# Efficiency of Sharia Life Insurance in Indonesia and Malaysia: The Effect of Profitability and Firm Size

# Riska Aprilia<sup>1,\*</sup>, A. Jajang W. Mahri<sup>2</sup>, Aneu Cakhyaneu<sup>3</sup>

<sup>1,2,3</sup>Department of Islamic Economics and Finance, Universitas Pendidikan Indonesia, Bandung, Indonesia

# **Research article**

Received 30 August 2022; Accepted 26 October 2022 How to cite: Aprilia, R., Mahri, AJW., & Cakhyaneu, A. (2022). Efficiency of Sharia Life Insurance in Indonesia and Malaysia: The Effect of Profitability and Firm Size. Indonesian Journal of Economics and Management, 3(1), 1-16.

\*Corresponding author: riskaa1704@upi.edu

Abstract: The performance of sharia life insurance in Indonesia and Malaysia has increased and decreased, the declining performance of sharia life insurance causes low income, indicating inefficiency. Inefficiency has adverse effects that will hinder the firm's growth. The purpose of this study is to measure the technical efficiency value of 24 sharia life insurance companies and analyze the effect of profitability level and firm size on the level of sharia life insurance efficiency in Indonesia and Malaysia. The methods used in this study are descriptive and quantitative with causality design. In this study using purposive sampling technique with a total sample of 14 sharia life insurance in Indonesia and 10 sharia life insurance in Malaysia with a total of 144 observations. The data were analyzed by Data Envelopment Analysis (DEA) and tobit regression analysis methods. The results showed that the level of efficiency of sharia life insurance with the average Malaysian firm is more efficient than Indonesian companies. The level of profitability with the average is in the healthy category. The average firm size is in the category of large companies. The level of profitability and the size of the enterprise partially have a positive and significant effect on the level of efficiency. The practical implications of this study are that companies must pay attention to factors that can increase their level of efficiency by reducing operational costs and maintaining and increasing productive assets carefully.

Keywords: efficiency; profitability level; firm size; sharia life insurance

# 1. Introduction

Islamic finance has experienced rapid development due to the increasing number of institutions involved in terms of scientific development and practical business activities in different parts of the world (Kholis, 2017). In the global market, the growth of the bank financial industry is indeed very attractive both in Asian countries, GCC countries, Middle East and North Africa (MENA), Sub-Saharan Africa, and so on. The Islamic financial industry plays an important role in providing alternative options for the needs of various sectors of the economy. In addition, the Islamic financial industry has made a significant contribution to a country's economic development, in particular the growth of the financial system (Rusydiana & Devi, 2018).

In The State of the Global Islamic Economy Report 2020-2021 Malaysia ranks first in the Islamic Finance sector out of fifteen countries. Compared to the country Indonesia is in 6th place. On the other hand, Indonesia is the country with the largest Muslim population in the world. Based on a report by (Standard, 2021). The Royal Islamic Strategic Studies Centre

(RISSC) there are 231.06 million Indonesians who are Muslims. This number is equivalent to 86.7% of the total Indonesian population. The proportion of the Muslim population in Indonesia also reaches 11.92% of its total population in the world (Al-Khraisha, et al., 2022), so the potential to develop sharia insurance in Indonesia should still be very large considering that Indonesia is a country with a majority of the population is Muslim (Iskandar, Achsani, & Djohar, 2020).

One of the financial sectors that is developing to date is sharia insurance. Sharia insurance has great growth potential due to its low market penetration. Sharia insurance can make a broad contribution to improving the government's performance in the provision of social security services (KNKS, 2018).

The existence of sharia insurance is now an important factor supporting the development of global Islamic finance. In addition to its main role as a hedging service provider, sharia insurance also serves to create liquidity, minimize financial losses and promote long-term investment in the Islamic economy (Ardianto & Sukmaningrum, 2020). Insurance has grown rapidly in various countries of the world, even insurance is valid in most Muslim countries. Meanwhile, the Southeast Asian market has superior takaful including Malaysia and Indonesia (IFSB, 2021). Malaysia has 3 types of takaful and 3 providers of retakaful. The takāful industry in Malaysia remains stable in both the general and family segments. In 2016-2020 Malaysia had an average market share of 15.08% of its total premiums (MIFC, 2021), while the average market share of sharia insurance in Indonesia in 2016-2021 only reached 4.69% of its total assets (FSA, 2021).

In Asia, Malaysia was the first country to start a sharia insurance business by establishing the Takaful Malaysia firm Sendirian Berhad which started its business in August 1985. Indonesia followed the Malaysian takaful firm with the technical cooperation of Sendirian Berhad, the Indonesian takaful firm started business in Indonesia in August 1994 (Hasan, 2014).

The growth of sharia life insurance performance in Malaysia during 2016 to 2021 has increased every year. However, the total contribution of sharia life insurance in Malaysia has decreased to reach 36%. The decrease in total contribution in 2020 to 2021 was caused by the ongoing development of the Covid-19 pandemic, and the flood disaster that hit Malaysia (Business, 2022).

The growth of Sharia Life Insurance performance in Indonesia during 2016 to 2021 experienced volatile growth caused, one of which was due to the Corona Virus Disease (Covid-19) pandemic. Total assets and total investments decreased to reach 20% in 2020. Furthermore, the total contribution decreased in 2020 by 13% but increased again in 2021 by 39%. Total claims experienced a significant increase with an average increase of 46% year-over-year.

The growth of sharia insurance assets has generally increased, but the growth of total sharia insurance assets is lower than conventional. This is due to the lack of socialization to the public, the lack of sharia insurance experts who really master sharia insurance techniques, and also the lack of participation of Muslims to make sharia insurance as an option in conducting muamalah (Afina, et al., 2019).

The increasing number of sharia insurance companies in Indonesia and Malaysia makes this sector more competitive. Meanwhile, the overall penetration of the Islamic insurance market in this business is still relatively low in both countries (Ardianto & Sukmaningrum, 2020). To encourage the growth of sharia insurance market share, OJK encourages insurance players to accelerate the separation or spin-off of sharia business units. Therefore, efficiency should be periodically analyzed to assess and minimize decision-making errors that improve the firm's performance. Efficiency analysis can also help determine the management capabilities of the firm (Sunarsih & Fitriyani, 2018). Efficiency measurement is one of the important points for evaluating the performance or effectiveness of Sharia insurance companies, which will determine the competitiveness of the industry in facing all the challenges they face (Sabiti, Effendi, & Novianti, 2017). So that sharia insurance companies can show good results and performance in carrying out their functions. Every firm needs to have a strategy to compete with other companies. One of them is to maintain efficiency. In other words, balance expenses and income so that there is no deficit (Ningsih & Suprayogi, 2017).

Measuring efficiency in sharia insurance has an important role for the community. Efficiency measurement can help the community in determining an efficient sharia insurance firm. The more efficient a firm is, it is indicated that the firm is able to manage its firm's performance well so as to produce maximum output (Ardianto & Sukmaningrum, 2020).

Efficiency in sharia insurance can be reflected by good fund management by maintaining the supply of tabarru' funds to pay benefits/claims and increase its income to continue to grow (Ardianto & Sukmaningrum, 2020). The amount of contribution allocation of tabarru' funds is a component of underwriting income, when it decreases, causing the income generated from the underwriting process to be lower (OJK, 2019).

Sharia life insurance in Indonesia experienced an underwriting deficit of IDR 125 million in 2019, experienced an underwriting surplus in 2020 of IDR 187 million, until in 2021 it reached IDR 2.24 billion. From 2019 to 2020, sharia life insurance in Malaysia experienced an (FSA, 2021)underwriting surplus of Rp 12.9 trillion and Rp 13.5 trillion, respectively. However, in 2021 sharia life insurance in Malaysia experienced a decrease in underwriting surplus to IDR 11.6 trillion. The decrease in underwriting surplus in 2021 was due to a greater increase in total underwriting expenses of 22.4% than the increase in underwriting revenue which only reached 11% (BNM, 2021).

Low underwriting income causes the revenue generated by the underwriting process to be low, causing inefficiency, while the increasing underwriting surplus illustrates that the firm is able to manage the firm's funds well. Thus, the occurrence of inefficiency is indicated in the operational activities of sharia insurance companies. This operational activity consists of managing participant funds and firm funds (inputs) to produce outputs in the form of claims and income obtained (FSA, 2019).

The research questions asked are: what is the level of efficiency, level of profitability, size of sharia life insurance companies in Indonesia and Malaysia; the effect of profitability and firm size on the level of efficiency partially in sharia life insurance in Indonesia and Malaysia in 2016-2021. The purpose of this study is to obtain an overview of the level of profitability, firm size, efficiency level of sharia life insurance companies in Indonesia and Malaysia. As well as to determine the influence of the level of profitability and firm size on the level of efficiency of sharia life insurance in Indonesia and Malaysia. As well as to determine the influence of the level of profitability and firm size on the level of efficiency of sharia life insurance in Indonesia and Malaysia, both partially and simultaneously.

# 2. Literature Review

# 2.1. Sharia Insurance Efficiency

The concept of efficiency initiated by states that technical efficiency in a firm must reach a certain limit and reflect the quality of its inputs in its measurement inseparable from the Farrell (1957) inputs used.

The theory of efficiency is closely related to the theory of consumption and the theory of production in microeconomics. According to Huda & Nasution (2016) efficiency in production theory, an enterprise can make a maximum profit and minimize costs. Meanwhile, efficiency in consumption theory is where consumers can maximize their level of satisfaction. The theory

of Islamic consumption according to Al-Ghazali where a person must control himself in meeting his needs. Al-Ghazali also argued that the fulfillment of religious and economic obligations should be developed efficiently through such activities. Indeed, since the beginning of the development of Islam, Prophet Muhammad SAW has always taught his companions to always do all work (charity) as effectively and efficiently as possible. The meaning of efficient in this context is to do all useful work and leave behind time-wasting and useless work (Juliana, et al., 2022).

According to Rusmini & Aji (2019) efficiency is a parameter used to measure the performance of a firm through measuring the financial activities of an institution. The more efficient the non-profit organization in managing funds, the better it performs. Ningsih & Suprayogi (2017) explained that in general efficiency is a comparison of inputs and outputs. The firm can be said to be efficient when inputs can be managed optimally to achieve maximum output. However, according to Ningsih & Suprayogi (2017) a firm is relatively difficult to achieve ideal efficiency with an efficiency of 1 or 100%.

That is, if one device is more efficient than another, then it is relatively efficient. Efficiency in sharia insurance can be reflected by good fund management by maintaining the supply of tabarru' funds to pay benefits/claims and increase its income to continue to grow (Ardianto & Sukmaningrum, 2020). Operational activities can be one of the indicators of measuring efficiency in sharia insurance. This operational activity consists of managing participant funds and firm funds (inputs) to produce outputs in the form of claims and income obtained (FSA, 2019).

The determination of input and output variables in sharia insurance institutions is based on two approaches and in this study using an intermediation approach. According to (Eling & Huang, 2013) The intermediation approach describes sharia insurance companies as financial intermediaries. Sharia insurance companies manage assets, borrow funds from policyholders and invest them so that the proceeds obtained are used to pay claims, taxes, and other costs.

Based on the sharia insurance mechanism and the services provided, it is enough to make the author determine the input-output variables that will be used in measuring the efficiency value. The input variables used consist of total assets, general and administrative expenses, and the acquisition of tabarru' funds while the output variables used consist of investment income and claim payments. This study uses DEA analysis techniques with BCC-VRS assumptions to measure the efficiency value of sharia life insurance companies. Efficiency measurement assuming the VRS model i.e. because not all DMUs operate at an optimal scale (Ardianto & Sukmaningrum, 2020).

#### 2.2. Profitability

Most of the firm's activities are certainly profit-oriented and in the production concept are known as maximum profits that can be achieved through efficient capital management. Therefore, profitability is one that can measure the efficiency of an enterprise (Karim, 2007).

The profitability ratio is considered the most valid tool in measuring the results of the implementation of the firm's operations. If operational expenses exceed the firm's capacity to make a profit, the firm will be indicated to be experiencing inefficiency. Profitability is also used as a measure of the effectiveness of a firm because it means that if the firm obtains a high profit, it can use well the resources in the firm (Sudarsono, 2017). The achievements achieved can be measured by profitability. Of course, so that Sharia Life Insurance can be considered to perform well by maintaining its high profitability (Maudina, Tanuatmodjo, & Cakhyaneu, 2020).

This study will use the Return on Asset (ROA) ratio. Return on Asset (ROA) is an overall measurement of profitability (Destiani, Juliana, & Cakhyaneu, 2021). This ratio shows the effectiveness of management in using assets and capital to make a profit, thus also providing a better measure of profitability (Juliana, et al., 2022). It is based on the source of income the firm tends to lie in the firm's operational activities and investment activities.

Several previous studies that discussed the level of profitability stated the result that there is a positive influence of the level of profitability on the level of efficiency. The research that supports this includes Eling & Huang (2013); Indraini, Sophisticated, & Rusmita (2019); Jaloudi (2019); and Hijriyani & Setiawan (2017), thus the hypothesis proposed is as follows:

H1: The level of profitability has a positive effect on the level of efficiency of sharia life insurance in Indonesia and Malaysia.

### 2.3. Firm Size

The financial characteristics of the firm can be represented using the size of the firm. According to Prasetyoni (2013) firm size is a scale used to classify firm sizes in various ways. The size of a firm affects the ability to bear the risks it faces. Furthermore, the definition of firm size according to Brigham, Eugene, & Houston (2010) is a grouping of companies into several groups including large, small and medium-sized companies which are determined based on total assets, average sales and total sales.

A large firm is indicated by a large total assets and vice versa a firm with fewer total assets is categorized as a small firm (Eling & Huang, 2013), to determine the size of the firm is used the size of the assets measured as a logarithm of the total assets (Shaputra, 2022). A larger firm size can facilitate companies in dividing their risks more efficiently and reacting more quickly to changing market conditions (Abbas, et al., 2018). This has an impact on lower operating expenses. Companies can better manage available inputs and more easily obtain funds from third parties.

The size of the firm is thought to have an influence on the level of efficiency of sharia insurance. Large sharia insurance makes it possible to get more participants so that the firm has enough tabarru' funds to pay obligations to the participants. This condition shows that sharia insurance companies are able to manage their income well so that it will be more efficient (Ningsih & Suprayogi, 2017). Large insurance companies are considered capable of increasing their flexibility through the use of economies of scale to manage the best combination of inputs with maximum output (Greene & Segal, 2004).

There are several previous studies that discuss firm size and efficiency levels, while research that states that firm size has a positive influence on efficiency levels include Indraini, Sophisticated, & Rusmita (2019); Jaloudi (2019); Iskandar, Achsani, & Djohar (2020); Eling & Huang (2013). Based on this, the hypothesis proposed is as follows:

H2: the size of the firm positively affects the efficiency level of sharia life insurance in Indonesia and Malaysia.

#### 3. Research Method

The research method used in this research is to use quantitative methods and descriptive approaches. The research design used is causality research. Causality research is research carried out to determine causal relationships between several concepts or variables (Ferdinand, 2014).

The optimization in this study is that there are 30 sharia life insurance companies in Indonesia and 11 sharia life insurance companies in Malaysia, both full fledge and sharia units.

This study used purposive sampling technique. Based on the criteria in the sampling, the samples used in this study were 14 sharia life insurance companies in Indonesia and 10 sharia life insurance companies in Malaysia.

# 4. Results and Discussion

# 4.1. Efficiency Level Overview (Y)

In the variable level of efficiency of sharia life insurance, the value obtained is the result of data processing using the Data Envelopment Analysis (DEA) method using the Stata 14.2 application, assuming BCC-VRS to measure the efficiency value of sharia life insurance companies. Efficiency measurement assuming the VRS model i.e. because not all DMUs operate at an optimal scale (Ardianto & Sukmaningrum, 2020).

While the orientation used is the output orientation, because it is assumed that a firm is said to be efficient when it uses a smaller number of inputs to produce the same output or uses the same number of input units can produce more output (output orientation) (Astuti & Suprayogi, 2017).

The results of data processing show that during 2016 to 2021 the average efficiency level of sharia life insurance in Indonesia was 0.63 and the average efficiency level of sharia life insurance in Malaysia was 0.86. This indicates that the majority of Indonesian and Malaysian sharia life insurance companies have not achieved efficient performance and have fluctuating value every year. This is in line with research that sharia insurance does not achieve efficient operations. In its business activities, the firm is still unable to optimize the use of its inputs properly (Benarda, Sumarwan, & Hosen, 2016).

In sharia life insurance companies in Indonesia, there are two companies that are declared efficient with an efficiency score of 1, namely PT Asuransi Syariah Keluarga Indonesia and PT BNI Life Insurance. Based on the published financial statements, the average sharia life insurance firm that is declared efficient has high operational costs can be controlled so that the operational costs incurred are lower and the firm continues to improve its investment management.

Meanwhile, the second lowest rank is PT Asuransi Allianz Life Indonesia (0.35) and PT Sun Life Financial Indonesia (0.11). PT Asuransi Allianz Life Indonesia has a large total payment with very low tabarru funds and high operating expenses, while PT Sun Life Financial Indonesia has high operating expenses with very low revenue. This indicates that PT Asuransi Allianz Life Indonesia and PT Sun Life Financial Indonesia have not reached efficient levels.

In sharia life insurance companies in Malaysia, the highest efficiency value is found in AIA Public Takaful Bhd, Syarikat Takaful Malaysia Berhad and Takaful Ikhlas Family Berhad with an average value of 1. This value indicates that the firm's performance is already efficient.

The lowest rank belongs to the Great Eastern Takaful Berhad with an efficiency score of 0.61. The Great Eastern Takaful Berhad firm showed extremely inefficient conditions. Great Eastern Takaful Berhad has a large total payment with very low acquisition of tabarru funds and high operating expenses with very low revenues. This indicates that the Great Eastern Takaful Berhad has not yet reached an efficient level.

#### 4.2. Overview of Profitability Levels (X1)

The level of profitability is the most important thing in life insurance companies in measuring the effectiveness of a firm in using resources properly (Sudarsono, 2017). The level of profitability is also a determinant of the firm's ability to invest and grow (Greene & Segal,

#### 2004).

In measuring the level of profitability, calculations are made based on the type of profitability ratio, one of which is Return on Asset (ROA). Apart from being a measuring tool for companies in obtaining profits, this ratio is also a tool for measuring the firm's operational efficiency performance.

Based on the data that has been processed, there are 8 sharia life insurance companies in Indonesia categorized as healthy enough conditions to make profits in 2017-2021, this refers to Bank Indonesia Circular Letter no.6/23/DPNP of 2004. Meanwhile, 6 other sharia life insurance companies can be categorized as unhealthy conditions. This can be seen from the firm's profitability value which is more than 1.5% annually. In 2016 the profitability level of sharia life insurance in Indonesia can be categorized as unhealthy condition. The profitability level of sharia life insurance in Malaysia can be categorized as unhealthy conditions from 2016 to 2021. In Malaysian sharia life insurance companies, there are only 3 companies that can be categorized as healthy enough. This can be seen from the firm's average profitability value of less than 1.5% every year.

In sharia life insurance companies in Indonesia during the 2016-2021 period, the highest average profitability level was obtained by PT Prudential Life Assurance of 6.96%. PT Prudential Life Assurance has a larger total operating income compared to the total operating expenses it incurs. On the other hand, PT Sun Life Financial Indonesia is a sharia life insurance firm in Indonesia that has the lowest average profitability level of -3.08%. This is because the amount of operating expenses incurred is greater than the total income issued so that losses occur.

Meanwhile, in sharia life insurance companies in Malaysia during the 2016-2021 period, the highest average profitability level is Syarikat Takaful Malaysia Berhad of 3.80%. Syarikat Takaful Malaysia Berhad has total revenue that can pay for all the total costs incurred. On the other hand, AmMetLife Takaful Berhad is a sharia life insurance firm in Malaysia that has the lowest average profitability rate of -6.04%. This is due to the total costs that cannot be paid off by the entire income so that losses occur.

It can be concluded that sharia life insurance companies in Indonesia have an average profitability level of 2.53% greater than the average sharia life insurance level in Malaysia, which is -1.62%. The low level of profitability of sharia life insurance in Malaysia is due to the low net profit obtained due to low wakalah cost income, in line with low sales of services amid covid-19 (Shankar, 2020).

In addition, the low profitability is due to low investment performance and lower income (Fitch Ratings, 2022). Low profitability is also due to unrealised losses from sukuk investments amid weak equity market performance (The Malaysian Reserve, 2022).

#### 4.3. Firm Size Overview (X2)

The size of the firm can be measured by the value of the assets owned. The larger the firm, indicating the magnitude of economies of scale and can benefit from economies of scale in the form of low production costs (Jaloudi, 2019). In other words, large companies can be more efficient and efficient in managing their funds. This large firm can facilitate its business branches in managing risk and be more responsive to changing market conditions (Abbas, et al. 2018).

Based on data that has been processed, the average total sharia life insurance assets in Malaysia reached Rp6.99 trillion, while the average total sharia life insurance assets in Indonesia only reached Rp1.91 trillion. The size of the total assets owned by sharia life insurance companies in Malaysia is influenced by the huge support from the Malaysian government, the Malaysian government is very concerned in terms of capital to cover claims from the risks of all customers (Zainta & Aslami, 2022).

In sharia life insurance companies in Indonesia, the lowest average firm size is owned by PT Tokio Marine Life Insurance Indonesia with an asset value of Rp74.17 billion. Meanwhile, the highest firm size is owned by PT Prudential Life Assurance of IDR 8.95 trillion.

In sharia life insurance companies in Indonesia, the lowest average firm size is owned by PT Tokio Marine Life Insurance Indonesia with an asset value of Rp74.17 billion. Meanwhile, the highest firm size is owned by PT Prudential Life Assurance of IDR 8.95 trillion. This shows that the firm has a large economies of scale through a greater asset value than 13 other sharia life insurance companies in Indonesia. The larger the assets owned, the larger the size of the firm and is considered more stable and able to face competition in the global market.

The lowest average firm size of sharia life insurance companies in Malaysia is owned by AmMetLife Takaful Berhad with an average asset value of Rp789 billion, while of the 10 sharia life insurance companies, the firm that has the highest average firm size is Syarikat Takaful Malaysia Berhad with an asset value of Rp22.63 trillion.

However, based on Government Regulation No.7 of 2021, it shows that PT Tokio Marine Life Insurance Indonesia and AmMetLife Takaful Berhad are still classified as large companies. This is seen from the firm's total assets of more than IDR 10 billion, indicating that the firm is still a large firm.

### 4.4. Tobit Regression Test Analysis

Tobit regression analysis is used to determine the effect of profitability level (X1) and firm size (total assets) (X2) on the efficiency level (Y) of sharia life insurance in Indonesia and Malaysia partially or simultaneously. In addition, to find out the contribution of independent variables to dependent variables through the value of coefficient determination (R2). The application used in analyzing tobit regression is Stata 14.2.

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Efficiency Level	Coef.	Ζ	P>  z	Number of obs	144
Profitability Rate (ROA)	0.1263822	2.93	0.003	Log Likelihood	13.560938
Ln Firm Size	0.0247777	2.10	0.018	Wald chi2 (2)	8.76
Cons	0.6391994	1.94	0.347	Prob>chi2	0.0125
Rho (R2)	0	.6200554			

Table 1. Descriptive Statistics

Based on the results of tobit regression can be interpreted as well as interpreting linear regression and obtained the following regression equation:

 $TE = 0.6391994 + 0.1263822ROA + 0.0247777 Asset + \varepsilon$ 

The equation illustrates that when the ROA and size of the firm are zero, then efficiency increases by 0.640%. Every time there is a one percent increase in ROA, the efficiency will increase by 0.126%. As for every increase in single-unit assets, the efficiency will increase by 0.025%.

# 4.5. Research Hypothesis Testing

#### 4.5.1. Partial Test

1) Hypothesis I: Effect of Profitability Level Variable (x1) on Efficiency Level Variable

Based on the results of tobit regression, it shows that the level of profitability represented by the ROA value has a p-value of 0.003 and is significant at alpha 5%. While to see the influence can be seen from the z-statistical value, for the profitability level variable has z count (2.93) > z table (1.96) which means rejecting H0 and accepting H1. Thus, on the first hypothesis reject H0 and accept H1 or it can be written as follows:

# *H1:* $\beta i \neq 0$ , meaning that the level of profitability has a positive effect on the level of efficiency of sharia life insurance in Indonesia and Malaysia.

The results of the first hypothesis test can be concluded that the level of profitability has a significant effect on the level of efficiency of sharia life insurance in Indonesia and Malaysia. Based on the results of testing using tobit shows that the influence between the level of profitability and the level of efficiency has a positive direction. This is evidenced by the value of the variable coefficient of profitability level of 0.1263822 which means that when the firm's profitability level increases by 1 unit, it will cause an increase in the efficiency level by 0.13 times.

# 2) Hypothesis II: Effect of Firm Size Variable (X2) on Efficiency Level variable

Based on the results of tobit regression in Table 4.9, it shows that the size of the firm represented by the natural logarithm of asset values has a p-value of 0.018 and is significant at alpha 5%. While to see the influence can be seen from the z-statistical value, for the firm size variable has z count (2.10) > z table (1.96) which means rejecting H0 and accepting H1. Thus, on the second hypothesis it rejects H0 and accepts H1 or it can be written as follows:

# *H1:* $\beta i \neq 0$ , meaning that the size of the firm positively affects the level of efficiency of sharia life insurance in Indonesia and Malaysia.

The results of the second hypothesis test can be concluded that the size of the firm has a significant effect on the level of efficiency of sharia life insurance in Indonesia and Malaysia. Based on the results of testing using tobit shows that the influence between the size of the firm and the level of efficiency has a positive direction. This is evidenced by the value of the variable coefficient of firm size of 0.0247777 which means that when the size of the firm is large or represented by a high asset value of 1 unit, it will cause an increase in the efficiency level of sharia life insurance in Indonesia and Malaysia by 0.02 times.

# 4.5.2. Simultaneous or Concurrent Test

This test is used to see the effect of dependent variables (profitability level and firm size) on independent variables (efficiency level) together or simultaneously. This can be seen om the likelihood ratio value of 13.560938 > of 8.76 or Prob > chi2 of 0.0125 significant at alpha 5% which means H0 is rejected and receives H1. It can be concluded that the variables of profitability level and firm size together have a significant positive effect on the variable level of efficiency of sharia life insurance in Indonesia and Malaysia.

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### 4.5.4. Coefficient of Determination (R2)

The coefficient of determination (R2) describes how much influence the independent variable (X) exerts on the dependent variable (Y). In tobit regression the value of the coefficient of determination can be seen in the value of rho. Based on the value of rho or R2 of 0.6200554 or 62%. It can be concluded that the influence received by the dependent variable (Y) of the independent variable (X1 and X2) is 62%. Independent variables (X1 and X2) describe 62% of the influence on Y and the other 38% are explained by other influences outside this research model.

#### 4.6. Discussion

#### 4.6.1. Effect of Profitability Level on Sharia Life Insurance Efficiency

Based on the tests that have been carried out, the results are obtained that the level of profitability has a significant positive effect on the level of efficiency of sharia life insurance in Indonesia and Malaysia. The variable level of profitability has a role in increasing the need for the firm to achieve efficiency. Companies with efficient management can be stronger and able to take advantage of the scale and scope of the economy to obtain profits as evidenced by the value of their coefficients (Akhtar, 2018).

The profitability ratio can reflect the efficacy, efficiency, as well as the success of management as a whole indicated by the income earned at different levels of operation (Wibowo & Wartini, 2012). This means that if the firm obtains a high profit, the resources in the firm are used properly (Sudarsono, 2017).

ROA is used as a basic measure of sharia insurance profits in returns on assets because ROA can provide information about the efficiency of sharia insurance that is carried out and show how much profit is generated on average from its assets (Vireyto & Sulasmiyati, 2017).

Companies that have a high level of profitability are usually preferred by clients so that they can attract participants to contribute more which in turn creates a favorable environment for the firm to become more efficient (Spaho, 2015). A firm with a high ROA reflects that the firm has been optimal in obtaining revenue from the management of its assets so that the higher the ROA the more efficient the firm is (Ranaswijaya, Kristin, & Muhlis, 2019).

The smaller ROA of a firm indicates a lack of firm management in managing its assets to increase revenue or reduce costs. So, the efficiency of using assets in obtaining profits can be shown in the higher ROA owned (Muhlis, Toni, & Ningrum, 2021).

If the ROA of a firm is small, the management of the firm's management has problems in managing firm resources that are still related to ROA, so the firm experiences inefficiency. However, the greater the ROA, the more efficient asset management and firm performance and good management in managing resources in the firm (Pangestu & Sunarsih, 2020).

The results of this study are supported by theoretical studies and several previous studies that state that the profitability ratio can be used as a parameter for the firm's operational efficiency (Hijriyani & Setiawan, 2017). Companies that have a high profitability ratio value tend to be more efficient. Then in previous research conducted by (Jaloudi, 2019) stated that the profitability ratio has a significant positive influence on insurance efficiency. In addition, the research conducted by (Indraini, Sophisticated, & Rusmita, 2019) states that the level of profitability has a positive and significant influence on the efficiency of sharia insurance.

Thus, the level of profitability is a better variable in explaining the level of efficiency of insurance companies, including sharia life insurance companies in Indonesia and Malaysia. In

actual conditions, the average profitability level of sharia life insurance in Indonesia is greater than the average level of profitability of sharia life insurance in Malaysia. The average profitability level of sharia life insurance in Indonesia is 2.53% while the average profitability level of sharia life insurance in Malaysia only reaches -1.62%. The low profitability of sharia life insurance companies in Malaysia is due to the low net profit obtained due to low wakalah cost income, low investment performance and low income.

PT Prudential Life Assurance and Syarikat Takaful Malaysia Berhad are sharia life insurance companies that have the highest level of profitability. This is in line with the Takaful Malaysia Berhad Firm which is categorized as an efficient firm with an efficiency score of 1. Syarikat Takaful Malaysia Berhad has total revenue that can pay the entire total costs incurred, this condition indicates that the firm takaful Malaysia berhad firm is in an efficient condition.

In the actual condition of sharia life insurance profitability level, PT Sun Life Financial Indonesia has a very low profitability level of -3.08% and AmMetLife Takaful Berhad of - 6.04%. This means that the firm has more unproductive funds than its productive funds, thus indicating that the firm is less than optimal in utilizing its resources.

#### 4.6.2. Effect of Firm Size on Sharia Life Insurance Efficiency

Based on the tests that have been carried out, the results are obtained that the size of the firm has a significant positive effect on the level of efficiency of sharia life insurance in Indonesia and Malaysia. The existence of an influence here shows that if there is an increase in the size of the firm, it can have a direct effect on the level of efficiency. A larger firm size can facilitate companies in dividing their risks more efficiently and reacting more quickly to changing market conditions (Abbas, et al. 2018). This has an impact on lower operating expenses. In addition, companies can better manage available inputs and it is easier to obtain sources of funds from third parties.

Large insurance companies are considered capable of increasing their flexibility through the use of economies of scale to manage the best combination of inputs with maximum output. In order to realize this efficiency, insurance companies need a large enough economies of scale resulting from the volume of their business (Greene & Segal, 2004). Therefore, large companies need to strengthen their operational systems and optimize fund management in profitable activities. Large companies can also achieve a better cost structure through the utilization of economic scale and scope (Alhassan & Biekpe, 2015).

Furthermore, Afza & Asghar (2012) said that on average the larger the size of a non-life insurance firm the more technically efficient the firm. Large insurance companies will be more efficient than medium and small insurance companies. This shows that larger sharia insurance companies, have expertise that can support relatively more to achieve their operational improvements (Cadre, Adams, & Hardwick, 2010).

In addition, companies with large assets will tend to have greater economic resources so as to be able to reduce transaction costs so that their efficiency will be higher (Surifah, 2011). Large companies are able to attract many policyholders so that sharia insurance companies are able to obtain tabarru' funds larger and optimal in channeling claims which in the end sharia insurance companies will be more efficient (Ranaswijaya, Kristin, & Muhlis, 2019).

The results of this research are supported by theoretical studies and several previous studies, namely, in Jaloudi's research (2019); Indraini, Sophisticated, & Rusmita (2019); Iskandar, Achsani, & Djohar (2020); Ansah-Adu, Andoh, & Abor (2011); and Akhtar (2018) who stated that the size of the firm affects the level of efficiency of sharia life insurance.

Based on the actual condition of the firm size, the size of sharia life insurance companies in Malaysia has an average total assets greater than the total assets owned by sharia life insurance companies in Indonesia, the average total sharia life insurance assets in Malaysia is Rp6.99 trillion while the average total sharia life insurance assets in Indonesia are Rp1.91 trillion. A total of 14 sharia life insurance companies in Indonesia and 10 sharia life insurance companies in Malaysia are classified as large companies. This is in line with the greater level of efficiency of sharia life insurance in Malaysia compared to the level of efficiency of sharia life insurance in Malaysia reached 0.86 while the average efficiency level of sharia life insurance in Indonesia only reached 0.63.

This indicates that the larger the size of the firm reflected by the assets it has, the more efficient the firm will be. Companies that are categorized as large allow to have participants so that the tabarru funds obtained are able to cover all claims paid.

This condition requires sharia life insurance companies to show good and efficient performance. Large sharia insurance makes it possible to get more participants so that the firm has enough tabarru' funds to pay the obligations of the participants. This condition shows that sharia insurance companies are able to manage their income well so that it will be more efficient (Ningsih & Suprayogi, 2017).

In further pointing out that in order to create efficient performance, companies can merge between small and medium-sized insurers but do not apply mergers between large insurance companies. Based on the results of previous research and research studies, it can be considered for companies on the current condition of the sharia insurance unit which requires a spin off. Companies can consider various aspects, one of which is the size of the firm which determines the achievement of efficiency (Biener, Eling, & Wirfs, 2016).

#### 5. Conclusions

Based on the research conducted, the results were obtained that the level of efficiency shown by sharia life insurance in Indonesia (0.63) and Malaysia (0.86) on average has not achieved efficient performance every year. In sharia life insurance companies in Indonesia, there are 2 companies that are declared efficient, namely PT Asuransi Syariah Keluarga Indonesia and PT BNI Life Insurance. In sharia life insurance companies in Malaysia, there are 3 companies that are declared efficient, namely AIA Public Takaful Bhd, Syarikat Takaful Malaysia Berhad, and Takaful Ikhlas Family Berhad. The firm's profitability level shows unstable conditions and is categorized in a fairly good condition with an average profitability level in Indonesia (2.53%) and Malaysia (-1.62%), so it is considered that it is still necessary to increase its profitability level through investment activities in the profitable sector. The firm size variable shows that sharia life insurance companies in Indonesia and Malaysia are categorized as large-scale companies, with the average size of life insurance companies in Indonesia of Rp1.91 trillion and Malaysia of Rp8.12 trillion.

The level of profitability (ROA) has a significant effect on the efficiency level of sharia life insurance companies in Indonesia and Malaysia. The influence has a positive direction. This indicates that sharia life insurance companies will be more efficient if the level of profitability is high.

The size of the firm represented by the natural logarithm of total assets has a significant effect on the level of efficiency of sharia insurance companies in Indonesia and the influence has a positive direction. Large companies will cause the performance of sharia insurance companies to be more efficient.

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