



DETERMINANTS OF CORPORATE DEMAND
FOR ISLAMIC AND CONVENTIONAL INSURANCE
IN MALAYSIA

BY

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ABSTRACT

Even though the modern financial theory of the Capital Asset Pricing Model (CAPM) developed by Sharpe (1964), Lintner (1965) and Mossin (1966) implies that variation in the pure risks that a firm assumes does not affect the firm's value, some studies like Mayers and Smith (1990); Yamori (1999), Hoyt and Khang (2000); Zou et al. (2003); Daniel and Paul (2003) and Zou and Adam (2006) suggest that insurance helps managers to alleviate business risks such as bankruptcy following a major accidental loss. The general takaful industry in Malaysia has recorded progressive growth, particularly over the last six years. Demand for general takaful products has continuously risen, as reflected in the improvement in contributions (premiums) of general takaful. Besides that, the conventional insurance industry also continued to register positive growth in 2005, buoyed by stronger growth in the general insurance sector. In addition, over 50 percent of total premiums were from the business corporation for takaful and conventional insurance in Malaysia. Hence, there appears to be a conflict in the implications of the CAPM and the actual behaviour of corporations in their takaful and conventional insurance demand in Malaysia. Moreover, although numerous theoretical and empirical articles investigate corporate demand for conventional insurance, empirical tests of the theories have never been conducted for Islamic insurance which is known as takaful. The main contribution of this study is that it is the first attempt to empirically investigate the determinants of corporate demand for takaful and also conventional insurance for property or asset-based risk exposures of non-financial corporations using data from the main board of public listed companies at Bursa Malaysia. Besides that, the unique data of this study i.e. pooled data of corporate demand for conventional insurance and takaful is performed to show the overall perspective of the corporate demand for insurance in Malaysia. Factors like underinvestment and leverage, growth opportunities, expected bankruptcy costs, tax considerations, managerial ownership, company size and regulatory environment have been examined in this study to identify the determinants of corporate demand for Islamic and conventional insurance in Malaysia. The data covers a five-year period from year 2002 – 2006. Three models of panel data estimation were employed, namely GLS with non-effects, GLS with fixed effects and GLS with random effects. The findings are robust to alternative specifications of the model i.e. GLS with the fixed effects model that help us to control for unobservable heterogeneity. The findings show that leverage, expected bankruptcy costs, tax considerations, company size, and managerial ownership play an important role in determining the corporate demand for conventional insurance and takaful in Malaysia. These findings are also parallel with the findings of the pooled data of the corporate demand for conventional insurance and takaful to represent the overall perspective of the corporate demand model for insurance in Malaysia. This study gives some important implications for various groups like the insurers and takaful operators, the shareholders and creditors as well as the regulators in reflecting with the financial exposition factors that determine the corporate demand for Islamic and conventional insurance in Malaysia.

ملخص البحث

على الرغم من أن النظرية المالية الحديثة لنموذج أسعار الموجودات الرأسمالية (CAPM) التي تبناها كل من شارب (1964م)، ولينتنير (1965م)، وموسن (1966م) أثبتت أن أي تغيير يحدث في المخاطر التي تتوقعها أي شركة من الشركات لا يؤثر بالضرورة على قيمة تلك الشركة، إلا أن الدراسات التي أجراها ميارس وسميث (1990م)، وياموري (1999م)، وهويت وخانج (2000م)، وزاو إتال (2003م)، ودانيال وبول (2003م)، وزاو وآدم (2006م) أشارت إلى أن التأمين يساعد المدراء في التخفيف من مخاطر الشركة كإفلاس إثر حدوث خسائر كبيرة.

لقد شهد حقل التأمين الإسلامي العام بماليزيا نمواً سريعاً خلال السنوات الستة الأخيرة حيث زاد الإقبال على منتجات التأمين الإسلامي العام بشكل مستمرّ بدليل ارتفاع نسبة أرباحها، كما سجل حقل التأمين التقليدي نمواً إيجابياً عام 2005م مدعماً بالنمو السريع في مجال التأمين عامةً. إضافة إلى ذلك فإن أكثر من 50% من إجمالي الأرباح كانت من شركات التأمين الإسلامي والتقليدي في ماليزيا. ومن منطلق ذلك فإن ثمة خلاف بين ما يترتب عليه CAPM وبين الاتجاه الفعلي للشركات الماليزية فيما يخص الإقبال على التأمين الإسلامي والتقليدي. علاوة على ذلك، فإنه رغم تعدد المقالات النظرية والتجريبية التي تبحث في مدى إقبال السوق التجاري على التأمين التقليدي، لم تكن هناك دراسات مماثلة لمعرفة مدى الإقبال على التأمين الإسلامي أو ما يُعرف في ماليزيا بـ (التكافل). وتكمن أهمية هذا البحث في أنه من أولى المحاولات لتقصي محددات الإقبال التجاري على كل من التأمين الإسلامي أو التكافل والتأمين التقليدي على الممتلكات ذات المخاطر للشركات غير المالية باستخدام بيانات اللوحة الرئيسة للشركات العمومية المدرجة في البورصة. إلى جانب ذلك، فإن بيانات هذه الدراسة تشير إلى المنظور العام للإقبال نحو التأمين في ماليزيا.

وتمت في البحث دراسة العوامل المتمثلة في الاستثمار، والفعالية، وفرص النمو، وتكاليف الإفلاس المتوقع، والضرائب، والملكية الإدارية، وحجم الشركة، ونظام المحيط من أجل تعيين محددات الإقبال التجاري على التأمين الإسلامي التقليدي في ماليزيا. وشملت الدراسة البيانات خلال الفترة ما بين عام 2002م-2006م، واستخدم البحث ثلاثة نماذج لجدول تقدير البيانات وهي: GLS معدومة الأثر، و GLS ذات الآثار الثابتة، و GLS ذات الآثار العشوائية.

وقد أشارت النتائج بشكل واضح إلى المواصفات الخيارية لنموذج GLS ذات الآثار الثابتة التي تُعين على التحكم في التغييرات غير الملحوظة. كما توصل البحث إلى أن الفعالية، وفرص النمو، وتكاليف الإفلاس المتوقع، والضرائب، والملكية الإدارية، وحجم الشركة تلعب دوراً هاماً في تحديد الإقبال التجاري تجاه التأمين الإسلامي والتقليدي في ماليزيا. وبذلك تتطابق هذه النتائج مع بيانات الدراسة حول الإقبال التجاري نحو التأمين الإسلامي والتقليدي لتمثل المنظور الشامل لنموذج هذا الإقبال في ماليزيا بشكل عام.

APPROVAL PAGE

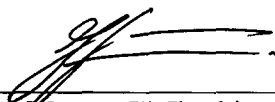
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DECLARATION PAGE

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

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TABLE OF CONTENTS

Abstract.....	ii
Abstract in Arabic.....	iii
Approval Page.....	iv
Declaration Page.....	v
Copyright Page.....	vi
Acknowledgement.....	vii
List of Tables.....	xiv
List of Figures.....	xvi
List of Arabic Terms and its Definition in Islamic Insurance.....	xvii
CHAPTER 1: INTRODUCTION.....	1
1.1 Background of the Study.....	1
1.2 Problem Statement.....	5
1.3 Research Objectives.....	7
1.4 Research Questions.....	7
1.5 Contribution and Significance of the Study.....	9
1.6 The Scope and Methodology.....	12
1.7 The Organization of the Study.....	12
CHAPTER 2: INSTITUTIONAL BACKGROUND OF TAKAFUL.....	13
2.1 Introduction.....	13
2.2 Definition of takaful and Its Association with Risk.....	14
2.3 Position of Conventional Insurance in Islam.....	15
2.4 Unlawful Elements of Conventional Insurance.....	20
2.4.1 Gharar (Uncertainty).....	20
2.4.2 Maysir (Gambling).....	22
2.4.3 Riba (Interests).....	22
2.5 The Concept of Takaful and Tabarru'.....	24
2.6 Shariah Issue of Commercial Takaful.....	25
2.7 Models of General Takaful Business in Malaysia.....	27
2.7.1 Al-Mudharabah Model for General Takaful.....	28
2.7.2 Al-Wakalah Model for General Takaful.....	30
2.8 Corporate Takaful Business and Principles of Fiqh.....	31
2.8.1 Retakaful.....	31
2.8.2 Assets Financing/Loan from Conventional Banking Ssystem.....	35
2.9 The Operation of General Takaful Business in Malaysia.....	36
2.10 Development and Growth of Takaful Business.....	41
2.11 Model of Conventional Insurance Business in Malaysia.....	43
2.12 Development and Growth of Conventional Insurance Business.....	45
2.13 A Summary of Contract Differences and Product Similarities.....	46
2.14 Conclusion.....	48

CHAPTER 3: LITERATURE REVIEW.....	49
3.1 Introduction.....	49
3.2 Theoretical Background.....	49
3.2.1 Expected Utility Theory and Insurance Purchase.....	50
3.2.2 Capital Assets Pricing Model (CAPM) and Corporate Insurance Purchase.....	51
3.2.3 Risk Management, Insurance and Value Maximization.....	53
3.2.4 Incentives for Corporate Insurance Demand.....	54
3.2.4.1 Underinvestment Problem and Leverage.....	55
3.2.4.2 Growth Opportunities.....	56
3.2.4.3 Expected Bankruptcy Costs and Financial Distress...	57
3.2.4.4 Tax Considerations.....	59
3.2.4.4.1 Tax Rate Benefits.....	60
3.2.4.4.2 Insuring Depreciated Property.....	61
3.2.4.5 Managerial Ownership.....	63
3.2.4.6 Company Size.....	64
3.2.4.7 Regulatory Environment.....	66
3.3 Empirical Evidence of Corporate Demand for Insurance.....	67
3.4 Are Determinants of Corporate Demand for Takaful Different From Conventional Insurance?	73
3.5 Conclusion.....	76
CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY.....	90
4.1 Introduction.....	90
4.2 Data Description.....	91
4.2.1 Dependent variables.....	92
4.2.1.1 Sources of Conventional Insurance Data.....	93
4.2.1.2 Sources of Takaful Data.....	94
4.2.2 Industrial Classifications.....	97
4.2.3 Explanatory Variables and Hypotheses Development.....	99
4.2.3.1 Underinvestment Problem and Leverage.....	100
4.2.3.2 Growth Opportunities.....	100
4.2.3.3 Expected Bankruptcy Costs and Financial Distress...	101
4.2.3.4 Tax Considerations.....	104
4.2.3.5 Managerial Ownership.....	105
4.2.3.6 Company Size.....	106
4.2.3.7 Regulatory Environment.....	107
4.3 General Function of Models.....	114
4.4 Estimation Model.....	115
4.4.1 Model for CDI.....	116
4.4.2 Model for CDT.....	116
4.4.3 Model for CDIT.....	117
4.5 Estimation Method.....	118
4.5.1 Non-Effects Model.....	119
4.5.1.1 Model 1 for CDI.....	121
4.5.1.2 Model 1 for CDT.....	122
4.5.1.3 Model 1 for CDIT.....	122

4.5.2	Panel Data Regression Models: Fixed Effects and Random Effects.....	123
4.5.2.1	Fixed Effects Model (FEM).....	123
4.5.2.1.1	Model 2 for CDI.....	124
4.5.2.1.2	Model 2 for CDT.....	124
4.5.2.1.3	Model 2 for CDIT.....	125
4.5.2.2	Random Effects Model (REM).....	127
4.5.2.2.1	Model 3 for CDI.....	129
4.5.2.2.2	Model 3 for CDT.....	129
4.5.2.2.3	Model 3 for CDIT.....	130
4.5.3	Model Specification Tests.....	131
4.5.3.1	Chow Test.....	132
4.5.3.2	Hausman Test.....	132
4.6	Diagnostic Tests.....	134
4.6.1	Normality Test.....	134
4.6.2	Multicollinearity Test.....	135
4.6.3	Heteroscedasticity Test.....	136
4.6.4	Autocorrelation Test.....	136
CHAPTER 5: EMPIRICAL RESULTS.....		138
5.1	Introduction.....	138
5.2	Descriptive Statistics Analysis	139
5.2.1	Corporate Demand for Conventional Insurance (CDI).....	139
5.2.2	Corporate Demand for Takaful (CDT).....	141
5.3	Test of Multicollinearity.....	147
5.4	Test of Heterocedasticity.....	155
5.5	Determinants of Corporate Demand.....	156
5.5.1	Analysis of Models: Econometric and Statistical Analysis.....	157
5.5.1.1	GLS with Non Effects.....	157
5.5.1.2	GLS with Fixed Effects.....	158
5.5.1.3	GLS with Random Effects.....	159
5.5.2	Models Selection Tests.....	165
5.5.3	Corporate Demand Analysis: GLS with Fixed Effects.....	168
5.5.3.1	Corporate Demand for Conventional Insurance Model.....	169
5.5.3.2	Corporate Demand for Takaful Model.....	174
5.5.3.3	Corporate Demand for Insurance Model.....	179
5.6	Summary of Empirical Findings.....	183
5.7	Conclusion.....	186
CHAPTER 6: SUMMARY AND CONCLUSION.....		188
BIBLIOGRAPHY.....		201
APPENDIX 1.....		210
APPENDIX II.....		214
APPENDIX III.....		217

LIST OF TABLES

<u>Table No.</u>		<u>Page No.</u>
1.1	Research Questions	8
2.1	Key Indicators of Takaful	43
2.2	Key Indicators of Insurance	45
2.3	Comparison between Takaful and Conventional Insurance	46
2.4	List of Some Property Insurance and Takaful Classes of Products	47
3.1	Focus of Previous Studies	78
3.2	Summary of Previous Studies	79
3.3	Summary of Findings of Previous Studies on Property Insurance	80
3.4	Research Contributions of the Study	85
4.1	Gross Contribution of General Takaful and Market Share of Two Main Operators	96
4.2	Industrial Classifications for All Companies	99
4.3	Financial Data	110
4.4	Variables, Hypotheses and Expected Coefficient	111
5.1	Descriptive Statistics	145
5.2	Pearson's Correlations and Diagnostics Tests	149
5.3	White Test of Heteroscedasticity	155
5.4	Multivariate Results	162
5.5	Panel Specifications Tests	168
5.6	Findings of Corporate Demand for Conventional Insurance (CDI)	170
5.7	Findings of Corporate Demand for Takaful (CDT)	175

5.8	Findings of Corporate Demand for Pooled Data of Conventional Insurance and Takaful (CDIT)	180
5.9	Summary of Empirical Findings	185
5.10	Sensitivity Analysis on All Variables (Excluding Two Variables of Expected Bankruptcy Costs: ICVR and LTDR)	218
5.11	Sensitivity Analysis on Tested Variables	219
5.12	Sensitivity Analysis on Controlled Variables	220
5.13	Estimations Results for Robustness Check (Including One Variable of the Ratio of Total Tax to Total Assets)	222

LIST OF FIGURES

<u>Figure No.</u>		<u>Page No.</u>
2.1	Al-Mudharabah Model for General Takaful	29
2.2	Al-Wakalah Model for General Takaful	30
2.3	Mechanism of Retakaful	33
2.4	Retakaful Arrangement	34
2.5	Three Stages of Business Operations	36
2.6	Product Design	38
2.7	Comprehensive Stages of Takaful Business Operations	40
2.8	Agency Model of General Insurance Business (Conventional Insurance)	44
3.1	Risk of a Portfolio: Adding Assets to a Portfolio	52
4.1	A Model of the Theoretical Framework of the Determinants of Corporate Demand for Islamic and Conventional Insurance in Malaysia	109
4.2	Tests for Models	134
4.3	A Summary of Model of Theoretical Framework on the Determinants of Corporate Demand for Islamic and Conventional Insurance in Malaysia	137
5.1	Corporate Demand Models for Islamic and Conventional Insurance In Malaysia	187

LIST OF ARABIC TERMS AND ITS DEFINITIONS IN ISLAMIC INSURANCE

<i>Takaful</i>	: Islamic insurance provided under the principle of mutual support and help among participants
<i>Tabarru'</i>	: A gift or sadaqah
<i>Gharar</i>	: Deception involving the deliberate creation of, or exploitation of, or uncertainty in the contract of business
<i>Maysir</i>	: Gambling
<i>Riba</i>	: An addition or excess in the principal of a loan or exchange of ribawi items
<i>Mudharabah</i>	: Profit sharing contract between two parties i.e. capital provider and entrepreneur
<i>Wakalah</i>	: Agency
<i>Ujrah</i>	: Commission
<i>Takaful Tijari</i>	: Commercially driven Islamic insurance

CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Corporate risk management has been the subject of a large body of academic literature in the last twenty years. Corporate risk management methods consist of risk controlling and risk financing in which insurance is one of the risk financing methods (Dorfman, 2003). In modern business, one of the ways of reducing the risk of loss due to misfortune is through insurance. In Malaysia, the government entrusted Bank Negara Malaysia with the regulatory and supervisory role over the conventional and Islamic insurance (takaful) industries.¹

Islamic and conventional insurance are two different contracts. Islamic insurance which is known as takaful is based on the concept of takaful that is developed on three principles: 1) Mutual responsibility 2) Co-operation with each other 3) Protecting one another from any kind of difficulties, disasters and other misfortune whereby the financial contribution (premium) is based on the concept of *tabarru'* (Jamil Osman, 2003). *Tabarru'* is derived from the Arabic noun that means donation, gift and contribution (Mohd. Ma'sum Billah, 1999). In relation to this, a participant agrees to contribute as *tabarru'*, undertakes to pay thus enable him to fulfil his obligation of mutual help and joint guarantee should any of his fellow participants suffer a defined loss (Mohd. Fadzli Yusof, 1996).

Conventional Insurance is a contract in which one person (the insurer) undertakes in return for the agreed consideration (premium) to pay to another person

¹ The Central Bank and the Financial System in Malaysia – A Decade of Change (1989-1999), p. 256

(the insured), a sum of money (the indemnity) on the happening of a specified event (Dorfman, 2003). It is generally accepted by Muslim jurists that the operation of conventional insurance does not conform to the rules and requirements of the Shariah. Conventional insurance involves elements of uncertainty (*Al-gharar*) in the contract of insurance, gambling (*Al-maysir*) as the consequence of the presence of uncertainty and interest (*Al-riba*) in the investment activities of the conventional insurance companies which contravene the rules of the Shariah.²

Thus, the nature of the concepts of takaful is fundamentally different from conventional insurance. The effect of *tabarru'* transforms the basis of the insurance contract from an exchange contract to a charitable (donation) contract in takaful. When a contract is a charitable (*tabarru'at*) contract, uncertainty is tolerated (Jamil Osman, 2003). This part will be discussed in Chapter two.

However, these two contracts have the common objective of reducing a financial burden arising from any disaster or accidental loss like fire, flood or storm. In other words, takaful and the conventional insurance contract are an integral part of corporate risk management. Takaful and conventional insurance have more or less the same characteristics, for example, in terms of the nature of their businesses, products and services offered. The only difference is that takaful is based on the Shariah law, while conventional insurance is not.

For example, the Central Bank of Malaysia reported that total gross claims paid increased by 11.5% involving RM116 million with 21.7% or RM25.2 million of the total gross claims paid being borne by Islamic reinsurance (*retakaful*) and reinsurance companies under the *retakaful* arrangement.³ Thus, in theory and practice, it is generally accepted that takaful and conventional insurance can reduce a burden

² Ibid p. 256

³ Annual Report of Takaful (2004), Bank Negara Malaysia, p. 10.

and suffering of financial loss of an individual or a business corporation arising from pure risks such as fire, flood, earthquake or any other specified disasters. There are two basic types of risk⁴ i.e. pure risk and speculative risk. Takaful and conventional insurance deal with pure risk only.

Modern financial theory i.e. the Capital Asset Pricing Model (CAPM) developed by Sharpe (1964), Lintner (1965) and Mossin (1966) implies that the variation in the pure risks that a firm assumes does not affect the firm's value. A corporation, therefore, has no incentive to purchase insurance. The theory argues that investors can hedge against insurable risk through diversification. Prior to this, Modigliani and Miller (1958) asserted that in perfect capital markets⁵, there is no difference between purchasing insurance and purchasing a portfolio of securities. That is, corporate insurance is irrelevant. According to modern finance theory, when shareholders are well diversified, corporate activities to reduce the variability in cash flows due to pure risks are largely redundant from the perspective of the shareholders, who already have reduced their risk through diversification.

However, Main (1983), Mayers and Smith (1982 and 1987), and Skogh (1989) have sought to develop a positive theory of corporate insurance purchasing behaviour. These studies argue that corporate insurance purchases are driven by (i) the underinvestment problem (interest conflicts between shareholders and debt holders); (ii) interest conflicts between owners and managers; (iii) the comparative advantage of

⁴ Pure risk refers to possibilities that can result in only loss or no change. Nothing good can come from an exposure to pure risk. A factory's exposures to loss by fire, storm or flood are examples of pure risk. But in the case of speculative risk there is uncertainty of an event that could produce either a profit or loss. For example, a business venture and a stock market investment are risks of a speculative nature and, therefore, could not be covered and insured under takaful and conventional insurance. (Dorfman, Introduction to Risk Management and Insurance , 2003. p.7)

⁵ Perfect Capital Market refers to i. a market which is frictionless; that is, there are no transaction costs or the taxes, all assets are perfectly divisible and marketable, and there are no constraining regulations, ii. all participants in the securities market are price takers, iii. Markets are informationally efficient; that is, information is costless and it is received simultaneously by all individuals. (Financial Theory and Corporate Policy by Copeland, 2005. pp. 353-354)

insurers in providing risk-related services, such as claims handling and loss prevention; (iv) effects of the firm's expected tax liability; (v) the existence of bankruptcy costs; and (vi) the regulatory status of the firm. This is supported by previous studies like Mac Minn (1987), Mayers and Smith (1990), Yamori (1999), Hoyt and Khang (2000), Zou et al. (2003), Daniel and Paul (2003). This studies show that insurance helps managers to alleviate business risks such as bankruptcy following a major accidental loss.

In the insurance literature, the incentive to buy insurance is often assumed to be risk aversion (Borch, 1960 and 1962; Blau, 1986). Risk aversion is the major underlying force that motivates most individuals to purchase insurance even though insurance premiums exceed expected claim costs. However, the importance of risk aversion in an individual's demand for insurance is obvious but the importance of risk aversion in the corporate demand for insurance is less obvious (Main, 1983; Mayers and Smith, 1987, 1990; and MacMinn, 1987). This fundamental question is left unanswered in finance with regard to what actually motivates risk neutral corporations to actively manage their idiosyncratic risk (pure risk) through costly practices such as the purchasing of insurance policies and investing in risk management strategies (Boyer, 2003).

This research will focus on property or asset-based takaful and conventional insurance⁶. The majority of empirical studies focused upon identifying the factors affecting corporate demand for property insurance. Their studies try to find the

⁶ There are two types of takaful and conventional insurance business i.e. i) General takaful and general insurance which consists of property and liability takaful & property and liability insurance. ii) Family takaful and life insurance. As in prior studies (e.g., Hoyt and Khang, 2000; and Zou et al., 2003), only property insurance is covered in this study, whilst liability insurance is excluded for two reasons. First, third party liability insurance/takaful is compulsory and the corporate demand for other liability insurance/takaful is still very minor (less than 5 percent of total general insurance/takaful premium, BNM 2005). Second, Hoyt and Khang (2000) report that the levels of liability-based premiums are unlikely to correspond closely with current measurable firm-specific factors (e.g., size).

relationship of these factors with property insurance and whether they are significantly or insignificantly related with property insurance and then whether they are positively or negatively related with property insurance (Yamori, 1999; Hoyt and Khang, 2000; Zou, Adams and Buckle, 2003; Daniel and Paul, 2003; Zou and Adams, 2006).

Among the factors affecting corporate insurance that have been studied are:

- i. Underinvestment problems and leverage,
- ii. Growth opportunities,
- iii. Managerial ownership,
- iv. Tax considerations,
- v. Expected bankruptcy costs,
- vi. Company size and Insurer's risk management services and,
- vii. Regulatory environment

The above factors affecting the corporate demand for insurance will be discussed in detail in Chapter three. Therefore, this study would like to examine the above mentioned factors affecting corporate demand for takaful and conventional insurance by public listed companies on the main board at Bursa Malaysia.

1.2 PROBLEM STATEMENT

The general takaful industry in Malaysia has recorded progressive growth, particularly over the last six years. Public demand for general takaful products has continuously risen, as is evident from the improvement in contributions (premiums) of general takaful. For example, total net contributions for general takaful expanded by a double-digit growth rate at an average of 19.2% annually, to register RM356.6 million in

2005.⁷ An interesting fact is that, Syarikat Takaful Malaysia Berhad (The first Islamic Insurance Company in Malaysia) is among the top four companies in the insurance industry in Malaysia. For example, the company secured contributions (premiums) of about RM600 million in 2003. In addition, STMB ranked first in 2003 in fire takaful business in the insurance and takaful industry, collecting a contribution of RM132 million (Salahuddin Ahmed, 2006).

Besides that, the Central Bank of Malaysia also reported that the conventional insurance industry continued to register positive growth in 2005, buoyed by stronger growth in the general insurance sector. The general insurance sector expanded with strong growth in 2005 with a premium growth of 9.7% (2004) to RM9, 386.1 million. The data also indicate that over 50 percent of total premiums are from business corporations for general takaful and insurance business. It is, therefore, important to highlight the factors affecting corporate demand for takaful and conventional insurance.

Besides that, there appears to be a conflict between the implication of the Capital Assets Pricing Model (CAPM) and the actual behaviour of corporations for conventional insurance and also takaful demand in Malaysia. This is the primary motivation of this research which is also in line with previous studies like that of Hoyt and Khang (2000) who find that more than 57% of direct property and liability insurance premiums were purchased by business firms in 1988 in the United States. The next question is, what are the factors affecting the corporate demand for takaful and conventional insurance even though they can hedge against insurable risk through diversification according to the CAPM?

⁷ Concept and Operation of General Takaful Business in Malaysia, by Bank Negara Malaysia (2006) p. 7

Therefore, research should also be conducted to investigate the determinants of corporate demand for takaful and conventional insurance in Malaysia since there has been no research in this area in Malaysia. Moreover, empirical research conducted on takaful is still quite scarce despite its more than 20 years existence in Malaysia.

1.3 RESEARCH OBJECTIVES

The general objective of this study is to identify the corporate demand factors for takaful and conventional insurance in Malaysia, with particular focus on the factors affecting business corporations to use takaful and conventional insurance as a tool for corporate risk management. Specifically, the objectives of this study are:

- i. To examine the relationship between property insurance (conventional and takaful) and the factors affecting corporate demand.
- ii. To identify and compare the determinants of corporate demand for conventional insurance and takaful in Malaysia.
- iii. To evaluate whether corporate demand behaviour is in line with modern financial theory.
- iv. To propose corporate demand models for conventional insurance and takaful as well as an overall perspective of the corporate demand model for insurance in Malaysia.

1.4 RESEARCH QUESTIONS

There are seven research questions to be answered in this study. The research questions are separated into two forms of statement for takaful and conventional insurance. The research questions are shown in table 1.1 as follows:

Table 1.1
Research Questions

Research Questions on:	Takaful	Conventional Insurance
1) Leverage:	Do firms with high leverage contribute more to takaful?	Do firms with high leverage purchase more conventional insurance?
2) Growth Opportunities:	Do firms with high growth opportunities contribute more to takaful?	Do firms with high growth opportunities purchase more conventional insurance?
3) Managerial Ownership:	Do firms with high stock ownership of managers contribute more to takaful?	Do firms with high stock ownership of managers purchase more conventional insurance?
4) Company Size:	Do large firms contribute more to takaful?	Do large firms purchase more conventional insurance?
5) Tax Considerations:	Do firms contribute more to takaful to reduce the real tax burden?	Do firms purchase more conventional insurance to reduce the real tax burden?
6) Expected Bankruptcy Cost	Do firms with more expected bankruptcy costs have a greater incentive to contribute more to takaful?	Do firms with more expected bankruptcy costs have a greater incentive to purchase more conventional insurance?
7) Regulatory environment:	Do firms in a regulated industry contribute more to takaful than those in an unregulated industry?	Do firms in a regulated industry purchase more conventional insurance than those in an unregulated industry?

This study intends to pool both conventional insurance and takaful demand data to identify an overall perspective of corporate demand factors for insurance in Malaysia. Therefore, the research questions for the overall perspective of corporate demand for insurance in Malaysia can be stated as follows:

Research Questions on:	Corporate Demand for Insurance
1) Leverage:	Do firms with high leverage purchase more insurance?
2) Growth Opportunities:	Do firms with high growth opportunities purchase more insurance?
3) Managerial Ownership:	Do firms with high stock ownership of managers purchase more insurance?
4) Company Size:	Do large firms purchase more insurance?
5) Tax Consideration:	Do firms purchase more insurance to reduce the real tax burden?
6) Expected Bankruptcy Cost:	Do firms with more expected bankruptcy costs have a greater incentive to purchase more insurance?
7) Regulatory environment:	Do firms in a regulated industry purchase more insurance than those in an unregulated industry?

1.5 CONTRIBUTION AND SIGNIFICANCE OF THE STUDY

This study contributes to the existing literature in that it extends the study on the corporate demand for takaful in contrast to all other previous studies like those of Mayers and Smith (1990), Yamori (1999), Hoyt and Khang (2000), Zou, Adams and Buckle (2003), Daniel and Paul (2003) and Zou and Adams (2005 & 2006) which focused on corporate demand for conventional insurance only. This study, therefore, contributes to the existing literature in four major ways:

- i. It extends research to the study of corporate demand for takaful.

- ii. It is a comparative study of corporate demand for two different insurance systems in Malaysia (takaful and conventional insurance).
- iii. **Unique data is used in this study to find out the overall perspective on the determinants of corporate demand for insurance in Malaysia. The unique data is the pooled data of corporate demand for takaful and conventional insurance in Malaysia.**
- iv. It seeks to test empirically the corporate demand for takaful and **conventional insurance** as well as **pooled data of corporate demand** for conventional insurance and takaful by using the panel data research design i.e. Fixed Effects Model (FEM) and Random Effects Model (REM). A Hausman specification test is to be used to determine which kind of panel model, FEM or REM, would be more appropriate estimation model in this study.

It is expected that there are important implications for various groups through this study as follows:

1. Takaful operators and Insurers:

All factors like leverage, **growth opportunities**, **bankruptcy cost**, managerial ownership, company size, tax consideration and regulatory environment which will be **examined in this study test the relationship with takaful and conventional insurance demand**. It could help takaful operators and insurance companies to make a better target of potential commercial or corporate takaful and conventional insurance customers. For instance, (i) if positive empirical relations are reflected between company size and the corporate decision on property takaful and conventional insurance, takaful operators and insurers may wish to better reflect the risk