IMPACT OF ENTERPRISE RISK MANAGEMENT ON UNDERWRITING PROFIT OF INSURANCE COMPANIES IN SRI LANKA

Madhushan, T.S.[1] and Buddhika, H.J.R.[2]

Abstract

Introduction- Enterprise risk management is the modern concept that was used by financial companies to manage their risk. This study was conducted to examine the impact of enterprise risk management on underwriting profit in insurance companies in Sri Lanka.
Design/Methodology/Approach- The secondary data was collected from the sample of nine insurance companies in Sri Lanka for the period of eight years from 2013 to 2020. The drawing sample data was tested using panel data regression inference the results throughout pool ordinary least square, fixed effect and random effect models.
Findings- The researcher used correlation analysis to measure the association between Enterprise risk management and underwriting profit.
Conclusion – According to the finding of this study chief risk officer, risk committee, independent board of directors, solvency margin, leverage and external stakeholders showed a negative relationship between underwriting profit and only size showed a positive relationship between underwriting profit. Moreover, the result of this study found that there was a significant negative impact from solvency margin on underwriting profit and, there was a significant positive impact on the size of underwriting profit in insurance companies in Sri Lanka.

Keywords: *Risk committee, Solvency Margin, Leverage, Underwriting Profit, Enterprise Risk Management*

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[1]Department of Finance, Faculty of Commerce and Management Studies, University of Kelaniya
*(*tharindusasankam@gmail.com*)*
[2]Department of Finance, Faculty of Commerce and Management Studies, University of Kelaniya

1. Introduction

The insurance industry has become one of the fastest-growing industries in the last few decades the development of the global economy and the various needs of human society. Furthermore, the insurance industry has evolved due to the increased probability of unexpected events. That is the essence of the insurance industry (Njegomira & Marovic, 2012). Insurance has been a necessity for many years Protection of human life and property values (Njegomira & Marovic, 2012). Thus, insurance companies should be these risks are managed and companies need to have an effective risk management system to manage these risks.

Effective risk management aims to provide certification for organizational achievement Objectives and its financial goals as well as maximizing shareholder value. (Mohammeda & Knapkovaa, 2016), (Daud & Yazid, 2009). ERM focuses primarily on strategic risk, Bringing both operational risk and financial risk into one risk management Framework. (Eikenhout, 2015). ERM is a modern concept of risk management. It has emerged to prevent the shortcomings of traditional risk management and the cultural approach that helps it lead the organization to minimize uncertainties and seize opportunities.

In the insurance industry, underwriting profit is one of the critical measurements that is used to evaluate a company's performance (Lire & Tegegn, 2016). Among the foundation of effective insurance, the operation is the ability to underwrite well as poor risks selection results in significant losses and insurer failure (Browne & Kamiya, 2011). The insurance company must meet the minimum capital requirement known as risk-based capital

introduced by the Insurance Board of Sri Lanka for each insurance class. Risk-based capital requirements help to reduce the expected cost-efficiently (Cummin, Harrington, & Klein, 1995).

This study seeks recent evidence of a link between enterprise risk management and underwriting dividends. This study helps to minimize business risk management problems for insurance companies in their day-to-day operations or investment decisions. This study is evidence to identify the existence of the insurance company and its activities. This study will help enterprise risk management to identify how the insurance industry affects profit margins. The researcher identifies the specific reasons that affect insurance profits. Therefore, the results of these studies will guide enterprise risk management strategies and increase insurance companies' insurance profits.

This research will help other researchers to do other research based on this research. On the other hand, the researcher can gain knowledge about the enterprise risk management model and research methods. If the researcher intends to continue his or her professional service in the insurance sector, this research may be useful to insurance insurers and insurance officers. In doing this research, the researcher gained a great deal of knowledge about various aspects.

1.1. Research Objectives

- To explore the association between ERM and underwriting profit.
- To investigate the impact of ERM on underwriting profit in the insurance industry in Sri Lanka.

2. Literature Review

Enterprise risk management and underwriting profits have become important concepts in the insurance industry. They play a significant role in the performance of the insurance industry and its corporate image. This chapter aims to describe every aspect of the study entitled "Impact of Enterprise Risk Management on Insurance Profits of Insurance Companies" using the available literature.

2.1. Insurance industry

The main industry incorporated under the financial sector is the insurance industry, which is a risk transfer system in which the insured transfers the cost of losses to another entity for payment. Also, insurance is an economic instrument in which a person pays a small amount (premium) and incurs an economic loss relative to the total value of the risk.

Therefore, companies in the insurance industry should pay close attention to their risk management. Therefore, insurance is one of the most popular types of risk management.

Today the insurance industry has become one of the most competitive and popular industries in Sri Lanka. There are 27 insurance companies established in Sri Lanka. Insurance companies in Sri Lanka provide various covers to protect human life and property such as medical cover, motor insurance, fire insurance.

Risk can be simply defined as the possibility of something unpleasant or inappropriate happening. (Eikenhout, 2015). In another word, the risk is the uncertainty associated with a future outcome or event. Two types of risks are faced by insurance companies, which are financial risk and non-financial risk. Over the past few decades' financial risks become more important than non-financial risks.

2.2. Risk management

Risk management is the process by which an organization identifies the risk of loss and selects the most appropriate method to treat that exposure. (Rejda, 2008). Risk management aims to provide decision-makers with a systematic approach to coping with risk and uncertainty. (Eikenhout, 2015).

Risk management is a combination of four functions: planning, organizing, directing and controlling an organization's activities while minimizing the business losses of an organization at a reasonable price (Iulia, 2014). Risk management includes two main approaches, traditional risk management and enterprise risk management (Eikenhout, 2015).

The enterprise risk management approach is used differently to manage risk compared to the traditional risk management approach. It is integrated into a risk portfolio and integrates into one complete risk management framework with strategic and operational risks and financial risks (Eikenhout, 2015).

2.3. Enterprise risk management

ERM is a holistic approach to managing both operational and strategic risk across an organization and is a new inspiration for managing the risk collection that an organization faces. The primary objective of ERM is to assist management in dealing with uncertainties, managing risk and creating opportunities for value addition. Also, ERM aims to go beyond the basic intensity of meeting compliance standards to achieve true economic value. That is the ultimate goal of ERM. (Altuntas, Berry-Stolzle, & Hoyt).

Furthermore, ERM has an impact on the strategic decision-making process, affecting a company's returns, market diversification, service delivery, etc., and eventually, ERM has become part of the corporate culture (Daud & Yazid, 2009). The study identifies seven factors as the dimensions of the ERM, including the presence of the Chief Risk Officer, the presence of the Risk Committee and the independence of the Board of Directors, the marginal margin, the size, the leverage and the external stakeholders.

2.4. Chief Risk Officer

A person or group of persons are needed to coordinate and take responsibility for the entire ERM program as well as communicate the goals and results to the board of directors. (COSO, 2004). Attributes of a successful CRO include risk awareness, knowledge of key business processes, current education in the risk management curriculum, communication skills including the ability to work closely with people of all walks of life, and appropriate skills in insurance, finance and accounting.

2.5. Presence of risk committee

The Risk Committee is important for the insurer to define its risk appetite and to establish a proper risk management system for the proper functioning of the Risk Committee (Whalley & Wong, 2016). The presence of a risk committee is also a good indicator of the implementation of ERM (Aebi, Sabato, & Schmid, 2011).

2.6. Independence board of directors

Independence of the Board of Directors Management is a key factor affecting the supervisory efficiency of the Board (Beasley, Richard, & Dana , 2005). The higher percentage of the independent board of directors' influence generates higher profitability for the company (Beasley, Richard & Dana, 2005).

2.7. Solvency margin

One indicator of financial sustainability is the margin of settlement. It can be defined as the fair value of an insurance company's assets exceeding its liabilities and other comparable liabilities. (Authority, 2012). Solvency margin can be calculated by net assets divided by net written premiums (Hailegebreal , 2016). According to studies done by (Charumathi, 2012) there was a significant positive relationship between solvency margin and profitability.

2.8. Firm size

Larger companies can write insurance premiums than smaller companies because small companies cannot protect

their clients in the event of a major risk or major disaster. Furthermore, large insurers can reduce operating costs as a result of the increase (Lire & Tegegn, 2016). (Lire & Tegegn (2016) pointed out that there was a significant positive correlation between size and profitability.

2.9. Leverage

Lever refers to the ability of insurance companies to manage their economic exposure to uncertainties (Charumathi, 2012). A high lever adversely affects insurance profits. Previous research has shown that there is a negative relationship between profitability and insurance leverage (Charumathi, 2012), (Eikenhout, 2015).

2.10. External stockholders

Pressure from external stakeholders is a critical force behind the implementation of ERM (Lam & Kawamoto, 1997). The higher the percentage of corporate equity, the more likely companies are to engage in ERM. (Hoyt & Liebenberg, 2011).

2.11. Underwriting profit

The most important concept in the insurance industry is underwriting, which allows insurers to classify risks and set prices accordingly. Among the cornerstones of a successful insurance campaign, good risk writing ability and poor risk selection results in significant losses and insurance failure (Browne & Kamiya, 2011). Insurance profit can be defined as the profit that an insurance company makes after claims and expenses.

The measure of the success of an insurance company is the insurance profit. Based on theoretical and empirical evidence, the researcher could not identify the variables that affect insurance profits and the extent to which ERM dimensions affect insurance profits in the Sri Lankan context.

3. Research methodology

3.1. Conceptualization

This model includes the independent and dependent variables. Here underwriting profit is the dependent variable and Enterprise Risk Management is the independent variable. As an independent variable; seven factors can be identified under the Enterprise Risk Management including the presence of a Chief risk officer, the Presence of a Risk Committee, Independence of the board of directors, Solvency Margin, Size, Leverage and External stakeholders.

3.2. Research approach

An appropriate research approach should be selected to find out solutions for the research questions. In this approach sufficient sample size should be selected to generalize the result of the study and this approach is most applicable for quantitative studies (Saunders, Lewis, & Thornhill, 2009). As the researcher attempts to test the existing theories related to underwriting profit and Enterprise Risk management and this is a quantitative study this study was used the deductive approach.

3.3. Research design

According to Saunders et al., (2009) research design is the general plan about how a researcher will go about answering the research questions. There are three major types of research designs. They are exploratory, descriptive and explanatory research designs. Exploratory research design is which provides insights to the researcher. An explanatory research design was used to conduct this thesis as the main purpose of this study is to explain the causal relationship between ERM and underwriting profit.

3.4. Site selection

- Sri Lanka Insurance Corporation Ltd
- Union Assurance
- Amana Takaful PLC
- Ceylinco Insurance Ltd
- HNB Insurance Ltd
- Janashakthi Insurance PLC
- Softlogic Life Insurance PLC
- People's Insurance

- Arpico Insurance PLC
- Softlogic Capital PLC

For this study, only secondary data were used. Secondary data can be defined as the data which have already been collected by another party for another intention (Saunders et al., 2009).

The population of the Study. As per the words of (Saunders et al., 2009) population is the all set of cases in which a sample is taken. The target population of this study is all insurance companies in Sri Lanka. The sample size is based on the following criteria:

• The availability of consistent financial reports and accounts.

• The insurance companies have both general and life insurance.

Based on the above criteria ten insurance companies were selected to collect data which were before segregated insurance companies were selected to do this analysis.

3.5. Method of Data Analysis

In the main information was analyzed victimization Descriptive Statistics, Pearson Correlation and regression analysis Eviews 12 version software Microsoft excel out. It had been accustomed analyse monetary information and especially just in the case of pooled information.

- Descriptive Statistics
- Correlation Analysis
- Panel Data Regression Analysis
- Pooled Ordinary Least Squares (OLS) Regression
- Multiple regression models
- Hypothesis

4. Findings and Discussion

This chapter focus on the analysis of data, collected from the annual reports of the 08 listed companies in CSE, companies were selected from the one sector in CSE as Insurance. The data were entered into Microsoft excel and E views statistical software to make the analysis process convenient. After that, the data were arranged according to the requirements. Further, the behaviour of both independent (CRO, RC, IBD, SM, LEV, SIZE, and ESH) and dependent (Underwriting Profit) variables are analyzed from the tables and graphs presentation. Data presentation, Descriptive, Correlation, multicollinearity test and regression are used to analyze the information is collected from the annual data of the selected companies.

4.1. Correlation Analysis

It is an important technique that can be used to identify the association between two variables. It can use as a tool to analyze the relationship between the independent variable and dependent

variable. The following tables describe the correlation with independent variables of CRO, RC, IBD, SM, SIZE, LEV, and ESH dependent variable of UP separately.

Shows the correlation and probability between the enterprise risk management and Underwriting Profit. The presence of the Chief Risk Officer, Presence of risk committee, an Independent Board of directors, Solvency Margin, Leverage, and External Shareholders are represented by Enterprise risk management. When comparing overall results of the UP of CRO, SIZE, and LEV have positive correlation with UP. And other variables have negative correlation with UP. But only significant probability value is represented by SIZE and other all variables are insignificant under the 5% of level.

Table 4.1.1: Correlation Analysis

Correlation Probability	**UP**	**CRO**	**RC**	**IBD**	**SM**	**SIZE**	**LEV**	**ESH**
UP	1							
CRO	0.0856 0.4501	1						
RC	-0.0032 0.9977	0.1200 0.2890	1					
IBD	-0.1967 0.0802	-0.0578 0.6104	0.0092 0.9353	1				
SM	-0.1824 0.1053	-0.2798 0.1119	-0.0685 0.5456	0.1018 0.3684	1			
SIZE	0.6421 0.0000	-0.0880 0.4371	-0.2809 0.0116	-0.1205 0.2870	0.2666 0.0016	1		
LEV	0.0577 0.6111	-0.0554 0.6254	-0.0554 0.6254	-0.0453 0.6897	-0.2110 0.2870	0.2666 0.0168	1	

								10th SRS - DFin
ESH	-0.1906 0.0903	0.1549 0.1700	0.1549 0.1700	-0.3173 0.0041	-0.0673 0.5529	-0.2044 0.0689	-0.2546 0.0227	1

Source: Author Compiled

4.2. Regression Analysis

The statistical procedure of regression analysis is used to estimate the impact between variables. When the priority is on the link between a dependent variable and one or more independent variables, it encompasses numerous approaches for estimating and evaluating multiple variables. Regression analysis, in particular, explains how the usual value of the dependent variable varies when one of the independent factors is changed while the other independent variables remain constant.

Shows the regression results of Solvency Margin, Firm size, Risk Committee, Leverage, Independent board directors, External stakeholders and, the presence of a chief risk officer and underwriting profit. The meaning of coefficient is, how will change the dependent variables when independent variables increased by one unit. R2 is a statistical measure that quantifies the amount of variance explained by an independent variable or variables in a regression model for a dependent variable.

Table 4.1.2: Regression Analysis

Independent variable	Coefficient	St. error	t. statistic	Prob.
SM	-0.205031	0.047568	-4.310312	0.0001
SIZE	0.648070	0.071380	9.079170	0.0000
RC	0.977437	0.369975	2.641901	0.0101
LEV	0.016948	0.041438	0.409010	0.6837
IBD	-0.843054	0.651332	-1.294354	0.1997
ESH	-0.322122	0.192844	-1.670378	0.0992
CRO	0.109918	0.187047	0.587650	0.5586
R^2 0.603279				
Constant 3.979322				

Source: Author Compiled

4.3. Hypotheses Testing

H_1 : There is a positive impact with CRO and Underwriting Profit.

H_2 : There is a positive impact with RC and Underwriting Profit.

H_3 : There is a positive impact with IBD and Underwriting Profit.

H_4 : There is a positive impact with SM and Underwriting Profit.

H_5 : There is a positive impact with SIZE and Underwriting Profit

H_6 : There is a positive impact with LEV and Underwriting Profit.

H_7 : There is a positive impact with ESH and Underwriting Profit.

5. Conclusion

This section highlights the summarized results of this study. It is based on the methodology and research hypothesis.

According to the correlation results in Table 4.1.1, there is an insignificant relationship between all independent variables of CRO, RC, IBD, SM, SIZE, LEV, and ESH, and the dependent variable of Underwriting profit. The majority of Correlation values of independent variables are weakly correlated with underwriting profit. Based on the correlation analysis, a study has accepted the null hypothesis and rejected the alternative hypothesis under

the 5% of significance level. On the other hand, the researcher analyzes the regression analysis also to identify the impact of enterprise risk management and underwriting profit. The regression results of Table 4.1.2 shows that there is an insignificant impact with the dependent variable of UP with independent variables of LEV, IBD, ESH, and CRO. The majority of the Coefficients of the independent variables have a strong impact on underwriting profit. Based on the regression results, the researcher accepted the null hypothesis and reject the alternative hypothesis under 5% of the significance level. It means there is not any significant relationship between enterprise risk management and underwriting profit. Therefore, it can be concluded that there is no relationship between enterprise risk management and underwriting profit according to all findings.

5.1. Conclusion

The study investigated the impact of enterprise risk management and underwriting profit concerning insurance companies in CSE considering the historical date from 2013 through 2020.

There is extensive empirical evidence on enterprise risk management around the world. The enterprise risk management of ten companies for Eight years are considered for the analysis based on the hypotheses. The main objective of the study is to investigate the relationship between enterprise risk management and underwriting profit. According to the overall results in the analysis chapter, the study can identify the relationship between enterprise risk management and underwriting profit and it indicates no significant relationship. So, as per the descriptive analysis, the researcher has identified the averages among the variables of enterprise risk management. Among the study, the researcher can achieve all objectives of the study.

5.2. Recommendation

After analyzing the findings, and finding out the impact of enterprise risk management on underwriting profit in insurance companies in Sri Lanka, the researcher presents the following recommendation. Underwriting profit is a major factor in the going concern of the insurance industry. Thus, it recommends the company managers put more effort into enterprise risk management, especially to manage the chief risk officer, risk committee, independent board of directors, solvency margin, size, leverage and external stakeholder. And also, the result of this study clearly shows that size and solvency margin are great predictors of insurance companies underwriting profit as they show an insignificant relationship.

Based on the above analysis researcher may further conclude that these results can be further strengthened if the firms manage their enterprise risk more efficiently. Further, a more aggressive policy toward enterprise risk management may not be able to generate more underwriting profit. Therefore, need adequate and accurate information from both internal and external sources to access the multiplicity of enterprise risks they face when presented with an insurance proposal. To manage enterprise risk appropriately, insurance companies should develop and implement adequate enterprise risk management strategies.

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