variables as shown in Table 4.23.

We carry out test of model's predictive ability for this sample group by adopting cutoff probability of 0.5. The unrestricted models of Model 1a-Model 4a are able to correctly classify some approximately 75%, 71.6%, 73.6%, and 72.9% respectively. It is clear that Model 6a has the greatest predictions (75.7%).Table 4.24 details out its predictive ability. The predictions that if $P(Y = 1)$ is greater than 0.5, we predict the case to be a 1 (Islamic debt issue), while if $P(Y = 1)$ *is* less than 0.5,

one predicts that *Y* will be 0, in that case (conventional debt issue). Specifically, the logistic regression result of Model 6a show that percentage of Islamic debt correctly predicted is 90% (99/110) while percentage of conventional debt correctly predicted is only 34.21% (13/38). These predictions can then be compared to the actual values of Y for each case to examine misclassification. Therefore, for type I error (probability Islamic debt predicted when the actual outcome is conventional debt) is 65.79%, while Type II error (probability conventional debt predicted when the actual outcome is Islamic debt records a sharply low percentage of 10%.

Table 4.24
Predictive Value of Logit Analysis for Model 6a in Islamic Debt and Conventional Debt

PREDICTED OUTCOME	**ACTUAL OUTCOMES** Islamic debt	Conventional debt	**TOTAL**
Islamic debt	99	25	**124**
Conventional debt	11	13	**24**
TOTAL	**110**	**38**	**148**

4.4 Summary of Chapter

This chapter presents an analysis of determinants of securities choice in the Malaysian capital market using 213 firms taken for 10-year period starting from issuing year 2000 to 2009. The determinants of securities choice included in the model are developed from the extant literature of capital structure choice and corporate governance.

Both univariate and multivariate analyses are employed to achieve the objectives of this study. Securities choice between debt and equity is studied and discussed in detail. Since debt securities in Malaysia comprise of Islamic and conventional, it is important to investigate the effect of these choices when compared to equity. In addition to examining the choice between debt and equity, the choice between Islamic debt and conventional debt is also discussed in this chapter. Two univariate tests are used to identify the determinants of securities choice, namely independent samples t-test and Mann Whitney U-test. The analysis ends with logit models as the multivariate technique of securities choice.

CHAPTER FIVE
CONCLUSION AND RECOMMENDATION

5.0 Introduction

Securities choice is an important topic to be studied since the decision could give impact on firms' market value. Several factors are found to influence firms to choose one security over another. The factors which are largely identified in the developed market may have little application in Malaysia where the market is unique from certain aspect compared to that in other developed and emerging markets. This study is conducted to fill the gap by examining factors that influence securities choice by focusing on ownership structures, board characteristics and important firm characteristics.

This study is carried out to examine the choice of Malaysian publicly listed firms in issuing either debt or equity. It also investigates the choice of equity when it is compared separately with Islamic debt or conventional debt. In the following section, main findings based on the Univariate analyses are highlighted and explained briefly. Discussion of findings as elaborated in Chapter 4 is also summarized and arranged based on research objectives. For each significant variable, the findings discuss the association between the context of the research and available evidence in the literature.

The remaining of the chapter is organized as follows: Section 5.1 l describes the overview of the study. This is followed by Section 5.2 that illustrates the main findings. Section 5.3 outlines the contribution of this study. Research limitations are discussed in Section 5.4 and finally Section 5.5 offers some suggestions for future research.

5.1 Overview of the Study

Chapter 1 begins by introducing the background of the study, problem statement, research questions, and research significance. The study of securities choice by public listed firms begins with a curiosity to investigate the factors that motivate firms to choose one financial instruments over another and whether existing corporate finance theories have adequately explained these factors in the context of an emerging market. This study is motivated in part by the lack of research on the determinants of securities choice in the emerging markets of East Asian countries particularly in Malaysia. Most of the previous studies have been carried out in the developed markets (Hovakimian *et al.*, 2001; Jung *et al.*, 1996; Marsh, 1982). Furthermore, one unique characteristic in the Malaysian capital market is the coexistent of Islamic capital market alongside conventional capital market. In the market where s*ukuk* is gaining popularity as an alternative source for corporations to issue debt, the financial instrument becomes an important avenue to be investigated with its conventional debt counterparts. Thus, a detail examination is done to see whether the result of all debt and equity samples also hold when equity is compared with samples of Islamic debt and conventional debt individually.

Chapter 2 critically reviews previous works related to securities. Four major theories that can be applied to explain the securities choice in the Malaysian market are the agency theory, the information asymmetry theory, the trade-off theory and the market timing theory. In general, the framework and the methodology of this study are designed based on prior studies of determinants of capital structure, determinants of securities choice, and determinants of Islamic financing from corporate finance perspective. As such, related literatures are reviewed to identify relevant ownership structures, board attributes and firms characteristics that may influence the choice of securities of the Malaysian public listed firms.

Chapter 3 develops testable hypotheses and research framework. There are twenty six variables included as potential determinants for debt and equity choice. These variables are grouped according to corporate governance structures and firm characteristics. For Islamic debt and conventional debt choice, similar variables are used as there is an absence of strong grounds that could explain the choice. The present study uses a 10 year cross sectional data which covers 213 securities issues which are further categorized under Islamic debt (110 issues), conventional debt (46 issues) and equity (57 issues). For better understanding on the debt-equity choice, the debt sample is split into conventional debt and Islamic debt. The separation leads to a reduction in the number of observations on the choice of Islamic debt and equity and the choice of conventional debt and Islamic debt. This is due to the exclusion of category variable of *Shariah* compliant classification (DUMSHC).

Chapter 4 begins with a descriptive statistics on relevant independent variables. It then continues to test for the existence of multicollinearity by using Pearson's correlation coefficients and the variance inflation factor (VIF). In every sample group, family ownership (FAMOWN) and proportion of family directors on board (FAMBRD) are found to be highly correlated, thus these variables are not tested simultaneously. The study adopts logistic regressions which model financing choices among four different groups of financial instruments: all debt against equity, Islamic debt against equity, conventional debt against equity and finally Islamic debt against conventional debt. The dependent variable for securities choice takes the value of'1' if a company chooses debt (being all debt, conventional debt, and Islamic debt) and '0' if a company chooses equity. A few logistic regression models were estimated either separately or jointly for governance variables and firm characteristic variables. However, since some variables such managerial ownership (MOWN), family ownership (FAMOWN) and proportion of family directors on board (FAMBRD) are found to be correlated in certain sample groups of securities choice, they are examined in different regression models.

5.2 Summary of Main Findings

This section summarizes the findings presented in Chapter 4. It begins with a summary of findings based on Univariate analyses in Section 5.2.1. This is followed by Section 5.2.2 which provides a summary of findings based on multivariate analysis and discusses how the findings compare to those of previous studies.

5.2.1 Findings Based On the Univariate Analyses

The results of Univariate analyses show that between debt and equity samples (all debt and equity samples, conventional debt and equity samples, Islamic debt and equity samples), there are significant differences in the following ten variables: Bumiputera ownership (BUMIOWN),domestic fund ownership (DOMPFUND), board size (BRDSIZE), proportion of Bumiputera directors on board (BUMIBRD), firm size (FSIZE), adjusted stock price run up (ADJRUNUP), financial slack (FSLACK), total risk (RISK), adjusted average total debt to total asset (ADJTD2TA) and non-debt taxshield (NDTAX). Differences of two groups are measured using parametric test (t-test) and non-parametric test (Mann Whitney U-test).

Despite similar significant variables in the sample groups (i.e all debt and equity, conventional debt and equity and Islamic debt and equity) a few differences are observed in conventional debt and equity sample as opposed to the other two sample groups. First, state ownership (STATE) is not significantly different when it is tested between these two groups. However, it is shown to be significant in the other two sample groups according to non-parametric test. Similarly, the proportion of Bumiputera directors on board (BUMIBRD) is not significantly different using parametric test, unlike the other two sample groups which is significant according to both tests. Next, growth opportunity (GROWTH) appears to be significant according to both tests while in the other two sample groups, it is only significant using parametric test. Furthermore, relative issue size (ISSIZE) is not significant between the two groups either using parametric or non-parametric tests but the variable is shown to be significantly different using Mann Whitney U-test for the other two

sample groups. With regards to board characteristics, only proportion of independent board to board size (INDPBRD) shows a significant difference at 10% between conventional debt and equity issuers when non parametric test is applied while the variable is insignificant in the other sample groups.

An examination of conventional debt and Islamic debt shows that only two variables are significantly different between the two issuers namely managerial ownership (MOWN) and adjusted run up (ADJRUNUP). Managerial ownership is significantly different between the two issuing groups at 5% by using non parametric test while adjusted stock price run up (ADJRUNUP) is significantly different at 1% level according to both tests.

5.2.2 Findings Based on the Multivariate analyses

The following three main research objectives corresponding to three research questions were investigated in this study. The first objective is to examine the effect of ownership structure on securities choice by Malaysian publicly listed firms. This study empirically examines the effects of ownership structures namely managerial ownership, ownership concentrations, Bumiputera ownership, family ownership, state ownership, domestic fund ownership, foreign fund ownership and the ratio of control rights and cash flow rights. Among the eight ownership variables, four variables are shown to be significant in some regressions which are summarized in the following sections.

(a) Domestic fund ownership (DOMPFUND)

Most previous literature document that debt financing is negatively influenced by institutional ownership (see for example Bathala *et al.*, 1994; Chaganti & Damanpour, 1991; Crutchley & Jensen, 1996; Grier & Zychowicz, 1994). They argue that institutional owners play a monitoring role in firms that they have stakes. In contrast to their findings, the present study has been unable to demonstrate the existence of such a link. Instead, a positive relationship is found between debt financing and domestic fund ownership. In this study, across all specifications in all three sample groups, institutional ownership has positive relationships with debt (being either Islamic debt or conventional debt). This shows the likelihood of issuing debt increase with an increase in domestic fund ownership. Therefore, institutional ownership could not offset the role of debt in reducing agency cost. One possible reason is that since shareholdings of domestic private fund is small, they have limited monitoring ability.

(b) Managerial ownership (MOWN)

In the all debt and equity sample, managerial ownership (MOWN) is insignificant in most of the regressions. Nevertheless, managerial ownership (MOWN) is positively significant in Islamic debt and equity sample. The results imply that the likelihood of issuing Islamic debt increases with an increase in managerial ownership. We anticipate the result as firms with high managerial ownership would use debt as a tool to reduce agency problem. The finding is consistent with the argument by Jensen (1986) who suggest that debt is beneficial in reducing agency costs of free cash flows However, the sign reverses in overall model for conventional debt and equity

sample which infers that firms with high managerial ownership are more likely to choose equity than conventional debt. The result supports empirical findings by Arrondo and Gomez-Anson (2003) and Moh'd *et al.* (1998) who argue that with an excessive debt, firms' risk will be increased which probably leads to bankruptcy. Thus, as their own wealth is tied to the firm, they are less likely to prefer debt financing.

For Islamic debt and conventional debt sample, managerial ownership is found to be positively significant in corporate governance model. However, when firm characteristic variables are added to corporate governance variable, managerial ownership is not significant. Therefore, there is no evidence that managers prefer one type of debt over the other.

(c) Bumiputera ownership (BUMIOWN)

The finding suggests that Bumiputera ownership is positively significant in the choice of Islamic debt and equity sample when corporate governance variables are examined in one model. The argument that risk avoidance among Bumiputera shareholders does not receive support in this study. Similarly, it is inconsistent with Suto (2003) who finds that Bumiputera ownership does not explain debt level The finding infers that when firms have choice among *Shariah*-compliant securities, the likelihood of issuing Islamic debt is greater with an increase in Bumiputera ownership However, it might not be the case when Bumiputera directors on board (BUMIBRD) is examined simultaneously with BUMIOWN.

Results in the overall model shows that BUMIOWN and BUMIBRD are not significant. With respect to the choice of Islamic debt and conventional debt, Bumiputera ownership is significant in the governance model and overall model which show that the likelihood of issuing Islamic debt is higher for firms with higher Bumiputera shareholdings. This supports arguments made by Delorenzo (2007) that most concerned Muslims pay particular attention to Shariah-compliance and restrain what is perceived to be non compliant to Shariah rules.

(d) Family ownership (FAMOWN)

Family ownership (FAMOWN) does not receive any support in this study except in certain corporate governance models of Islamic debt and conventional debt sample. However, due to its correlation with managerial ownership (MOWN), it is found that family ownership is not significant based on overall model. Thus, there is no evidence to suggest that family owned company issue debt to avoid family losing control. Similarly, there is no evidence to support the argument that company chooses equity to reduce risk of financial distress associated with debt. The insignificant result support Anderson and Reeb (2003) who found that compared to nonfamily firm, family firms are no less (or more) likely to use debt.

The second objective is to examine the effect of board attributes on securities choice by Malaysian publicly listed firms. The attributes covered in this study include the effects of board size, presence of Bumiputera directors, insider directors, independent directors, and family directors on board. However, only BRDSIZE and BUMIBRD are significant in some regressions.

(a) Board size (BRDSIZE)

By examining only corporate governance variable, board size is found to be highly positively significant (1%) in all three sample group of debt and equity (all debt and equity sample, conventional debt and equity sample, and Islamic debt and equity). The association shows that the likelihood to choose debt increase with board size. The findings appear to support the previous empirical findings (Abor, 2007; Anderson *et al.,* 2004; Jensen, 1986; Wen *et al.*, 2002).

Wen *et al.* (2002) also show a positive relationship between board size and financial leverage (capital structure). Their findings suggest that large boards, which are more entrenched due to superior monitoring by regulatory bodies, pursue higher leverage to raise company value in state owned enterprise in China. Another reason is that larger board membership could result in difficulties in arriving at a consensus in decision making. These conflict arise from larger board size have the tendency of weakening corporate governance. Thus, higher leverage is used to reduce this conflict. Anderson *et al.* (2004) also show that the cost of debt is lower for larger boards, presumably because creditors view these firms as having more effective monitors on their financial accounting.

As for Islamic debt and conventional debt, almost all specifications show a negative relationship between board size and the likelihood of choosing Islamic debt as opposed to conventional debt. This shows that the larger the board size, the higher the likelihood for firms to choose conventional debt. The possible explanation for this relationship is due to the impediment in decision making process associated with

s*ukuk* financing. As board size is large, directors would find it difficult to reach consensus on which principles will be used in debt issuances. Furthermore, it is more difficult to provide understanding among directors regarding fairly new securities such as which *Shariah* principles to be used in issuing Islamic debt.

(b) Bumiputera directors on board (BUMIBRD)

Besides ownership by Bumiputera, this study also tests the presence of Bumiputera directors on board. In most of the sample groups, it shows insignificant result except in Islamic debt & equity sample. However, due to its correlation with Bumiputera ownership, a model is respecified to overcome problem of multicollinearity. Results of full model nevertheless show that BUMIBRD is not a significant factor. The results are inconsistent with Haniffa and Cooke (2002) and Abdullah (1992) who associate Bumiputera as having high uncertainty avoidance or uneasiness in dealing uncertainties.

The third objective examines whether several firms characteristics and classification on *Shariah*-compliant firms influence debt-equity choice and Islamic debt and conventional debt choice. In specific, this study examines whether firm size, growth opportunity, stock run up, financial slack, relative issue size, profitability, systematic risk, total risk, tangibility, adjusted average total debt to total asset, non debt tax shield and taxshield influence firms' choices of between debt or equity and Islamic debt or conventional debt.

Three variables which are consistently found significant in across all related models are firm size, relative issue size and prior adjusted stock price run up. The positive significance of firm size and relative issue size indicates that large firms and firms that issue large amount are more likely to issue debt than equity. On the other hand, firms with high adjusted stock price before issuance is found to be negatively significant which infer that firms with adjusted run up is more likely to issue equity. As for Islamic debt and conventional debt choice, the finding shows that there is an increase in the likelihood of issuing conventional debt when prior stock price increase. Finally, a variable which differentiates *Shariah*-compliant from non *Shariah*-compliant classification (DUMSHC) shows significant with at least 5% level in the all debt and equity sample but insignificant in conventional debt and equity sample. Explanation about significant variables is summarized as below.

(a) Firm size (FSIZE)

Firm size variable has a significant positive relationship with debt financing choice in all models. This result provides support to trade off theory where larger firm has lower bankruptcy cost, therefore it could have higher debt. According to bankruptcy cost argument, the risk of bankruptcy discourages managers to employ debt in their capital structure (Shapiro & Titman, 1985). Since larger firms tend to be more diversified compared to relatively smaller firm, they are less likely to face high bankruptcy risk. Another theory that supports a positive association between debt and firm size is information asymmetry. However, the effect of information asymmetry on securities choice is ambiguous because larger firms are associated with lower information asymmetry. Thus, they have greater access to debt market.

Therefore, a positive relationship between firm size and debt financing is expected to exist. On the contrary, issuing equity is relatively less costly for larger firms. Thus, larger firms are less leveraged than smaller firms which subsequently lead to negative relationship with debt. Being large, more information is available among managers, shareholders and bondholders. This study finds support for the first argument where large firms would find easier to access to debt market.

(b) Relative issue size (ISSIZE)

Relative issue size has an expected positive sign from this study which suggest that large amount of issuance is more likely to be issued by debt issuers. The results is consistent to the empirical studies by Arrondo and Gomez-Anson (2003) and Jong and Veld (2001). These findings support information asymmetric theory whereby managers possess private information about firm value. Krasker (1986) suggests that managers determine the size of investment project. In the model, increase in relative issues size would lead to a larger decrease in stock price due to mispricing. Thus, larger issue size is associated with lower tendency to issue equity which is significantly shown from the results of all three sample groups in this study.

(c) Adjusted stock price run up (ADJRUNUP)

As expected in this study, the evidence related to debt-equity choice and stock market run up shows a significant negative association in all three samples groups. The results shows that firm with high stock price prior to an issuance is more likely to issue equity than debt which support market timing theory (Baker &

Wurgler, 2002; Bayless & Chaplinsky, 1996; Graham & Harvey, 2001; Taggart, 1977). According to the theory, managers time the market to issue equity instead of debt due to the lower cost of equity (Bayless & Chaplinsky, 1996; Graham & Harvey, 2001). In Bayless and Chaplinsky (1996), firms find it is more favourable to issue equity in search of "windows of opportunity." Thus, they show high volume of equity ("hot" market) as issuers are expected to consider stock market condition when timing their issues. The result is also consistent with the result of survey by Graham and Harvey (2001) which suggests that most Chief Financial Officer respondents agree that recent rise in stock price leads them to issue equity as the price they can sell is high.

With respect to Islamic debt and conventional debt choice, adjusted run up (ADJRUNUP) is found to be negatively significant. The finding indicates that the likelihood of issuing Islamic debt (conventional debt) decrease (increase) with high stock prices prior to securities issuances.

(d) Classification of Shariah compliant firms (DUMSHC)

Classification of *Shariah*-compliant firms is found to be significant in the all debt and equity sample group. The result infers that firms with *Shariah*-compliant status are more likely to issue debt than equity. Although this study posits a positive link between non *Shariah*-compliant and debt financing, the result of this study has been unable to show such relationship. The possible explanation for this relationship can be attributed to small sample size of non *Shariah*-compliant firms where only twelve observations are available.

5.3 Contribution and Implication of Study

There are eight contributions emerge from this study. First, this is among the earliest study that looks at Islamic debt from corporate finance perspective. The existence of Islamic capital market provides unique features in Malaysia where Islamic and conventional operates in tandem. Therefore, Malaysian companies have choice either to issue Islamic debt or conventional debt. The segregation of debt sample into conventional debt and Islamic debt would enable the current study to draw clearer conclusion than prior studies. This scenario can also add research dimension to test corporate choice between Islamic debt and other types of securities.

Secondly, the current study also aims to contribute benefits to regulators such as Securities Commission and Bursa Malaysia. With regard to the equity financing, the SC may promote issuance of equity to increase liquidity of stock market. Equity samples according to the criteria in this study are relatively less compared to debt samples (57 rights offering of equity as opposed to 156 debt samples). This shows that equity financing is less popular in Malaysian market. Thus, managers are less diversified as equity in Malaysian capital market is offered to existing shareholders. Furthermore, greater awareness or knowledge about different *Shariah* principles and their applications associated with Islamic financing could be done through directors' training.

Thirdly, the findings of this study should be of interest to managers and investment analysts. Financial managers who deal with choice between debt and

equity issue could adopt the model in order to obtain knowledge into decision made by other managers under the same conditions. By adopting the model, managers will be provided with some indication of what the market was anticipating. For instance, they can predict stock issuances when the stock market is good. For investment analysts, the predictive model itself could be used to forecast the financing policy of related firms.

Apart from practical contribution, the existing study makes other contribution in terms of its findings. Prior studies on determinants of securities choice show mixed results in most cases. They also ignore some variables which are hypothesized to be influential as applied in this study such as ownership and board characteristics. Besides, previous empirical studies that examine debt-equity choice focus on settings where religion does not play a role in capital raising activities. In contrast to previous research, the current study investigates debt-equity choice in a setting where firm decisions are driven by a well-defined institutional classification

To the best knowledge of author, this is the first study that looks at the prevalent effect of ethnicity on securities choice. It has been argued from past literatures that either Bumiputera ownership or the presence of Bumiputera directors on board has a different risk taking behavior from non Bumiputera shareholder or directors on board. However, we find a limited evidence to support the conjunction in debt-equity sample. For Islamic debt and conventional debt sample, a positive relationship between Bumiputera ownership and Islamic debt indicates that

Bumiputera owners do consider their obligation to choose financial instrument that is *Shariah*-compliant.

Fourth, to the best knowledge of author, this study is a first to study the effect of family ownership on securities choice in Malaysian market. The finding provides evidence that family ownership influences conventional debt as opposed to Islamic debt when a model focuses only on corporate governance but appears to be insignificant for all factors. The insignificance of family ownership or presence of family directors on board is due to control problem. Family-owned firms usually are not diversified, thus they will not employ debt in their capital structure. Similarly, the insignificant result might be due the reluctance of family firms in issuing excessive equity to avoid losing control.

Fifth, this study examines how managerial ownership influences the choice between debt and equity sample. Overall, result suggests that, the argument that debt is used to reduce agency cost and risk aversion of manager is not important when all three sample groups are examined. The argument that debt is issued to reduce agency cost and equity is issued to reduce risk aversion offset each other and thus effect of managerial ownership on securities choice are not clear. Similarly, managerial ownership receives partial support in explaining Islamic debt and conventional debt sample. This shows that basically Islamic debt and conventional debt are similar to managers

Sixth, board size affects the choice of debt, total, Islamic and conventional over equity. This supports the argument that by having larger board, agency problem between majority and minority shareholder can be alleviated. By assuming higher debt, creditors are more likely to monitor action of managers. For the choice of Islamic debt and conventional debt, board size influences the choice of Islamic debt negatively as shown in all specifications. One possible reason is that large board size will find difficulties in making decision for issuing a relatively new financial instrument. Thus, result suggests a preference of conventional debt over Islamic debt as board size increases.

Finally, firm characteristics such as firm size and relative issue size also highly positively influence the likelihood of choosing debt in all three sample groups of debt and equity. Furthermore, adjusted run up is highly negatively significant in all four sample groups which suggest that better prior stock prices leads to a higher likelihood of choosing equity over all types of debt and choosing conventional debt over Islamic debt.

Given governance and characteristics of issuers issuing different financial instruments are investigated in this research, a few parties might be interested with the finding of this research. Corporate financial managers and researchers can use the model to gain insight into the decision other firms will make under the same circumstances and to get indication of what the market anticipates. In addition, the result would also highlight the weaknesses in the existing practices. Thus, this may help the policy makers in amending the existing policies or formulating new policies.

It is also useful to regulators such as the Securities Commission who sets regulations to prevent any financing decision made by firms which may impinge the efficiency and operation of capital market.

5.4 Limitation of Study

Two main limitations are identified in this study. First, there are certain firms that issue a few types of securities within the same fiscal year. In this study, as we are interested to examine firms' financial year prior to the issuance, there is a need to exclude observations of identical issuing firms within the same examined year. Due to this problem, we only consider the observation that issue securities for the first time in a particular year. This will result in loss of a few potential observations.

Second, data gathering particularly for family ownership and proportion of family directors on board are crucial in to this study. However, since this information is only available after the implementation of the code of corporate governance, the relevant information for a company from 1999 to 2002 has to be cross-checked with annual reports of the company in later years.

5.5 Recommendations for Further Research

This study provides a basis for future research on securities choice. One of the facilitative factors that encourage Islamic debt is the introduction of several tax incentives. Among incentives given by government is the tax neutrality which was

taken effect in 29th August 2006. As the provision of the tax neutrality allows *sukuk* to betaxed equally with conventional financing, future research may examine this effect on the issuance of Islamic debt as well as choice on Islamic debt and conventional debt prior and after the tax incentive provisions.

Future research in the study of choice between Islamic debt and conventional debt might examine the economic differences between these securities. These include among others differences in terms of coupon rate, maturity period and governance structures of different types of s*ukuk* to be compared with conventional debt. Future research could examine whether coupon rate or profit rate in respective conventional debt or Islamic debt could bring economics benefits to issuers. By examining differences in coupon/profit rate, researchers would be able to learn whether Islamic debt is costlier or cheaper than conventional debt. Furthermore, by examining maturity differences, one can gauge whether Islamic debt or conventional debt can reduce firm' agency costs.

As this study focuses merely on securities choice, another possibility of future research is to study effect of securities choice on firms' accounting performance. Particularly, for debt-equity choice, it is important to measure their pre and post issuance effect on their accounting performance. Furthermore, since security issuance decision can give impact to firms' value, another area in securities choice that can be developed in future research is to investigate its effect on shares price performance, being either in a short window or in a long window period. While a short window period is selected to examine the immediate reaction of investors on

the announcement, a longer period window can be used to investigate how investors perceive the choice made by corporations. Finally, the study may cover differences in shares price performance between actual issuance and announcement of issuance

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APPENDICES

Appendix A: List of Islamic Debt Issuers

No	Issuer	Sector	Ind. Group	BRD	FY end	Instrument
1	ACP Industries Berhad	IND	CONSTRUC	1	31/03/2002	Murabahah Commercial Paper/Medium Term Notes Programme
2	AirAsia Bhd	T&S	TR&LS	1	31/12/2007	Bank Guaranteed Sukuk Ijarah Islamic Medium Term Notes Programme
3	Atis Corporation Berhad	T&S	ELECTRON	1	31/12/2002	Islamic Commercial Paper/ Islamic Medium Term Notes Programme
4	Atlan Holdings Berhad#	IND	IND_ENG	2	29/02/2004	Murabahah Notes Issuance Facility/Islamic Medium Term Notes
5	Bina Darulaman Berhad	PROP	CONSTRUC	1	31/12/2003	Murabahah Commercial Paper/Medium Term Notes Programme
6	Boon Koon Berhad#	IND	IND_ENG	1	31/12/2005	Islamic Commercial Paper/ Islamic Medium Term Notes Programme
7	Boustead Holdings Berhad	PLANT	SUP_SERV	1	31/12/2004	Sukuk Al-Ijarah
8	British American Tobacco (Malaysia) Berhad	CONSM	TOBACCO	1	31/12/2003	Islamic Commercial Paper/ Islamic Medium Term Notes Programme
9	Chemical Company of Malaysia	IND	CHEM	1	31/12/2007	Musyarakah Islamic Commercial Papers / Islamic Medium Term Notes Programme
10	Delloyd Ventures Berhad	IND	AUTO	1	31/12/2005	Murabahah Commercial Paper/Medium Term Notes Programme
11	DRB-Hicom Berhad	IND	IND_ENG	1	31/03/2005	Bai' Bithaman Ajil Islamic Securities
12	Emas Kiara Industries	IND	CHEM	2	31/12/2004	Murabahah Notes Issuance Facility/Islamic Medium Term Notes
13	Encorp Berhad	IND	SFW&COMS	1	31/12/2003	Al-Bai' Bithaman Ajil Notes Issuance Facility
14	EOX Group Berhad	T&S	IND_TRAN	1	30/09/2001	Murabahah Commercial Paper/Medium Term Notes Programme
15	EP Manufacturing Berhad	IND	AUTO	2	31/12/2003	Murabahah Underwritten Notes Issuance Facility/Islamic Medium Term Notes Issuance Facility
16	EP Manufacturing Berhad	IND	AUTO	1	31/12/2005	Murabahah Notes Issuance Facility/Islamic Medium Term Notes
17	Equine Capital Berhad	PROP	SFW&COMS	1	31/03/2005	Islamic Commercial Paper/ Islamic Medium Term Notes Programme
18	Esso Malaysia Berhad	IND	OIGASPRO	1	31/12/2003	Islamic Commercial Paper
19	Evermaster Berhad	IND	CONSTRUC	1	31/03/2003	Al-Bai' Bithaman Ajil Islamic Debt Securities
20	Gamuda Berhad	CONST	CONSTRUC	1	31/07/2007	Islamic Commercial Paper/ Islamic Medium Term Notes Programme

Appendix A (Continued)

No	Issuer	Sector	Ind. Group	BRD	FY end	Instrument
22	Glomac	PROP	SFW&COMS	1	30/04/2006	Murabahah Underwritten Notes Issuance Facility/ Murabahah Medium Term Notes
23	Glomac Berhad	PROP	SFW&COMS	1	30/04/2003	Senior Bai' Bithaman Ajil Islamic Debt Securities
24	Goodway Integrated Industries	IND	AUTO	2	31/12/2004	Murabahah Notes Issuance Facility/Islamic Medium Term Notes
25	Hong Leong Industries Bhd	CONSM	TEC_HARD	1	30/06/2001	Al-Bai' Bithaman Ajil Islamic Debt Securities
26	Hong Leong Industries Bhd	CONSM	TEC_HARD	1	30/06/2007	Musyarakah Islamic Commercial Papers / Islamic Medium Term Notes Programme
27	Hubline Berhad	T&S	IND_TRAN	1	30/09/2005	Bai' Bithaman Ajil Islamic Securities
28	Hytex Integrated Berhad	CONSM	PER_GOOD	1	31/03/2005	Murabahah Underwritten Notes Issuance Facility/Islamic Medium Term Notes Issuance Facility
29	IJM Corp Bhd	T&S	CONSTRUC	1	31/12/2002	Sukuk Istisna'
30	Ingress Corporation Bhd	IND	AUTO	1	31/01/2004	Sukuk Al-Ijarah
31	IOI Corporation Berhad	PLANT	FOOD_ PRO	1	30/06/2000	Murabahah Commercial Paper/Medium Term Notes Programme
32	Iris Corporation Berhad	TECH	SFW&COMS	3	31/12/2002	Bai' Bithaman Ajil Bonds
33	Iris Corporation Berhad	TECH	SFW&COMS	3	31/12/2003	Murabahah Commercial Paper/Medium Term Notes Programme
34	Kinsteel Berhad	IND	INMETMIN	1	31/12/2005	Murabahah Medium Term Notes Programme
35	KNM Group	IND	OIEQ&SERV	1	31/12/2005	Islamic Commercial Paper/ Islamic Medium Term Notes Programme
36	KPJ Healthcare Berhad	T&S	HEALTH	1	31/12/2003	Islamic Commercial Paper/ Islamic Medium Term Notes Programme
37	Kuala Lumpur Kepong Bhd	PLANT	FOOD_ PRO	1	30/09/2006	Islamic Commercial Paper/ Islamic Medium Term Notes Programme
38	Kumpulan Perangsang Selangor	T&S	GSWTR&MU	1	31/12/2005	Bai' Bithaman Ajil Islamic Securities
39	Kwantas Corp	PLANT	FOOD_ PRO	1	30/06/2005	Sukuk Ijarah
40	Leader Universal Holdings	IND	ELECTRON	1	31/12/2003	Murabahah Commercial Paper/Medium Term Notes
41	Lingkaran Trans Kota	IPC	IND_TRAN	1	31/03/2002	Al-Bai' Bithaman Ajil Senior Primary Islamic Bonds
42	Lingkaran Trans Kota Holdings	IPC	IND_TRAN	1	31/03/2008	Sukuk Musyarakah Islamic Securities
	Malaysian AE Models	IND	IND_ENG	1	31/05/2005	Murabahah Commercial Paper/Medium Term Notes
44	Malaysian Merchant	T&S	IND_TRAN	1	31/08/2003	Al-Bai' Bithaman Ajil Serial Bonds
45	Malaysian Resources	CONST	CONSTRUC	1	31/12/2006	Sukuk Musyarakah Issuance Programme

Appendix A (Continued)

No	Issuer	Sector	Ind_Group	BRD	FY-end	Instrument
46	Maxtral Industries Berhad	IND	FRST&PAP	2	31/12/2005	Al-Bai' Bithaman Ajil Islamic Debt Securities
47	Maxtral Industry Berhad	IND	FRST&PAP	2	31/12/2006	Murabahah Underwritten Notes Facility (MUNIF)/Murabahah Medium Term Notes
48	MESB Berhad	T&S	GEN_RETL	2	31/12/2006	Istisna' Islamic Medium Term Notes
49	Minetech Resources	T&S	MING	2	31/12/2005	Murabahah Notes Issuance Facility/Islamic Medium Term
50	MMC CORP	T&S	GSWTR&MU	1	31/12/2006	Islamic Commercial Paper Programme/Medium Term Notes
51	MRCB Southern Link	CONST	CONSTRUC	1	31/12/2007	Istisna' Junior Sukuk
52	Muhibbah Engineering	CONST	CONSTRUC	1	31/12/2007	Mudharabah Islamic CP/ Islamic MTN Programme
53	Mulpha International	T&S	TR&LS	1	31/12/2004	Islamic Commercial Paper/ Islamic Medium Term Notes
54	My-Infotech (M) Berhad	TECH	SFW&COMS	2	31/03/2005	Murabahah Underwritten Notes Issuance Facility/Islamic MTN
55	Nam Fatt Corporation	CONST	CONSTRUC	1	31/12/2005	Islamic Commercial Papers/Islamic Medium Term Notes
56	Nestle (Malaysia) Berhad	CONSM	FOOD_ PRO	1	31/12/2002	Al-Murabahah Commercial Paper/Medium Term Notes
57	NV Multi Corporation	T&S	GEN_RETL	1	31/12/2003	Islamic Commercial Paper/ Islamic Medium Term Notes
58	OilCorp Berhad	T&S	OIEQ&SERV	1	31/12/2006	Murabahah Underwritten Notes Issuance Facility
59	Oilcorp Berhad#	T&S	OIEQ&SERV	1	31/12/2003	Murabahah Underwritten Notes Issuance Facility/Islamic Medium Term Notes Issuance Facility
60	OSK Property Holdings	PROP	SFW&COMS	1	31/12/2003	Bai' Bithaman Ajil Islamic Securities
61	PK Resources Berhad	PROP	SFW&COMS	1	31/12/2004	Murabahah Notes Issuance Facility
62	Plus Expressway	CONSM	IND_TRAN	2	31/01/2006	Al-Bai' Bithaman Ajil Islamic Debt Securities
63	Plus Expressway Bhd	T&S	IND_TRAN	1	31/12/2005	Sukuk Musyarakah Islamic Medium Term Notes Programme
64	Plus Expressway Bhd	T&S	IND_TRAN	1	31/12/2006	Senior Sukuk Musyarakah
65	PLUS Expressways	T&S	IND_TRAN	1	31/12/2007	Sukuk Musyarakah Islamic Medium Term Notes Programme
66	Plus Expressways Berhad	T&S	IND_TRAN	1	31/12/2004	Secured Bai' Bithaman Ajil Islamic Debt Securities
67	Poh Kong Holdings	CONSM	GEN_RETL	1	31/07/2006	Murabahah Commercial Paper/Medium Term Notes

Appendix A (Continued)

No	Issuer	Sector	Ind. Group	BRD	FY end	Instrument
68	Premium Nutrients	IND	FOOD_ PRO	2	31/12/2003	Murabahah Underwritten Notes Issuance Facility/Islamic Medium
69	Priceworth Wood	IND	CONSTRUC	1	30/06/2004	Islamic Commercial Paper/ Islamic Medium Term Notes
70	Prinsiptek Corporation	CONST	CONSTRUC	1	31/12/2005	Murabahah Commercial Papers
71	Puncak Niaga Holdings	IPC	GSWTR&MU	1	31/12/2004	Bai' Bithaman Ajil Commercial Papers/Medium Term Notes
72	Ranhill	CONST	CONSTRUC	1	30/06/2004	Islamic Medium Term Notes
73	SapuraCrest Petroleum	T&S	OIEQ&SERV	1	31/01/2005	Istisna' Serial Bonds
74	Silk Holdings Berhad	IPC	IND_TRAN	1	30/06/2007	Sukuk Mudharabah
75	Silver Bird Group Berhad	CONSM	TEC_HARD	1	31/10/2004	Islamic Commercial Paper/ Islamic Medium Term Notes
76	Sime Darby Berhad	T&S	GEN_IND	1	30/06/2009	Islamic Commercial Papers/Islamic Medium Term Notes
77	Star Publications	T&S	MEDIA	1	31/12/2004	Islamic Commercial Paper/ Islamic Medium Term Notes
78	Sunrise Berhad	IND	SFW&COMS	2	30/06/2001	Al-Bai' Bithaman Ajil Notes Issuance Facility
79	Sunrise Berhad	PROP	SFW&COMS	1	30/06/2006	Murabahah Commercial Paper/Medium Term Notes
80	Sunrise Berhad	PROP	SFW&COMS	1	30/06/2007	Islamic Medium Term Notes Programme
81	Sunway City Berhad	PROP	SFW&COMS	1	31/12/2001	Islamic Commercial Paper/ Islamic Medium Term Notes
82	Sunway City Berhad	PROP	SFW&COMS	1	30/06/2007	Murabahah Commercial Papers
83	Suria Capital Holdings	T&S	IND_TRAN	1	31/12/2006	Bai' Bithaman Ajil Islamic Securities
84	Symphony House Berhad	T&S	SUP_SERV	1	31/12/2005	Murabahah Commercial Paper/Medium Term Notes
85	Taliworks	CONST	GSWTR&M	1	30/06/2004	Islamic Medium Term Notes Programme
86	Tanjung Offshore Berhad	T&S	OIEQ&SERV	1	31/12/2007	Istisna' & Murabahah Islamic Medium Term Notes Programme
87	Teck guan	CONST	FOOD_ PRO	1	31/12/2005	Sukuk Al-Ijarah
88	Telekom Malaysia Berhad & Hijrah Pertama Berhad	T&S	FL&TELE	1	31/12/2006	TM Islamic Stapled Income Securities
89	Telekom Malaysia Berhad	T&S	FL&TELE	1	31/12/2007	Asset-Backed Sukuk Al-Ijarah

Appendix A (Continued)

No	Issuer	Sector	Ind. Group	BRD	FY end	Instrument
90	Tenaga Nasional Berhad	T&S	ELECTRIC	1	31/08/2002	Murabahah Commercial Paper/Medium Term Notes
91	Tenaga Nasional Berhad	T&S	ELECTRIC	1	31/08/2003	Bai' Bithaman Ajil Islamic Securities
92	Texchem Resources	T&S	GEN_IND	1	31/12/2004	Islamic Commercial Paper/ Islamic Medium Term Notes
93	The Store Corporation	T&S	GEN_RETL	1	31/03/2003	Islamic Commercial Paper/ Islamic Medium Term Notes
94	Tiong Nam Logistics s	T&S	IND_TRAN	1	31/03/2007	Asset-Backed Sukuk Al-Ijarah
95	Top Glove Corporation	IND	HEALTH	1	31/08/2005	Murabahah/Ijarah Commercial Papers Programme
96	Tracoma Holdings Berhad	IND	AUTO	2	31/12/2004	Al-Bai' Bithaman Ajil Islamic Securities
97	Tradewinds Plantation	PLANT	FOOD_ PRO	1	31/12/2006	Sukuk Ijarah
98	Tradewinds Plantation	PLANT	FOOD_ PRO	1	31/12/2007	Murabahah Commercial Paper/Medium Term Notes
99	TSH Resources Berhad	PLANT	FOOD_ PRO	1	31/12/2008	Sukuk Ijarah ICP/IMTN Programme
100	TSH Resources Berhad#	IND	FOOD_ PRO	1	31/12/2001	Murabahah Commercial Paper/Medium Term Notes
101	UMW Holdings Berhad	CONSM	AUTO	1	31/12/2008	Islamic Medium Term Notes Programme
102	V.S. Industry Berhad	IND	ELECTRON	2	31/07/2000	Murabahah Commercial Paper/Medium Term Notes
103	Wah Seong Corporation	IND	OIEQ&SERV	1	31/12/2003	Ijarah & Murabahah Commercial Paper/ Medium Term Notes
104	WCT Engineering Berhad	CONST	CONSTRUC	1	31/12/2007	Islamic Serial Redeemable Sukuk with Warrants
105	WCT Engineering Berhad	CONST	CONSTRUC	1	31/12/2004	Al-Bai' Bithaman Ajil Fixed Rate Serial Bonds
106	Weida (M) Berhad	IND	IND_ENG	1	31/03/2005	Murabahah Notes Issuance Facility/Islamic Medium Term
107	White Horse Berhad	IND	CONSTRUC	1	31/12/2000	Murabahah Commercial Paper/Medium Term Notes
108	YTL Corporation Berhad	CONST	GSWTR&M	1	30/06/2003	Islamic Commercial Paper/ Islamic Medium Term Notes
109	Zecon Berhad	CONST	CONSTRUC	2	31/12/2007	Sukuk Musyarakah
110	Zecon Engineering Berhd	CONST	CONSTRUC	2	31/12/2005	Bai' Bithaman Ajil Islamic Securities

Appendix B: List of Conventional Debt Issuers

No	Issuer	Sector	Ind. Group	BRD	FY end	Instrument
1	Chemical Company Of Malaysia	IND	CHEM	1	12/31/2001	Fixed Rate Bonds with Warrants
2	Lion Industries Corporation Berhad	IND	INMETMIN	1	3/14/2002	Zero Coupon Bonds
3	Lion Corporation Berhad#	PN4	INMETMIN	1	6/30/2002	Zero Coupon Bonds
4	Telekom Malaysia Berhad	T&S	FL&TELE	1	12/31/2002	Redeemable Unsecured Bonds
5	Country Heights Holdings Berhad	PROP	SFW&COMS	1	12/31/2003	Redeemable Secured Loan Stocks ("Series A")
6	Boustead Holdings Berhad	PLANT	SUP_SERV	1	12/31/2003	Bank Guaranteed Serial Bonds
7	Gamuda berhad	CONST	CONSTRUC	1	7/31/2004	Medium Term Notes Programme
8	YTL Power International Berhad	IPC	GSWTR&MU	1	6/30/2006	Commercial Papers/ Medium Term Notes Programme
9	British American Tobacco (Malaysia)	CONSM	TOBACCO	1	12/31/2006	Commercial Papers/ Medium Term Notes Programme
10	Taliworks Corporation Berhad	T&S	GSWTR&MU	1	12/31/2006	Subordinated Bonds
11	Puncak Niaga Holdings Bhd	IPC	GSWTR&MU	1	12/31/2006	Commercial Paper/Medium Term Notes Programme
12	Federal Furniture Holdings (M) Berhad	CONSM	HSEHOLD_G	2	12/31/2006	Redeemable Secured Loan Stocks
13	Telekom Malaysia Bhd	T&S	FL&TELE	1	12/31/2008	Commercial Papers / Medium Term Notes Issuance Prog
14	IJM Corporation Berhad	CONST	CONSTRUC	1	3/31/2009	Commercial Papers/ Medium Term Notes Programme
15	MK Land Holdings Berhad	PROPP	SFW&COMS	1	6/30/2002	Bonds with Warrants
16	Landmarks Berhad	HOTEL	TR&LS	1	12/31/2002	Redeemable Secured Serial Bonds
17	Lingkaran Trans Kota Holdings	IPC	IND_TRAN	1	3/31/2003	Redeemable Bonds
18	Malaysian AE Models	IND	IND_ENG	1	5/31/2003	Fixed Rate Serial Bonds
19	Ranhill Berhad	CONST	CONSTRUC	1	6/30/2003	Junior Notes
20	Digi.com Bhd	IPC	MOB_TELE	1	12/31/2007	Commercial Papers/ Medium Term Notes Programme
21	Prestar Resources Berhad	IND	IND_ENG	1	12/31/2007	Commercial Paper Programme

Appendix B (Continued)

No	Issuer	Sector	Ind_Group	BRD	FY end	Instrument
22	YTL Power International Berhad	IPC	GSWTR&MU	1	6/30/2003	Medium Term Notes Programme
23	Sunway Holdings Incorporated Berhad	CONST	CONSTRUC	1	12/31/2003	Asset-backed Fixed Rate Notes
24	Faber group	PN4	HEALTH	1	12/31/2003	Redeemable Secured Bonds
25	Silver Bird Group Berhad	CONSM	TEC_HARD	1	10/31/2004	Serial Bonds
26	Scomi Group Bhd	IND	OIEQ&SERV	1	12/31/2004	Medium Term Notes Programme
27	Tan Chong Motor Holdings Berhad	CONSM	AUTO	1	12/31/2004	Asset-Backed Medium Term Notes Programme
28	Supermax Corporation Berhad	IND	HEALTH	1	12/31/2004	Serial Bonds
29	Widetech (Malaysia) Berhad	CONSM	HSEHOLD_G	2	3/31/2005	Commercial Paper Programme
30	Kumpulan Perangsang Selangor	T&S	GSWTR&MU	1	12/31/2005	Fixed Rate Serial Bonds
31	Country Heights Holdings Berhad	PROP	SFW&COMS	1	12/31/2005	Bank Guaranteed Commercial Paper/MTN Prog
32	Rubberex Corporation (M) Berhad	IND	HEALTH	1	12/31/2005	Medium Term Notes Programme
33	VTI Vintage Berhad	IND	CONSTRUC	2	12/31/2005	Medium Term Notes Programme
34	Genting malaysia Berhad	T&S	TR&LS	1	12/31/2005	Conventional Bonds
35	Puncak Niaga Holdings Bhd	IPC	GSWTR&MU	1	12/31/2005	Redeemable Unsecured Bonds
36	Petra Perdana Berhad#	T&S	OIEQ&SERV	1	12/31/2005	Medium Term Notes Programme
37	LBS Bina Group Berhad	PROP	SFW&COMS	1	12/31/2005	Commercial Paper Programme
38	Bandar Raya Developments Berhad#	PROP	SFW&COMS	1	12/31/2006	Fixed Rate Bonds with Detachable Warrants
39	Media Prima Berhad	T&S	MEDIA	1	12/31/2006	Commercial Paper Programme
40	Ipmuda Berhad	T&S	SUP_SERV	1	12/31/2006	Commercial Paper Programme
41	IJM Corporation Bhd	CONST	CONSTRUC	1	3/31/2007	Redeemable Unsecured Loan Stocks
42	Sunway City Berhad	PROP	SFW&COMS	1	6/30/2007	Redeemable Bank Guaranteed Serial Bonds& Detachable
43	YTL Power International Berhad	IPC	GSWTR&MU	1	6/30/2007	Redeemable Bonds with Detachable Warrants
44	Fraser & Neave Holdings Berhad	CONSM	BEVERAGE	1	9/30/2007	Commercial Papers and / or Medium Term Notes Prog
45	S P Setia Berhad	PROP	SFW&COMS	1	10/31/2007	Redeemable Serial Bond with Warrants

Appendix C: List of Rights Issue of Equity Issuers

No	Issuer	Sector	Ind. Group	Brd	FY end
1	AHMAD ZAKI	CONST	CONSTRUC	1	31/12/2007
2	APOLLO FOOD HOLDINGS BERHAD	CONSM	FOOD_ PRO	1	30/04/2001
3	ATLAN HOLDINGS BERHAD	IND	IND_ENG	2	28/02/2002
4	BELL & ORDER BERHAD	IND	SUP_SERV	2	31/12/2004
5	BINA PURI HOLDINGS BHD	CONST	CONSTRUC	1	31/12/2002
6	BOUSTEAD HEAVY INDUSTRIES	IND	SUP_SERV	1	31/12/2006
7	BOUSTEAD HOLDINGS BHD	T&S	SUP_SERV	1	31/12/2002
8	BOUSTEAD HOLDINGS BERHAD	PLANT	SUP_SERV	1	31/12/2008
9	CAROTECH BERHAD	IND	CHEM	3	30/06/2009
10	CB INDUSTRIAL PRODUCT	IND	IND_ENG	2	31/12/2004
11	CENTRAL INDUSTRIAL CORP	IND	CHEM	3	31/12/2003
12	CONCRETE ENGINEERING PRODUCTS	IND	CONSTRUC	2	31/08/2004
13	EMC Logistic @ Sanbumi	IND	FRST&PAP	1	31/12/2000
14	EVERMASTER GROUP BHD	IND	CONSTRUC	2	31/03/2001
15	FUTUTECH	IND	CONSTRUC	2	31/12/2000
16	GADANG HOLDINGS BHD	CONST	CONSTRUC	2	31/05/2002
17	GOLDEN PHAROS BERHAD	CONSM	CONSTRUC	1	31/12/2007
18	GPA HOLDINGS BERHAD	IND	AUTO	2	31/03/2007
19	HABIB CORPORATION BHD	CONSM	IND_TRAN	1	31/12/2004
20	HAI0O ENTERPRISE BERHAD	T&S	F &D RETAIL	2	30/04/2002
21	INDUSTRONIC	TECHNO	ELECTRON	2	31/12/1999
22	IOI CORPORATION BERHAD	PLANT	FOOD_ PRO	1	30/06/2009
23	IREKA CORPORATION BERHAD	CONST	CONSTRUC	1	31/03/2002
24	JAYA JUSCO STORES BERHAD	T&S	GEN_RETL	1	28/02/2000
25	KKB ENGINEERING BERHAD	IND	IND_ENG	2	31/12/2000
26	KPJ HEALTHCARE BERHAD	T&S	HEALTH	1	31/12/2001
27	KUANTAN FLOUR MILLS BHD	CONSM	FOOD_ PRO	2	31/03/2001
28	KYM HOLDINGS BERHAD	IND	GEN_IND	1	31/01/2003
29	LAY HONG BERHAD	CONSM	FOOD_ PRO	2	31/03/2002
30	MAH SING GROUP BERHAD	PROP	SFW&COMS	1	31/12/2006
31	MALAYSIA PACKAGING	IND	GEN_IND	2	31/12/2002
32	MOL.COM BERHAD	IND	SFW&COMS	1	30/06/2002
33	NATIONWIDE EXPRESS COURIER SERVICES BERHAD	T&S	IND_TRAN	2	31/03/2004
34	OCB BERHAD	T&S	FOOD_ PRO	1	31/12/2003
35	PELANGI	PROP	MEDIA	1	31/03/2003
36	PEMBINAAN LIMBONGAN SETIA	CONST	FOOD_ PRO	2	31/03/2003

Appendix C (Continued)

No	Issuer	Sector	Ind. Group	Brd	FY end
37	PETRA PERDANA BERHAD	T&S	OIEQ&SERV	2	31/12/2001
38	PROLEXUS BERHAD	CONSM	PER_GOOD	2	31/07/1999
39	PUNCAK NIAGA	IPC	GSWTR&MU	1	31/10/1999
40	RELIANCE PACIFIC BERHAD	T&S	TR&LS	1	31/03/2004
41	REX INDUSTRY BERHAD	CONSM	FOOD_ PRO	2	31/12/2002
42	SARAWAK OIL PALMS BERHAD	PLANT	FOOD_ PRO	1	31/12/2007
43	SELOGA HOLDINGS BERHAD	PN4	CONSTRUC	2	31/12/2002
44	SENI JAYA CORPORATION	T&S	MEDIA	2	31/12/2002
45	SILVER BIRD GROUP BERHAD	CONSM	TEC_HARD	1	31/10/2007
46	SP SETIA BERHAD	PROP	SFW&COMS	2	31/10/2001
47	STS TECNIC BERHAD @ C Tehnic	IND	IND_ENG	2	31/12/2006
48	SUNCHIRIN INDUSTRIES (MALAYSIA)	IND	AUTO	2	31/12/2001
49	SUPER ENTERPRISE HOLDINGS	IND	GEN_IND	2	31/12/2003
50	SUPERMAX CORPORATION	IND	HEALTH	2	31/12/2002
51	TENCO BERHAD	T&S	CHEM	2	31/03/2007
52	TRIUMPHAL ASSOCIATES BHD	T&S	IND_ENG	2	31/12/2003
53	TSH	IND	FOOD_ PRO	1	31/12/1999
54	WATTA HOLDING BERHAD	IND	AUTO	2	30/09/2001
55	WOODLANDOR HOLDINGS BHD	IND	CONSTRUC	2	31/12/2002
56	Y.S.P.SOUTHEAST ASIA HOLDING	CONSM	PHARMA	1	31/12/2008
57	YINSON HOLDINGS BERHAD	T&S	SUP_SERV	2	31/01/2003

Appendix D: Change of Name of Sample Companies

Islamic debt sample

No.	Previous Company Name	Current Company Name	Date Of Change
1	Great Wall Plastic Industries Bhd	Encorp Bhd	2003-02-11
2	Eastern Oxygen Bhd	Eox Group Bhd	2000-04-10
3	My-Infotech (M) Bhd	Formis Resources Bhd	2006-03-27
4	EOX Group Bhd	Hubline Bhd	2004-04-27
5	Abrar Corporation Bhd	Oilcorp Bhd	2003-08-05
6	WCT Engineering Bhd	WCT Bhd	2008-06-17

Conventional debt sample

No.	Previous Company Name	Current Company Name	Date Of Change
1	PSC Industries Bhd	Boustead Heavy Ind. Corp Bhd	2007-07-09
2	SCB Devpt. Bhd	Boustead Properties Bhd	2004-05-05

Equity sample

No.	Previous Company Name	Current Company Name	Date Of Change
1	Jaya Jusco Stores Bhd	Aeon Co. (M) Bhd	2004-09-13
2	Dijaya Enterprise Bhd	Mol.Com Bhd	2000-07-07
3	EMC Logistics Bhd	Sanbumi Holdings Bhd	2002-02-22
4	STC Tecnic Bhd	Tecnic Group Bhd	2009-07-10
5	Tenco Bhd	Nagamas Intld Bhd	2007-09-25
6	Pembinaan Limbongan Setia	PLS Plantations Bhd	2009-10-16
7	Ireka Construction Bhd	Ireka Corporation Bhd	2000-10-16

Appendix E: Industry Classification by Worldscope

No	Abbreviation	Industry classification
1	AERO	Aerospace
2	AUTO	Automobile
3	BEVERAGE	Beverages
4	CHEM	Chemicals
5	CONSTRUC	Construction
6	ELECTRON	Electronics
7	ELECTRIC	Electricity
8	F &D RETAIL	Food and drug retailer
9	FIN SERV	Financial services
10	FL&TELE	Fix line telecommunication
11	FOOD_ PRO	Food Producer
12	FRST&PAP	Forestry and paper
13	GEN_IND	General industries
14	GEN_RETL	General retailers
15	GSWTR&MU	Gas, water and multi utilities
16	HEALTH	Healthcare
17	HSEHOLD_G	Household goods
18	IND_ENG	Industrial engineering
19	IND_TRAN	Industrial transportation
20	INMETMIN	Industrial, metal and mining
21	MEDIA	Media
22	MINING	Mining
23	MOBILE TELECOMM	Mobile telecommunication
24	OIEQ&SERV	Oil, equipment and services
25	OIGASPRO	Oil and gas producers
26	PER_GOOD	Personal goods
27	PHARMA	Pharmaceutical
28	SFW&COMS	Software, and computer services
29	SUP_SERV	Support Service
30	TEC_HARD	Technology hardware
31	TOBACCO	Tobacco
32	TR&LS	Travel and Leisure

Appendix F: Pearson Correlation of All Debt and Equity Sample

	MOWN	CONOWN	BUMIOWN	FAMOWN	STATE	DOMPFUND	FORFUND	CRCFR	BRDSIZE	BUMIBRD	FAMBRD	INSBRD	INDPD
MOWN	1												
CONOWN	0.015	1											
BUMIOWN	-.171*	.265**	1										
FAMOWN	.524**	0.119	-.261**	1									
STATE	-0.083	0.103	.186**	-0.106	1								
DOMPFUND	0.012	-.142*	.136*	-0.072	-0.01	1							
FORFUND	-.190**	-.198**	-0.049	-.226**	-0.04	-0.108	1						
CRCFR	-0.024	0.101	-0.046	.151*	-0.02	-0.023	-0.033	1					
BRDSIZE	-.201**	0.012	.223**	-0.08	0.05	0.015	0.094	-0.04	1				
BUMIBRD	-.194**	.239**	.596**	-.262**	.26**	0.114	0.011	0.131	0.035	1			
FAMBRD	.395**	0.008	-.271**	.782**	-0.129	-0.045	-.213**	0.085	-0.092	-.338**	1		
INSBRD	.370**	-.158*	-.317**	.341**	-0.125	0.011	-0.087	0.027	0.023	-.416**	.39**	1	
INDPBRD	-0.097	0.11	.204**	-0.13	0.024	-0.077	0.095	0.062	-0.023	.252**	-.18**	-.46**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix F Continued)

	FSIZE	GROWTH	ADJRUNUP	FSLACK	ISSIZE	PROFIT	BETA	RISK	TANG	ADJTD2TA	NDTAX	TAX	DUMSHC
FSIZE	1												
GROWTH	.171*	1											
ADJRUNUP	-0.13	0.019	1										
FSLACK	.279**	.154*	-0.067	1									
RELISSIZE	-.33**	-0.024	-0.002	-0.081	1								
PROFIT	-0.004	.663**	.147*	0.092	0.008	1							
BETA	0.071	-0.094	.180**	0.024	-0.102	-0.129	1						
RISK	-.39**	-.226**	0.051	-.205**	0.027	-.222**	.307**	1					
TANG	-0.019	-0.055	0.001	-0.099	0.002	0.042	-0.079	-0.002	1				
ADJTD2TA	0.11	-0.072	0.119	-0.128	-0.01	0.125	.184**	.213**	-0.074	1			
NDTAX	-0.032	.163*	-0.004	0.066	0.039	.367**	-0.128	-0.092	.613**	0.033	1		
TAX	-0.014	.684**	0.001	.229**	0.007	.646**	-0.094	-.206**	.140*	-0.069	.280**	1	
DUM_SHC	-0.126	-.140*	0.051	-0.035	0.097	-0.122	-0.029	0.087	-0.056	0.031	-0.054	-.13*	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix G: Pearson Correlation of Conventional Debt and Equity

	MOWN	CONOWN	BUMIOWN	FAMOWN	STATE	DOMPFUND	FORFUND	CRCFR	BRDSIZE	BUMIBRD	FAMBRD	INSBRD	INDPRD
MOWN	1												
CONOWN	0.031	1											
BUMIOWN	-0.059	.344**	1										
FAMOWN	.480**	0.113	-0.131	1									
STATE	-0.032	0.034	-0.08	-0.047	1								
DOMPFUND	0.093	-0.088	0.027	0.081	-0.007	1							
FORFUND	-0.192	-0.171	0.064	-.229*	0	-0.086	1						
CRCFR	-0.05	0.115	-0.04	0.178	-0.017	-0.006	-0.045	1					
BRDSIZE	-0.145	0.062	.196*	0.01	-0.02	0.027	0.08	-0.04	1				
BUMIBRD	-0.087	.235*	.415**	-0.108	.245*	0.112	0.024	.23*	-0.043	1			
FAMBRD	.407**	0.064	-0.125	.770**	-0.109	0.113	-.236*	0.10	-0.045	-.212*	1		
INSBRD	.302**	-0.065	-0.184	.214*	-0.148	0.065	-0.114	0.04	0.166	-.284**	.320**	1	
INDPBRD	-0.032	0.043	0.13	-0.095	-0.08	-0.133	0.03	0.09	-0.088	0.183	-0.177	-.48**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix G (Continued)

	FSIZE	GROWTH	ADJRUNUP	FSLACK	ISSIZE	PROFIT	BETA	RISK	TANG	ADJTD2TA	NDTAX	TAX	DUMSHC
FSIZE	1												
GROWTH	0.146	1											
ADJRUNUP	-0.191	-0.106	1										
FSLACK	.322**	0.121	-0.127	1									
ISSIZE	-.33**	0.012	0.147	-0.152	1								
PROFIT	-0.017	.626**	0.118	0.182	-0.037	1							
BETA	0.062	-0.086	.265**	-0.033	-0.065	-0.103	1						
RISK	-.45**	-.219*	.354**	-.285**	.233*	-0.143	.378**	1					
TANG	-0.028	0.062mn,,,	0.01	-.197*	-0.015	0.053	-0.094	-0.013	1				
ADJTD2TA	0.071	-.209*	0.15	-.199*	0.132	0.137	.265**	.334**	-0.041	1			
NDTAX	-0.08	.338**	0.07	0.027	0.058	.449**	-0.152	-0.086	.636**	-0.033	1		
TAX	0.068	.788**	-0.127	.216*	-0.018	.714**	-0.091	-.293**	-0.071	-0.088	.208*	1	
DUMSHC	-.251*	-.197*	.219*	-0.071	0.144	-0.141	-0.042	.197*	-0.053	0.053	-0.075	-0.19	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix H: Pearson Correlation of Islamic Debt and Equity

	MOWN	CONOWN	BUMIOWN	FAMOWN	STATE	DOMPFUND	FORFUND	CRCFR	BRDSIZE	BUMIBRD	FAMBRD	INSBRD	INDPBD
MOWN	1												
CONOWN	-0.019	1											
BUMIOWN	-.21**	.241**	1										
FAMOWN	***.514****	0.13	-.277**	1									
STATE	-0.123	0.138	.217**	-0.138	1								
DOMPFUND	-0.02	-.169*	.196*	-0.128	-0.018	1							
FORFUND	-0.136	-.182*	-0.048	-.225**	-0.046	-0.051	1						
CRCFR	-0.042	0.132	-0.057	.162*	-0.018	-0.026	-0.037	1					
BRDSIZE	-.24**	-0.023	.235**	-0.105	0.083	0.037	0.085	-0.049	1				
BUMIBRD	-.24**	.263**	***.657****	-.276**	.273**	0.133	0.03	0.146	0.097	1			
FAMBRD	.377**	-0.016	-.300**	***.759****	-0.146	-0.13	-.169*	0.093	-0.125	-.345**	1		
INSBRD	.387**	-.223**	-.374**	.355**	-.160*	-0.035	-0.071	0.026	-0.053	-.475**	.378**	1	
INDPBRD	-0.079	.206**	.215**	-0.116	0.059	-0.06	0.036	0.08	-0.034	.312**	-.183*	-.44**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix H (Continued)

VARIABLES	FSIZE	GROWTH	ADJRUNUP	FSLACK	ISSIZE	PROFIT	BETA	RISK	TANG	ADJTD2TA	NDTAX	TAX
FSIZE	1											
GROWTH	.230**	1										
ADJRUNUP	-.188*	0.059	1									
FSLACK	.218**	.183*	-0.059	1								
ISSIZE	-.287**	-0.017	0.001	-0.057	1							
PROFIT	-0.033	***.502****	.264**	0.045	0.067	1						
BETA	0.092	-0.104	0.111	0.074	-0.115	-0.099	1					
RISK	-.379**	-.259**	0.03	-.169*	0.003	-0.137	.270**	1				
TANG	-0.082	-.155*	-0.012	-0.086	0.025	0.002	-0.082	0.018	1			
ADJTD2TA	0.134	-0.122	0.107	-0.098	-0.018	.168*	.186*	.239**	-0.066	1		
NDTAX	-0.068	0.006	-0.022	0.045	0.063	.257**	-0.106	-0.047	***.627****	0.065	1	
TAX	-0.036	.521**	0.054	.279**	0.015	***.503****	-0.092	-.196*	.202**	-0.098	.266**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix I: Pearson correlation of Islamic debt and conventional debt

	MOWN	CONOWN	BUMIOWN	FAMOWN	STATE	DOMPFUND	FORFUND	CRCFR	BRDSIZE	BUMIBD	FAMBRD	INSBRD	INDPBRD
MOWN	1	0.094	-.232**	.571**	-0.083	-0.027	-.225**	.199*	-.23**	-.211*	.401**	.394**	-0.136
CONOWN	0.094	1	.260**	.171*	0.128	-.175*	-.240**	0.083	0.025	.220**	0.024	-0.115	0.059
BUMIOWN	-.23**	.260**	1	-.315**	.221**	0.089	-0.115	-0.057	.237**	.623**	-.35**	-.34**	.277**
FAMOWN	.571**	.171*	-.315**	1	-0.103	-0.097	-.243**	.240**	-0.116	-.33**	.816**	.410**	-.164*
STATE	-0.083	0.128	.221**	-0.103	1	-0.023	-0.065	-0.035	0.064	.266**	-0.137	-0.091	0.041
DOMPFUND	-0.027	-.175*	0.089	-0.097	-0.023	1	-.173*	-0.06	-0.038	0.072	-0.05	0.027	-0.045
FORFUND	-.23**	-.240**	-0.115	-.243**	-0.065	-.173*	1	-0.004	0.112	-0.041	-.24**	-0.091	.190*
CRCFR	.199*	0.083	-0.057	.240**	-0.035	-0.06	-0.004	1	-0.07	-0.011	0.094	0.037	-0.081
BRDSIZE	-.23**	0.025	.237**	-0.116	0.064	-0.038	0.112	-0.07	1	0.046	-0.091	0.004	0.045
BUMIBRD	-.211*	.220**	.623**	-.330**	.266**	0.072	-0.041	-0.011	0.046	1	-.22**	-.44**	.245**
FAMBRD	.401**	0.024	-.345**	.816**	-0.137	-0.05	-.240**	0.094	-0.091	-.42**	1	.461**	-.179*
INSBRD	.394**	-0.115	-.337**	.410**	-0.091	0.027	-0.091	0.037	0.004	-.44**	.461**	1	-.46**
INDPBRD	-0.136	0.059	.277**	-.164*	0.041	-0.045	.190*	-0.081	0.045	.245**	-.179*	-.46**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix I (Continued)

	FSIZE	GROWTH	ADJRUNUP	FSLACK	ISSIZE	PROFIT	BETA	RISK	TANG	ADJTD2TA	NDTAX	TAX
FSIZE	1											
GROWTH	0.158	1										
ADJRUNUP	0.106	0.147	1									
FSLACK	.275**	.174*	-0.003	1								
RELISSIZE	-.44**	-0.038	-0.04	-0.08	1							
PROFIT	0.052	.711**	0.105	0.061	0.008	1						
BETA	0.045	-0.072	.214**	0.018	-0.105	-.168*	1					
RISK	-.30**	-.194*	-.209*	-.177*	-0.022	-.399**	.309**	1				
TANG	0.108	-0.045	-0.031	-0.042	0	0.078	-0.073	-0.039	1			
ADJTD2TA	0.126	0.098	0.116	-0.12	-0.1	0.042	0.114	0.056	-0.12	1		
NDTAX	0.07	0.143	-0.053	0.107	0.017	.393**	-0.117	-0.144	.634**	0.059	1	
TAX	-0.077	.623**	0.058	.211**	0.043	.610**	-0.068	-0.156	.240**	-0.071	.365**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix J: Robust Logistic Regression Result for Total Debt and Equity Sample

Variable	FAMBRD MODEL	Reg 1	Reg2	Reg 3	Reg 4	Reg 5	Reg 6	Reg 7	FAMOWN MODEL (n=201)
CONS	-38.360***	-39.1***	-38.14***	-39.74***	-39.74***	-37.274***	-38.76***	-37.90***	-39.226***
MOWN	1.172	1.199	1.128	1.257	1.086	0.833	1.339	1.248	0.959
CONOWN	-2.581	-2.617	-1.747	-2.576	-2.381	-2.323	-2.638	-2.825	-1.885
BUMIOWN	3.269	2.179		3.364	2.501	2.490	3.420	3.565	2.600
FAMOWN		0.158	-0.120	-0.042	-0.007	0.121	-0.080	-0.174	0.125
STATE	4.446	2.988	4.286	3.904	3.249	3.937	4.108	3.803	3.634
DOMPFUND	16.078***	15.40***	15.730***	16.017***	16.348***	15.743***	16.05***	15.885***	17.979**
FORFUND	2.412	2.030	2.201	2.234	2.214	2.183	2.804	3.080	1.055
CRCFR	-0.025	-0.066	-0.063	-0.020	-0.031	-0.031	-0.011	-0.018	-0.119
BRDSIZE	0.171	0.228	0.178	0.193	0.237	0.201	0.178	0.191	0.133
INSBRD	-0.268	-0.103	0.044	-0.258	0.003	-0.029	-0.278	-0.294	0.018
INDPBRD	-2.117	-1.958	-1.699	-1.853	-1.785	-2.025	-1.983	-1.971	-1.971
FSIZE	1.754***	1.744***	1.745***	1.7931***	1.807***	1.712***	1.748***	1.713***	1.956***
GROWTH	0.793	0.561	0.487	0.654		0.376	0.808	0.784	0.400
ADJRUNUP	-4.339***	-4.01***	-4.155***	-4.405***	-4.338***	-4.054***	-4.345***	-4.371***	-4.047***
FSLACK	0.657	0.166	0.295	0.648	-1.002	-1.690	1.182	2.019	0.552
ISSIZE	5.343***	5.112***	5.130***	5.272***	5.070***	5.034***	5.368***	5.313***	5.275***
PROFIT	-2.338	-1.293	-2.224		1.346	-4.043	-1.405	-1.222	-2.227
BETA	0.939	0.800	0.776	0.941*	0.872*	0.830*	0.917*	0.888*	0.774
RISK	-14.310	-8.101	-11.537	-9.867	-4.246	-9.204	-12.967	-13.011	-11.897
TANG	-0.798	-1.037	-0.943	-0.662	-0.964	-1.131		0.023	-1.710
ADJTD2TA	-0.016	-0.389	-0.217	-0.242	-0.643	-0.181	-0.031	0.061	-0.419

Appendix J (Continued)

Variable	FAMBRD MODEL	Reg 1	Reg2	Reg 3	Reg 4	Reg 5	Reg 6	Reg 7	FAMOWN MODEL (n=201)
NDTAX	12.940	16.061	15.683	11.490	12.958	13.882	6.004		23.465
TAX	-28.371	-20.852	-16.966	-29.533	-11.356		-31.021	-28.786	-27.545
DUMSHC	2.672**	2.696**	2.523**	2.778**	2.499**	2.511**	2.661**	2.578***	
BUMIBRD	-1.737		-0.620	-1.630	-1.170	-1.241	-1.822	-1.870	-0.421
FAMBRD	0.032								
LR ch^{i2}	150.876	149.731	148.560	151.085	149.385	149.558	150.851	150.440	145.470
(Prob)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
LR test between full and reduced model	15.94 (0.661)					16.15[1] (0.5820)	17.85[2] (0.5323)	3.06[3] (0.0804)	13.25 (0.866)

Notes: The model used is a logistic regression in which the dependent variable is a dummy variable which that takes value 1 for total debt issues and0 for equity.*,**, *** represent significance level at a 10%, 5% and 1% level respectively for coefficients.

[1] LR test between full models of Regl or Reg 2 and their respective reduced model

[2] LR test between full models of Reg 3until Reg 7 and their respective reduced models

[3] LR test between reduced model from Reg 1 or Reg 2 and reduced model from Reg 3 until Reg 7.

Appendix K: Robust Logistic Regression Analysis for Conventional Debt-Equity Sample

VARIABLE	FAMBRD model	Reg 2	Reg 3	Reg 4	Reg 5	FAMOWN model (n=91)
CONS	-58.15**	-38.444***	-53.680***	-63.794***	-51.376**	-54.719
MOWN	-5.269	-3.828*	-4.210*	-6.391*	-5.078*	-5.518*
CONOWN	-6.528	-4.452	-4.707	-8.587	-6.947	2.056
BUMIOWN	7.149	5.198	6.066	9.726	8.315	5.496
STATE	23.931	9.135	12.481	26.958	23.076	16.381
DOMPFUND	35.673***	27.129**	30.827***	40.645***	35.312***	54.021**
FORFUND	6.218	8.108	7.541	8.327	7.762	10.01
CRCFR	0.383	0.138	0.226	0.494	0.324	0.226
BRDSIZE	0.518	0.500	.723**	0.735*	0.532	0.414
BUMIBRD	-6.366	-2.728	-2.070	-5.954	-5.872	-1.588
INSBRD	-3.847	-4.274	-4.504	-4.021	-4.686	-15.638
INDPBRD	-5.364	-2.909	-2.963	-6.236	-5.529	-8.63
FSIZE	2.739***	1.751***	2.407***	3.210***	2.671***	2.957***
GROWTH	0.846	1.834	0.216		1.147	4.250
ADJRUNUP	-6.889**	-4.816***	-6.255***	-7.804**	-6.775**	-7.229*
FSLACK	-18.381*	-8.784	-19.211	-26.751	-19.716	-22.133
ISSIZE	5.291**	5.710***	6.508***	6.516**	5.974***	10.059
PROFIT	-29.728	-7.370		-24.026	-20.358	-10.926
BETA	1.248	1.328	2.106**	1.856	1.580	2.146
RISK	15.956	8.844	35.494	36.421	17.279	-17.738
TANG	-9.573**	-3.435	-6.487**	-11.384*	-10.03**	-8.464*
ADJTD2TA	2.485	1.331	-1.496	0.905	1.758	3.333

Appendix K (Continued)

VARIABLE	FAMBRD model	Reg 2	Reg 3	Reg 4	Reg 5	FAMOWN model (n=91)
TAX	48.694	-11.356	-5.680	60.576		-123.726
DUMSHC	0.580	0.969	1.351	0.453	0.290	-
NDTAX	117.352		65.512	149.526*	112.804	-
FAMOWN		1.118	2.438	2.770	2.058	
FAMBRD	0.373					
Pseudo R^2 (%)	71.93	67.52	69.26	72.03	71.75	74.21
LR χ^2 (Prob)	101.86 (0.000)	95.610 (0.000)	98.056 (0.000)	102.000 (0.000)	101.605 (0.000)	91.77 (0.000)
Likelihood ratio test between full and reduced model	22.10 (0.14)	19.80 (0.406)	17.48 (0.355)	25.22 (0.119)	24.83 (0.129)	14.35 (0.642)

Appendix L: Robust Logistic Regression Analysis for Islamic Debt and Equity Sample

VARIABLE	FAMBRD model	Reduced FAMBRD model	Reg1	Reg 2	Reg 3	Reg 4	Reg 5
CONS	-36.556***	-38.584***	35.901***	-34.315***	-37.516***	-34.058***	-36.517***
MOWN	3.059**	2.443*	3.422**	3.044*	3.375*	2.696*	3.462**
CONOWN	-1.858		-2.076	-1.633	-1.797	-1.801	-1.885
BUMIOWN	2.268		2.201	2.160	2.090	1.277	2.214
FAMOWN	-		-1.381	-1.118	-1.339	-1.178	-1.259
STATE	3.141		2.235	3.086	2.702	2.977	2.594
DOMPFUND	11.902*	12.248**	11.238*	11.364*	11.289*	10.525*	11.496*
FORFUND	0.826		-0.686	0.258	-0.553	-1.367	-0.106
CRCFR	-0.061		-0.049	-0.044	-0.031	-0.048	-0.036
BRDSIZE	0.077		0.103	0.068	0.099	0.098	0.092
INSBRD	-0.925		-0.873	-0.916	-0.647	-0.522	-0.867
INDPBRD	-2.550		-2.619	-2.642	-2.207	-2.587	-2.479
FSIZE	1.850***	1.889***	1.810***	1.771***	1.898***	1.776***	1.836***
GROWTH	0.344		0.255	0.467		-0.118	0.305
ADJRUNUP	-5.513***	-5.257***	-5.580***	-5.397***	-5.389***	-5.056**	-5.546**
FSLACK	3.028		4.289	2.809	2.910	-0.201	3.608
ISSIZE	5.542***	5.343***	5.405***	5.422***	5.485***	5.262***	5.451**
PROFIT	3.237**		3.386		5.143	-1.090	3.693
BETA	0.681		0.564	0.643	0.593	0.545	0.601
RISK	-41.165		-40.805	-51.113	-43.347	-42.635	-41.702

Appendix L (Continued)

VARIABLE	FAMBRD model	Reduced FAMBRD model	Reg1	Reg 2	Reg 3	Reg 4	Reg 5
TANG	-0.682		0.331	-0.628	-0.573	-0.538	
ADJTD2TA	-0.160		-0.147	0.022	-0.288	-0.135	-0.176
NDTAX	17.754			14.706	13.721	4.221	8.722
TAX	-42.218		-35.740	-37.054	-36.279		-40.731
FAMBRD	-0072						
BUMIBRD	-0.046						
Pseudo R^2 (%)	65.55	60.81	65.45	65.62	65.59	64.34	65.64
LR χ^2 (prob)	134.78 (0.000)	125.04 (0.000)	134.57 (0.000)	134.91 (0.000)	134.86 (0.000)	132.29 (0.000)	134.96 (0.000)
Likelihood test between full and reduced model		9.74 (0.9590)	10.06[1] (0.9514)				

[1] Likelihood ratio test between the full model of Reg 1 until Reg 5 and their respective reduced model.

Appendix M: Robust Logistic Regression Analysis for IslamicDebt-Conventional Debt Sample

Variable	FAMBRD model	Reg 1	Reg2	Reg 3	Reg 4	Reg 5
CONS	8.348	7.853	7.638	8.599	5.902	7.688
MOWN	1.895*	2.609*	2.651**	2.735**	2.629**	2.628*
CONOWN	-3.204	-2.713	-2.845	-2.783	-3.116	-2.838
BUMIOWN	2.147	1.859	1.709	2.177	1.462	1.870*
FAMOWN		-2.927*	-3.106**	-2.665*	-2.709*	-2.953*
STATE	1.963	2.582	2.511	2.426	1.988	2.443*
DOMPFUND	-5.158	-5.191	-5.495	-4.788	-4.765	-5.302
FORFUND	-3.253	-3.217	-3.445	-3.115	-3.182	-3.404
CRCFR	-1.326	-0.831	-0.844	-0.873	-0.897	-0.854
BRDSIZE	-0.236**	-0.234*	-0.228*	-.2481**	-0.230**	-.2379*
BUMIBRD	-1.328	-1.217	-1.155	-1.478	-0.914	-1.255
FAMBRD	-1.967					
INSBRD	-0.012	0.261	0.106	0.034	-0.305	0.144
INDPBRD	-2.752	-2.616	-2.645	-2.862	-2.756	-2.639
FSIZE	-0.071	-0.072	-0.057	-0.079	0.058	-0.053
GROWTH	0.258	0.248		0.538	-0.198	0.172
ADJRUNUP	-1.892**	-1.878**	-1.879***	-1.972***	-1.906**	-1.899*
FSLACK	-0.444	-0.796	-0.333	-1.188	-1.603	-0.615
ISSIZE	-0.190	-0.026	-0.009	-0.053	0.045	-0.012

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Appendix M (Continued)

0Variable	FAMBRD model	Reg 1	Reg2	Reg 3	Reg 4	Reg 5
PROFIT	4.801	4.467	6.540		4.172	4.969
BETA	0.747*	0.831*	0.797*	0.836*	0.676	0.813
RISK	-28.637	-37.816*	-35.766*	-45.384**	-34.939	-37.157
TANG	0.238	-0.021	0.244	-0.030	-0.076	
ADJTD2TA	-2.192	-1.983	-1.754	-1.917	-1.839	-1.925
NDTAX	-5.071		-6.050	-0.890	-7.535	-3.198
TAX	-25.836	-27.039*	-23.559	-23.449**		-24.565
Pseudo R^2 (%)	19.94	21.4	21.49	20.9	20.07	21.5
LR χ^2 (prob)	33.62 (0.092)	36.08 (0.0404)	36.24 (0.000)	35.24 (0.0492)	33.84 (0.0675)	36.24 (0.0389)
Likelihood test between fulland reduced model	20.11 (0.4512)	14.59 (0.6247)	14.75 (0.6135)	18.97 (0.3320)	16.11 (0.6502)	14.75 0.6132)