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THE EFFICIENCY ANALYSIS OF ISLAMIC GENERAL INSURANCE IN INDONESIA USING DATA ENVELOPMENT ANALYSIS (DEA) METHOD

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Abstract
This study aims to see the level of efficiency of general Islamic insurance in Indonesia using the Data Envelopment Analysis (DEA) method. This study uses the assumption of Variable Return to Scale (VRS) and uses the input variables of total assets and operating expenses. While the output used is profit. This study uses 5 samples of Islamic general insurance that have the largest assets during the 2017-2019 period. The results of this study show that the average efficiency of general Islamic insurance fluctuates. The low level of efficiency is because the company has not been able to maximize the use of its inputs and outputs..

Introduction
Currently, the concept of sharia has emerged in various sectors such as the Non-Bank Financial Industry (IKNB), including in the insurance world. Sharia insurance is an effort to protect and help a number of people through investments in the form of assets and / or tabarru 'which provide a pattern of returns to face certain risks through agreements that comply with sharia principles.

Financial Services Authority (OJK) data shows that in 2017-2019 there were 29 companies of Islamic General in Indonesia. This shows that many people are familiar with Islamic financial institutions, especially Islamic insurance.

The number of sharia insurance operating in Indonesia with a variety of products and services provided makes each sharia insurance company give its best performance. Sharia insurance performance measurement is used by various parties, including customers, companies, and OJK to evaluate the performance of Islamic insurance in managing their business. One of the important aspects in measuring the performance of Islamic insurance is efficiency. Putri (2018) states that the level of efficiency is a reflection of good performance.

There are many methods for measuring efficiency. The DEA method is the best because DEA is able to measure efficiency with several inputs and outputs, does not need to see the relationship between input and output, can be used with input and output data with different units (Maharani et al, 2014: 2). According to Sari (2016) there is no consensus in the selection of input and output variables to be used. Therefore, previous research uses different variables to examine the efficiency of Islamic insurance companies.

Research on the efficiency of Islamic insurance companies has been conducted by previous researchers. Sabiti et al. (2017) conducted research on Islamic life insurance and general Islamic insurance using the DEA approach. This study shows the results that Islamic insurance companies in Indonesia are not efficient. Other studies have shown different results. Sunarsih & Fitriyani (2018) conducted research on the efficiency of sharia insurance and sharia unit general insurance using the DEA method in the 2012-2016 period. The results of this study indicate that during the study period the level of efficiency of Islamic insurance fluctuated.

Inconsistencies of efficiency in Islamic insurance are common. The phenomenon of efficiency in Islamic insurance is related to public trust.. From several previous studies, it seems that there are still results that are not in line with the measurement of the efficiency of Islamic insurance in Indonesia, so there is still an interesting gap to be reviewed using more up-to-date data. There are fundamental differences in this study compared to previous studies, namely the research object, research variables, and the study period.

Conceptual Framework
Penelitian ini menganalisis efisiensi asuransi syariah di Indonesia pada periode 2017-2019 menggunakan metode *Data Envelopment Analysis* yang ditinjau dari *input* dan *output* yang digunakan.

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Kerangka konseptual dalam penelitian ini sebagai berikut :

Research Conceptual Framework

Research Method

a. Population and Sample

This study analyzes the efficiency of Islamic insurance in Indonesia in 2017-2019 using the Data Envelopment Analysis method. The population in this study is general Islamic insurance companies in Indonesia. The sampling method is purposive sampling technique with the following criteria:

- Sharia general insurance company in Indonesia which operates in the 2017-2019.
- Sharia general insurance company that has complete financial reports for the 2017-2019 period.
- Sharia general insurance company in Indonesia that has the largest assets in the 2017-2019 period

Based on the above criteria, there are five general sharia insurance companies in Indonesia that are the research samples, namely:

DMU	Islamic General Insurance
1	PT Asuransi Jasindo Syariah
2	PT Asuransi Adira Dinamika
3	PT Asuransi Central Asia
4	PT Asuransi Ramayana
5	PT Asuransi Sinar Mas

b. Variable Definition

Input Variable :

- Total assets is goods that have economic value, which are developed over time to generate benefits for the company.
- Operating Expenses are costs that must be incurred in the interests of the company's operations. Operating expenses include, among others, salary expenses, advertising expenses, rental expenses, and equipment expenses.

Output Variable :

- Profit is the benefit the company gets from its business activities.

c. Data Analysis Method

This study uses DEA analysis with the VRS assumption to measure the efficiency value of Islamic general insurance companies in Indonesia. The orientation used in this research is output orientation. Measurement of efficiency is processed using the Data Envelopment Analysis Program (DEAP) 2.1 Version application. DMU that has an efficiency value of 1 (one) indicates that the DMU is efficient, while DMU with an efficiency value of less than 1 (one) is an inefficient.

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Results and discussion

1. Descriptive statistics

Before analyzing the efficiency, first the descriptive statistics of the research variables were calculated. The general description of the descriptive statistics of the variables in this study are :

Table 4.2 Descriptive Statistics of Research Variables

	Assets	Operating Expenses	Profit
Mean	370466	51449	19497
S.Deviation	283199	36577	18559
Minimum	41924	16135	1591
Maximum	911372	142009	47828

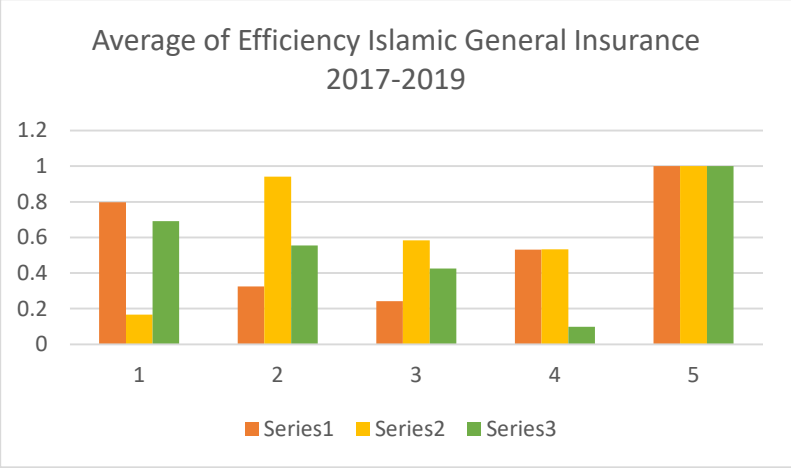
(in million rupiah)

The table above shows the descriptive statistics of the variables for 2017-2019. In the input variable, the average total assets of a sharia insurance company are IDR370,466,000,000, with a minimum total asset of IDR41,924,000,000 and a maximum amount of IDR911,372,000,000. The average total operating expenses were IDR51,449,000,000 with a minimum amount of IDR16,135,000,000 and a maximum amount of IDR142,009,000,000.

Meanwhile, from the output variable, the average profit is IDR19,497,000,000 with a minimum amount of IDR1,591,000,000 and a maximum amount of IDR47,828,000,000. The number of standard deviations in assets, operating expenses, and profits owned by a sharia life insurance company shows that there is a significant difference in the ownership of each company.

2. Perhitungan Efisiensi

After analyzing the efficiency using the DEAP 2.1 application, the following results are obtained:



Average of Efficiency Islamic Insurance 2017-2019

From the chart above, it can be seen that the level efficiency of Islamic general insurance tends to fluctuate. There is an increase and decrease in the level of efficiency each year. This shows the inconsistency of efficiency in Islamic insurance companies, meaning that the company has not been able to optimize the use of its inputs to maximize output.

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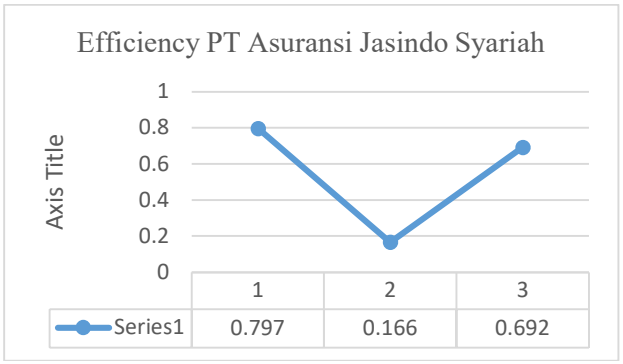
Table 1.1 Efficiency of Islamic Insurance 2017-2019

DMU	2017	2018	2019
1	0.797	0.166	0.692
2	0.324	0.941	0.554
3	0.243	0.583	0.425
4	0.531	0.534	0.098
5	1.000	1.000	1.000

(in million rupiah)

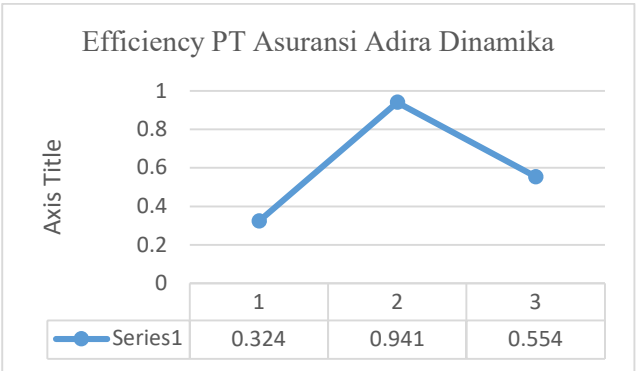
The table above shows that the efficiency at DMU 1, 2, 3, and 4 is in fluctuating inefficient conditions. Only DMU 5 showed constant efficiency during 2017-2019. The inefficient condition of the insurance company shows that the company is wasting its input output and / or has not been able to take advantage of its production capabilities optimally so that it has not been able to reach an efficient level

PT Asuransi Jasindo Syariah



The table above shows the level of efficiency of PT Asuransi Jasindo Syariah during the study period. The condition of this company shows inefficiency which tends to fluctuate in 2017-2019. This company must be able to reduce the use of total assets input and operating expenses, and maximize its output to achieve efficiency.

1. PT Asuransi Adira Dinamika



The table above shows the level of efficiency of PT Asuransi Adira Dinamika during the study period. The condition of this company shows inefficiency which tends to fluctuate in 2017-2019. This company must be able to reduce the use of total assets input and operating expenses, and maximize its output to achieve efficiency.

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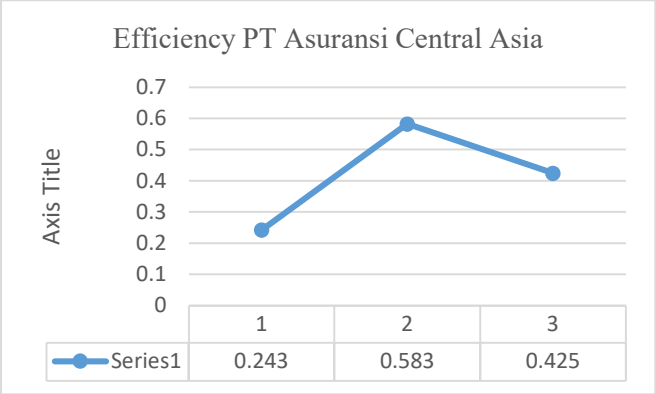
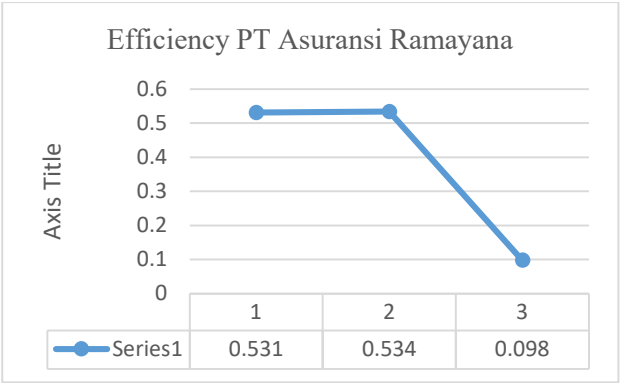
PT Asuransi Central Asia



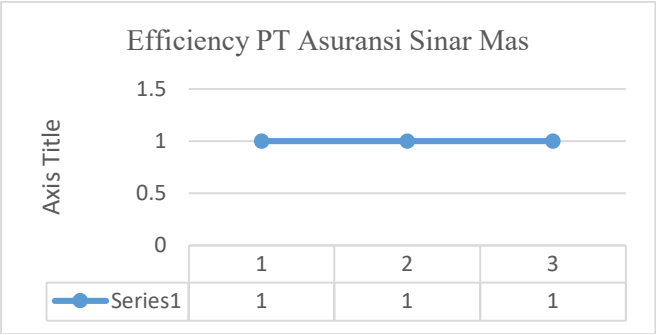
The table above shows the level of efficiency of PT Asuransi Central Asia during the study period. The condition of this company shows inefficiency which tends to fluctuate in 2017-2019. This company must be able to reduce the use of total assets input and operating expenses, and maximize its output to achieve efficiency.

PT Asuransi Ramayana



The table above shows the level of efficiency of PT Asuransi Ramayana during the study period. The condition of this company shows inefficiency and has decreased inefficiency in 2019. This company must be able to reduce the use of total assets input and operating expenses, and maximize its output to achieve efficiency.

PT Asuransi Sinar Mas



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The table above shows the level of efficiency of PT Asuransi Sinar Mas during the study period. This company shows efficient conditions in 2017-2019. This shows that PT Asuransi Sinar Mas can optimize the use of its inputs to produce efficient output.

Conclusion

Analysis of the efficiency of general sharia insurance during the 2017-2019 period in all samples, shows that there are 4 DMUs that are inefficient, namely Jasindo Syariah Insurance, Adira Dinamika Insurance, Central Asia Insurance, and Ramayana Insurance. Meanwhile, the DMU that experiences efficiency is Sinar Mas Insurance. The inefficient conditions experienced by the insurance company indicate that the company has not been able to optimally utilize its capabilities so that it has not been able to achieve efficiency. The inefficient condition of this Islamic insurance company is caused by several things including: total assets, operating expenses, and profit.

Acknowledgements

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