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**DETERMINANTS OF FINANCIAL PERFORMANCE OF
INSURANCE COMPANIES AND TAKAFUL OPERATORS
IN MALAYSIA: A COMPARATIVE STUDY**

NAJWA NIZA BINTI ABDUL AZIZ



**MASTER IN ISLAMIC FINANCE AND BANKING
UNIVERSITI UTARA MALAYSIA
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COMPANIES AND TAKAFUL OPERATORS IN MALAYSIA:
A COMPARATIVE STUDY**

By

NAJWA NIZA BINTI ABDUL AZIZ



**Research Paper Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
in Partial Fulfilment of the Requirement for the
Master in Islamic Finance and Banking**



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ABSTRACT

The insurance and takaful sector is one of the fundamental elements in the financing of the Malaysia economy and contributes to the effort to support the development of the countries. In this study, we examine the impact of firm specific factors (underwriting risk, size and expense ratio) and macroeconomic factors (GDP, BLR and TBR) on the performance of eight (8) insurance companies and eight (8) takaful operators in Malaysia over a period of eight (8) years (2011-2018). Secondary data that was collected from the financial statements (balance sheet and income statements) of insurance companies and takaful operators; and statistics report from Bank Negara Malaysia (BNM) are the major sources of data for this study. The results from panel data indicates that the variables underwriting risk, size, GDP and TBR are the most important determinants of the financial performance of takaful operators measured by ROA (Return on Assets) and ROE (Return on Equity). However, the financial performance of insurance companies is statistically significant with variables size, expense ratio, GDP and BLR, determines the performance of insurance companies measured by ROE. As for ROA only expense ratio is significant.

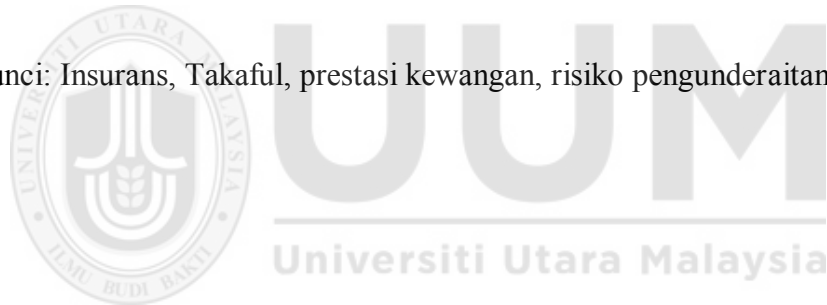
Keywords: Insurance, Takaful, financial performance, underwriting risk



ABSTRAK

Sektor insurans dan takaful adalah elemen utama dalam aspek kewangan ekonomi dan membantu dalam pembangunan negara Malaysia. Kajian ini bertujuan untuk menilai apakah kesan faktor khusus firma (risiko pengunderaitan, saiz dan nisbah perbelanjaan) serta faktor makroekonomi (GDP, BLR dan TBR) terhadap prestasi lapan (8) syarikat insurans dan lapan (8) pengendali takaful di Malaysia dalam tempoh lapan (8) tahun (2011-2018). Data sekunder yang diperolehi daripada penyata kewangan (kunci kira-kira dan penyata pendapatan) syarikat insurans dan pengendali takaful; serta laporan statistik daripada Bank Negara Malaysia (BNM) adalah sumber data utama bagi kajian ini. Keputusan daripada data panel membuktikan bahawa faktor risiko pengunderaitan, saiz, GDP dan TBR adalah faktor utama yang menyumbang kepada prestasi kewangan pengendali takaful yang dinilai daripada ROA (pulangan aset) dan ROE (pulangan ekuiti). Sebaliknya bagi prestasi kewangan syarikat insurans secara statistiknya faktor terpenting adalah saiz, nisbah perbelanjaan, GDP dan BLR yang menentukan tahap prestasi kewangan syarikat insurans yang dinilai daripada aspek ROE manakala hanya nisbah perbelanjaan faktor terpenting bagi ROA.

Kata kunci: Insurans, Takaful, prestasi kewangan, risiko pengunderaitan



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TABLE OF CONTENTS

	PAGE
ABSTRACT	iii
ABSTRAK	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF ABBREVIATIONS	xi
 CHAPTER ONE: INTRODUCTION	
1.0 Introduction	1
1.1 Background of the study	1
1.2 Problem Statement	6 - 10
1.3 Research Questions	10
1.4 Research Objectives	10 - 11
1.5 Scope and Limitations of the Study	11
1.6 Organization of the Study	12
 CHAPTER TWO: LITERATURE REVIEW	
2.0 Introduction	13
2.1 Underpinning Theory	13 - 15
2.2 Literature on Performance of Insurance and Takaful	15 - 17
2.3 Firm Specific Factors	17 - 20
2.4 Macroeconomic Factors	21 - 22
2.5 Summary	23

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction	24
3.1 Research Design	25
3.2 Data Collection Procedures	26 - 27
3.3 Conceptual Framework	28 - 29
3.4 Definition of variables	29 - 30
3.5 Hypothesis Development	31
3.6 Panel Regression Model	32 - 33
3.7 Data Analysis	33 - 29
3.8 Summary	39

CHAPTER FOUR: RESULTS AND DISCUSSION

4.0 Introduction	40
4.1 Descriptive Statistics	40 - 43
4.2 Multicollinearity Test	43 - 45
4.3 Diagnostic Test	45 - 46
4.4 Financial Performance Analysis	46 - 48
4.5 Panel Regression Analysis for Insurance Companies and Takaful Operators	48 - 52
4.6 Summary of the Results	53 - 54

CHAPTER FIVE: CONCLUSION AND RECOMMENDATION

5.0 Introduction	55
5.1 Recapitulation of findings	55 - 57
5.2 Contribution of the Study	57 - 58
5.3 Limitation of the Study	58 - 59
5.4 Suggestion for Future Research	59 - 60

	PAGE
REFERENCES	61 - 64
APPENDIX I	65
APPENDIX II	66
APPENDIX III	67
APPENDIX IV	68 - 71



LIST OF TABLES

Table 1.1 Overview of Malaysia's Islamic Financial Assets

Table 1.2 Total business in force: Annual premiums

Table 3.1 List of insurance companies and takaful operators in Malaysia for this research

Table 3.2 Summary of Variables Used in the Study, the Measurement and Previous Researchers

Table 4.1.1 Descriptive Statistics of Variables for Insurance Companies in Malaysia

Table 4.1.2 Descriptive Statistics of Variables for Takaful Operators in Malaysia

Table 4.2.1 Multicollinearity Diagnostic Test for Insurance Companies Variables

Table 4.2.2 Multicollinearity Diagnostic Test for Takaful Operators Variables

Table 4.2.3 Correlation Matrix for Insurance Companies

Table 4.2.4 Correlation Matrix for Takaful Operators

Table 4.3 Diagnostic Test for Malaysian Insurance Company and Takaful Operators

Table 4.5.1 Firm Specific and Macroeconomic Factors on ROA of Insurance Companies

Table 4.5.2 Firm Specific and Macroeconomic Factors on ROE of Insurance Companies

Table 4.5.3 Firm Specific and Macroeconomic Factors on ROA of Takaful Operators

Table 4.5.4 Firm Specific and Macroeconomic Factors on ROE of Takaful Operators

Table 4.6.1 Summary of Multiple Regression Result of Firm Specific and Macroeconomic Factors on Insurance Companies

Table 4.6.2 Summary of Multiple Regression Result of Firm Specific and Macroeconomic Factors on Takaful Operators

Table 4.6.3 Summary of Results Based on Hypothesis

LIST OF FIGURES

- Figure 3.1 Conceptual Framework of the study
- Figure 4.4.1 Level of financial performance (ROA) between Insurance and Takaful industry in Malaysia
- Figure 4.4.2 Level of financial performance (ROE) between Insurance and Takaful industry in Malaysia



LIST OF ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
BLR	Based Lending Rate
BNM	Bank Negara Malaysia
BSC	Balanced Scorecard
ETA	Expense Ratio
GDP	Gross Domestic Product
KSA	Kingdom of Saudi Arabia
LIAM	Life Insurance Association Malaysia
MENA	Middle East and North Africa
MIFC	Malaysia International Islamic Financial Centre
MTA	Malaysian Takaful Associations
NCR	Underwriting Risk
PIAM	Persatuan Insurans Am Malaysia
RBC	Risk Based Capital
RBV	Resource Based View
ROA	Return on Assets
ROE	Return on Equity
SIZE	Natural log of total assets
TBR	Treasury Bills Rate
VIF	Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Analysis of this research paper to study the determinants of financial performance of insurance companies and takaful operators in Malaysia. This section involves the background of the study, problem statement, research questions, research objectives, scope and limitation of the study and organization of the study.

1.1 Background of the study

Malaysian economy grew 5.9 percent in the year 2017 showcasing its resilience and overcoming market expectations of slower growth. In 2017, headline inflation stood at 3.7 percent for the full year higher than the 2.6 percent in 2016. The past decade has seen the rapid development of services sector remained strong with the finance and insurance sector increasing by 5.8 percent contributed by a strong 7.9 percent growth in the combined insurance subsector general, life and takaful (PIAM, 2017).

For the fifth consecutive year, Thomson Reuters' Islamic Finance Development Indicator (IFDI) 2017 recognized Malaysia as the world's most advanced Islamic finance market. Malaysia was also ranked first in the 2017 Islamic Finance Country Index, which evaluated the global status of Islamic finance governance. The increasing demand for

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APPENDIX I

1. Sum - Insurance Companies

Variable	Obs	Mean	Std. Dev.	Min	Max
co	0				
code	60	4.55	2.295353	1	8
year	60	2014.267	2.192952	2011	2018
roa	60	.0158767	.022131	-.1173	.0526
roe	60	2.162997	2.405511	-.0926	8.8574
ta	60	2.21e+07	2.23e+07	177590	8.12e+07
iir	60	.201005	.1016737	.0261	.4165
ncr	60	-.960775	1.310303	-10.6012	1.3107
solr	60	7.409043	6.304028	.3803	37.7217
lvgr	60	.8918067	1.005465	.0017	8.2289
mge	60	689625.6	652188.1	3036	2036684
eta	60	.0588467	.1037831	.0003	.8056
sp	60	.0156633	.0257997	-.1244	.0682
cpi	60	2.477333	.7926396	1	3.7
gdp	60	5.206667	.5954252	4.2	6
blr	60	6.658667	.1404528	6.45	6.9
tbr	60	3.034933	.2736987	2.512	3.501

2. Sum- Takaful Operators

Variable	Obs	Mean	Std. Dev.	Min	Max
co	0				
code	60	4.533333	2.310379	1	8
year	60	2014.267	2.192952	2011	2018
roa	60	.019125	.0868978	-.0786	.6605
roe	60	.3177217	.4401864	-.1366	1.9999
ta	60	3599624	4217948	121393	1.63e+07
iir	60	.1351817	.1817711	.0052	.9938
ncr	60	-.6012083	.4329279	-2.3887	1.5636
solr	60	5.674823	7.797102	1.0941	61.01
lvgr	60	.8227283	.1429471	.0803	.9293
mge	60	261308	190180.6	21899	679848
eta	60	.13178	.0867711	.0098	.3603
sp	60	.0128583	.0247345	-.0905	.0809
cpi	60	2.477333	.7926396	1	3.7
gdp	60	5.206667	.5954252	4.2	6
blr	60	6.658667	.1404528	6.45	6.9
tbr	60	3.034933	.2736987	2.512	3.501

APPENDIX II

1. VIF- Insurance Companies

Variable	VIF	1/VIF
lta	1.56	0.641065
eta	1.53	0.655069
blr	1.11	0.902743
tbr	1.09	0.915138
gdp	1.08	0.927174
ncr	1.08	0.929532
Mean VIF	1.24	

2. VIF- Takaful Operators

Variable	VIF	1/VIF
lta	1.63	0.614564
eta	1.57	0.636554
blr	1.14	0.876064
tbr	1.10	0.910376
ncr	1.08	0.921891
gdp	1.07	0.931219
Mean VIF	1.27	

APPENDIX III

1. Correlation- Insurance Companies

. corr roa roe ta iir ncr solr lvg mge eta sp cpi gdp blr tbr(obs=60)

	roa	roe	ta	iir	ncr	solr	lvg	mge
roa	1.0000							
roe	0.0533	1.0000						
ta	-0.0296	0.7918	1.0000					
iir	0.0195	0.6197	0.7379	1.0000				
ncr	0.1029	-0.0154	-0.0998	-0.1676	1.0000			
solr	0.1420	0.2167	0.2152	0.1660	0.0754	1.0000		
lvg	-0.7874	-0.0156	-0.0188	0.0357	-0.0364	-0.0772	1.0000	
mge	0.0031	0.7978	0.7780	0.5112	-0.1091	0.0669	0.0590	1.0000
eta	-0.7623	-0.1963	-0.2684	-0.2010	0.0263	-0.2401	0.9351	-0.1321
sp	0.9039	0.0784	0.0266	0.0856	0.0392	-0.0101	-0.6354	0.1508
cpi	-0.1296	-0.0819	-0.0112	-0.0845	0.0632	0.0090	0.1782	-0.0420
gdp	-0.0765	-0.0414	-0.0261	0.0099	-0.1087	-0.0765	0.1400	-0.0695
blr	-0.0153	0.0951	0.1557	-0.0220	0.1765	0.0654	0.0240	0.1463
tbr	0.0404	0.0334	0.0257	0.1091	0.0286	0.0427	-0.0172	0.0166

2. Correlation- Takaful Operators

. corr roa roe ta iir ncr solr lvg mge eta sp cpi gdp blr tbr(obs=60)

	roa	roe	ta	iir	ncr	solr	lvg	mge
roa	1.0000							
roe	0.6132	1.0000						
ta	0.4387	0.6588	1.0000					
iir	0.2473	0.1734	0.2985	1.0000				
ncr	0.6746	0.4281	0.1068	0.0589	1.0000			
solr	0.0928	-0.0102	0.1876	0.1062	-0.0468	1.0000		
lvg	0.1125	0.2884	0.2370	0.1232	0.0128	-0.6287	1.0000	
mge	0.3472	0.7331	0.6955	0.0344	0.2592	-0.1474	0.4339	1.0000
eta	-0.1607	-0.2518	-0.5920	-0.3596	0.1506	-0.4049	-0.0125	-0.0608
sp	0.3160	0.5440	0.2687	0.1035	0.1757	-0.0306	0.4462	0.4431
cpi	-0.2636	-0.2055	-0.0890	0.0428	-0.2609	-0.0023	0.0456	-0.0725
gdp	-0.1478	-0.1467	-0.0574	-0.0619	-0.1324	0.0164	0.0062	-0.0642
blr	0.2499	0.1906	0.2115	0.1937	0.0269	0.1229	0.1230	0.2302
tbr	0.1493	0.1214	0.0292	0.0519	-0.0478	-0.1828	0.1791	0.0262

APPENDIX IV

1. ROA(robust)- Insurance Companies

```

. xtreg roa lta eta ncr gdp blr tbr, re vce (robust)

Random-effects GLS regression              Number of obs   =           60
Group variable: code                      Number of groups  =            8

R-sq:                                     Obs per group:
    within = 0.7642                        min =           7
    between = 0.4685                       avg =          7.5
    overall = 0.5968                       max =           8

corr(u_i, X)   = 0 (assumed)               Wald chi2(6)      =   694711.44
                                                Prob > chi2       =         0.0000

                                         (Std. Err. adjusted for 8 clusters in code)
-----+-----
      roa |               Coef.   Robust Std. Err.      z    P>|z|     [95% Conf. Interval]
-----+-----
      lta |   -.0064308   .0045345    -1.42   0.156   -.0153182   .0024566
      eta |  -.1774996   .0094521   -18.78   0.000   -.1960254  -.1589738
      ncr |   .0012771   .0010168     1.26   0.209   -.0007158   .00327
      gdp |   -.000402   .0012585    -0.32   0.749   -.0028686   .0020646
      blr |   .0060165   .0198893     0.30   0.762   -.0329659   .0449988
      tbr |   .0032801   .0043825     0.75   0.454   -.0053095   .0118697
      _cons |   .0843855   .0543689     1.55   0.121   -.0221756   .1909466
-----+-----
sigma_u |   .01221785
sigma_e |   .00834304
rho     |   .68199176   (fraction of variance due to u_i)

```

2. ROA (robust)- Takaful Operators

Random-effects GLS regression	Number of obs	=	60
Group variable: code	Number of groups	=	8
R-sq:	Obs per group:		
within = 0.6297	min =		7
between = 0.4584	avg =		7.5
overall = 0.6014	max =		8
	Wald chi2(6)	=	59.89
corr(u i, X) = 0 (assumed)	Prob > chi2	=	0.0000

	roa	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
	lta	.0100929	.0052368	1.93	0.054	-.0001712 .0203569	
	eta	-.1385571	.1319049	-1.05	0.294	-.3970859 .1199718	
	ncr	.1395576	.0758412	1.84	0.066	-.0090883 .2882036	
	gdp	-.0097619	.0025074	-3.89	0.000	-.0146763 -.0048475	
	blr	.0852047	.055298	1.54	0.123	-.0231774 .1935869	
	tbr	.0526793	.0281108	1.87	0.061	-.0024169 .1077756	
	_cons	-.7002913	.4491416	-1.56	0.119	-1.580593 .1800102	
	sigma_u	.01921157					
	sigma_e	.05461248					
	rho	.11012162	(fraction of variance due to u i)				

APPENDIX IV (Continue)

1. ROE (robust)- Insurance Companies

```
. xtreg roe lta eta ncr gdp blr tbr, fe vce (robust)
```

```
Fixed-effects (within) regression      Number of obs   =       60
Group variable: code                  Number of groups =        8
```

```
R-sq:                                Obs per group:
    within = 0.1988                      min =        7
    between = 0.5293                     avg  =       7.5
    overall = 0.4605                      max  =        8
```

```
corr(u_i, Xb) = -0.8514                  F(6,7)          =       3.36
                                          Prob > F         =     0.0692
```

(Std. Err. adjusted for 8 clusters in code)

	ro	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
lta		-.8591673	.3547041	-2.42	0.046	-1.697909	-.0204253
eta		-2.080503	.9722385	-2.14	0.070	-4.379482	.2184752
ncr		.001374	.0196586	0.07	0.946	-.0451111	.0478591
gdp		-.1790521	.0854079	-2.10	0.074	-.3810097	.0229056
blr		2.264268	.7888956	2.87	0.024	.3988267	4.12971
tbr		.1242969	.2781976	0.45	0.669	-.5335359	.7821297
_cons		1.702234	7.636982	0.22	0.830	-16.35636	19.76083
sigma_u		3.3827926					
sigma_e		.55873267					
rho		.97344366	(fraction of variance due to u_i)				

2. ROE (robust) - Takaful Operators

(Std. Err. adjusted for 8 clusters in code)

	ro	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
	lta	.1564323	.0517917	3.02	0.003	.0549225	.2579422
	eta	-.0260513	.6078571	-0.04	0.966	-1.217429	1.165327
	ncr	.3414369	.1395826	2.45	0.014	.06786	.6150138
	gdp	-.0803963	.0278195	-2.89	0.004	-.1349216	-.025871
	blr	.0652215	.2631115	0.25	0.804	-.4504675	.5809105
	tbr	.2543249	.0942684	2.70	0.007	.0695621	.4390876
	_cons	-2.513933	1.853121	-1.36	0.175	-6.145984	1.118118
	sigma_u	.20930591					
	sigma_e	.21818278					
	rho	.47924379	(fraction of variance due to u_i)				