

**LABUAN CAPTIVE INSURANCE: AN
ANALYSIS OF ITS PERFORMANCE USING
DEA**

AMIERAH RATNA BINTING



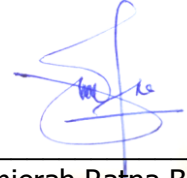
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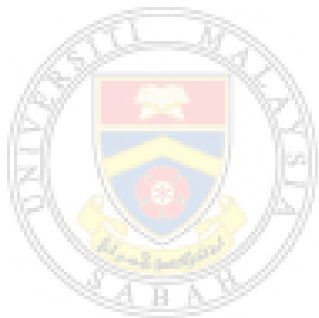
DECLARATION

I hereby declare that the material in this thesis is my own except for quotations, equations, summaries and references, which have been duly acknowledged.

12 December 2013



Amierah Ratna Bintang
PL2009-8264



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CERTIFICATION

NAME : **AMIERAH RATNA BINTING**
MATRIC NO : **PL 2009-8264**
TITLE : **LABUAN CAPTIVE INSURANCE: AN ANALYSIS OF ITS PERFORMANCE USING DEA**
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VIVA DATE : **28TH AUGUST 2013**

DECLARED BY

1. SUPERVISOR
Dr. Rosita Chong

Signature

2. CO-SUPERVISOR
Dr. Zatul Karamah Ahmad Baharul Ulum



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Amierah Ratna Binting
PL2009-8264
12 December 2013



ABSTRACT

Labuan Financial Services Authority (Labuan FSA) reported that for the Quarter 2, year 2012, the number of licenses issued to Labuan Captive has increased ever since Labuan declared as Labuan International Business and Financial Centre (Labuan IBFC) in the year 2009 to 39. Therefore, this research aimed to analyse empirically the performance of Labuan Captive which focuses on how Labuan Captive perform in comparison to the other insurance sectors within the Labuan insurance industry, and how it is affected by the internal factors such as its financial standing. This research employed a non-parametric approach, which is Data Envelopment Analysis (DEA) with input orientation measurement to estimate the technical efficiency for Captive and other insurance companies in Labuan insurance industry. A sample of all insurance sectors in Labuan insurance industry is selected over the period 2000-2011. The findings suggested that Labuan Captive is relatively efficient in comparison to other insurance sectors in Labuan insurance industry. DEA has been considered as an effective management tools to quantify Captive Labuan performance, in that DEA has fewer limitations than other econometric approaches in term of the choice of input and output variables whereby, the performance measure obtained by DEA is sensitive to the combination of input and output. The DEA method nevertheless, could assist the industry as an early warning tool as DEA in conjunction with financial variable analysis is a tool worthy of consideration.

Keywords: Captive Labuan, Performance, and Data Envelopment Analysis



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ABSTRAK

INSURAN CAPTIVE LABUAN: SATU ANALISIS TERHADAP PRESTASINYA MENGGUNAKAN DEA

Lembaga Perkhidmatan Kewangan Labuan (Labuan FSA) telah melaporkan bahawa sehingga sukuan kedua tahun 2012, bilangan lesen syarikat Captive di Labuan telah meningkat sehingga 39 buah sejak pertubuhan Labuan sebagai Pusat Perniagaan dan Kewangan Antarabangsa Labuan (Labuan IBFC) pada tahun 2009. Sehubungan dengan itu, penyelidikan ini cuba menganalisis secara empirikal samada Captive di Labuan berkembang berbanding sektor-sektor insuran yang lain di Labuan dari segi pengaruh kewangannya. Penyelidikan ini menggunakan pendekatan bukan parametric iaitu Data Envelopment analysis (DEA) yang menggunakan pengiraan berorientasi input bagi menganggarkan perkembangan Captive dan syarikat insuran yang lain di Labuan. Semua data dari syarikat insuran di Labuan pada tahun 2000 sehingga 2011 digunakan sebagai sampel penyelidikan ini. Penemuan penyelidikan ini menunjukkan bahawa Captive di Labuan berkembang secara signifikan berbanding semua sektor di industri insuran Labuan. Walaupun DEA dicadangkan sebagai alat alternatif pengurusan bertujuan mengukur perkembangan Captive Labuan, namun kaedah ini mempunyai kelemahannya iaitu ketepatan keputusan yang dihasilkan oleh kaedah DEA sangat sensitif kepada gabungan input dan output yang dipilih. Walaupun begitu, DEA boleh dipertimbangkan sebagai alat yang sesuai digunakan untuk menganalisa perubahan kewangan.

Kata Kunci: *Captive Labuan, Prestasi dan Data Envelopment Analysis*

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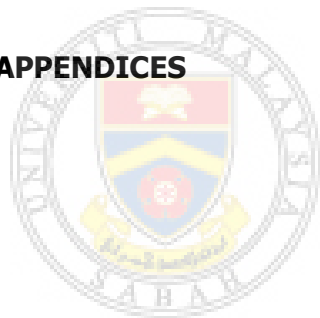
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LIST OF ABBREVIATION

BR	Broker company
CI	Captive insurance companies
CS	Composite insurance companies
DEA	Data Envelopment Analysis
DI	Direct insurance for Life and General Companies
DMU	Decision Making Units
IFC	International Financial Centre
IOFC	International Offshore Financial Centre
Labuan FSA	Labuan Financial Services Authority
Labuan IBFC	Labuan International Business and Financial Centre
LS	Lloyds Syndicate, underwriting and insurance manager companies
RI	Reinsurance companies
US	United States
VRS	Variable Return to Scale
WTC	World Trade Centre

CHAPTER 1

INTRODUCTION

1.1 Labuan International Business and Financial Centre

Labuan International Business and Financial Centre (Labuan IBFC), known previously as Labuan International Offshore Financial Centre (Labuan IOFC), was officially launched on 1st October 1990. The name was changed in 2007 to be more reflective and representative of its primary focus after the repositioning of Labuan as an international business and financial centre. An official launching for the change of name to Labuan IBFC was held on 28th January 2008, officiated by the Chairman of Labuan Financial Services Authority (Labuan FSA) in Kuala Lumpur.¹ This is part of the Malaysian Government's continuous commitments and approaches towards the development of its economy, and towards projecting a positive impetus for growth of Federal Territory of Labuan as a premier IBFC.

The declaration of Labuan IBFC was officially announced 22 years ago with a vision to complement and strengthen the contribution of the financial services sector to the Gross National Product (GNP) of Malaysia as well as by promoting and enhancing the economic development of Labuan.² Through Labuan Financial Services Authority (formerly known as Labuan Offshore Financial Services Authority which was established on 15th February 1996, under the Labuan International Financial Services Authority Act 1996), a one-stop regulatory body commenced its operation on 1st March 1996 that enabled the government to become more responsive to the needs of the financial community in Labuan. The existence of Labuan FSA thus provided leadership and strategic focus for the holistic development of Labuan IBFC.³

¹ Labuan Financial Services Authority (Labuan FSA), *Annual Report 2008*, Labuan: 2008, p.118.

² Labuan Financial Services Authority (Labuan FSA), *Annual Report 2000*, Labuan: 2000, p.10.

³ Labuan Financial Services Authority (Labuan FSA), *Annual Report 2002*, Labuan: 2002, p.18.

The business activities of Labuan IBFC comprise mainly the international-standard companies such as trust companies, insurances, commercial and investment banks, leasing and fund management. Others include Islamic financial services, debt issuance activities and Labuan International Financial Exchange.

Today, Labuan IBFC has developed fully into an international business and financial centre in the region. Though the rate of increase in the number of international companies was a bit slow in its initial years of operation, the rate had accelerated by the year 2011 with the number of companies registered in Labuan IBFC reaching 8,655, comprising 57 banks (1990: 3), 181 insurance companies (1990: 0) and 31 Labuan trust companies (1990: 5). Other financial business activities also contributed to the growth of the number of companies in Labuan IBFC by 2011.⁴ This positive development has helped to attract investors' confidence in the Labuan IBFC.

Labuan Insurance is one of the core industries in Labuan IBFC as it provides a wide range of international financial services and products for the industry. International Captive insurance service is among this core industry, developed under outstanding conducive legal and supervisory framework which would facilitate more international Captive businesses coming into Malaysia. In order to position Labuan IBFC as a centre for Captive insurance business and a preferred location for Captive business in the Asia Pacific region, the government provided incentives under the initiatives of Labuan FSA, among them include:

- a. On 21st November 1997, the Ministry of Finance Malaysia had announced several policy changes including allowing large Malaysian companies to set up Captive insurance companies in Labuan. It was also agreed that all Malaysian reinsurance risks which were ceded or to be ceded overseas should be offered to the Labuan insurers and reinsurers.⁵

⁴ Labuan Financial Services Authority (Labuan FSA), *Annual Report 1996 and 2011*, Labuan: 1996 and 2011.

⁵ Labuan Financial Services Authority (Labuan FSA), *Annual Report 1997*, Labuan: 1997, p.31.

- b. In 1996, Labuan Insurance Act 1990 was amended to reduce capital requirement for Captive insurance companies from RM1.0 million to RM300,000. This amendment was made in order to allow resident companies to set up Captive Insurance in Labuan.
- c. In 1997, the government announced an incentive for Malaysian insurers whereby for any premium on reinsurance ceded to insurers in Labuan, the premium ceded would enjoy 100 percent tax deductibility. This will help to reduce an outflow of Malaysian reinsurance business overseas.⁶
- d. In 1999, a Malaysian-owned Captive in Labuan was exempted from Section 140 of Insurance Act 1996, which allowed a Malaysian-owned Captive in Labuan to insure the risk of its group under the large and specialised Risks Scheme, directly to its Captive in Labuan. This would also mean that a Malaysian risk owner need not have to front his risks to a Malaysian insurer before ceding the business to his offshore Captive in Labuan.⁷
- e. In the International Insurance Act 1990, Labuan FSA offers Captive facility which provides legal separation of account to a medium-sized company if it is unable to establish its own Captive.
- f. Effective 1st January 2008, Labuan Captive was subjected to a better and more secure access to the extensive tax treaty network of Malaysia which included more than 60 treaty partners. As a Labuan Captive, it had an option to elect to be taxed under the Income Tax Act 1967 (ITA)⁸ or otherwise. As at 2010, the tax treaty network had expanded to more than 79 countries.⁹

⁶ Labuan Financial Services Authority (Labuan FSA), *Annual Report 1996*, Labuan: 1996, p.18.

⁷ Labuan Financial Services Authority (Labuan FSA), *Annual Report 1999*, Labuan: 1999, p.17.

⁸ Labuan Financial Services Authority (Labuan FSA), *Annual Report 2007*, Labuan: 2007, p.65.

⁹ Labuan International Business and Financial Centre, in <http://www.labuanibfc.my/site/index.php/about-labuan-ibfc/fiscal-structure#.UINvnXn4h> A. Retrieved 26th July 2012.

As such, it would be interesting to find out the impacts resulted from all these government efforts to make Labuan as a centre for Captive insurance. Hence there is a dire need for more empirical research to be conducted in this area specifically to determine whether the insurance and insurance-related entities, especially Captive insurance registered in Labuan IBFC have performed well or otherwise. This is pertinent because Labuan has all the infrastructures, and is in a strategic geographical location.

The result of this research would be useful as a platform for key stakeholders such as the risk owners/corporations, broker insurance companies, Labuan industry players and academicians to get together and to bring forth new ideas in the insurance market. It would also be useful for the authorities concerned, where necessary, to formulate new strategies and regulatory framework to boost and advance the involvement of international Captive insurance in Labuan IBFC through continuous effort in enhancing awareness and understanding of Captive insurance.

1.2 Purpose of Research

The research focuses on the performance of the international Captive insurance in the Federal Territory of Labuan and to determine how Captive insurance perform in comparison to the other insurance sectors within the insurance industry itself. The research also analyses whether it is affected by the internal factors such as its financial aspects. To answer these research questions, 12 years data of insurance companies in Labuan financial records were used in the analysis.

1.3 Problem Statement

Within the insurance industry, the Captive insurance in Labuan in terms of the number of licence issued over the past few years showed that there are ample opportunity for future growth since its performance is crucial in ensuring the future of Labuan IBFC. However, no research has so far been conducted in this area especially analysis on the performance affected by its financial aspects. Hence, this research is the first attempt to analyse the contribution of the Captive insurance

industry towards the performance of Labuan IBFC in particular, and the country, in general.

In the year 1999 alone, 56 insurance and insurance-related companies had already been established in Labuan which exceeded the target of 50 companies for that year comprising 23 insurance brokers, 14 reinsurances, 6 Captives, 5 underwriting managers, 3 insurance managers, 2 general insurers, 2 life insurers and 1 composite insurer from various countries such as the United Kingdom, Singapore, Bermuda, Australia, Canada, Hong Kong, Sweden, Switzerland, USA, Brunei, Cayman island, Ireland, Japan, Indonesia, Philippine, Germany, Netherlands, Cyprus, France and Malaysia.¹⁰ As at 2011, despite the global economic crisis and major catastrophic events in the region, there were 181 insurance licences in Labuan Captive insurance market, with total assets to the tune of US\$3.65 billion and total gross premiums totalling US\$1.6 billion.¹¹

Labuan is a suitable location for insurance and insurance-related companies, especially for Captive insurance, to set up their operations as it is located in the centre of the Asia Pacific region, sharing the same time zone with the nearest Captive locations and other developed countries such as Singapore, Brunei and Hong Kong. The cost of operation in Labuan is relatively lower if compared to other jurisdictions.

For instance, the paid-up capitals for Labuan Captive range from RM300,000 for single owner Captive, group, association and multi-owner Captive to RM500,000 for rent, master, cell and other similar vehicles.¹² The details and comparison can be seen in Table 1.1. In addition, the cost of administration for Captive in Labuan is also cheaper in comparison to other places.

¹⁰ Data reported by Tan Sri Dato' Seri Hassan Suleiman, Chairman of Labuan FSA in 1999, *Labuan Digest*, 1999.

¹¹ Labuan Financial Services Authority (Labuan FSA), *Annual Report 2011*, Labuan: 2011, p.45.

¹² Labuan Financial Services Authority (Labuan FSA), *Circular No: 108/2010/LIIA/ALTC*, Labuan: 2010, p.3.

Table 1.1: Comparison of Capital and Annual Fee for Captive in 2010

Countries	Vermont (Largest US Captive domiciles) (USD)	Guernsey (Largest European Captive domiciles) (USD)	Singapore (nearest domiciles) (USD)	Labuan (USD)
Capital and Fees				
Minimum Capital:				
Single Parent	250,000	154,520	296,000	98,000
Industrial Insured/cell,	500,000			164,000
Sponsored or Association Captive	1,000,000			
Application Fee	500.00	1,901 to 6,752		
Renewal/Annual Fee	500.00	2,210	3,700	1,000 to 9,800

Source: Business Insurance-Expanded Directory 2011, Captive Domicile (2011)

Having examined the industry environment, it is crucial that the position of an international Captive insurance in the business and financial industry be determined and as a consequence be directed towards the heart of this research. One pertinent question would be *'Is the Captive insurance in Labuan financially performing in response to the increase in number of licence applied in Labuan insurance industry?'* This could be determined and answered by analysing the 12 years data obtained from Labuan FSA.

1.4 Research Objectives

This research analyses the performance of international Captive insurance business and its contribution towards making Labuan a premier Labuan International Business Financial Centre (Labuan IBFC) in the region. Therefore, the objectives of this research are focussed on the following:-

- a. To examine empirically the performance of Labuan Captive insurance in Labuan IBFC;
- b. To examine empirically the performance of Labuan insurance industry in Labuan IBFC; and

- c. To compare the performance of Labuan Captive insurance and other insurance sectors in Labuan IBFC.

1.5 Research Questions

As mentioned in the problem statement above, this research would analyse empirically if Labuan Captive is or was performing well financially corresponding to the increase in number of licence applied in the industry. Therefore, the questions for data gathering procedure on this research are simply:

- a. Is the Captive insurance in Labuan performing well financially?
- b. Is the Insurance industry in Labuan performing well financially in general?; and
- c. Is the Captive insurance performing well or better in comparison to other insurance sectors in Labuan insurance industry?

1.6 Motivation of Research

The following are among the motivations that drive this research to be undertaken:

- a. No research has been conducted empirically on the financial performance of Labuan Captive;
- b. Limited research or educational sources on Labuan Captive; and
- c. Limited research/literature available on Labuan IBFC products.

1.7 Significance of Research

The results of this research would expectedly enrich information:

- a. information on the performance of Captive insurance in Labuan for 12 years from 2000 to 2011,
- b. information on the performance of Insurance industry in Labuan from 2000 to 2011, and
- c. the level of competitiveness of Captive insurance in Labuan insurance industry as indication to meet the industry needs to be successful in the future.

Based on the above, this research would provide useful information for:

- a. Labuan IBFC to formulate and introduce new policies to further improve the conducive environment for Captive business;
- b. new players to evaluate the situation and decide whether or not to enter the industry;
- c. practitioners to create new mechanisms to better manage risk; and
- d. the other researchers to explore new research area in Captive insurance.

1.8 Outline of Chapters

This is a five-chapter research study comprising Introduction, Literature Review, Research Framework and Methodology, Research Findings and lastly, Discussion and Conclusion.

Chapter One provided the background of Labuan International Business and Financial Centre, which focused specifically on international Captive industry in Labuan Malaysia. It highlighted the purpose of the research, problem statements, research objectives, research questions, motivation of research and subsequently the significance of the research.

Chapter Two reviewed literature from previously-conducted researches by others and their findings, which highlighted among others, the concept, types, background of Captive and the determinant of Labuan Captive performance. Some of these previous research studies provided the author with support on the performance of the financial institutions in general and insurance industry in particular although in these previous studies, their focus was on different aspects and on certain segments of the financial institutions only.

Chapter Three touched on the research framework and methodology which highlighted the conceptual and theoretical research frameworks, independent and dependent variables selected in the research, research design and unit analysis. Samples, data collection and analysis methods used to conduct analysis for the research were also being discussed based on previous literatures.

Chapter Four discussed the findings of this research which highlighted the result produced by DEA and the efficiency score for Labuan insurance industry. This chapter also discussed the modelling of non-parametric method of comparative performance measurement of the Labuan Captive. The comparison of performance evaluation for Labuan Captive using the Net Profit after tax and Gross premium as the outputs/independent variables was also elaborated.

Chapter Five examined the results of the findings, the limitation of the research study and recommendation for *Shariah*-compliance Captive operational models for the future. This last chapter concluded the overall research.



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CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter focused on the literature regarding the performance of Captive insurance. It also explained about the nature of insurance industry, followed by an in-depth explanation about international Captive insurance. The chapter also touched on other pertinent matters relevant to the reinsurers as well as the background of Captive insurance, types of Captive, definition of key concept and the determinants of Labuan Captive insurance performance.

Although there were some empirical research studies undertaken on performance measurement for Captive insurance such as research on performance of Captive (in Asia Pacific, Europe, United Kingdom and Ireland, America, Canada and Bermuda), the author however believed that there was no study undertaken to measure the performance of Labuan Captive insurance using Data Envelopment Analysis (DEA). As of to date, empirical research to measure the performance of Labuan Captive insurance is yet to be undertaken. Hence, this research would focus on performance of Labuan Captive insurance, Insurance industry in Labuan as well as its performance in comparison to its peers within the insurance industry in Labuan.

This research however will review research studies undertaken by researchers from both local and abroad who have evaluated and measured the performance of the Captive insurance industries in particular and performance of the financial institutions in general. For instance, The Bermuda Monitory Authority undertook an analysis in 2009 on the performance of Bermuda Captive industry based on data from 1997 up to 2007.

The analysis found that the commercial insurance market was relatively stable under catastrophe environment in 2007 with the combined ratio of 87% and

28% of expenses ratio. Coincidentally, DEA score for Labuan Captive insurance (based on Net Profit as the output variable) was not performing during the year 2007.

In terms of performance measurement, Azmi Omar et al. (2006) studied the performance of commercial banks. Beside applying DEA approach to measure the banks' performance, the researcher also used the bank total investment as one of the research variables. Similar approach would be used and applied in this research on Labuan Captive as well. Kasturi (2006) who studied the performance of Insurance Corporation said that performance of insurance company in financial terms was normally expressed in net premium earned, profitability from its underwriting activities and annual turnover, return of income and return on equity. Therefore, this research would attempt to use gross premium instead of net premium earned. However, in comparison to the output variable with net profit, the net profit would show more accurately result as not all insurance companies in the industry received premium as the company income. For instance, some incomes for the insurance-related companies were in the form of fees or commissions.

Eling and Luhn (2010) had also applied DEA model in their study of Frontier efficiency methodologies to measure performance in the insurance industry. In their research, they found that the value added approach which had been established to be the best practice used in their research. Kablan and O.Yousfi (2008) analysed the performance of Islamic banks which applied other asset variable to measure the performance of bank and found that in general, Islamic banks were efficient with an average of 92.72%. Therefore, DEA approach and other asset variable are the best tools and indicator to measure performance of financial institution such Labuan Captive and Labuan insurance industry.

Biener and Eling (2011), in their study on Micro insurance program found that DEA frontier efficiency provide a new, powerful performance measurement technique and as a valuable addition to the existing performance measure in the field and concurred that DEA would be the best tool to analyse the performance of Labuan Captive insurance. This was supported by Rahut et al. (2012: 110) in his study on the performance of Financial Institution in Bhutan which did an input