UNIVERSITAS
GADJAH MADA
THE IMPACT OF MARKET STRUCTURE AND EFFICIENCY ON PROFITABILITY OF CONVENTIONAL GENERAL INSURANCE
INDUSTRY IN INDONESIA FROM 2012-2017
SATYA TEGUH, Â Andreas Budi Purnomo Brodjonegoro, Drs., M.A.,
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

TABLE OF CONTENTS

TITTLE PAGE ..... **i**
VALIDATION PAGE ..... **ii**
APPROVAL PAGE ..... **iii**
STATEMENT OF AUNTHENTICITY PAGE ..... **iv**
PREFACE AND ACKNOWLEDGEMENT ..... **v**
TABLE OF CONTENTS ..... **vii**
LIST OF FIGURES ..... **xi**
LIST OF TABLES ..... **xii**
LIST OF APPENDICES ..... **xiv**
CHAPTER I **1**
1 INTRODUCTION **1**
1.1 Background 1
1.2 Formulation of the Problem 10
1.3 Research Question 12
1.4 Objective of the Study 13
1.5 Research Motivation 13
1.6 Significance of the Study 14
1.7 Research Contribution 14
1.8 Scope and Limitation 15
1.9 Systematics Writing 15
CHAPTER II **17**
2 THEORETICAL BASIS & LITERATURE REVIEW **17**
2.1 General Insurance 17
2.2 Principles of General Insurance 18
2.2.1 Utmost Good Faith 18
2.2.2 Insurable Interest 18
2.2.3 Indemnity 19
2.2.4 Subrogation 19
2.2.5 Contribution 19
2.2.6 Proximate Cause 19

UNIVERSITAS GADJAH MADA
THE IMPACT OF MARKET STRUCTURE AND EFFICIENCY ON PROFITABILITY OF CONVENTIONAL GENERAL INSURANCE
INDUSTRY IN INDONESIA FROM 2012-2017
SATYA TEGUH, Â Andreas Budi Purnomo Brodjonegoro, Drs., M.A.,
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

2.3 The Concept of Industrial Economics 20
2.4 Structure Conduct Performance Paradigm 21
2.4.1 Market Structure of the Industry 24
2.4.2 Perfect Competition 26
2.4.3 Monopolistic Competition 27
2.4.4 Oligopoly Market 28
2.4.5 Monopoly Market 29
2.4.6 Measures of Market Structure 30
2.4.7 Market Share 31
2.4.8 Concentration Ratio 32
2.4.9 Herfindahl-Hirschman Index 34
2.4.10 Behavioral Conduct 35
2.4.11 Performance 39
2.5 Efficiency Analysis 41
2.5.1 Comparison of SCP Paradigm and Efficiency Paradigm 41
2.5.2 Efficiency Measurement 45
2.5.3 Ratio Approach 45
2.5.4 Regression Approach 46
2.5.5 Frontier Approach 46
2.5.6 Input and Output Relations in Measurement 47
2.5.7 The Assets Approach 47
2.5.8 The Production Approach 48
2.5.9 The Intermediation Approach 48
2.6 Literature Review 49
2.7 Hypothesis 53
CHAPTER III 55
3 RESEARCH METHODOLOGY 55
3.1 Research Design 55
3.2 Model and Definition of Operational Variables 55
3.2.1 Model Specification 55
3.2.2 Definition of Operational Variables 57

UNIVERSITAS GADJAH MADA
THE IMPACT OF MARKET STRUCTURE AND EFFICIENCY ON PROFITABILITY OF CONVENTIONAL GENERAL INSURANCE
INDUSTRY IN INDONESIA FROM 2012-2017
SATYA TEGUH, Â Andreas Budi Purnomo Brodjonegoro, Drs., M.A.,
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

3.3 Research Instrument 58
3.3.1 Market Share 58
3.3.2 Herfindahl-Hirschman Index 58
3.3.3 Concentration Ratio 59
3.3.4 Profitability 59
3.3.5 Efficiency Ratio - Data Envelopment Analysis 59
3.3.6 Companies' Size 61
3.3.7 Leverage Ratio 61
3.3.8 Insurers' Risk Ratio 61
3.4 Data Collection Technique 62
3.4.1 Descriptive Statistics Analysis 62
3.4.2 Panel Data Regression Analysis 62
3.4.3 Pooled Least Square (Common Effect) Model 64
3.4.4 Fixed Effect Model 65
3.4.5 Random Effect Model 66
3.5 The Selection test of Panel Regression Model 67
3.5.1 Chow-Test 67
3.5.2 Hausman-Test 68
3.5.3 Lagrange Multiplier (LM) Test 69
3.6 Violations of Classical Assumptions and Statistical Tests 69
3.6.1 Heteroscedasticity Test 70
3.6.2 Multicollinearity Test 71
3.7 Goodness of Fit Test 72
3.7.1 T-Statistic 72
3.7.2 F-Statistic 73
3.7.3 Coefficient of Determination 73
CHAPTER IV 75
4 RESULT AND DISCUSSION 75
4.1 Data Description 75
4.2 Statistics Descriptive 76
4.3 Market Structure Analysis 78

UNIVERSITAS GADJAH MADA
THE IMPACT OF MARKET STRUCTURE AND EFFICIENCY ON PROFITABILITY OF CONVENTIONAL GENERAL INSURANCE INDUSTRY IN INDONESIA FROM 2012-2017
SATYA TEGUH, Â Andreas Budi Purnomo Brodjonegoro, Drs., M.A.,
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

4.4 Efficiency Analysis 79
4.5 Correlation Analysis 84
4.6 Result of Panel Data Regression 87
4.7 Model Selection Test Results 90
4.7.1 Chow Test Results 91
4.7.2 Hausman Test Results 91
4.7.3 Lagrangian-Multiplier Test Result 92
4.8 Classical Assumption Test Results 94
4.8.1 Normality Test Results 94
4.8.2 Heteroscedasticity Test Result 95
4.8.3 Multicollinearity Test Result 96
4.9 Goodness of Fit Test 97
4.9.1 Individual Testing (z-Test) 97
4.9.2 Global Testing (Wald-Test) 100
4.9.3 Coefficient of Determination Test (R2) 101
4.10 Discussion 102
4.10.1 Relationship Between Market Structure and Profitability 104
4.10.2 Relationship Between Firm Efficiency and Profitability 105
4.10.3 Other Factors Affecting Profitability 107
CHAPTER V 109
5 CONCLUSION AND SUGGESTION 109
5.1 Conclusion 109
5.2 Limitations 110
5.3 Implications 111
6 BIBLIOGRAPHY 113
7 APPENDICES 116

UNIVERSITAS
GADJAH MADA
**THE IMPACT OF MARKET STRUCTURE AND EFFICIENCY ON PROFITABILITY OF CONVENTIONAL GENERAL INSURANCE
INDUSTRY IN INDONESIA FROM 2012-2017**
SATYA TEGUH, Â Andreas Budi Purnomo Brodjonegoro, Drs., M.A.,
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

LIST OF FIGURES

Figure 1.1Contribution of The Financial and Insurance Services Industry to the GDP of the year 2012-2017. 3

Figure 2.1 Structure-Conduct-Performance Linear Framework 23

Figure 2.2Structure-Conduct-Performance Relationship Framework 24

Figure 2.3 Perfect Competition in the short run..... 27

Figure 2.4 Monopolistic Competition Market Structure..... 28

Figure 2.5 Kinked Demand Curve of Oligopoly..... 29

Figure 2.6 Monopoly Competition Market Structure 30

Figure 4.1HHI and CR4 of Indonesian Insurances, 2012-2017..... 79

Figure 4.2 Histogram of TE and PTE in 2017. 82

Figure 4.3 Scatter Plot..... 87

UNIVERSITAS
GADJAH MADA
THE IMPACT OF MARKET STRUCTURE AND EFFICIENCY ON PROFITABILITY OF CONVENTIONAL GENERAL INSURANCE
INDUSTRY IN INDONESIA FROM 2012-2017
SATYA TEGUH, Â Andreas Budi Purnomo Brodjonegoro, Drs., M.A.,
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

LIST OF TABLES

Tabel 1.1 Growth of Number of Insurance Companies of the year 2012-2017..... 5

Tabel 1.2 The Gross Premium and Gross Domestic Product (In Trillion Rupiah) of the year 2012-2017 6

Tabel 1.3 The Growth of Gross Claim Relative to Gross Premium (In Trillion Rupiah) of the year 2012-2017 7

Tabel 1.4 The Total Assets of Insurance Industry (In Trillion Rupiah) of the year 2012-2017 8

Tabel 1.5 The Total Investment of Insurance Industry (In Trillion Rupiah) of the year 2012-2017..... 9

Tabel 2.1 Classification of Market Structure by Category 31

Tabel 2.2 CR4 Classifications Table..... 33

Tabel 2.3 Comparison SCP and Efficiency Paradigm 42

Tabel 4.1 Summary Statistics..... 77

Tabel 4.2 Indicators of Market Structure and Efficiency, 2012-2017 78

Tabel 4.3 Results of Mean Difference 84

Tabel 4.4 Correlation Matrix..... 85

Tabel 4.5 Results of Panel Regression using CEM, FEM, and REM (Model 1 & Model 2)..... 89

Tabel 4.6 Results of Panel Regression using CEM, FEM, and REM (Model 3 & Model 4)..... 90

Tabel 4.7 Results of Chow Test 91

Tabel 4.8 Results of Hausman Test..... 92

Tabel 4.9 Results of Breusch Pagan Lagrangian-Multiplier Test..... 93

UNIVERSITAS
GADJAH MADA
**THE IMPACT OF MARKET STRUCTURE AND EFFICIENCY ON PROFITABILITY OF CONVENTIONAL GENERAL INSURANCE
INDUSTRY IN INDONESIA FROM 2012-2017**
SATYA TEGUH, Â Andreas Budi Purnomo Brodjonegoro, Drs., M.A.,
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

Tabel 4.10 Results of Shapiro-Wilk Test 94

Tabel 4.11 Results of Breusch-Pagan 96

Tabel 4.12 Result of VIF test 97

Tabel 4.13 Results of Individual Testing (z-Test), Model 1 98

Tabel 4.14 Results of Individual Testing (z-Test), Model 2 98

Tabel 4.15 Results of Individual Testing (z-Test), Model 3 99

Tabel 4.16 Results of Individual Testing (z-Test), Model 4 99

Tabel 4.17 Result of Wald Testing 101

Tabel 4.18 Results of REM (Selected Model) 103

UNIVERSITAS
GADJAH MADA
**THE IMPACT OF MARKET STRUCTURE AND EFFICIENCY ON PROFITABILITY OF CONVENTIONAL GENERAL INSURANCE
INDUSTRY IN INDONESIA FROM 2012-2017**
SATYA TEGUH, Â Andreas Budi Purnomo Brodjonegoro, Drs., M.A.,
Universitas Gadjah Mada, 2019 | Diunduh dari http://etd.repository.ugm.ac.id/

LIST OF APPENDICES

Appendix 1 Descriptive Statistic 116

Appendix 2 Correlation Analysis 116

Appendix 3 Model 1 STATA Results 116

Appendix 4 Model 2 STATA Results 119

Appendix 5 Model 3 STATA Results 123

Appendix 6 Model 4 STATA Results 126

Appendix 7 Data Envelopment Analysis Python 3 Results 129