International Journal of Financial Systems

Volume 3, Number 1 (2025)
January-June 2025
Page : 21-48
P-ISSN : 3025-8480
E-ISSN : 3025-8537
DOI : https://doi.org/10.61459/ijfs.v3i1.47

Article history
Received : March 20, 2024
Revised : May 09, 2025
Accepted : May 19, 2025
Available online : June 30, 2025

IJFS International Journal of Financial Systems

Is Full-Fledged Sharia General Insurance More Efficient Compared to Sharia Business Units (UUS)? An Efficiency Evaluation Study Towards the Mandatory Spin-Off Period in Indonesia

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ABSTRACT

This study explores the comparative efficiency of Islamic general insurance providers in Indonesia, focusing on full-fledged companies versus Islamic business units (UUS), particularly in light of the mandatory spin-off policy. Covering the period from 2017 to 2022, we adopt a two-stage analytical approach. First, we apply a non-parametric method — Data Envelopment Analysis (DEA) — to measure efficiency levels, using assets and business expenses as input variables, and net profit along with operating income as output variables. In the second stage, we employ Tobit regression to investigate the key drivers of efficiency, using the DEA scores as the dependent variable and Return on Assets (ROA), Return on Equity (ROE), Current Ratio, and Risk-Based Capital (RBC) as explanatory factors. Our findings reveal that Islamic business units consistently outperform full-fledged Islamic insurers in achieving higher efficiency. Furthermore, ROA emerges as a significant positive determinant of efficiency, while the Current Ratio shows a significant negative impact. In contrast, ROE and RBC do not exhibit significant influence on efficiency levels. These insights contribute to the discourse on the operational dynamics of Islamic insurance, offering practical implications for regulators and industry stakeholders navigating the evolving Sharia insurance landscape in Indonesia.

Keywords: Efficiency, Islamic Insurance, Data Envelopment Analysis, Tobit Model, Spin-Off
JEL Classification: C14, G22

1 INTRODUCTION

The spin-off policy is one of the main targets of "Law Number 40 of 2014 concerning Insurance Activities", explained in Article 87. However, Law Number 40 of 2014 has been amended with the birth of "Law Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector" (PPSK Law) which is called the financial omnibus law. This PPSK Law is an effort to advance the sharia financial services industry.

Following up on the mandate of the PPSK Law, the Financial Services Authority (OJK) has prepared a derivative regulation from the separation regulation (spin-off) of sharia business units (UUS) for the Non-Bank Financial Industry or IKNB. The Financial Industry such as in the insurance and guarantee sectors is formulated through the OJK Regulation (POJK) in the form of POJK 11 of 2023 which contains substances regarding criteria, requirements, incentives, and indicators that are clearer, measurable, and feasible in implementing the UUS spin-off obligation.

The spin-off action is expected to be a momentum of change for the sharia insurance industry in Indonesia, which aims to:

1. Increase market potential so that companies can use profitable internal resources (Okeya et al., 2017).
2. Create sharia purification so that the sharia system can be implemented by a legal entity that is legally independent (Umam, 2021). Islamic financial institutions become more focused so that they make it easier to compete and are flexible in making future business decisions with the absence of major conventional policy intervention (Rongiyati, 2015). This is in line with the principles of sharia, namely the prohibition of mixing rights and falsehood or between halal and haram. "And do not mix the right with the falsehood and do not hide the right while you know" (QS. Al Baqarah 2:42).
3. Optimise increasingly better performance so that it can contribute even more to the growth of the Islamic financial industry and the national economy (Arif, 2015; Nasuha, 2016).

In terms of assessing the performance of a company, the most important thing to consider is the company's efficiency (Sabiti et al., 2018; Yudaruddin, 2018). Evaluation of efficiency performance in sharia insurance companies needs studying because the managerial capabilities of sharia insurance companies can be identified whether they are good or bad in managing their companies (Tuffahati et al., 2019). The level of efficiency of a company determines and assesses how the company competes, which is examined from the cost side (input) and the profit side (output) of the company.

There have been various considerations for industry players on whether or not to implement a spin-off policy. One of which is the impact of implementing the spin-off that may increase operational costs. This is due to the formation of a complete management structure as a company that is no longer a mere business unit (division) of the parent company. Of course, this affects efficiency which impacts company performance.

Several research results reveal that insurance companies in the form of UUS are more efficient than full-fledged companies (Ghoni & Arianty, 2021; Zahara & Saputra, 2020). Meanwhile, research by Ghoni & Arianty (2021) comprehensively examines insurance institutions including Sharia Life Insurance, Sharia General Insurance, and Sharia Reinsurance. In addition, research by Zahara & Saputra (2020) focuses on examining Sharia and Conventional Life Insurance institutions.

If analogised with other Islamic financial institutions such as Banks, Asbisindo as an association that oversees Islamic banks views that UUS is considered more efficient than Islamic Commercial Banks (BUS), then: BUS, because the parent bank's infrastructure can be utilised to promote Islamic products (Rongiyati, 2015). This is reinforced by Trinugroho et al. (2021), Hosen & Rahmawati (2016), and Pramuka (2011), documenting that the efficiency level of full-fledged Islamic banks is significantly lower than that of conventional bank UUS.

Research conducted by Khairunnisa (2018) also supports previous research noting that the Islamic Banks' level of efficiency following the spin-off is very fluctuating and has not reached an efficient condition. Likewise, Arif (2015) opines that the impact of the separation is an increase in the BOPO ratio (operating income to operating costs), resulting a decrease in Islamic banking operational efficiency in Indonesia.

On the other hand, Ade et al. (2018) found that the efficiency of conventional general insurance companies is not more efficient than that of Islamic general insurance companies. In addition, if we look further outside Indonesia, the existence of spin-off practices that will have an impact on increased competition, Hauner & Peiris (2005) found that increased competition will increase bank efficiency in Uganda.

Seeing the phenomenon of research gaps explained, researchers argue that a more in-depth analysis of the level of efficiency is needed because previous results are contradictory and the research topics and objects used are also different. Assessment of efficiency level of a company's performance contributes widely to higher economic growth. Thus, the study of a financial institution efficiency is very important for policy makers, industry leaders and many others.

Some of the contributions and urgency of this research serve as a means to enrich scientific studies related to issues and developments in the economic and financial services sector, especially IKNB. In addition, with regards to the creation of the PPSK Law or financial omnibus law, this research can surely provide insight and recommendations for preparing derivative regulations related to the spin-off of sharia insurance units underway by the OJK, together with the Government. Its goal is to achieve the sharia general insurance company's level of efficiency so that full-fledged companies can participate in a good and healthy competition in the use of inputs to produce significant outputs. The result will be the creation of an optimal sustainable national development or Sustainable Development Goals (SDG) in Indonesia through sharia insurance financial institutions.

In Indonesia, research on efficiency levels is mostly conducted in Banks and only measures how efficient it is regarded from the Economic Activity Unit (UKE), hereinafter: UKE, in the form of output and input data. Previous research has not examined more deeply what factors influence efficiency performance. The novelty of this study is that researchers measure the level of efficiency in sharia insurance institutions and more specifically regarding general sharia insurance. In addition, this study was also conducted with Two-Stage Data Envelopment Analysis.

In this process, two stages of research were carried out (first stage and second stage). In the first stage, efficiency was assessed using the Data Envelopment Analysis (DEA) method. In addition, the second stage analyses what determinant factors affect company efficiency according to the Tobit model. These two stages produce overall results at the company's performance level or UKE.

From the above explanation, the author is motivated to conduct an analytical review of efficiency in general sharia insurance companies in Indonesia with the title "Is Full-fledged General Sharia Insurance More Efficient Compared to Sharia Business Units (UUS)? Efficiency Evaluation Study Towards the Mandatory Spin-Off Period in Indonesia".

The researcher has several research questions as follows:

1. Which is more efficient, a Full-fledged Sharia General Insurance Company or a Sharia Business Unit?
2. What are the Determinant Factors that Influence Company Performance in terms of Profitability (ROA & ROE), Liquidity (Current Ratio), and Solvency (RBC) on the Efficiency of Sharia General Insurance?

Based on the research questions above, the research objectives are as follows:

1. To Compare which is more Efficient between a Full-fledged Sharia General Insurance Company or a Sharia Business Unit.
2. To Analyse Determinant Factors Affecting Company Performance seen from the Profitability (ROA & ROE), Liquidity (Current Ratio), and Solvency (RBC) aspects towards the Efficiency of Sharia General Insurance.

2 LITERATURE REVIEW

This sub-chapter will explain the regulatory policy related to the separation (spin-off) in insurance, efficiency theory and concept, previous studies, and the business process of general sharia insurance.

2.1 Regulatory Policy regarding Spin-Off in Insurance

In Indonesia, the separation plan or commonly called spin-off is stated in "Law Number 40 of 2007 concerning Limited Liability Companies (UUPT), in article 1 paragraph 12", Spin-Off is referred to as a separation with the following definition:

"Legal actions carried out by a company to separate businesses which result in all of the company's assets and liabilities being transferred by law to 2 (two) or more companies or some of the company's assets and liabilities being transferred by law to 1 (one) or more companies."

In Black's Law Dictionary, a spin-off is:

"A spin-off is a divestiture of a company so that a division of a corporation becomes an independent company and the shares of the new company are distributed to the corporation's shareholders." (Umam, 2012).

The following is a table regarding government regulations regarding spin-offs at several financial institutions in Indonesia:

Table 1. Regulatory Policy related to Spin-Offs in Financial Institutions

Financial Institutions	Title	Subject	Status
Insurance	"Law Number 2 of 1992"	"Insurance Business"	Revoked
	"Law Number 40 of 2014"	"Insurance"	Changed
	"Law Number 4 of 2023"	"Development and Strengthening of the Financial Sector"	Valid

Source: Database regulatory of BPK

The spin-off policy is stipulated in "Law Number 40 of 2014 concerning Insurance".

The law is a replacement for "Law Number 2 of 1992 concerning Insurance Business". "Law Number 40 of 2014 in Article 87" reads:

"In the event that an insurance company or reinsurance company has a sharia unit with a Tabarru Fund value and participant investment funds that have reached at least 50 percent of the total value of the insurance fund, Tabarru Fund, and participant investment funds in its parent company or 10 (ten) years since the enactment of this Law, the insurance company or reinsurance company is required to separate the sharia unit into a sharia insurance company or a sharia reinsurance company."

The stipulations of Article 87 are amended in "Law of the Republic of Indonesia Number 4 of 2023 concerning the Development and Strengthening of the Financial Sector" to read as follows:

(1) *"In the event that an Insurance Company or reinsurance company has a sharia unit, after fulfilling certain requirements set by the Financial Services Authority, the Insurance Company or reinsurance company in question is required to separate the sharia unit into a Sharia Insurance Company or sharia reinsurance company (Point 28 paragraph 1).*
(2) *In addition to the requirements as referred to in paragraph (1), the Financial Services Authority may request the separation of the sharia unit into a Sharia Insurance Company and a sharia reinsurance company in the context of insurance consolidation (Point 28 paragraph 2).*
(3) *Further provisions regarding the separation and consolidation as well as sanctions for Insurance Companies and reinsurance companies that do not separate the sharia unit as referred to in paragraph (1) and paragraph (2) are regulated in the Financial Services Authority Regulation after consultation with the House of Representatives (DPR) (Point 28 paragraph 3).*
(4) *The Financial Services Authority Regulation as referred to in paragraph (3) must be stipulated within a period of no later than 6 (six) months from the date this Law is enacted (Point 28 paragraph 4)."*

2.2 Theory and Concept of Efficiency

This sub-chapter will explain in more detail the theory of efficiency, the concept of efficiency assessment, and the concept of efficiency from an Islamic perspective.

2.2.1 Theory of Efficiency

Coelli et al. (2005) argues that efficiency performance is assessed using two approaches, namely the output-oriented approach and the input-oriented approach. The output-oriented approach is where the company maximises its profits. The proportion of output produced increases with the same amount of input.

In contrast, applying an input-oriented approach, a company reduces the proportion of inputs to produce output at a commensurate level. In this approach, a unit reduces production costs to minimise costs. Simply put, efficiency is the ratio of inputs used to outputs produced.

2.2.2 Concept of Efficiency Assessment

According to company's viewpoint, there are three types of efficiency (Tanjung & Devi, 2018), they are:

1. Technical efficiency

The ability of a firm to achieve an optimal level of output with a given level of inputs and to measure the production process to produce a given quantity with the minimum possible inputs. Technically, a production process is considered efficient if the production of one product cannot be increased without reducing the production of another product.

2. Allocative efficiency
   This is a measure of allocative efficiency that shows how effectively managers choose inputs to use at the costs or prices used. The decision is that when inputs are given to produce outputs that consumers cannot or do not want to use, the inputs are used inefficiently.
3. Cost efficiency
   This is a combination of allocative and technical efficiency. If a firm uses the minimum cost to produce its product, its production is considered economical.

2.2.3 The Concept of Efficiency in Islamic Perspective

Based on the opinion of Tuffahati et al. (2019), efficiency is related to the theory of production and consumption. According to Imam Al Ghazali, in Islamic consumption theory, a person who wants to fulfil his needs as optimally as possible has limitations and must be careful not to fall into greed to satisfy personal desires.

Islamic production theory states that production arises and develops because of human interaction with nature. This is related to the concept of efficiency. Allah SWT chose humans to lead nature to align them with it. As leaders or caliphs, the task of the people is to manage the resources given by Allah SWT effectively and efficiently so that prosperity and justice are created properly.

Allah makes it easy for humans and encourages humans to always take every opportunity on earth to fulfil every need (QS Al-Mulk: 15). However, Islam prohibits people from seeking wealth in the wrong way, including prohibiting hoarding objects or goods to gain more profit, consuming interest many times over (QS Ali-Imran: 130), and prohibiting excessive (QS Al-An'am: 141).

2.3 Previous Studies

Numerous previous studies have investigated efficiency, particularly in the context relevant to this research. One such study is by Milenković et al. (2022), which analyzed the efficiency of the intermediary function of banks in the Western Balkan countries during the period 2015 to 2019. Their research consists of two main parts: the first employs an output-oriented DEA model using deposits, employee costs, and capital as input variables, while loans and investments serve as output variables. The second part involves a Tobit regression analysis examining the effects of bank size, bank type, and merger and acquisition (M&A) activities on efficiency. The findings reveal disparities in efficiency levels both across countries and over time. Notably, bank type and M&A activities negatively affect relative technical efficiency, whereas larger bank size has a positive impact. These results suggest that larger banks are more resilient in the Western Balkan market, potentially leading to smaller, less efficient banks being acquired.

The novelty of the current research lies in its distinct choice of input and output variables, as well as its sample. Unlike Milenkovic et al., this study uses assets and business expenses as input variables, and profit and business income as outputs. The research also specifically

targets full-fledged Islamic public companies and Islamic business units (UUS) during the 2017–2022 period. In addition, the Tobit model in this study incorporates financial performance indicators such as ROA, ROE, the current ratio, and RBC.

Similarly, Aldo (2022) explored efficiency in the insurance sector, focusing on companies registered with the Financial Services Authority (OJK) in Indonesia during 2018–2019. Their analysis employed DEA through STATA version 16, using both CRS and VRS models with input and output orientations. The study included various insurance entities, such as general insurance, reinsurance, and life insurance companies. Their findings show that 15 companies reached an average efficiency level. The novelty in comparison to the present study lies in the object of analysis: this research narrows its scope to general Islamic insurance companies, including both full-fledged entities and UUS, over a longer period (2017–2022). Moreover, beyond measuring efficiency levels, the current study investigates additional external factors influencing these levels.

Hasanatina et al. (2021) examined both sharia and conventional life insurance between 2012 and 2019, comparing their efficiency using DEA under CRS and VRS assumptions, with input-output orientations. Input variables included total equity, operational costs, and commission expenses, while outputs were investment income and premium income. The results revealed that, on average, the decision-making units (DMUs) were inefficient, with conventional life insurance outperforming sharia counterparts in terms of economic, technical, and scale efficiency. The inefficiencies were attributed to suboptimal input-output management and internal factors. As with previous comparisons, the novelty of the present study is rooted in its unique focus on Islamic entities (full-fledged and UUS), and in its use of assets and operating expenses as inputs and net profit and operating income as outputs. Additionally, this study explores the factors driving efficiency, moving beyond merely comparing efficiency levels.

Khairunnisa (2018) took a more focused approach by studying the efficiency of two Islamic banks—BNI Syariah and BJB Syariah—during 2011–2016 using a two-stage DEA method combined with Tobit regression. The analysis applied an intermediation approach with input-oriented CRS models, using fixed assets, third-party funds (DPK), and operational costs as inputs, and total financing and operational income as outputs. The second stage examined the effects of total assets, ROA, financing-to-deposit ratio (FDR), and non-performing financing (NPF) on efficiency. The results indicated that neither bank achieved full efficiency during the period, with average efficiencies of 99.3% for BNI Syariah and 98.6% for BJB Syariah. The most influential factors were total assets and yield, while FDR and NPF were found to have no significant effect. The present research diverges in several key aspects: it utilizes a broader sample of Islamic public companies and UUS, adopts both CRS and VRS models with input-output orientations, and employs updated software (Stata and Eviews) for DEA and Tobit analysis, respectively. The model variables include ROA, ROE, current ratio, and RBC.

Finally, Ade et al. (2018) compared the efficiency of sharia and conventional general insurance companies in Indonesia over the 2012–2016 period. Using DEA under both CRS and VRS assumptions, the study considered expenses, claim payments, and assets as inputs, and investment income and premium income as outputs. Their sample included PT. Chubb Syariah and PT. Artarindo, representing sharia and conventional firms, respectively. An independent t-test was used to assess whether efficiency levels significantly differed between

the two types of insurers. The findings showed that conventional insurers under CRS assumptions were more efficient, but overall, there was no significant difference in efficiency between sharia and conventional insurers. Unlike Ade et al., the present study emphasizes not just comparative analysis, but also explanatory modeling. It uses purposive sampling to select full-fledged sharia insurers and UUS between 2017 and 2022, and incorporates additional variables—operating profit and income—as outputs to explore underlying determinants of efficiency.

2.4 Sharia General Insurance Business Process

Tabarru and *Wakalah Bil Ujrah* contracts are two common models for sharia insurance. The objectives and nature of *tabarru* and *wakalah bil ujrah* contracts are different; the first is a grant (*ta'awun*) to help participants and is non-commercial (non-profit). The second is a contract that has a commercial purpose (generating profit). This difference affects the allocation of funds that sharia insurance companies must allocate (Puspitasari, 2012).

Sharia general insurance companies separate funds when participants pay contributions. *Tabarru* Funds and Company *Ujrah* Funds are two types of participant contribution payments that are based on the *Tabarru* Agreement. The *Tabarru* Fund is a charity fund given by participants to help members with difficulties. *Tabarru* funds will be collected into an account called the *Tabarru* Participation Fund Group (DPT) and will automatically become DPT assets. *Ujrah* is a contribution given to the Sharia General Insurance Company as compensation for the services provided by the Sharia General Insurance Company in managing the assets of *Tabarru* participants. According to *Wakalah Bil Ujrah* Agreement salaries are company assets that can be allocated for operating cost and automatically converted into Shareholders' Fund (DPS). It is not permitted for companies to use DPT for commercial purposes. Only *ujrah* is permitted to be used by business actors for their operating or business needs.

Due to the different legal basis of *Tabarru* funds and *Ujrah* funds, these two funds must be managed separately. Contract losses in sharia insurance are automatically affected by the ambiguity in fund management (Sumanto, 2009). Therefore, in accordance with the provisions stipulated in the Fatwa of the National Sharia Council of the Indonesian Ulema Council No. 53 (2006) concerning Tabarru Contracts", the assets of *Tabarru* participants are separated from the assets of the managers. Considering that the funds are divided into *Tabarru* funds and *Ujrah* funds, the flowchart used by general sharia insurance companies to receive contributions is as follows:

When participants pay a certain amount of funds to the general sharia insurance company in the form of premiums, it is called a contribution in sharia concept. The contribution does not immediately become the company's property in its entirety but is divided according to the agreed ratio, for example 50%:50%. This means that 50% of the contribution funds are divided into *tabarru* items and the other 50% into *ujrah* items.

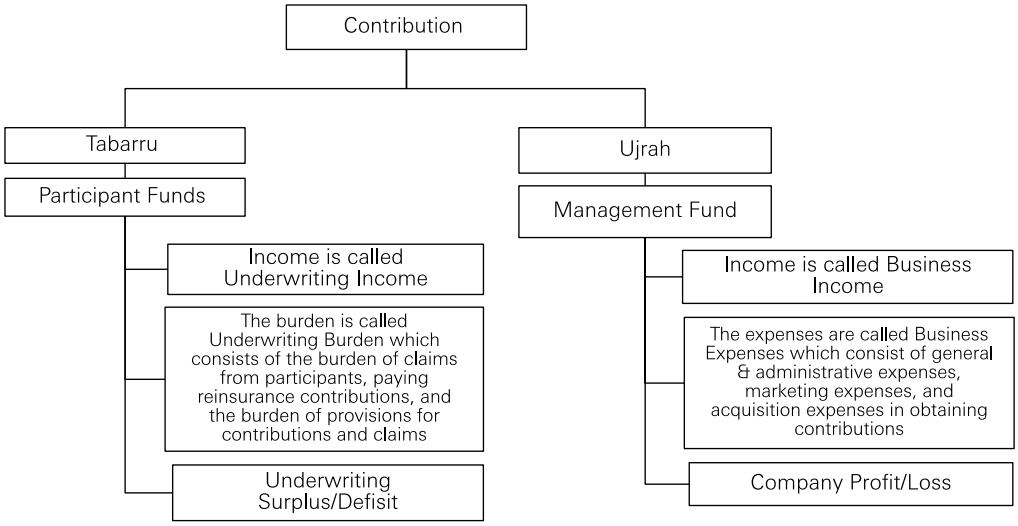

Figure 1. Flowchart of Sharia General Insurance Business Process

Source: the National Sharia Council of the Indonesian Ulema Council (2006)

2.4.1 *Tabarru* Fund

In terms of *tabarru* post, the funds mean to belong to the participants or customers. Participant funds are all funds owned by participants individually and collectively in the form of *tabarru* funds and investment funds. Income from participant funds is called underwriting income. Underwriting income includes contributions received from participant funds after being reduced by the manager's portion or manager's *ujrah*. Meanwhile, the burden or costs incurred on participant funds are called underwriting expenses. Underwriting expenses include claim expenses, reinsurance portion expenses on contributions, reinsurance portion on claims, and provisions for contribution and claim reserves, both short-term and long-term.

The underwriting surplus or deficit of the *tabarru* fund is the difference between the underwriting income and expenses of the *tabarru* fund. Participants may be rewarded with additional benefits that come in the form of surplus distribution. Simply put, surplus refers to the remaining balance in the fund that is drawn (at the end of the financial year), considering the contributions collected from participants and the income generated from investments, and the obligations that must be settled, for example, claims payments, and/or benefits, reinsurance costs and other related costs.

There are various international standards, regulatory frameworks and other literature that describe the components of surplus as a guideline for industry players, some of which are Islamic Financial Services Board (2013), in "Standard on Solvency Requirements for *Takaful* (Islamic Insurance) Undertakings defines underwriting surplus or deficit as: The financial result of a risk fund participant from the risk elements of its business, being the balance after deducting expenses and claims (including any movement of provisions for outstanding claims) from contribution income and adding investment returns (income and profits from investment assets)".

Accounting and Auditing Organization for Islamic Financial Institutions (2010), in Financial Accounting Standard No. 13, on Disclosure of Basis for Determining and Allocation of Surplus or Deficit in Sharia Insurance Companies refers to underwriting

surplus as: "The excess difference between the amount of contribution paid by policyholders during a financial period and the amount of compensation paid in connection with claims arising during that period, after deducting reinsurance and after deducting costs and fees in technical provisions."

The statement of the Indonesian Institute of Accountants is that *"the determination of the amount of allocation of underwriting surplus depends on the participants collectively, regulators, or management policies"*. The allocation of underwriting surplus is as follows (Indonesian Institute of Accountants, 2017):

"(1) All of the underwriting surplus is added to the tabarru fund balance; (2) Part of the underwriting surplus is added to the tabarru fund balance and the rest is distributed to participants individually; or (3) Part of the underwriting surplus is added to the tabarru fund balance, some part is distributed to participants individually, and the remaining is distributed to the managing entity."

However, if the reduction value produces a negative result, the insurance company's *tabarru* underwriting fund will be in deficit, and the company will be required to cover the shortfall through a *qardh* contract. In the next period, *qardh* will be returned to the Islamic insurance company from the underwriting fund surplus of the *tabarru* fund. Participants must receive additional underwriting that meets several conditions.

"Financial Services Authority Regulation (POJK) No. 72 (2016) in CHAPTER III Article 6 paragraph 4, is as follows: *(1) Participants have paid contributions for the underwriting surplus calculation period; (2) Participants are not in the process of settling claims; (3) Participants have never received claim payments that exceed the amount of contributions allocated to the tabarru fund; (4) Participants do not stop the policy during the underwriting surplus calculation period when participants have met all of the above requirements, then participants can receive a share of the underwriting surplus of the tabarru fund*".

2.4.2 *Ujrah* Fund

In terms of *ujrah* post, the funds mean to belong to the manager or general sharia insurance service company. This *ujrah* fund is reflected in how the company can manage it well. Income from the management fund is called business income. Business income includes contributions received from the management fund according to the ratio of the manager's share or the manager's *ujrah*, investment income from the management fund, and income from managing the investment of participant funds according to the ratio (for example, the ratio is 50%, then the investment income from this participant fund is only 50%), and income from the distribution of underwriting surplus.

The expenses incurred from this *ujrah* fund are called business expenses. These business expenses include commission costs, marketing costs, general & administrative costs, reinsurance *ujrah costs, and ujrah* provision costs. The difference between business income and business expenses is called business profit. Business profit after being reduced by other expenses is usually a benchmark for a company's performance. This illustrates how a company performs in terms of profitability.

Research related to efficiency performance covering input and output variables including *ujrah* funds, namely input in the form of business expenses, and output in the form of business income and net profit because it is related to the operational needs of business management. Therefore, the efficiency performance studied by this researcher is closely

related to the performance of its *ujrah* funds.

3 DATA AND METHODOLOGY

3.1 Research Design

This study uses a quantitative research approach, which means to study certain samples, collect data, then process the data with research instruments, and analyse the results to achieve the desired goals (Sugiyono, 2017). As a research sample for 2017–2022, the researcher used the annual financial reports of sharia general insurance companies as a data source.

The effectiveness analysis of Sharia General Insurance in Indonesia is conducted in two stages of this study. First, the level of efficiency will be measured by the non-parametric method of Data Envelopment Analysis (DEA). Then, the DEA score will be used as the dependent variable, and then, to evaluate the determinants of the level of efficiency of Sharia General Insurance in Indonesia, the Tobit model will be used with E-views software.

3.1.1 Data Envelopment Analysis (DEA)

Charnes, Cooper, and Rhodes introduced Data Envelopment Analysis (DEA) in 1978. DEA was created as an analytical tool to evaluate the performance of a unit or organisation's operations. Theoretically, the operating principle of DEA is to compare the organisation's input and output data, which is information from each decision-making unit (DMU), with the input and output data of other similar DMUs.

The efficiency value of each unit in the sample is relative and depends on the efficiency level of other units in the sample. The non-negative efficiency value of each unit ranges between 0 and 1 and indicates perfect efficiency. Furthermore, the efficiency frontier envelope is created using units with a value of one. The level of inefficiency is indicated by other envelope units (Hadad et al., 2003).

According to Coelli et al. (2005), there are two DEA models commonly used in the DEA approach, namely the Charnes, Chooper, and Roodes (CCR) model and the Banker, Charnes, and Cooper (BCC) model.

a. In the DEA CCR model, known as CRS (Constant Return to Scale), increasing input by n times increases output by n times.
b. In the DEA BCC model, known as VRS (Variable Return to Scale), an increase of one unit of input is not significant, followed by an increase of one unit of output. There can be an increase in the outcome of more than one or less than one.

The researcher chose to conduct this research through both approaches, output & input oriented with the assumption of CRS (Constant Return to Scale) and VRS (Variable Return to Scale) analysis. This model was chosen based on research conducted by Hasanatina et al., (2021).

The following are the research variables used in the DEA method, input and output variables.

Table 2. Research Variables

Variables	Definitions
Input	
Assets	Total of all current assets and non-current assets, combined with management and *tabarru*
Operating expenses	Acquisition Expenses, General & Administrative Expenses, Marketing Expenses, and Reinsurance Fees are paid
Output	
Profits	Net Profit after deducting tax and *zakat*
Operating revenues	Income from management fees for *tabarru* funds, Income from management fees for investment of participant funds, Income from allocation of underwriting surplus, Income from investment of management funds

Source: Ghoni (2021), Ghoni & Efendi (2021)

The selection of inputs and outputs is based on research by Ghoni (2021) and research by Ghoni & Efendi (2021).

3.1.2 Tobit Model

Here, the Tobit model is used to evaluate the variables that influence the success of Islamic insurance in Indonesia. First, the efficiency score is calculated in the first step using the DEA method, which is then converted into a dependent variable in the Tobit model regression. In the second step, the influence of several independent variables on efficiency is analysed. The independent variables include liquidity, represented by the Current Ratio, profitability represented by Return on Assets and Return on Equity and Solvency represented by Risk Based Capital.

In this study, the data used is censored data, which means that the value of the dependent variable or efficiency (EF) can only be in the range of 0 to 1. Therefore, the Tobit model was chosen because the regression results generated from the OLS (Ordinary Least Squares) method were inconsistent with the data used (Fathony, 2012).

Naufal & Firdaus (2017) opine that the Tobit method has the assumption that the independent variable is not limited in value (uncensored), only the dependent variable is evaluated. All variables (both independent and dependent) are measured correctly, there is no autocorrelation, no heteroscedasticity; perfect multicollinearity does not exist, and the mathematical model used is accurate. Such a data structure is called censored data.

The following is the Tobit model used to analyse the determinant factors of the efficiency level of Sharia General Insurance in Indonesia:

$$EF_{it} = \beta_0 + \beta_1 ROA_{it} + \beta_2 ROE_{it} + \beta_3 CR_{it} + \beta_4 RBC_{it} + u_{it} \quad (1)$$

Note: EF = DEA score (efficiency level), ROA = Return on Asset, ROE = Return on Equity, CR = Current Ratio, RBC = Risk Based Capital.

3.2 Research Sample

Purposive sampling technique is used in sampling this study, the sample is selected based on the suitability of the characteristics with the sample criteria. The criteria for sampling the study are:

1. Sharia General Insurance registered with the Financial Services Authority (OJK)
2. Sharia General Insurance registered with the Indonesian Sharia Insurance Association (AASI)
3. Sharia General Insurance that has complete and accessible financial reports for the

period 2017-2021 (audited) and 2022 (quarter 4)

4. Sharia General Insurance operating since the research year, 2017-2022
5. Sharia General Insurance has assets of more than IDR 100 billion

Based on the characteristics of the specified sample criteria, the most appropriate research samples selected by the researcher include:

Table 3. List of Research Samples

General Sharia Insurance Company (DMU)				
No	**Company's Name**	**Type of Business**	**Year of Establishment**	**Total Assets Q4 2022**
1	PT A1	Full Fledged	2016	552,813
2	PT A2	Full Fledged	1995	308,890
3	PT A3	Full Fledged	2017	243,501
4	PT B1	Sharia Business Unit	2005	770,138
5	PT B2	Sharia Business Unit	2017	340,054
6	PT B3	Sharia Business Unit	2007	257,040
7	PT B4	Sharia Business Unit	2004	108,989

Source: Companies' website (reprocessed by the author)

4 RESEARCH RESULTS AND DISCUSSION

4.1 Research Results

The sub-chapter of the research results will explain the first step (first stage), which is the results of the data envelopment analysis, the second step (second stage), which is the results of the Tobit model regression, and a comparison of the efficiency scores of full-fledged sharia general insurance companies and sharia business units.

4.1.1 First Stage: Results of Data Envelopment Analysis

The results of the calculation of the efficiency of Sharia General Insurance using the Data Envelopment Analysis (DEA) approach for the period 2017-2022 are presented in the following table:

Table 4. Results of Data Processing Envelopment Analysis of Full-fledged Sharia General Insurance

NO	YEAR	COMPANY	TYPE OF BUSINESS	DMU	CRS_TE	VRS_TE	SCALE	RTS
1	2017	PT A1	Full Fledged	1	0.800	0.803	0.997	drs
2	2018	PT A1	Full Fledged	2	0.836	0.840	0.995	drs
3	2019	PT A1	Full Fledged	3	0.893	0.897	0.996	drs
4	2020	PT A1	Full Fledged	4	0.717	0.719	0.997	drs
5	2021	PT A1	Full Fledged	5	0.759	0.762	0.996	drs
6	2022	PT A1	Full Fledged	6	0.804	0.807	0.997	drs
7	2017	PT A2	Full Fledged	7	0.977	1 000	0 977	irs
8	2018	PT A2	Full Fledged	8	0.436	0.538	0.810	irs
9	2019	PT A2	Full Fledged	9	0.611	0.673	0.908	irs
10	2020	PT A2	Full Fledged	10	0.698	0.737	0.946	irs
11	2021	PT A2	Full Fledged	11	0.828	0 830	0.997	drs

NO	YEAR	COMPANY	TYPE OF BUSINESS	DMU	CRS_TE	VRS_TE	SCALE	RTS
12	2022	PT A2	Full Fledged	12	1.000	1.000	1.000	-
13	2017	PT A3	Full Fledged	13	0.599	0.600	0.998	irs
14	2018	PT A3	Full Fledged	14	0.693	0.694	0.999	irs
15	2019	PT A3	Full Fledged	15	0.910	0.913	0.998	drs
16	2020	PT A3	Full Fledged	16	0.980	0.982	0.992	drs
17	2021	PT A3	Full Fledged	17	0.885	0.893	0.992	irs
18	2022	PT A3	Full Fledged	18	0.774	0.776	0.998	drs

Source: Author's calculation

The results of Data Envelopment Analysis (DEA) processing, with the CRS and VRS approaches, the full-fledged sharia general insurance company that achieved an efficient level was only PT A2 in 2022. The company experienced a constant return to scale (CRS), namely an efficiency value = 1. This condition indicates that the DMU is in normal condition, which means that adding one unit of input will add one unit of output.

If examined in each DMU, at PT A1 for the 2017-2022 period; PT A2 for the 2021 period; PT A3 for the 2019, 2020, and 2022 periods, experienced a decreasing return to scale (DRS) condition. This DRS condition means that adding 1 unit of input will reduce 1 unit of output. The DRS condition requires a reduction in input because the amount of input with the output produced is no longer ideal.

Meanwhile, PT A2 in 2017–2020 and PT A3 in 2017, 2018, and 2021 experienced increasing returns to scale (IRS). Because of the IRS provision that adding one unit of input will produce more than one unit of output, the best strategy for the DMU is to continue to increase its output capacity while maintaining existing inputs. This is because adding input is ineffective due to the fact that the resources used are still not functioning optimally.

Table 5. Results of Data Processing Envelopment Analysis of Sharia General Insurance (UUS)

NO	YEAR	COMPANY	TYPE OF BUSINESS	DMU	CRS_TE	VRS_TE	SCALE	RTS
1	2017	PT B1	Sharia Business Units (UUS)	19	0.859	0.998	0.861	drs
2	2018	PT B1	Sharia Business Units (UUS)	20	1.000	1.000	1.000	-
3	2019	PT B1	Sharia Business Units (UUS)	21	0.966	0.988	0.978	drs
4	2020	PT B1	Sharia Business Units (UUS)	22	1.000	1.000	1.000	-
5	2021	PT B1	Sharia Business Units (UUS)	23	0.938	0.979	0.958	drs
6	2022	PT B1	Sharia Business Units (UUS)	24	1.000	1.000	1.000	-
7	2017	PT B3	Sharia Business Units (UUS)	25	0.750	0.823	0.912	irs
8	2018	PT B3	Sharia Business Units (UUS)	26	0.497	0.537	0.926	irs
9	2019	PT B3	Sharia Business Units (UUS)	27	0.495	0.527	0.940	irs
10	2020	PT B3	Sharia Business Units (UUS)	28	1.000	1.000	1.000	-
11	2021	PT B3	Sharia Business Units (UUS)	29	0.369	0.374	0.986	irs
12	2022	PT B3	Sharia Business Units (UUS)	30	0.769	0.788	0.975	irs
13	2017	PT B2	Sharia Business Units (UUS)	31	0.224	0.227	0.990	irs
14	2018	PT B2	Sharia Business Units (UUS)	32	0.571	0.699	0.817	irs
15	2019	PT B2	Sharia Business Units (UUS)	33	0.816	0.926	0.882	irs

NO	YEAR	COMPANY	TYPE OF BUSINESS	DMU	CRS_TE	VRS_TE	SCALE	RTS
16	2020	PT B2	Sharia Business Units (UUS)	34	0.733	0.905	0.810	irs
17	2021	PT B2	Sharia Business Units (UUS)	35	0.782	0.785	0.997	drs
18	2022	PT B2	Sharia Business Units (UUS)	36	1.000	1.000	1.000	-
19	2017	PT B4	Sharia Business Units (UUS)	37	0.939	1.000	0.939	irs
20	2018	PT B4	Sharia Business Units (UUS)	38	0.920	0.990	0.929	irs
21	2019	PT B4	Sharia Business Units (UUS)	39	0.902	1.000	0.902	irs
22	2020	PT B4	Sharia Business Units (UUS)	40	0.843	0.958	0.880	irs
23	2021	PT B4	Sharia Business Units (UUS)	41	0.897	0.953	0.941	irs
24	2022	PT B4	Sharia Business Units (UUS)	42	1.000	1.000	1.000	-

Source: Author's calculation

Furthermore, for sharia business unit companies that achieve efficient levels with both CRS and VRS assumptions are PT B1 in 2018, 2020, and 2022; PT B3 in 2020; PT B2 in 2022; and PT B4 in 2022. These companies experience constant returns to scale (CRS) with an efficiency value = 1. This condition indicates that DMU in normal conditions means that adding 1 unit of input will result in adding 1 unit of output.

If examined in each DMU, at PT B1 for the 2017, 2019, 2021 periods; and PT B2 for the 2021 period experienced a decreasing return to scale (DRS) condition. This DRS condition means that adding 1 unit of input will reduce 1 unit of output. The DRS condition requires a reduction in input because the amount of input with the output produced is no longer ideal. Meanwhile, at PT B3 for the 2017-2019 and 2021-2022 periods, PT B2 for the 2017-2020 period; and PT B4 for the 2017-2021 period experienced an increasing return to scale (IRS) condition. This IRS condition means that adding 1 unit of input will produce more than 1 unit of output. Therefore, the best strategy for the DMU is to continue to increase its production capacity.

Table 6. Sharia General Insurance Companies that Achieve Efficiency Levels

Type of Business	No	Year	Company's Name
Full Fledged	1	2022	PT. A
Unit Usaha Syariah	1	2018	PT. B1
Unit Usaha Syariah	2	2020	PT. B1
Unit Usaha Syariah	3	2022	PT. B1
Unit Usaha Syariah	4	2020	PT. B2
Unit Usaha Syariah	5	2022	PT. B3
Unit Usaha Syariah	6	2022	PT. B4

Source: Author's analysis

Referring to the comparison between full-fledged companies and UUS, of the five companies that achieved the level of efficiency, only 1 full-fledged sharia general insurance company. Meanwhile, in UUS companies, all sample companies experienced efficiency even though in a certain period, but more achieved efficiency levels compared to their full-fledged counterparts.

If the efficiency score results are compared between full-fledged and UUS companies, then the general sharia insurance companies in the form of sharia business units achieve more efficiency scores of 1.

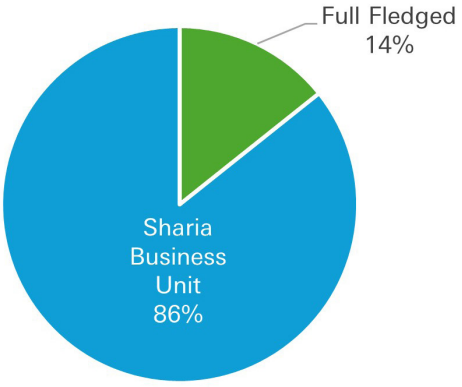

Figure 2. Percentage Composition of Number of Companies Achieving Efficiency Levels

Source: Source: Author's analysis

The percentage composition of the number of sharia general insurance companies that achieve the efficiency level for full-fledged is 14% of the total DMUs that achieve the efficiency level. While companies in the form of UUS are 86% of the total DMUs that achieve the efficiency level. This finding shows that sharia business unit type companies are more able to achieve the efficiency level compared to full-fledged.

This is in line with previous studies that revealed that insurance companies in the form of UUS are more efficient than full-fledged companies (Ghoni & Arianty, 2021; Zahara & Saputra, 2020). In addition, the achievement of the efficiency level of sharia business unit companies can illustrate that UUS companies are able to compete when viewed from the cost and profit side of the company compared to full-fledged companies.

This is because UUS companies have higher average assets, business revenues, and net profits, as well as lower business expenses compared to their full-fledged counterparts, as illustrated in the following table:

Table 7. Comparison of Input and Output Between Full-Fledged and UUS (Average Value)

Companies	Input		Output		% Operating Expenses vs Operating Income
	Assets	Operating expenses	Net Profit	Operating revenues	
Full-Fledged	261.626	54.062	3.421	58.137	93%
UUS	321.804	41.189	20.583	62.632	66%

Source: Source: Author's analysis

As in the calculation of efficiency referring to input and output variables, the table above shows that full-fledged companies have lower assets than their UUS. The average assets of a full-fledged company are IDR 261.63 billion, while UUS has assets of IDR 321.80 billion. In addition, full-fledged companies have higher operating expenses than UUS companies.

The average operating expenses of a full-fledged company are IDR 54.06 billion, while UUS is IDR 41.19 billion.

On the other hand, the business income of a full-fledged company is lower than its UUS. The average business income of a full-fledged company is IDR 58.14 billion, while UUS is IDR 62.63 billion. This lower business income at full-fledged causes the net profit obtained to be lower. The average net profit at full-fledged is IDR 3.42 billion, while at UUS it is IDR 20.58.

If we examine the comparison between the business expenses incurred compared to the business income obtained, then full-fledged has a very high percentage of 93%. This means that the business results that can be obtained are only 7%. While UUS has a lower percentage of 66%. This means that the business results obtained by UUS are 34%. The conclusion that can be drawn is that full-fledged companies are lower in achieving efficiency because they have much higher business expenses compared to their UUS.

4.1.2 Second Stage: Tobit Model Regression Results

In this sub-chapter, we will discuss in more detail the second stage, the results of the Tobit model regression. After obtaining the efficiency score results from the envelopment analysis data processing, the next stage is for the researcher to analyse the determinant factors that influence the level of efficiency through the Tobit model regression. The researcher uses the company's financial performance ratio as the thing being tested, which is the liquidity side using the current ratio; the profitability side using return on assets (ROA) and return on equity (ROE); and the solvency side is risk-based capital (RBC).

The results of the regression data processing using the CRS and VRS approaches, simultaneously all variables have a significant effect as evidenced by the Prob chi2 value = 0.000 < alpha = 0.05. This finding indicates that simultaneously, all performances seen from the current ratio, ROA, ROE, and RBC have a significant effect on the efficiency of sharia general insurance companies, both full-fledged and sharia business units.

Partially, the results of processing the Tobit model regression data with the CRS and VRS approaches are as follows:

1. **Return On Assets (ROA)**

The findings show that the ROA variable has a significant positive effect. This is proven in the CRS approach, the Prob t value = 0.002 < alpha 0.05 and a coefficient of 2.91 with a positive value. Similarly, the VRS approach, the Prob t value = 0.000 < alpha 0.05 and a coefficient of 3.11 with a positive value.

In assessing the efficiency of sharia general insurance companies, the determinant factor that influences the company in achieving the level of efficiency is how the manager or management has the capability to generate profit by using its assets properly as seen from the ROA ratio. The more the company can generate a high ROA value, the higher the chance that the company can achieve the level of efficiency.

The positive influence between ROA and the efficiency of sharia general insurance can occur because companies that are able to generate higher profits from their assets can show better performance in managing risks and running their business operations. In the context of sharia general insurance, companies can generate profits from contributions paid by customers and from investments in assets permitted by sharia principles.

In addition, ROA can also depend on other factors that can affect the company's

efficiency, such as good risk management, cost efficiency, effectiveness of asset use, and healthy business acquisition. If the company is able to manage risk effectively and use assets well, this can increase ROA and in turn increase the efficiency of sharia general insurance.

These results support the findings of Pambuko (2016), Sufian (2007), Sufian & Akbar Noor Mohamad Noor (2009), and (Hosen & Rahmawati, 2016) who found that ROA has a significant influence on the efficiency of Islamic Banks.

2. Current Ratio

The findings show that the current ratio variable has a significant negative effect. This is proven in the CRS approach, the Prob t value = 0.000 < alpha 0.05 and a coefficient of -0.17 with a negative value. Similarly, the VRS approach, the Prob t value = 0.000 < alpha 0.05 and a coefficient of -0.18 with a negative value.

The determinant factor that influences a company in achieving the level of efficiency is how the manager or management has the capability to be able to meet its short-term obligations to its short-term assets well as seen from the current ratio. The higher the level of efficiency of a company, the lower the level of liquidity, while the company strives to maintain its company's liquidity.

The negative influence between the current ratio and the efficiency of sharia general insurance can occur because the higher the cash and cash equivalents owned by the company against its short-term liabilities such as short-term debt, the higher the company's idle money that has not been optimally utilised. This cash and cash equivalents should be used for investment placement so that it can generate investment returns.

Current ratio indicates a trade-off between liquidity and profitability. In the insurance business, liquidity is essential to meet the company's short-term obligations, such as commissions and claims that must be paid to customers. However, if the company focuses too much on liquidity and maintains a high current ratio, this can reduce the potential profits that the company can obtain.

In addition, general sharia insurance also follows sharia principles that prohibit *usury* (interest), speculation, and *gharar* (uncertainty). Therefore, general sharia insurance companies usually invest in instruments that have low risk and short terms such as sukuk, so that the profits obtained can be lower compared to conventional insurance companies that can invest in riskier instruments. Therefore, if general sharia insurance companies focus too much on liquidity and maintain a high current ratio, this can reduce the company's ability to be more efficient.

3. Return On Equity (ROE)

The findings show that the return on equity (ROE) variable has no significant effect. This is explained in the CRS approach, the Prob t value = 0.488> alpha 0.05. Similar to the VRS approach, the Prob t value = 0.413> alpha 0.05. ROE is not a determinant factor that influences companies in achieving efficiency levels. If the ROE value increases or decreases, it will not affect the efficiency level of sharia general insurance.

ROE does not have a significant effect on the efficiency of general sharia insurance because the return generated for shareholders will not necessarily affect the level of efficiency. ROE focuses more on how the company is able to generate higher returns compared to the equity or capital that has been deposited by shareholders.

ROE does not take into account the scale of the company's operations. For example, a

small company with low net income can have a high ROE due to its relatively small equity capital. However, this does not mean that the company is operationally efficient. ROE only provides a partial picture of the company's financial performance. Therefore, ROE is not an appropriate performance indicator to measure the level of efficiency of a general sharia insurance company.

Corporate efficiency refers to strategic decisions, innovation, and the ability to adapt to changing conditions. While equity can provide the basis for these strategic initiatives, it is the execution and effectiveness of the chosen strategy that ultimately determines efficiency.

Sharia general insurance usually follows the profit sharing principle, where income and profits are shared between the insurance company and the policyholder. In this principle, ROE is not the main focus, because the goal of the sharia insurance company is to provide fair benefits to all parties involved, not just to optimise shareholder profits.

In addition, general sharia insurance companies must also pay attention to sharia principles in conducting their business, such as the prohibition of usury, speculation, and gharar. This can limit the company's investment choices and use of capital, so that it can affect the company's ROE. Therefore, for shareholders, this is also a basis for consideration in investing in sharia insurance, how much return can be obtained when compared to investing funds in promising financial investment products such as deposits, mutual funds or sukuk.

However, even though ROE does not have a significant effect on the efficiency of general sharia insurance, ROE is still an important financial ratio for companies to pay attention to in measuring their performance. ROE can provide an overview of how effective a company is in using its capital to generate profits for shareholders.

This study is the same as the study of Lutfiana & Yulianto (2015) on Islamic General Banks, that ROE does not have a significant effect on the level of efficiency. This indicator describes the company's ability to use equity capital to generate profits effectively for shareholders, but this does not affect the performance of Islamic general insurance efficiency.

4. Risk Based Capital

The findings show that the risk-based capital (RBC) variable of *tabarru* funds does not have a significant effect. This is proven by the CRS approach, the Prob t value = 0.903> alpha 0.05. Just like the VRS approach, the Prob t value = 0.861> alpha 0.05. RBC is not a determinant factor that influences companies in achieving efficiency levels. If the RBC value increases or decreases, it will not affect the efficiency level of sharia general insurance.

RBC *tabarru* funds do not affect the company in achieving the company's efficiency level. This indicator assesses the company's capability to meet its long-term obligations or commitments after the company's liquidation, but this value does not affect the performance of sharia general insurance efficiency.

RBC *tabarru* funds focus more on the company's ability to have a higher allowable asset value (AYD) compared to the risks faced such as credit risk, liquidity risk, market risk, insurance risk, and operational risk. These risks are calculated based on the Risk-Based Minimum *Tabarru* Fund (DTMBR).

This is also in line with the concept of sharia insurance which classifies its funds into two (2) posts, participant posts (*tabarru*) and management posts (*ujrah*). If management manages its company efficiently or inefficiently, which is the management post, it will not affect the *tabarru* post which contains participant funds in order to fulfill its obligations

when liquidated.

RBC is a benchmark in the company's financial health indicator, not an indicator of the company's operational efficiency. Although RBC is important to ensure the sustainability of the company's business and shows the company's ability to overcome risks, this does not always mean that companies with higher RBC are also more efficient in managing risks or generating profits. A company can have a high RBC but still be inefficient in managing risks or generating profits if operations and costs are high.

In addition, sharia general insurance companies have different characteristics from conventional insurance companies. Sharia general insurance companies must comply with sharia principles in their business. Sharia principles can affect the type of risk that can be taken by the company, so that it can affect the company's RBC.

If analogised with financial institutions in Islamic general banks, RBC is identical to CAR. CAR does not affect the level of efficiency (Candra & Yulianto, 2015). As with RBC, CAR is a bank ratio that shows the bank's ability to provide funds to overcome potential risks of loss. This ratio is very important because it ensures that CAR is always at a safe level (minimum 8 percent) to protect customers and maintain the stability of the financial system as a whole. A higher CAR value shows the ability of the banking system to handle potential risks of loss. Multiplying total capital by risk-weighted assets (ATMR) is a way to calculate CAR.

4.2 Discussion

This sub-chapter will discuss in more detail the rules for separating sharia units; and considerations for decisions to separate sharia units.

4.2.1 Sharia Unit Separation Rules

In relation to the preparation of spin-offs for business units, OJK is following up on the PPSK Law by preparing more comprehensive derivative regulations through POJK No. 11 (2023) concerning the Separation of Sharia Units of Insurance Companies and Reinsurance Companies. Several things that are important points in the preparation of derivative regulations for spin-offs of sharia insurance units are the form, method, and criteria for the separation of sharia units.

Separation of Sharia Units is carried out with the following stipulations (Part two of Article 3 paragraph 1):

1. *"The Sharia Unit meets certain requirements set by the Financial Services Authority;*
2. *there are separate requests from Insurance Companies and Reinsurance Companies; or*
3. *implementation of the authority of the Financial Services Authority in the context of consolidation."*

Separation of Sharia Units is carried out in the following manner (Part two of Article 3 paragraph 2):

1. *"Establishing a new Sharia Insurance Company or Sharia Reinsurance Company resulting from the Separation of the Sharia Unit followed by the transfer of the participant portfolio to the new Sharia Insurance Company or Sharia Reinsurance Company resulting from the Separation of the Sharia Unit; or*
2. *transferring the entire Sharia Unit participation portfolio to a Sharia Insurance Company or Sharia Reinsurance Company that has obtained a business license."*

The criteria for the separation of Sharia Units include (Part Three, Article 4, paragraph 2):

1. *"The value of the tabarru funds and investment funds of Sharia Unit participants has reached at least 50% (fifty percent) of the total value of insurance funds, tabarru funds, and investment funds of participants in the parent company; and*
2. *the minimum equity of the Sharia Unit has reached at least: (1) IDR 100,000,000,000.00 (one hundred billion rupiah) for the Sharia Unit of an Insurance Company; and (2) IDR 200,000,000,000.00 (two hundred billion rupiah) for the Sharia Unit of a Reinsurance Company based on the latest annual financial report audited by a public accountant."*

The important points that need to be of concern include:

1. *"Insurance companies and reinsurance companies that have sharia units are required to submit a work plan for the separation of sharia units to the OJK to obtain approval no later than December 31, 2023.*
2. *Insurance companies or reinsurance companies that have sharia units are required to separate the sharia units by no later than December 31, 2026. The expectation from this provision is that after December 31, 2026, there will be no more sharia units operating in the insurance and reinsurance industry.*
3. *In the event that during the process of separating the Sharia Unit, the assets and/or equity of the Sharia Unit decrease and no longer meet the requirements, the said condition does not eliminate the obligation of the Insurance Company and Reinsurance Company to carry out the Separation of the Sharia Unit.*
4. *Insurance companies and reinsurance companies, which have Sharia Units, are prohibited from using business profits from the Sharia Units other than to increase the equity of the Sharia Units."*

From the points regarding the derivative regulations of the sharia insurance unit spin-off, it can be concluded that several important variables that need to be considered are equity, assets, and profits. Equity refers to how much capital the company has from shareholders. While assets refer to the wealth owned by the company in the form of current and non-current assets. Furthermore, profit refers to how the company can generate returns from the business or business carried out after being reduced by business expenses.

Meanwhile, the equity at the time of the establishment of the original spin-off sharia insurance company was at least IDR 50 billion as per POJK No. 67 (2016) concerning Business Licensing and Institutions of Insurance Companies, Sharia Insurance Companies, Reinsurance Companies, and Sharia Reinsurance Companies article 19. However, the new spin-off derivative regulation as a follow-up to the PPSK Law is IDR 100 billion or an increase of 100% from before. This requires support from the parent company that will become a shareholder of the unit company resulting from the spin-off. In addition, there is a need for thorough preparation by each company that will spin-off.

On the asset side, one of the contributors to the increase in this account is investment. Regulators need to establish regulations that support more active and massive investment placement, such as ease in investment activities that will have an impact on increasing company assets from investment posts. From easy investment activities, it will produce higher investment returns and of course will contribute to increasing company profits.

In earning profit, the thing that needs to be concerned is the business burden. The results of this study found that the business burden of a full-fledged company is 93%,

higher than that of a UUS company which is only 66%. Therefore, the follow-up that needs to be considered is to carry out business burden management supported by regulators in determining the company's business burden regulations.

4.2.2 Considerations for the Decision to Separation the Sharia Unit

As mentioned above, important variables that need to be considered in the criteria for the separation of sharia units are equity, assets, and profits. In this regard, this study has high relevance in measuring the level of efficiency as a company's performance to decide on a spin-off.

The spin-off policy that requires the company to immediately become an insurance company that is full of sharia principles and is no longer part of conventional insurance, has an impact on increasing business expenses or operational expenses. The results of this study also support that a company in the form of a full-fledged company is not more efficient than its UUS. This is the basis for considering the spin-off decision for the sharia business unit.

The company's operational costs consist of fixed costs and variable costs. Fixed costs that are the burden of management are in the form of general and administrative costs such as the building itself which is no longer attached to its parent, employee costs which are the impact of the increasingly large organisational structure that is full from the top management level to the bottom, and the expansion of branch offices, as well as the cost of technology systems in developing capable operations.

Operational expenses consisting of variable costs such as marketing costs require greater marketing activity. Sharia insurance as a new entity that is fully sharia needs to improve its own corporate image which no longer uses the name under the auspices of its parent company, namely a conventional insurance company. In its marketing activities, general sharia insurance companies can use the services of intermediaries/brokers, consultants and agents. The company will provide incentives derived from management funds/*ujrah* based on marketing results. So, the higher/lower the agent and broker costs, the higher/lower the need for *ujrah* funds.

Other variable costs besides marketing costs are acquisition costs. The acquisition costs in insurance can be explained as follows:

"Regulation of the Minister of Finance No. 74 (2007) concerning the Implementation of Insurance Coverage in the Motor Vehicle Insurance Business Line, Acquisition Costs are costs paid by the insurer to the policyholder or third party in order to acquire business (Article 1 Point 3)".

"Regulation of the Minister of Finance No. 74 (2007) concerning the Implementation of Insurance Coverage in the Motor Vehicle Insurance Business Line, Acquisition Costs and Commissions are regulated as follows: (1) Commissions may only be paid to or collected by Insurance Brokerage Companies or Insurance Agents; (2) General Insurance Companies may charge Acquisition Costs in addition to Commissions in the form of discounts, bonuses, gifts, or other benefits to Insurance Brokerage Companies, Insurance Agents, policyholders, or other third parties related to business acquisition; (3) The amount of Acquisition Costs charged as referred to in paragraph 2 in the context of business acquisition, cumulatively may not exceed 25% of gross premiums". (Chapter III Article 4)

In addition, in acquiring business in the insurance world, OJK has set premium rates and acquisition costs in OJK Circular Letter (SE) No. 21 (2015) concerning Determination

of Premium Rates or Contributions in Property Insurance and Motor Vehicle Insurance Business Lines in 2015. The SE mentions the acquisition costs as follows:

"The Company may provide part of the Premium or Contribution rate in the form of acquisition costs in the form of commissions, discounts, and/or other forms to Insurance Brokerage Companies, Insurance Agents, and/or other third parties related to the acquisition of insurance business, including to the insured or policyholder. The acquisition costs as referred to in point 1 cumulatively apply: (1) for Property Insurance a maximum of 15% (fifteen percent) of the Premium or Contribution rate; or (2) for Motor Vehicle Insurance a maximum of 25% (twenty five percent) of the Premium or Contribution rate."

The sharia concept that divides the *ujrah* and *tabarru* posts that have been explained above, of course this acquisition cost will only erode the ujrah post side. Excessive acquisition costs make sharia insurance profits increasingly eroded.

If the manager's ratio is 50% and then refers to the OJK SE that the motor vehicle business, for example, is at most 25%, then in reality the ujrah ratio obtained by sharia insurance is only 25%. This is one of the causes of the inefficiency of sharia insurance companies because the burden increases and erodes the company's profits.

4.2.3 Condition of Efficiency Level of Financial Institutions in the Post-Spin-Off Transition Period

Referring to financial institutions that had previously conducted spin-offs such as banks, in 2010, out of 13 existing Islamic General Banks, four banks were formed through spin-offs, they are Bank C1, Bank C2, Bank C3, and Bank C4. To accelerate their business, these banks needed about two years to prepare their infrastructure, operations, and human resources. Sarifudin & Faturohman (2017), studied the four banks that conducted spin-offs with input variables, namely total deposits, labor costs, fixed assets and output variables, namely income, total loans.

The average technical efficiency of Bank C1, Bank C2 and Bank C3 after conducting the spin-off tended to increase compared to before conducting the spin-off. Conversely, the average technical efficiency of Bank C4 after conducting the spin-off tended to decrease compared to before conducting the spin-off. This decrease in technical efficiency is likely due to Bank C4 experiencing a significant increase in fixed assets, especially in land rights, buildings, and machinery. The value of Bank C4's fixed assets before the spin-off as of December 2008 was Rp 2.550 million and after the spin-off as of December 2009 it was Rp 37.423 million, or a significant increase of 1.368%. After conducting the spin-off in 2009, Bank C4 continued to strive to improve service standards by strengthening IT systems and infrastructure.

On the other hand, research conducted by Khairunnisa (2018), found that Bank C2 and Bank C3 achieved stable efficiency in 2015 after 5 years after the spin-off. At the beginning of the spin-off, the transition period, more emphasis was placed on long-term investments that included broader organisational development, information technology, and qualified human resources. Therefore, short-term results have not had a significant impact.

In addition, Bank C2 could not control the costs arising from the spin-off activities. As a result, the company's profitability level decreased after the spin-off, thereby reducing efficiency. After five years of separation, Bank C2 and Bank C3 concentrated on business management. They were able to channel financing better, which increased income and

efficiency, because they were freer, more flexible, responsive, and aggressive.

Insurance companies that will conduct a spin-off need to be fully supported by their parent company or shareholders regarding organisational development, information technology, infrastructure, and others. This aims to ensure that during the transition period, the resulting company can focus on its business activities. Of course, this is expected to have an impact on the company's performance after the spin-off which is optimal and efficient.

In addition, the post-spin-off transition period is expected to be better and smoother for large companies that already have captive markets and businesses. This is because in developing their businesses it is stronger, coupled with the support of optimising captive portfolios that can come from subsidiaries, business groups, vendors, and networks of affiliated institutions and partners.

5 CONCLUSION

The findings in the data envelopment analysis results using the CRS and VRS approaches show that general sharia insurance companies of the sharia business unit (UUS) type are more able to achieve efficiency levels compared to full-fledged. Companies that achieved efficiency levels consisted of UUS at 86% while full-fledged was only 14%. UUS companies that achieved efficiency levels were PT B1 in 2018, 2020, and 2022; PT B3 in 2020; PT B2 in 2022; and PT B4 in 2022. On the other hand, the only full-fledged company that achieved efficiency levels was PT A2 in 2022.

The determinant factor causing the level of efficiency of a company is influenced by the company's performance such as ROA which has a positive effect and the current ratio which has a negative effect. In addition, the ROE and RBC variables do not have a significant effect, meaning that both variables are not determinant factors that influence the company in achieving the level of efficiency.

The cause of the inefficiency of a full-fledged company is because it has a very high percentage of business expenses, 93%. While UUS has a lower percentage of 66%. One of these business expenses is the high acquisition costs. Therefore, wise regulations are needed from the regulator to specify the amount of the right acquisition costs specifically for general sharia insurance considering the distribution of ratios according to the contract.

6 RECOMMENDATION

One of the impacts of the spin-off policy is an increase in business expenses, including general and administrative costs. The company resulting from the separation of the sharia unit with an insurance company that has an ownership relationship in order to develop sharia, requires strong cooperation to better prepare buildings, infrastructure, branch office expansion throughout Indonesia, employees (human resources), and technology systems needed for effective operational development. Therefore, the company resulting from the separation of the sharia unit is expected to be able to transition more smoothly and focus more on business development in order to generate significant income during the post-spin-off transition period.

Other business expenses such as marketing costs require greater marketing efforts in developing their business. In developing their business to be stronger, connections and mutual support are needed for companies that already have captive markets and businesses.

So that by supporting the optimisation of captive portfolios that can come from subsidiaries, business groups, vendors, and networks of affiliated institutions and partners, companies can further increase their business income in order to cover marketing costs so as to achieve efficient performance. Companies also need to be wise in paying attention to effective and efficient marketing cost allocations.

In acquiring business in the insurance world, OJK has set premium rates and acquisition costs in OJK Circular Letter (SE) No. 21/SEOJK.05/2015 concerning Determination of Premium Rates or Contributions to Property Insurance and Motor Vehicle Insurance Business Lines in 2015. This SE is intended for general insurance companies and sharia general insurance. In fact, general insurance companies for conventional are different from sharia. The sharia concept that divides the ujrah and *tabarru* posts as explained above, of course this acquisition cost will only erode the ujrah post side. Therefore, there needs to be a wise regulation from the regulator to specify the right amount of acquisition costs for sharia general insurance.

This aims to achieve the level of efficiency of general sharia insurance companies, so that full-fledged companies can compete well and healthily in the use of inputs and produce significant outputs. From this, sustainable national development or Sustainable Development Goals (SDG) in Indonesia will be created optimally through sharia insurance financial institutions.

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