

# RISK MANAGEMENT PRACTICES AND PROFITABILITY OF COMMERCIAL BANKS VIS-A-VIS ISLAMIC BANKS

BY

#### FAUZIAH HANIM BINTI TAFRI

# INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

2008

#### **ABSTRACT**

The research consists of two studies; a major study on banking risk management practices and a minor study on the relationship between financial risks and profitability. The study on risk management explores the risk management practices of both the Islamic and conventional banks. It compares and contrasts the way both systems manage their risks and investigates if there is any convergence in the practice of risk management between the conventional and Islamic banking system. survey conducted on the risk managers of the conventional banks and Islamic banks in Malaysia as well as the Islamic banks outside Malaysia revealed many interesting results. It is found that there exist differences in the practice between the two systems and that the Islamic banks are lagging behind in the adoption of enterprise wide risk management. Although collectively, the conventional and Islamic banks face moderate level of adequacy of risk management tools, Islamic banks indicate that the three most critical areas are lack of information technology (IT) professionals with relevant expertise in the process of integration and risk analytics, IT systems to cater for each Islamic instrument and also the capacity of human capital in the highly technical areas of risk management. This implies that more innovations and product developments are needed for Islamic banking in managing risks. Hence serious effort in training and educating the human capital, well versed in the Islamic principles as well as the technical and quantitative sciences disciplines as the integration of this knowledge is important in order to preserve the Islamic banking industry specifically and the Islamic financial system generally, from degradation and being relegated to just forms only. The second part of the study employs panel data regression analysis of Generalised Least Squares of fixed effects and random effects models to examine the relationship between financial risks (credit risk, interest rate risk, liquidity risks) and profitability (ROE and ROA) of the conventional and Islamic banking in Malaysia for the period between 1996 and 2005. It was found that credit risk has a significant impact on ROA and ROE for the conventional as well as the Islamic banks. The relationship between interest rate risk and ROE were found to be weakly significant for the conventional banks and insignificant for the Islamic banks. The effect of interest rate risk on ROA is significant for the conventional banks. Liquidity risk was found to have an insignificant impact on both profitability measures.

#### ملخص البحث

يتكون البحث من دراستين: دراسة رئسية حول ادراة المخاطر في المصارف ودراسة ثانوية حول العلاقة بين المخاطر المالية و المربحية. تقوم الدراسة حول ادرة منع المخاطر بالبحث حول طرق إدارة منع المخاطر في المصارف الاسلامية والمصارف التقليدية، حيث ثقارن وتوضح الفروق بين طرق إدارة المخاطر بكلا النظاميين وتتفحص أيضاً نقاط التشابه بينهما قد أوضحت دراسة المصارف الاسلامية في ماليزيا وخارجها كثير من النتائج المثيرة للاهتمام. فقد إتضح أن هنالك اختلافات بين نظام ادارة منع المخاطر في النظام المصرفي الاسلامي والنظام التقليدي وأن المصارف الاسلامية ما زالت متأخرة فيما يخص تبني مشروع إدارة منع المخاطر الأوسع بالرغم من أن كلا النظماين المصرفيين يمتلكان أدوات متوسطة الجودة لإدارة المخاطر، إلا أن المصارف الاسلامية تواجه صعوبات حادة في ثلاث مجلات وهي الحوجة الي متخصصين في تقنية المعلومات يمتلكون خبرات في عمليات دمج وتحليل المخاطر، بالاضافة الى الحوجة الى انظمة تقنية معلومات تخدم كل اداة مالية اسلامية على حدى ، و أيضا الحوجة الى الموارد البشرية القادرة على العمل في التخصصات رقيعة التقنية في إدارة منع المخاطر أن كل ذلك يُشير الى أن هنالك حوجة الى مزيد من الإبتكار ومزيد من تطوير المنتج في حقل إدارة منع المخاطر في المصارف الإسلامية وبالتالي بزل جهود جادة في تدريب وتأهيل كوادر تمتلك معرفة عميقة بكل من المبادئ الإسلامية والعلوم التقنية والكمية بما أن المزج بين هذه العلوم أمر ضروري من أجل حماية النظام المصرفي الاسلامي بشكل خاص والنظام المالي الإسلامي بشكل عام من التدهور و الهبوط الي مجرد مؤساسات شكلية فقط في الجزء الثاني من البحث يتم إستخدام جدول تحليل البيانات الإنحداري لأقل المربعات الخاص بنمازج الاثر الثابت والأثر العشوائي من أجل دراسة العلاقة بين المخاطر المالية ( مخاطر ال الله تيمان ومخاطر نسبة الفائدة و مخاطر السيولة) وبين المربحية (عوائد الأصول وعوائد الاسهم ) في المصارف التقليدية والإسلامية في ماليزيا في الفترة بين 1996 و2005. وقد إتضح أن مخاطر الائتيمان لها تأثير بارز علي عوائد الأسهم والأصول في كل من المصارف التقليدية والإسلامية، وأن العلاقة بين مخاطر نسبة الفائدة و عوائد الاسهم ضعيفة التأثير على المصارف التقليدية و لكنها بالغة التاثير على المصارف الاسلامية، وأن تاثير مخاطر نسبة الفائدة على عوائد الاصول مهمة بالنسبة الى المصارف التقليدية، وأن مخاطر السيولة ليس لها تأثير على مقايس المربحية.

# APPROVAL PAGE

Ahamed Kameel Mydin Meera Supervisor
Mohd Azmi Omar
Supervisor
Zarinah Hamid Supervisor
Asyraf Wajdi bin Dusuki Internal Examiner
Fauzias Mat Noor External Examiner

# **DECLARATION**

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 degree at II	IUM or other institutions.
Fauziah Hanim binti Tafri	
Signature	Date

#### INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

# DECLARATION OF COPYRIGHT AND AFFIRMATION OF FAIR USE OF UNPUBLISHED RESEARCH

Copyright @ 2008 by Fauziah Hanim binti Tafri. All rights reserved.

# RISK MANAGEMENT PRACTICES AND PROFITABILITY OF COMMERCIAL BANKS VIS-A VIS ISLAMIC BANKS

No part of this unpublished research may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without prior written permission of the copyright holder except as provided below.

- 1. Any material contained in or derived from this unpublished research may only be used by others in their writing with due acknowledgement.
- 2. IIUM or its library will have the right to make and transmit copies (print or electronic) for institutional and academic purposes.
- 3. The IIUM library will have the right to make, store in a retrieval system and supply copies of this unpublished research if requested by other universities and research libraries.

Affirmed by Fauziah Hanim binti Tafri.	
Signature	Date

To

My Beloved Husband (Rasmi Raus)

My Mother (Hajjah Khadijah Asri)

My Children (Afifah, Ahmad Ashraf, Ahmad Mundhir, Afrah & Ahmad Akramin)

And

My Grandson (Muhammad Danish Syafi)

#### **ACKNOWLEDGEMENTS**

Alhamdulillah, all praise be to Allah for giving me the strength and determination to complete this thesis.

I would like to take this opportunity to express my very sincere gratitude to my supervisors, Associate Professor Dr Ahamed Kameel Mydin Meera, Dato' Professor Dr Mohd Azmi Omar and Dr Zarinah Hamid for their guidance, valuable advice, constructive comments and suggestions.

I would also like to record my special thanks to Universiti Teknologi Mara for giving me the opportunity to pursue this PhD Study and the Public Service Department, Malaysia for the financial support.

I am also indebted to my family especially my husband and children for their patience and understanding. No words are adequate to express my deepest appreciation to my beloved husband, Rasmi Raus for his never-ending love, continuous encouragement and moral support during all these years. My niece Sharniza Hamid is also worth a special mention in this thesis for accompanying me during the fieldwork and helping me out during the data collection period.

Throughout my journey as a postgraduate student at the International Islamic University, I chose to be happy and thus it was a really enjoyable journey with wonderful lecturers and friends around. Thank you to all who had crossed my life and made the journey a nice and memorable one. InsyaAllah all of you will always remain fresh in my mind.

Last but not least, my sincere gratitude to my Superior, Chair of the Centre for Actuarial Studies, Associate Professor Azizah Murad and colleagues at the Faculty of Information Technology and Quantitative Sciences for their moral support and encouragements.

# TABLE OF CONTENTS

Abstract in A Approval Pa Declaration I Copyright Pa Dedication P Acknowledg List of Table	Arabicge	ii iii iv v vi vii viii xiv xxi
	PART I	
CHAPTER	1: INTRODUCTION	1
1.0	Introduction	1
1.1	Background of the Study	1
1.2	Motivation of the Study	9
	1.2.1 First Consideration: Duality of the Banking System	11
	1.2.2 Second Consideration: The importance of Studying the	
	Impact of Financial Risks on Profitability of Banks	13
1.3	Scope of Study	15
1.4	Research Objectives and Research Questions	16
1.5	Overview of Research Methodology	17
1.6	The Main Conclusions of the Study	18
1.7	Significant Contribution of the Study	19
2.,	1.7.1 Contribution to the Body of Knowledge	19
	1.7.2 Contribution to the Practitioners and Stakeholders	21
	1.7.3 Contribution to the Policymakers and Regulators	21
1.8	Organization of the Study	22
1.0	Organization of the Study	22
	PART II	
CHAPTER	2: RISKS	24
2.0	Introduction	24
2.1	General Concept of Risks	24
2.2	Concept of Risk in Islam	27
2.3	Categories of Risks	28
	2.3.1 Personal Risks	29
	2.3.2 Risk in Commercial Banking	30
2.4	Overview of Islamic Banking	34
	2.4.1 Islamic banking Versus Conventional Banking	35
	2.4.2 Risk in Islamic Banking	39

2.5	Islamic Financial Instruments	44
2.6	Regulation of Financial Institutions	49
2.7	Regulatory Framework	50
	2.7.1 Basel Committee on Banking Supervision	51
	2.7.2 New Capital Accord (Basel II)	52
	2.7.3 Islamic Financial Services Board (IFSB)	54
	2.7.3.1 Capital Adequacy Standard	55
	2.7.3.2 Guiding Principles of Risk Management	55
2.8	Concluding Remarks	56
CHAPTER	3: RISK MANAGEMENT FRAMEWORK	57
3.0	Introduction	57
3.1	Risk Management Framework	57
	3.1.1 Risk Identification	59
	3.1.2 Risk Measurement	60
	3.1.3 Risk Mitigation	61
	3.1.4 Risk Control, Monitoring and Reporting	61
3.2	Methods Used in Risk Identification	62
3.2	3.2.1 Scenario Analysis	62
	3.2.2 Risk Mapping	62
3.3	Methods Used in Risk Measurement.	63
3.3	3.3.1 GAP Analysis	64
	3.3.2 Duration GAP Analysis	65
		66
		67
	3.3.4 Earnings at Risk (EaR)	68
	- · · · · · · · · · · · · · · · · · · ·	
	3.3.6 Back Testing	69
2.4	3.3.7 Stress Testing	69
3.4	Methods Used in Risk Mitigation	70
	3.4.1 Securitization	71
	3.4.2 Derivatives	73
a -	3.4.3 Credit Derivatives	74
3.5	Management of Major Financial Risks in Banks	75
	3.5.1 Management of Credit Risk	75
	3.5.2 Management of Liquidity Risk	78
	3.5.3 Management of Interest Rate Risk	80
	3.5.4 Management of Operational Risk	81
3.6	Management of Risk in Islamic Banking	86
	3.6.1 Management of Credit Risk	86
	3.6.2 Management of Liquidity Risk	88
	3.6.3 Management of Rate of Return Risk	89
	3.6.4 Management of Operational Risk	91
3.7	Enterprise Wide Risk Management	92
3.8	Regulatory Capital Versus Economic Capital	95
3.9	Concluding Remarks	98

X

CHAPTER	<b>4:</b>	REVIEV	W OF PREVIOUS STUDIES
4.0	Introduc	ction	
4.1	Evolution	on of Risk	Management
4.2			on Risk Management Practices
4.3			on Profitability and Risk
	4.3.1		Studies on Profitability of Conventional
			············
	4.3.2		Studies on Profitability of Islamic Banks
4.4	Conclud		rks
			PART III
CHAPTER	25:	RESEAL	RCH METHODS
5.0	Introduc	ction	
5.1			ch Questions and Research Objectives
5.2			ses
5.3		• •	
5.4		_	
	5.4.1		irces
	5.4.2		of Respondents
	5.4.3		nd Development of Research Instrument
	5.4.4	_	naire Rationale
	5.4.5	-	duct of Pilot Study
	5.4.6		naire Administration
	5.4.7	-	ues of Statistical Analysis Employed
5.5		-	ct of Financial Risks on Profitability
3.3	5.5.1	_	irces
	5.5.2		
	3.3.2	-	Il Framework and Method of Data Analysis
		5.5.2.1	Generalized Least Square with Fixed
		5.5.0.0	Effects Model
		5.5.2.2	Generalized Least Square with Random
	<i>5.5.</i> 0	14 112	Effects Model
	5.5.3	-	pecifications
	5.5.4		nt Variables
	5.5.5		lent Variables
	5.5.6		ed Variables
5.6	Conclud	ding Rema	rks
			PART IV
CHAPTER	6.	RESEAL	RCH FINDINGS I
6.0			
6.1			
0.1	6.1.1	_	
	6.1.1		Size
	0.1.2	6.1.2.1	
			Ownership
		6.1.2.2	Respondent's Profile

6.2	Reliabil	lity Analysis	166
6.3	Risk Sc	ources	167
	6.3.1	Market Risk	169
	6.3.2	Credit Risk.	172
	6.3.3	Operational Risk	174
	6.3.4	Level of Seriousness of the Sources of Risks	178
	6.3.5	Hypothesis Testing	179
6.4		nat Gives Potential Threats to the Bank's Market Value	180
6.5		Modes of Financing	185
	6.5.1	Murabahah	187
	6.5.2	Salam	188
	6.5.3	Istisna	188
	6.5.4	Al-Ijarah	189
	6.5.5	Mudharabah	190
	6.5.6	Musharakah	191
	6.5.7	Sukuk	192
	6.5.8	Comparison between Local and Foreign Islamic Banks	193
	6.5.9	Level of Seriousness of the Risks	200
	6.5.10	T-test Results.	202
	6.5.11	Ranking of Risks	203
	6.5.12	Instruments for Risk Measurement	208
	6.5.13	Instruments for Risk Mitigation	213
6.6		anagement in Banks	217
0.0	6.6.1	Organizational Structure of Risk Management	218
	6.6.2	Risk Management and Compliance Committee	221
	6.6.3	Status of Implementation of Enterprise –Wide	
	0.0.5	Risk Management	224
	6.6.4	Motivating Factors	228
	6.6.5	Benefits of ERM Framework	229
	6.6.6	Usage of Risk Management Procedures	233
	6.6.7	Potential Barriers in Implementing ERM Activities	236
6.7		Risk Management.	241
0.7	6.7.1	Market Risk Regulatory Capital	241
	6.7.2	Usage of Market Risk VaR	243
	6.7.3	Usage of Stress-Testing Results	244
	6.7.4	ALM Reporting	247
6.8		Risk Management	248
0.0	6.8.1	Internal Rating Benchmark	248
	6.8.2	Credit Risk Regulatory Capital	251
	6.8.3	Credit Risk Exposure Methods	251
	6.8.4	Credit Portfolio Analysis	254
	6.8.5	Credit Risk Mitigation Methods	255
6.9		onal Risk Management.	259
	6.9.1	Motivating Factors	260
	6.9.2	Phase of Implementation	262
	6.9.3	Structure of Operational Risk Management	263
	6.9.4	Primary Focus of Operational Risk Management	264
	6.9.5	Usage of Tools in Operational Risk Management	266
6.10		anagement Issues	270

	6.10.1	Factors that Cause Some Concern in the	
		Implementation of Basel II Program	271
	6.10.2	Major Obstacles in the Implementation of Basel	
		II Program	275
	6.10.3	Adequacy of Risk Management Tools and System	280
	6.10.4	1 •	
		of Risk Management Process and Practices	285
6.11	Conclu	iding Remarks	289
0.11	0011410	5 - C	_0,
CHAPTER	. <b>7:</b>	RESEARCH FINDINGS II	296
7.0	Introdu	action	296
7.1	The Ec	conometric Models	297
7.2		cal Results	298
	7.2.1	Descriptive Analysis	298
	7.2.2	Correlation Coefficients	299
	7.2.3	Panel Unit Roots Test.	300
	7.2.4	Multivariate Result	301
	7.2.5	Specification Test	307
	7.2.6	Multivariate Result with ROA as the Dependent	201
	7.2.0	Variable	308
	7.2.7	Multivariate Result with ROE as the Dependent	500
	7.2.7	Variable	312
7.3	Conclu	iding Remarks	315
CHAPTER	8:	CONCLUSION	318
8.0	Introdu	ıction	318
8.1		ary of the Research Objectives, Research Questions	320
		The Beauty Objectives	
	8.1.1	The Research Objectives	320
0.2	8.1.2	The Research Questions	321
8.2		Findings	322
8.3		ations of the Findings	
8.4		ms and Limitation of the Study	
8.5	Recom	mendation for Future Research	328
BIBLIOGE	RAPHY		333
APPENDIX	X I:	Summary of Selected Empirical Studies on the	
		Relationship between the Independent Variables and	
		Profitability Measure	344
APPENDIX	X II:	Advantages and Disadvantages of the Different Modes of	
		Data Collection	353
APPENDIX	X III:	Survey Questionnaire	354

# LIST OF TABLES

Table No.		
2.1	Summary of Banking Risk	32
2.2	Basic Islamic Modes of Financing Products	45
3.1	Examples of Operational Risk	82
3.2	Differences between Economic Capital and Regulatory Capital	96
4.1	Key Features of the Enterprise Wide Risk Management	106
4.2	Summary of the Sign of the Coefficients of Independent Variables from Selected Studies	118
5.1	Research Objectives and Research Questions	122
5.2	Breakdown of the Questions in the Questionnaire	142
5.3	Variable Definitions, Notation and the Expected Effect of the Independent Variable of the Models to Bank Profitability	157
6.1	Response to the Survey	162
6.2	Distribution of Banks by Ownership	163
6.3	Profile of the Respondents	164
6.4	Distribution of Respondents by Qualification Background	165
6.5	Reliability Analysis of Items	167
6.6	Descriptive Statistics for Each Source of Market Risk	169
6.7	Distribution of Responses of the Sources of Market Risk According to the Types of Banks	171
6.8	Descriptive Statistics of Credit Risk	173
6.9	Distribution of Responses for the Sources of Credit Risk According to the Types of Banks	174
6.10	Descriptive Statistics of Each Source of Operational Risk	175

6.11	Distribution of Responses for the Sources of Operational Risk According to the Types of Bank	177
6.12	Level of Seriousness of the Sources of Risk According to the Types of Bank	179
6.13	Result of ANOVA Test for the Sources of Risk According to the Types of Bank	180
6.14	Descriptive Statistics for Types of Risk that are Potential Threat to the Bank's Overall Market Value	181
6.15	Distribution of Responses for the Potential Threat According to the Types of Banks	182
6.16	Results of ANOVA for Types of Risk that are Potential Threat to the Bank's Overall market Value According to the Types of Bank.	184
6.17	Descriptive Statistics for Murabahah	187
6.18	Descriptive Statistics for Salam	188
6.19	Descriptive Statistics for Istisna	189
6.20	Descriptive Statistics for Al-Ijarah	190
6.21	Descriptive Statistics for Mudharabah	191
6.22	Descriptive Statistics for Musharakah	192
6.23	Descriptive Statistics for Sukuk	193
6.24	Distribution of Responses for the Murabahah/Bai Bitahaman Ajil	194
6.25	Distribution of Responses for the Salam	195
6.26	Distribution of Responses for the Istisna	196
6.27	Distribution of Responses for Al-Ijarah	197
6.28	Distribution of Responses for the Mudharabah	198
6.29	Distribution of Responses for the Musharakah	199
6.30	Distribution of Responses for the <i>Sukuk</i>	200

6.31	Level of Seriousness of the Islamic Modes of Financing According to the Types of Islamic Bank	201
6.32	Result of t-test of the Islamic Modes of Financing According to the Types of Islamic Banks	203
6.33	Rank of the Top Three Most Serious Risks faced by Local Islamic Banks	205
6.34	Rank of the Top Three Most Serious Risks faced by Foreign Islamic banks	206
6.35	Tools Used in Measuring the Risk of Islamic Products of Local Islamic Banks	211
6.36	Tools/Instruments Used in Measuring the Risks of Islamic Products of Foreign Islamic Banks	212
6.37	Tools/Instruments Used in Mitigating the Risks in the Islamic Products of Local Islamic Banks	215
6.38	Tools/Instruments Used in Mitigating the Risks in the Islamic Products of Foreign Islamic Banks	216
6.39	The Organization Culture of the Banks in Terms of Risk Management According to Types of Bank	218
6.40	The Organizational Structure	219
6.41	Percentage of Total Employees Assigned for Risk Management Tasks	219
6.42	The Proportion of Employees Assigned for Each Respective Risk	220
6.43	The Overall Responsibility for Managing Risk in the Bank	221
6.44	Responsible Persons for Risk Management and Compliance	222
6.45	Risk Management and Compliance Committee	223
6.46	Status of Implementation of Enterprise Wide Risk Management	225
6.47	Duration of Implementation of ERM Framework According to the Types of Bank	226

6.48	Mode of Implementation of ERM Framework According to The Types of Bank	227
6.49	Frequency of Responses for Factors that Motivate ERM	228
6.50	Descriptive Statistics for ERM Potential Benefits	230
6.51	Frequency of Responses for the Strength of the Primary Drivers to the Bank's Activities According to the Types of Bank	231
6.52	Level of Strength of the Primary Drivers to the Bank's ERM Activities According to the Types of Bank	232
6.53	Result of ANOVA Test for the Primary Drivers to the Bank's Activities According to the Types of Bank	232
6.54	Frequency of Responses of the Usage of the Risk Management Procedures Employed According to the Types of Bank	233
6.55	Results of ANOVA Test for Usage of the Risk Management Procedures According to the Types of Banks	235
6.56	Result of LSD Test for Usage of the Risk Management Procedures	236
6.57	Descriptive Statistics for the Potential Barriers in Implementing ERM Activities	237
6.58	Frequency of Responses for the Seriousness of the Potential Barriers to Implement ERM Activities for Maximum Benefits According to the Types of Bank	239
6.59	Level of Seriousness of the Potential barriers to Implement ERM Activities	240
6.60	Results of ANOVA Test for the Potential Barriers in Implementing ERM Activities According to the Types of Bank	241
6.61	Approaches Employed to Market Risk Regulatory Capital	242
6.62	Frequency of Responses for the Level of Usage of Market Risk VaR	243
6.63	Results of ANOVA Test for Market Risk VaR According to the Types of Bank	244

6.64	Frequency of Responses for the Usage of Stress Testing Results	245
6.65	Results of ANOVA Test for the Usage of Stress Testing Results According to the Types of Banks	246
6.66	Result of LSD Test for the Usage of Stress Testing Results According to the Types of Banks	246
6.67	Distribution of Responses for the Frequency of Stress Testing	247
6.68	Frequency of Doing the Analysis for ALM Reporting Purposes	248
6.69	Frequency of Doing Internal Rating Benchmark	249
6.70	Distribution of Responses to Capital Regulatory Requirement	250
6.71	Distribution of Plan to Use Own Credit Risk Models According to the Types of Bank	251
6.72	Frequency of Responses for the Level of Extensiveness of the Method used in Managing Credit Risk Exposure Methods	253
6.73	Frequency of Responses to the Practice of Credit Portfolio Analysis	255
6.74	Frequency of Responses to the Practice of Credit Risk Mitigation Method	257
6.75	Results of ANOVA Test for Credit Risk Exposure Methods, Credit Portfolio Analysis Techniques and Credit Risk Mitigation Methods According to the Types of Banks	258
6.76	Result of LSD Test for Credit Risk Mitigation Methods According to the Types of Banks	259
6.77	Frequencies of the Factors that Motivate Bank to Undertake Operational Risk Management According to the Types of Bank	261
6.78	Frequency of Responses for the Phase of Implementation of Operational Risk Management According the to the Types of Bank	263
6.79	Frequency of Responses for the Operational Risk Management Structure	264
6.80	Frequency of Responses for the Primary focus of Operational Risk Management Program According to the Types of Bank	265

6.81	Frequency of Responses Regarding the Extensiveness of the Usage of Tools in Managing Operational Risk	267
6.82	Results of ANOVA Test for the Usage of Operational Risk Management Tools According to the Types of Bank	269
6.83	Result of LSD Test for the Usage of Operational Risk Management According to the Types of Banks	270
6.84	Descriptive Statistics for the Factors that Cause Some Concern for the Success in the Implementation of Basel II Program	271
6.85	Frequency of Responses to the Factors that Cause Some Concern for the Success in the Implementation of Basel II Program	273
6.86	Level of Concern for the Factors that Hinder the Success in the Implementation of Basel II Program	274
6.87	Result of ANOVA Test for the Factors that Cause Some Concern in Successful Implementation of Basel II Program	275
6.88	Descriptive Statistics for the Major Obstacles in the Implementation of Basel II	276
6.89	Frequency of Responses to the Major Obstacles in the Implementation of the Approaches to Basel II	277
6.90	Level of Concern for the Major Obstacles in the Implementation of Basel II Program	278
6.91	Result of ANOVA for the Major Obstacles in the Implementation of the Approaches to Basel II Program	279
6.92	Result of LSD Test for the Major Obstacles in the Implementation of Basel II Program	280
6.93	Descriptive Statistics for the Level of Adequacy of Risk Management Tools and Systems of the Banks	281
6.94	Percentage of Responses to the Level of Adequacy of Risk Management Tools and Systems in the Banks	282
6.95	Level of Adequacy of the Risk Management Tools and Systems Regarding the Risk Management practices of the Banks	284

6.96	Result of ANOVA Test of the Adequacy of Risk Management Tools and Systems With Regards to the Risk Management Practices in Banks	284
6.97	Descriptive Statistics on the Impact of the Changes Due to the Implementation of Risk Management Processes and Practices	285
6.98	Frequency of Responses for the Impact of the Changes Due to the Implementation of Risk Management Processes and Practices	287
6.99	Level of Impact of Changes to Risk Management Processes and Practices due to the Implementation by the Banks Over the Past One Year	288
6.100	Result of ANOVA Test of the Impact of Changes to Risk Management Processes and Practices in Banks Over the Past One Year	289
6.101	Summary of the findings on Risk Management Practices	295
7.1	Descriptive Statistics: Malaysian Commercial Banks 1996-2005	299
7.2	Correlation Matrix: Malaysian Commercial Banks	300
7.3	ADF and LLC Panel Unit Roots Tests	301
7.4	Result with ROA as the Dependent Variable for All Models	302
7.5	Result with ROE as the Dependent Variable for All Models	305
7.6	Hausman Model Specification Test	308
7.7	Multivariate Result with ROA as the Dependent Variable	310
7.8	Multivariate Result with ROE as the Dependent Variable	315
7.9	Summary of the Findings on the Impact of Financial Risks on Profitability	316
8.1	Summary of the Research Objectives, Research questions, Research Hypotheses and Findings	330

# LIST OF FIGURES

Figure No.		Page No
2.1	Categories of Risk	29
2.2	Banking Risk Spectrum	33
2.3	Theoretical Balance Sheet of an Islamic Bank	38
2.4	Overview of Risk Profile of an Operating Islamic Financial	41
	Institutions	
2.5	Risk Scale of Islamic Financial Instruments	47
2.6	Overview of Basel II	53
3.1	Risk Management Framework	59
3.2	Risk Map	63
3.3	Basic Concept of Value at Risk	67
3.4	Estimation of Risk Capital for RaRoC	68
3.5	Typical ABS Transaction	73
3.6	Measurement Process of Operational Risk	84
3.7	Potential Loss	98

#### **CHAPTER ONE**

#### INTRODUCTION

#### 1.0 INTRODUCTION

Risk management and control is one of the hottest topics in the world. It is now a worldwide phenomenon which is of primary concern to the management of financial institutions as well as their regulators and supervisors. The main aim of this research is to gain an insight into the risk management practices of the Malaysian commercial banks and Islamic banks and also the impact of financial risks on the profitability of these banks. However, the study on the risk management practices was also extended to other Islamic banks outside Malaysia.

#### 1.1 BACKGROUND OF THE STUDY

The many company failures in USA, Japan, Germany, UK, France, and other countries throughout the world leads us to conclude that "there is a shift in underlying tectonic plates of the world's financial system" (Heimann, 1997: 170). There is a growing awareness of the problem of risk management which means that there is an increasing role of risk management.

The rise in the importance of risk management since the last three decades could be attributed to two major factors namely external and internal factors. Internal factors are factors that are within the control of the banks while external factors are factors that are external to the banks whereby they have no direct control.

The banking industry has had a rude awakening when Barings PLC- the oldest London merchant bank collapsed in 1995. Apart from that, Sumitomo Corporation<sup>1</sup> lost \$2.6 billion on copper derivatives; Metallgesellschaft AG<sup>2</sup> lost DM1.8 billion on oil futures while Orange County California<sup>3</sup> lost on interest rate derivatives (Obiyatullah, 2001) and not forgetting the 9/11 large catastrophe of the World Trade Centre in 2001, which badly affected the insurance industry following the exorbitant insurance claims that they have to settle.

In East Asia, the financial crisis which began when Thailand devalued its currency in July 1997 had a contagion effect that spread throughout South-East-Asia, Russia and Latin America (Gup & Kolari, 2005). In fact, the Russian default in August 1998 sparked a global financial crisis that culminated in the near failure of the big hedge fund, Long Term Capital Management<sup>4</sup> (Jorion, 2000). By the end of the first half of 1998, the regional financial markets continued to be volatile and uncertain, and the effect on the Malaysian economy became evident as the economic contraction became increasingly severe. The financial institutions including the banking institutions were badly affected. The number of non-performing loans (NPLs) had been increasing. The crisis had caused RM45,304 million reduction in total assets, RM2,132 million loss in deposits, and RM7,443 million contraction in loans and advances (Bank Negara Malaysia, 1999).

-

<sup>&</sup>lt;sup>1</sup> The losses were due to unauthorised trading by its former head of copper trading.

<sup>&</sup>lt;sup>2</sup> An oil refining and marketing corporation which is the US subsidiary of big German Conglomerate Metalgesellschaft AG.

<sup>&</sup>lt;sup>3</sup> It is a County in Southern California which went bankrupt in 1994 due to the plunging value of their interest-bearing derivatives.

<sup>&</sup>lt;sup>4</sup> LTCM was a hedged fund located in Connecticut. The team of founders was a very elite group which included two Nobel Prize-winning economists, Myron Scholes and Robert C. Merton, Fisher Black and John Meriwether, a former vice chairman of Salamon brothers. It operated from its founding in 1993 to its liquidation in early 2000. LTCM's strategy was to look out for arbitrage opportunities in markets using computers, massive databases and the insights of top level theorists (Goldman Sachs & Co. & Swiss Bank Corporation, 1998).

In 2005, Malaysians were shaken up by the news that Bank Islam Malaysia Berhad (BIMB) reported a loss of RM450million. This was the first time ever that the bank went into the red territory in 22 years (NST 2005). As a consequence of the financial crisis in 1998, the NPLs had been building up since then. Danaharta<sup>5</sup> could not take the loans off BIMB's book then because it could not take *Shari'ah* compliant loans. Thus it was also reported that the non performing loan was close to 21% which is above the market average of 8%. The financial crisis highlighted the vulnerability associated with fragmented financial systems and also the risk of banks ignoring even basic risk management which contributed to economy wide difficulties.

Arising from the experiences during the recent Asian and Latin American financial crisis, greater emphasis has been placed on enhancing the credit skills and creating a more robust credit culture. In fact banks in many emerging market countries are also increasing their focus on risk management in an effort to build more robust and sound financial systems, to remedy weaknesses that were exposed by recent regional problems and to position themselves to participate more fully in the global economy. Strategies therefore focused on introducing reform measures to strengthen the banking sector as well as to develop and enhance alternative sources of financing.

Banks generate earning revenue by taking and managing risk. Stakeholders want the management to meet their earning goals. Due to the increasing uncertainty there is more pressure on the management to effectively identify and manage their

<sup>&</sup>lt;sup>5</sup> It is a National Asset Management Company, which purchases the non-performing loans (NPLs) of banks. The purpose of Danaharta was to acquire and manage NPLs from banking institutions in order to maximize recovery from the financial crisis in 1997-1998. Banks with gross NPL ratio exceeding 10% were required to sell all their eligible NPLs to Danaharta, failing which they had to write down the value of these loans and restructure them. As at end June 1999. Danaharta had acquired and managed NPLs worth RM16.8 billion and RM21.5 billion respectively, effectively removing RM38.3 billion from the banking system (Bank Negara Malaysia, 1999).