

The Effect of Micro and Macroeconomic Variables on Performance of Islamic Life Insurance in Southeast Asia

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This study aims to determine the effect of gross contribution income, investment income and macroeconomic variables consisting of GDP, inflation and exchange rates on the growth of assets of Islamic life insurance companies in the Southeast Asian region. This research is a quantitative research with associative type. The analysis method used is panel data regression analysis with the help of E-views 12 software. The required data consists of company financial statements published through each company's website and World Bank Group data. The study was conducted on sharia life insurance during the 2017-2021 period with a sample of 33 companies. The results showed that partial contribution had a positive effect on asset growth, while GDP and exchange rates had a negative effect on asset growth, furthermore investment income and inflation did not affect the asset growth of Islamic life insurance companies in Southeast Asia. Simultaneously, all independent variables contributed 47% to the growth of Islamic life insurance company assets in Southeast Asia. The rest (53%) were influenced by other variables not addressed in the study.

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INTRODUCTION

The growth of Islamic insurance globally has experienced a double-digit growth trend (Milliman, 2017). This is evidenced by 75% of the world's Islamic insurance companies experiencing positive performance. The total world Islamic insurance assets in 2020 reached USD 62 billion with annual asset growth of 16%. Islamic insurance is now spread across 47 countries with a total of 323 Islamic insurance companies in the world (IFDR, 2021). Despite the impact of COVID-19 on the efficiency and stability of the Islamic insurance sector in 2020, the Islamic insurance sector remains resilient (IFSB, 2022).

Islamic insurance continues to grow in several countries where the majority of the people are Muslims. This has caused the Islamic insurance business to begin to be looked at and experience a significant increase in the Southeast Asian region, such as Malaysia, Brunei Darussalam, and Indonesia, which are actively developing Islamic Insurance in the Southeast Asian region (Mutmainah et al., 2022). Islamic insurance or in the Southeast Asian region is often called *takaful*, which accounts for 15.8% of the world's total Islamic insurance assets (IFDR, 2021). Still according to the Islamic Finance Development Report 2021 data, it is known that Southeast Asia is a region that has quite good Islamic insurance assets, which is

ranked third after the Gulf Cooperation Council (GCC) and Middle East & South Asia (MESA) regions.

Islamic Financial Services Industry 2022 also states that the countries with prominent *takaful* sectors in Southeast Asia are Malaysia, Brunei Darussalam and Indonesia. Malaysia dominates in the Southeast Asia region (IFSB, 2022). This statement is in line with the report released by the Global *Takaful* Report 2017 which states that Indonesia, Malaysia and Brunei Darussalam are the largest Islamic insurance contribution markets in Southeast Asia. This is because Southeast Asia contributes significantly to the global family *takaful* industry (Milliman, 2017).

Malaysia is referred to as a global role model for Islamic finance due to its success in developing the Islamic financial system, including Islamic insurance (Saiti, 2019). The growth of the *takaful* sector in Malaysia is expected to remain steady with policies that continue to support and increase awareness and understanding of *takaful* products among the Muslim majority population. The same is true in Indonesia and Brunei Darussalam. Where out of 272.23 million Indonesians, 86.88% embrace Islam or around 236.53 million people (Ministry of Home Affairs, 2021). The following is the 2021 Islamic Finance Development Report on the top countries by 2020 Islamic insurance assets:

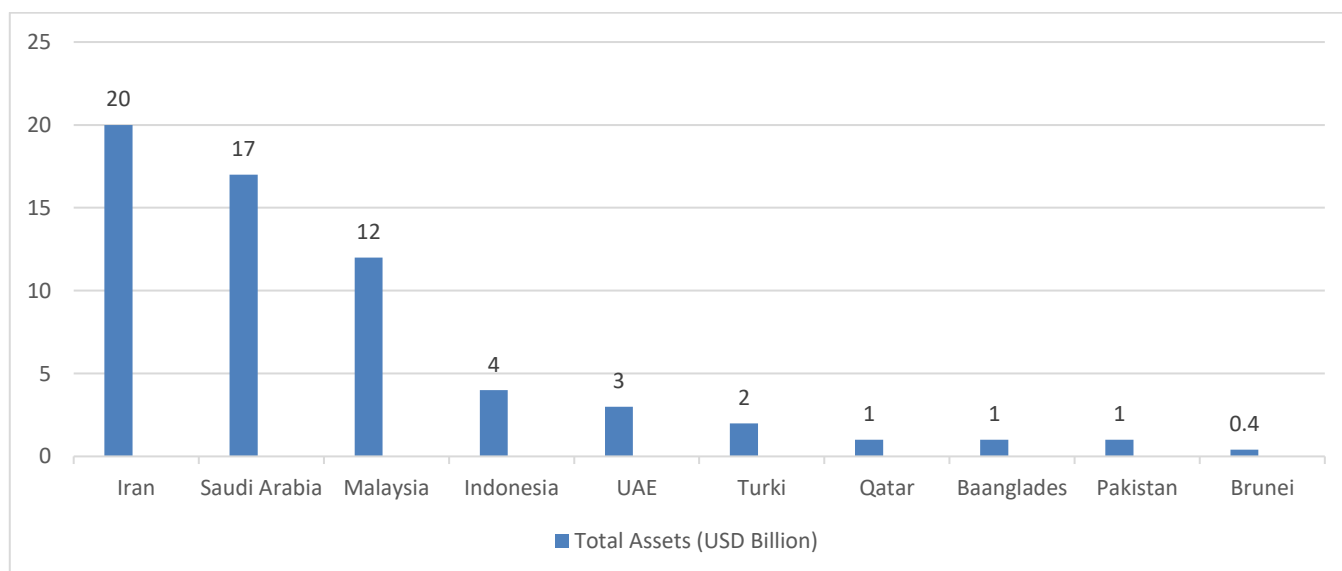


Figure 1. Top Countries by 2020 Islamic Insurance Assets (USD Billion)

Source: IFDI Report 2021

From graph I.1, it can be seen that Iran is the country with the largest total Islamic insurance assets in the world, which is USD 20 billion. In the Southeast Asian region, Malaysia ranks third, at USD 12 billion, followed by Indonesia at USD 4 billion, and the tenth

place is occupied by Brunei Darussalam (USD 0.4 billion). These results have a positive impact on the success of Islamic insurance in the Southeast Asian region.

Unfortunately, the estimated asset growth is not in line with the facts on the ground. Currently, Islamic insurance assets are experiencing declining growth.

This can be seen in the asset growth of one of the Islamic insurance companies operating in Indonesia, Malaysia and Brunei Darussalam.



Figure 2. Asset Growth of Sharia Insurance Companies
 Source: Company financial statements (data processed, 2023)

In this graph, both PT Asuransi Takaful Keluarga Indonesia, Etiqa Family Takaful Berhad, and TAIB Family Sdn Berhad Brunei Darussalam Islamic Insurances both experienced declining asset growth, although total assets increased. It is known that the growth of Islamic life insurance assets of the three companies increased in 2019, then decreased in 2020. Until 2021, the growth of Islamic life insurance assets still decreased by 0.33% at Etiqa Family Takaful Berhad, -0.01% at PT Asuransi Takaful Keluarga Indonesia and -4.65% at TAIB Takaful Family Sdn Bhd Brunei Darussalam Islamic Insurances. Whereas insurance companies are considered healthy if they have a fairly high asset growth rate. High asset growth can increase external confidence in the company. (Purwaningrum & Filianti, 2020).

According to Ulandari 2017, the factors that influence the growth of Islamic insurance assets are divided into internal factors and external factors. Internal factors come from the company itself. While external factors are macroeconomic conditions of a country that can affect the growth of Islamic insurance assets, such as *Gross Domestic Product* (GDP), inflation and exchange rates. (Suryadi & Effendi, 2021).

Takaful contribution is used as a baseline to reflect the growth of the takaful industry. Where the Southeast Asia region has a takaful contribution of USD 4.7 billion in 2021 (IFSB, 2022). The decline in the gross contribution of Islamic insurance is due to

the impact of a less conducive investment climate and barriers to the growth of Islamic banking. (Suryadi & Effendi, 2021). The growth of Islamic insurance assets is strongly influenced by its investment policy. The investment cycle requires a contribution amount so that it takes into account the operational costs that must be borne by the investment returns made by customers. In addition, investment returns are also influenced by external factors of the company or macroeconomic factors of a country. The existence of external economic conditions directly or indirectly has an impact on the growth of Islamic insurance assets. (Baroroh, 2021).

Previous research on the growth of Islamic insurance assets has been conducted. However, much of the research that has been done only focuses on one country. In addition, many of the previous studies only focused on internal factors of the company, while external factors have not been studied much. Most of them only examine using company performance and profitability as dependent variables.

Based on research conducted by Baroroh (2021) According to Baroroh (2021), GDP, inflation, contribution and investment affect the growth of Islamic insurance assets. This research is in line with research Sari (2020) which states that the level of contribution income has a positive and significant effect on the growth of Islamic Insurance assets. This is also supported by research conducted by Suryadi &

Effendi (2021) which states that contributions and investment returns have a significant positive effect on asset growth. Meanwhile, the inflation variable has a significant negative effect on the growth of Islamic insurance assets. Then the research conducted by Ainul et al (2017) stated different results from the results of the research above. He said that premiums or contributions have no effect on asset growth. However, investment affects asset growth. Based on this phenomenon, the authors are interested in conducting research on this topic.

THEORETICAL FOUNDATION

Free Cash Flow Theory

Sartono (2001) suggests that *free cash flow* or also known as free cash flow is cash flow addressed to shareholders or shareholders to be ready for distribution after the company invests in fixed assets and working capital needed by the company for the sustainability of a business. The *free cash flow hypothesis* theory put forward by Jensen (2009) states that if the company has a high growth opportunity, it will get a low *free cash flow*.

In general, corporate objectives are divided into three groups, namely: (1) profitability, (2) growth, (3) survival. Survival without growth can only place the company as reluctant to live and die. Meanwhile, profitability without survival is very risky. Meanwhile, growth without profitability is impossible. Therefore, growth means that the company definitely contains profits that lead to survival. An achievement of survival is difficult to analyze numerically, so the central issue that requires special and in-depth discussion is growth. (Sula, 2004). The greater the *free cash flow* owned by a company, the healthier the company will be because it has more cash for dividends, growth and debt payments (Rosdini, 2009). (Rosdini, 2009).

Companies that have high free cash flow will get a great opportunity to carry out earnings management, because these companies are indicated to be facing greater agency problems. The greater the free cash flow in the company, the healthier the company is because it already has cash that is truly available for growth.

Islamic Life Insurance

Sharia insurance according to SAK 108 effective January 1, 2022 is a system in which participants tabarru'kan or donate all their funds or contributions which will be used to pay claims for a certain risk that befalls life or property to eligible participants. The basic

principle of sharia insurance is mutual help (ta'awuni) and mutual responsibility (takafuli) between insurance participants (DSAK, 2022).

Law No. 40 of 2014 on insurance states that sharia life insurance is defined as a risk management business based on sharia principles that is used to protect and help each other among insurance participants by providing payments based on death or life. They (companies) can carry out sharia life insurance business including sharia business lines, personal accident insurance business lines and sharia-based health insurance business lines (Government of Indonesia, 2014).

Islamic Insurance Asset Growth

Asset growth is defined as the percentage change in total assets from the fiscal year-end of the previous calendar year, to the end of the current calendar year. (Cooper et al., 2008). While Budiasa et al., (2016) define asset growth as a change in total assets in the form of an increase experienced by the company during one period. An increase in assets followed by an increase in operating results will further increase external parties' trust in the corporation.

In general, according to Ikhsan et al (2014) and Cooper et al (2008), asset growth can be calculated using the following formula:

$$\text{Asset growth} = \frac{\text{Total Aset (t)} - \text{Total Aset (t-1)}}{\text{Total Aset (t-1)}} \times 100\%$$

Where:

Total assets (t): Total assets for the year

Total assets (t-1): Total assets of the previous year

Companies that experience good asset growth indicate that this company has good performance as well, so it can be said that the development of the company is also good. This will attract investors to invest in the company, so that the company's value will be high and have implications for improving the capital market. It can be concluded that the increase in asset growth is expected for the company. Both internal and external parties of the company, for them high asset growth will provide good opportunities for company development (Dewi and Sudiarta, 2017).

Contribution and Investment Income in Sharia Insurance

Bayinah et al (2018) say that a contribution is an amount of money paid and approved by the insurance policy holder and determined by the insurance or reinsurance company which will then be paid by the participant based on the agreement. Contributions are

paid in order to benefit from *tabarru'* funds and / or participant investments in accordance with the applicable laws and regulations. According to SAK 108 concerning Sharia Insurance, participant contributions are the gross total obligations for the risk portion and *ujrah* (DSAK, 2022). Payment of contributions is based on *tabarru'* and *tijarah* contracts. To determine the amount of Islamic insurance contributions, it can be done by referring to the mortality table in Islamic life insurance (DSN-MUI, 2001).

Investment according to the Financial Services Authority is a long-term investment used to procure complete assets or purchase shares and other securities with the aim of making a profit (OJK, 2017). *Investment Result* or investment result in sharia insurance is the result obtained from participant funds in the form of *tabarru'* funds and savings managed by insurance companies as managers. This investment result will increase the balance of the Participant Fund account in the Underwriting Surplus Deficit Report before being deducted by the manager's rights as *mudharib*.

Macro Variables in Islamic Insurance

According to Valentika et al (2020). In general, macroeconomic variables can affect the performance of various types of industries or companies. Then Akhter & Khan (2017) added, including the financial industry, namely Islamic insurance.

Macroeconomic factors that affect the asset growth of an industry include inflation, GDP and exchange rates. First, Inflation is a condition in which the prices of goods and services increase continuously and within a certain period of time. (BI, 2020). The *International Monetary Fund* defines inflation as the rate

of increase in prices over a certain period. Inflation shows the overall rate of price increase as well as the increase in the cost of living in a country. (IMF, 2022.). While Suseno & Astiyah (2009) defines inflation as an increase in the money supply or an increase in liquidity in an economy. Second, Gross Domestic Product (GDP) is the amount of added value generated by all business units in a country, GDP is also defined as the sum of the value of final goods and services produced by all economic units. (BPS, 2020). GDP is one of the indicators to be able to know the economic development of a country in a certain period. Guendouz & Ouassaf (2018) emphasized that GDP plays an important role in the development of the Islamic insurance industry.

Third, the exchange rate (also known as the exchange rate) is an agreement known as the currency exchange rate against current or future payments, between two currencies of each country or region. (BPS, 2020). Ally (2022) said that the exchange rate will affect the development of insurance companies.

RESEARCH METHOD

This research uses a quantitative approach with associative methods. The data source used in this research is secondary data. The data collection method used in this research is documentation. Documentation comes from data in the form of financial reports published on the website of each company during the 2017-2021 period. In addition, it is also taken from world bank data (World Bank Group) published on the worldbank.org website. The variables in this study are described in the following table:

Table 1. Variables definition

Variables	Measurement
Contribution (X1)	Gross contribution income obtained from the annual financial statements of Islamic life insurance companies for the period 2017-2021 (profit and loss statement / surplus / deficit report of <i>tabarru's</i> fund <i>underwriting</i>). Source: Suryadi & Effendi (2021)
Investment Income (X2)	Company investment income obtained from the annual financial statements of Islamic life insurance companies for the period 2017-2021 (profit and loss statement / <i>tabarru'</i> fund <i>underwriting</i> surplus / deficit report). Source: Nainggolan & Soemitra (2020)
Gross Domestic Product (X3)	GDP data for each country obtained from the <i>World Bank Group</i> . Source: Sahudin et al (2022)
Inflation (X4)	Inflation data for each country obtained from the <i>World Bank Group</i> . Source: Sahudin et al (2022)
Exchange Rate (X5)	Data on currency exchange rates against the USD for each country obtained from the <i>World Bank Group</i> . Source: Ally (2022)
Asset Growth (Y)	Asset growth is obtained from the following formula = $\frac{\text{Total Aset } (t) - \text{Total Aset } (t-1)}{\text{Total Aset } (t-1)} \times 100\%$ Source: Cooper et al (2008)

The sample criteria in this study are:

1. It is an Islamic life insurance company located in the Southeast Asian region, both companies in Indonesia, Malaysia and Brunei Darussalam and has legal legality, both *full* sharia companies and sharia business units.
2. The company published complete financial reports on its official website throughout 2017-2021.

Based on the above criteria, 149 total units of analysis were obtained for 5 years of observation, namely the 2017-2021 period. The list of observation units is taken from 33 Islamic life insurance companies. The data analysis used in this study is panel data regression analysis using the help of E-views-12 *software with the* following stages:

Descriptive statistics

Panel data regression analysis

Panel data regression analysis is a regression analysis on panel data that aims to observe the relationship between the dependent variable and the independent variable.

The following panel regression equation model will be used:

- a. $Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + e_{it}$
- b. $Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + e_{it}$

Description:

Y	= Asset Growth
α	= Constant
β	= Regression Coefficient
X1	= Contribution
X2	= Investment Income
X3	= GDP
X4	= Inflation
X5	= Exchange Rate
e	= Error
i	= The <i>i</i> th entity
tt	= Period <i>tt</i>

Panel data regression model estimation

According to Prasanti et al (2015) there are three estimation models used in this test, namely the *Common Effect Model* (CEM), *Fixed Effect Model* (FEM), and *Random Effect Model* (REM).

Panel data regression model selection

This study uses a panel data regression model with appropriate selection. In selecting the most appropriate panel data regression model, the Chow test, Hausman test and Lagrange Multiplier test (LM test) can be used.

1. Chow Test

The Chow test is used to estimate a more appropriate model between the *Common Effect Model* and the *Fixed Effect Model*. The hypothesis used is as follows:

H_0 : *Common Effect Model*

H_a : *Fixed Effect Model*.

If the probability value > 0.05 then H_0 is accepted and H_1 is rejected, which means that the most appropriate panel data regression model to use is the *Common Effect Model*. However, if the probability value < 0.05 then H_1 is accepted and H_0 is rejected, which means that the most appropriate panel data regression model to use is the *Fixed Effect Model*.

2. Hausman Test

The Hausman test is used to estimate a more appropriate model between the *Random Effect Model* and the *Fixed Effect Model*. The hypothesis testing is as follows:

H_0 : *Random Effect Model*

H_a : *Fixed Effect Model*.

If the probability value > 0.05 then H_0 is accepted and H_1 is rejected, meaning that the most appropriate model to use is the *Random Effect Model*. However, if the probability value < 0.05 then H_1 is accepted and H_0 is rejected, and the most appropriate model to use is the *Fixed Effect Model*.

3. Lagrange Multiplier Test

The Lagrange Multiplier test is used to estimate a more appropriate model between the *Common Effect Model* and the *Random Effect Model*. The hypothesis used is as follows:

H_0 : *Common Effect Model*

H_a : *Random Effect Model*

If the LM value > 0.05 then H_1 is accepted and H_0 is rejected, meaning that the most appropriate model to use is the *common effect model*. However, on the contrary, if the LM value < 0.05

then H_0 is accepted and H_1 is rejected, and the appropriate model to use is the *random effect model*.

Classical assumption test

Normality Test

The normality test is a test that aims to test whether in the regression model, between the independent variable and the dependent variable or both variables have a normally distributed residual value or not.

Multicollinearity Test

The multicollinearity test is used to test whether in the regression model there is a correlation between the independent variables (independent variables). To determine the presence or absence of multicollinearity, the correlation efficiency test is carried out. If $r > 0.09$ then there is multicollinearity, otherwise if $r < 0.09$ then there is no multicollinearity.

Heteroscedasticity Test

The heteroscedasticity test aims to see whether in the regression model there is an inequality of variance or not from the residual value. If the variance of the residuals is the same, it is called homoscedasticity, but if the residuals are different, it is called heteroscedasticity.

1. Hypothesis testing

a. Simultaneous Test (F Test)

The F test is used to see if there is an influence of the independent variable with the dependent variable simultaneously or simultaneously. If the probability value of the F test > 0.05 then it shows that simultaneously the independent variable has no effect

on the dependent variable. However, if the probability value of the F test < 0.05 then simultaneously the independent variable affects the dependent variable.

b. Partial Test (T Test)

The T test is used to see if there is an influence of the independent variable on the dependent variable partially or individually. If the probability value of the t test > 0.05 then it shows that partially the independent variable has no significant effect on the dependent variable. However, if the probability value of the t test < 0.05 then partially the independent variable has a significant effect on the dependent variable.

c. Determination Coefficient Test

The Determinant Coefficient is used to see the ability of the dependent variable to explain the independent variable. The coefficient of determination is denoted by *R-squared*. The *R-squared* (R^2) value is at a value between 0 and 1. If the coefficient of determination is equal to 0, the independent variable cannot explain the clarity of the variation in the dependent variable. However, if the coefficient of determination is close to 1, the independent variables as a whole can explain the clarity of variation in the dependent variable.

RESULTS

Descriptive statistics

The amount of data used in this study is 149 financial statement data consisting of 33 Islamic life insurance companies in the 2017-2021 period. Based on the results of descriptive statistical tests that have been carried out, the following results are obtained:

Table 2. Descriptive Statistical Test Results on Full Variable Tests

	Asset Growth	Contribution	Investment Income	GDP	Inflation	Exchange Rate
Mean	0.132261	1122356	102743.6	1.27E+10	2.232588	14337.44
Medium	0.106236	152756.0	8045.000	1.56E+10	2.477102	14308.14
Maximum	0.860043	9194835	1722076	1.78E+10	3.871201	15705.16
Minimum	-0.502681	120.2100	-673510.0	1.80E+08	-1.138702	13380.83

Source: Eviews 12 output results (2023)

Contribution

Based on the results of descriptive statistical tests in table 2, it is known that the highest contribution value to Islamic life insurance companies in Southeast Asia is occupied by one of the well-known insurance companies in Malaysia, namely Prudential BSN Takaful berhad, which amounted to IDR

9,194,834.6 (in millions of rupiah) or equivalent to RM 2,622.5 (in thousand ringgit) in 2021. Meanwhile, the lowest contribution amounted to Rp120,210,000 in 2017, namely by PT Great Eastern Indonesia.

Investment Income

The results of statistical analysis 4.1 show that the highest investment income was in 2019, namely Rp1,722,075 (in millions of rupiah) achieved by Etiqa Family Takaful Berhad Malaysia. The company in 2019 had won the title of the best Islamic life insurance in Malaysia. Meanwhile, the minimum investment income is in PT AIA Financial issued in 2020, which amounted to -Rp675,510 (in millions of rupiah).

Gross Domestic Product (GDP)

The statistical test results in table 2 show that the minimum GDP value is in Brunei Darussalam in 2020, namely IDR179,703,200 (in millions of rupiah). Meanwhile, the highest GDP is in Indonesia in 2021, namely IDR 17,753,439,894 (in millions of rupiah).

Inflation

Based on table 2, the highest inflation occurred in Malaysia in 2017 at 3.87% and the lowest inflation has also occurred in Malaysia (-1.13%). The data shows that Malaysia tends to have a fluctuating inflation rate compared to Indonesia and Brunei Darussalam.

Exchange Rate

Referring to the results of descriptive analysis, it can be seen that the highest exchange rate against the dollar has occurred in Brunei Darussalam, which is IDR15705 or equivalent to BND1.38. While the lowest exchange rate has occurred in 2017 in Indonesia, which amounted to IDR 13,380.

Asset Growth

The statistical test results show that the highest asset growth in Islamic life insurance in Southeast Asia is 86%, namely in Zurich Takaful Malaysia Berhad in 2017. The lowest asset growth is in Indonesia, namely at PT AIA Financial Indonesia in 2021 of -0.50.

Panel Data Regression Model Selection in the Full Variable Test

To obtain what model is most appropriate to use in analyzing the research panel data, three ways are carried out, namely the Chow test, Hausman test and Lagrange Multiplier test.

a. Chow Test

Table 3. Chow test results on the Full Variable Test

Effect Test	Statistic	d.f.	Prob.
Cross-section F	2.363288	(31.112)	0.0006
Cross-section Chi-square	74.987492	31	0.0000

Source: Eviews 12 output results (2023)

Based on table 3, the results of the *cross section* F value are obtained with a *probability* of 0.0006 or less

than 0.05. This means that the most appropriate model used in this study is the *fixed effect model*.

b. Hausman Test

Table 4. Hausman Test Results on Full Variable Tests

Test Summary	Chi-sq. Statistic	Chi-sq. d.f.	Prob.
Cross-section random	21.769693	5	0.0006

Source: Eviews 12 output results (2023)

Based on table 4, it can be seen that the *probability* value is 0.0006, meaning that the value is smaller than 0.05. It can be concluded that the best model used in this study falls on the *fixed effect model*. Because the results of the Hausman test show that the most appropriate model selection is the *fixed effect model*, there is no need to do the Lagrange multiplier test.

Classical Assumption Test

Normality test

As stated, the normality test is a test that aims to test whether in the regression model, between the independent variable and the dependent variable or both variables have a normally distributed residual value or not.

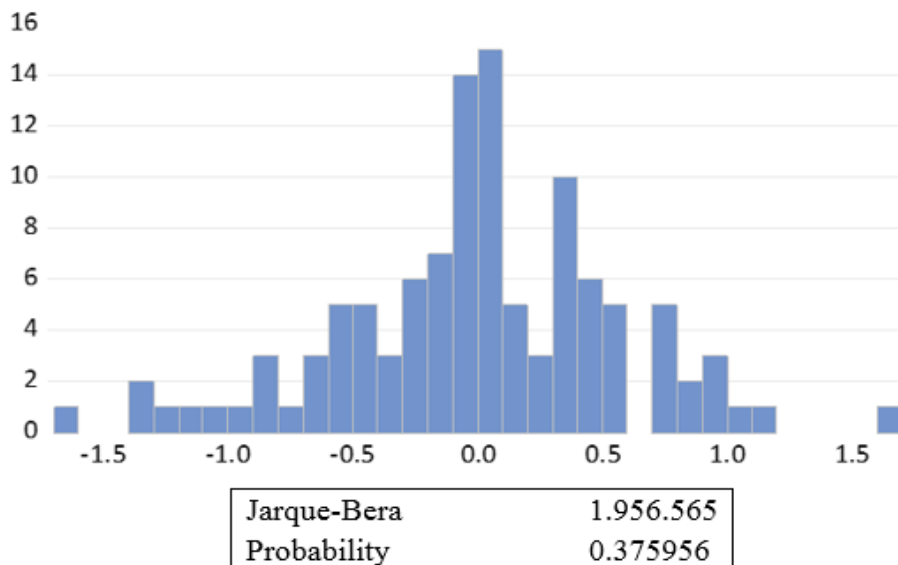


Figure 3. Jarque Bera

Source: Eviews output results (2023)

Based on figure 3, the result of the *probability jarque-bera* value is 0.375956 or greater than 0.05. This means that the research data is normally distributed.

Multicollinearity test

Table 5. Multicollinearity Test Results on Full Variable Tests

	X1	X2	X3	X4	X5
X1	1.000000	0.858959	-0.339969	-0.322421	0.297125
X2	0.858959	1.000000	-0.412647	-0.350447	0.346382
X3	-0.339969	-0.412647	1.000000	0.447054	-0.683689
X4	-0.322421	-0.350447	0.447052	1.000000	-0.536629
X5	0.297125	0.346382	-0.683689	-0.536629	1.000000

Source: Eviews output results (2023)

According to the multicollinearity test in table 5, it is known that the value between variables is less than

0.9, meaning that there is no multicollinearity between variables.

Heteroscedasticity Test

Table 6. Heteroscedasticity Test Results on Full Variable Tests

F-statistic	1.559256	Prob. F(5,143)	0.1754
Obs*R-squared	7.703411	Prob. Chi-Square(5)	0.1734
Scaled explained SS	10.67214	Prob. Chi-Square(5)	0.0583

Source: Eviews 12 output results (2023)

In table 6, the *probability chi-square* result is 0.1734 or it can be said to be greater than 0.05. That means, the data does not occur *heteroscedasticity*.

conducted to test the influence between the independent variable and the dependent variable, which in this case is to see the effect of contribution, investment, GDP, inflation and exchange rate on asset growth. The following are the results of the *fixed effect model* test:

Panel Data Regression Analysis on Full Variable Test

The most appropriate regression analysis used is the *fixed effect model*. This regression analysis is

Table 7. Fixed Effect Model Test Results on Full Variable Tests

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15.26071	6.506505	2.345455	0.0208
X1	0.084492	0.035053	2.410403	0.0176
X2	0.014689	0.028423	0.526802	0.6063
X3	-0.984373	0.269016	-3.658784	0.0004
X4	0.012617	0.013809	0.913677	0.3628
X5	-1.492068	0.564751	-2.641994	0.0094

Source: Eviews 12 output results (2023)

Based on the partial test results in table 7, the regression equation in this study is as follows:

$$Y = 15.26071 + 0.084492 \cdot X1 + 0.0146893 \cdot X2 - 0.984373 \cdot X3 + 0.012617 \cdot X4 - 1.492068 \cdot X5$$

The constant value in the regression equation above is 15.26071. This means that if the variables of

contribution, investment income, GDP, inflation and exchange rate are unchanged or fixed, then the asset growth is 15.26071.

Hypothesis Testing on Full Variable Test

c. Partial Test (T Test) on the Full Variable Test

Table 8. Partial Test Results on Full Variable Tests

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15.26071	6.506505	2.345455	0.0208
X1	0.084492	0.035053	2.410403	0.0176
X2	0.014689	0.028423	0.526802	0.6063
X3	-0.984373	0.269016	-3.658784	0.0004
X4	0.012617	0.013809	0.913677	0.3628
X5	-1.492068	0.564751	-2.641994	0.0094

Source: Eviews 12 output results (2023)

Based on the partial test results in table 8, it can be seen that the influence between variables is as follows: The t test results on the contribution variable (X1) state that the t value is 0.0176. This means that the value is smaller than the error rate of 0.05. It can be concluded that there is a positive influence between contributions to asset growth. Thus, hypothesis 1 is accepted. Then on the investment income variable (X2), the t test results state that the calculated t value of 0.6063 is greater than the error rate of 0.05. So, it can be interpreted that investment income has no effect on asset growth. That means, hypothesis 2 is rejected.

As for the GDP variable (X3), the t test on the GDP variable shows 0.0004. This value is smaller than the error rate of 0.05. However, when viewed from the negative coefficient value (-0.984373), the effect has a negative direction. It can be concluded that Gross Domestic Product has a negative effect on asset growth. This means that hypothesis 3 (H3 is accepted). The t test on the inflation variable shows the number

0.3628. This value is greater than the error rate of 0.05. From these results it can be interpreted that inflation has no effect on asset growth. That means, hypothesis 4 is rejected. Finally, the t-test results on the exchange rate variable (X5) show that the exchange rate has a probability value of 0.0094. This value is smaller than the error rate of 0.05. It can be concluded that the exchange rate variable affects asset growth. However, when viewed from the *coefficient* results, the variable has a negative direction. It can be concluded that every increase in the exchange rate by 1 unit will reduce asset growth by -1.492068. That means, hypothesis 5 is accepted.

d. Simultaneous Test (F Test) on Full Variable Test

Based on table 9, it is known that the probability *F statistic* value is 0.000022, smaller than the error rate of 0.05. This means that simultaneously the independent variables affect the dependent variable.

Table 9. Simultaneous Test Results on Full Variable Tests

R-squared	0.471953	Mean dependent var	0.135926
Adjusted R-squared	0.302224	S.E. dependent var	0.192639
S.E. of regression	0.160917	Akaike info criterion	-0.604655
Sum squared resid	2.900172	Schwarz criterion	0.141291
Log likelihood	82.04680	Hannan Quinin criter	-0.301589
F-statistic	2.780623	Durbin watson stat	2.761447
Prob (F-statistic)	0.000022		

Source: Eviews 12 output results (2023)

Thus, the contribution variables, investment income, GDP, inflation and exchange rates simultaneously affect the growth of assets of Islamic life insurance companies in Southeast Asia.

e. Test of the Coefficient of Determination (R^2) on the Full Variable Test

Table 10. Test Results of the Coefficient of Determination on the Full Variable Test

R-squared	0.471953	Mean dependent var	0.135926
Adjusted R-squared	0.302224	S.E. dependent var	0.192639
S.E. of regression	0.160917	Akaike info criterion	-0.604655
Sum squared resid	2.900172	Schwarz criterion	0.141291
Log likelihood	82.04680	Hannan Quinin criter	-0.301589
F-statistic	2.780623	Durbin watson stat	2.761447
Prob (F-statistic)	0.000022		

Source: Eviews 12 output results (2023)

Based on the results of the coefficient of determination test in table 10. The *R-squared* value shows 0.471953. This value means that the independent variable affects the dependent variable by 47%. It can be concluded that the contribution variables, investment income, GDP, inflation and exchange rates affect the asset growth of Islamic life insurance companies in Southeast Asia by 47%. The rest is influenced by other variables not discussed in this study.

DISCUSSION

Effect of Contribution on Asset Growth

Contribution is a sum of money given by the participant to the Islamic insurance party in accordance with a mutual agreement. The amount of insurance contribution is determined from the results of risk selection conducted by the *underwriter* or after the company conducts risk selection at the request of the prospective insured. Thus, the prospective insured will pay insurance contributions according to the level of risk of their respective conditions. Based on the pasial test that has been carried out, the contribution has a significant positive effect on the asset growth of

Islamic life insurance companies in Southeast Asia. The results of the t test on the contribution variable (X_1) state that the probability shows the number 0.0176 or smaller than 0.05.

The results of this test are in accordance with the first hypothesis which states that contribution has a positive and significant effect on asset growth. Then in line with the accounting theory of the concept of income which states a unidirectional relationship between income and the growth of company assets. The greater the contribution received by the Islamic insurance company, the greater the funds that will be invested, then the greater the funds invested, the greater the profit opportunities that will be obtained by the company, the greater the company's profit, the higher the level of asset growth of a company. (Sula, 2004). The results of this study are also in line with the *Islamic split found theory* which states that the greater the participant contribution funds, the greater the tabarru funds obtained. The amount of tabarru funds obtained will increase the *underwriting* surplus so that it will increase asset growth.

Hendra (2021) also stated that contributions have a significant positive effect on the financial

stability of insurance companies. This means that the more contribution payment funds obtained from participants, the better the company's financial stability. This study is also in line with those conducted by [Guendouz & Ouassaf \(2018\)](#) that contributions have an effect on company profitability. Contribution income partially affects profit. This means that the higher the contribution income obtained, it will affect the increase in company profits. Therefore, the main factor of profit is contribution income. To increase profits must be accompanied by adequate contribution income. Conversely, if the company's profit is low, it will show a weak contribution income. ([Nainggolan & Soemitra, 2020](#)).

The contribution shows a significant positive effect on the growth of Islamic insurance assets in Indonesia. These results are based on research conducted by [Faoziyyah & Laila \(2020\)](#) and [Lilavira & Zulaikha \(2020\)](#). Contributions are one of the sources of funding needed by Islamic insurance, besides that contributions are also a source of income for Islamic insurance. The more income from Islamic insurance contributions, the more *ujrah* the company receives, the asset growth will also increase.

Contributions are the main source of income for Islamic insurance companies. Although the contribution fund is not owned by the company, it will still affect the company's activities. The income of Islamic insurance companies is obtained from *ujrah* paid by participants through contribution income, investment returns on company funds and profit sharing to participant funds. These investment returns and profit sharing will be reduced by expenses and operating costs so that the profit will be obtained which will be distributed to participants and companies that have been agreed upon at the beginning. So, contributions indirectly affect the growth of assets of Islamic life insurance companies in Southeast Asia through the *ujrah* paid from participant contributions.

However, this research is not in line with proven by [Nasution & Sistiyanini \(2019\)](#) which shows no influence between contributions on the growth of company assets. The results of his research state that contributions are prepared to pay claim funds to customers. That means, insurance contributions are not prepared for the purposes of insurance company assets, but contributions are paid by participants so that participants benefit from *tabarru* funds. If there are too many claims, the increase in contributions will not be meaningful if the number of claims increases. This is because the claim becomes a burden owned by the

company even though the amount of contributions has increased but on the other hand it also receives a large enough claim, there will be a diversion of contribution receipts and the company takes action to divert contribution receipts to cover claims that occur.

When classified and tested based on the country that is the research observation unit, namely Indonesia, Brunei Darussalam and Malaysia. In Indonesia, the contribution variable has a significant positive effect on the asset growth of Islamic life insurance companies in Indonesia. Then in Malaysia get the same results, namely the contribution has a significant positive effect on the growth of Islamic life insurance assets in Malaysia. While in Brunei Darussalam, there are different results, the contribution has no effect on the growth of Islamic life insurance assets in Brunei Darussalam.

Effect of Investment Income on Asset Growth

Investment is an investment activity with the aim of obtaining future profits. Investment income is the profit obtained in connection with investment activities carried out by investing or placing assets in the form of funds or assets. Investment income is the result obtained from participant funds in the form of *tabarru'* funds and savings managed by insurance companies as managers ([Bayinah et al., 2018](#)). ([Bayinah et al., 2018](#)).

The results of this study indicate that investment income partially has no effect on Islamic life insurance companies in Southeast Asia. This is because investment income does not provide high profits for the company so it is unable to provide growth in its assets. In addition, the investment climate and unfavorable macroeconomic conditions can also affect asset growth. Then in terms of determining investment instruments, Islamic insurance is also still relatively small compared to conventional insurance. This is because Islamic financial institutions including Islamic insurance may not invest their funds in instruments that are prohibited (*usury*). Meanwhile, when viewed in the current condition, there are still many investment instruments that are not sharia. This is the reason why investment has no effect on asset growth. Even so, Islamic life insurance companies must continue to invest their funds in instruments that are not contrary to sharia principles. The results of this study are in line with those conducted by [Panjaitan & Devi \(2021\)](#) The study states that investment income has no effect on the growth of Islamic insurance assets.

The results of this study contradict the *free cash flow* theory. This theory states that if cash flow is

available in large amounts, it can cause *over investment* problems, because cash flow can be used to finance projects with negative NPV. Business managers whose companies oversee growth prefer to choose to invest in after-tax profits and want better performance against company growth. The results of this study also contradict the theory which states that the amount of investment spent by the company gives a positive signal to the growth of the company's assets. Thus, it can be concluded that companies that invest in various posts may not necessarily increase the growth of the company's assets.

However, the results of this study which state that investment income has no effect on the asset growth of Islamic life insurance companies in Southeast Asia contradict the study conducted by [Amalia et al \(2020\)](#) which states that investment income has a significant effect on the growth of general insurance assets in Indonesia. Then it is also not in line with research conducted by [Purwaningrum & Filianti \(2020\)](#), [Lilavira & Zulaikha \(2020\)](#) and [Juniyanto & Sari \(2022\)](#) which shows the results that investment income has a significant positive effect on asset growth.

As for when classified and tested based on the country that is the research sample, namely Indonesia, Brunei Darussalam and Malaysia. In Indonesia, the investment income variable has a significant negative effect on the asset growth of Islamic life insurance companies in Indonesia. As in Malaysia, the same results were obtained, namely investment income has a significant negative effect on the growth of Islamic life insurance assets in Malaysia. While in Brunei Darussalam, there are different results, that investment income has no effect on the growth of Islamic life insurance assets in Brunei Darussalam.

The test results in Indonesia and Malaysia which state that investment income has a negative effect on asset growth are in line with research conducted by [Juniyanto & Sari \(2022\)](#) which states that investment income actually inhibits the growth of corporate assets. Fixed asset investment decisions in Indonesia and Malaysia have a significant negative effect on corporate profitability. The increase in fixed assets has an impact on decreasing the company's ROA and ROE.

Effect of GDP on Asset Growth

Gross Domestic Product (GDP) is the amount of added value generated by all business units in a country. Partially, the GDP variable has a significant negative effect on the asset growth of Islamic life insurance companies in Southeast Asia. This research is

in line with research conducted by [Baroroh \(2021\)](#) which states that GDP has a negative effect on asset growth.

GDP is a macroeconomic factor that can be an indicator of a country's economic growth. An increase in gross domestic product is often associated with increased investment growth, increased wages and employment. However, this study shows different results, that GDP has a negative effect on the growth of Islamic life insurance assets in Southeast Asia. This was revealed in a study conducted by [Ward & Zurbruegg \(2000\)](#) which shows that GDP actually has a reducing effect on the growth of Islamic insurance assets. This is because Islamic insurance products at that time were reaching a saturation point so that few people used Islamic insurance.

When classified and tested based on the three countries used as research observation units, namely Indonesia, Malaysia and Brunei Darussalam. The results of this research state that in Indonesia and Malaysia, GDP has no effect on the growth of Islamic life insurance assets in Indonesia. Research conducted by [Sahudin et al \(2022\)](#) stated that in Malaysia, no matter whether GDP increases or decreases, people will still use Islamic insurance because it is a good protection and investment for themselves and their family members. This is because they realize that health and protection are the most important things in their lives. However, different results were obtained in Brunei Darussalam which stated that GDP negatively affects the asset growth of Islamic life insurance companies.

Research conducted by [Nurazlina & Mauluddin \(2020\)](#) on the object of Islamic banking research, states that GDP has no significant effect on the development of Islamic commercial banks in Indonesia. The study provides findings that the Islamic banking industry in Indonesia is in principle in accordance with pure Islamic economic theory. The theory asserts that money in the Islamic economy is only used as a medium of exchange, so it is not used as an investment tool. This statement makes money must continue to rotate and should not be hoarded so that it will have an impact on the economic growth of the real business sector. Therefore, the Islamic banking industry focuses a lot on business development in the real sector, such as *mudharabah* financing, *qardhul hasan* and others.

Likewise, with Islamic insurance companies. The principle of Islamic insurance or commonly known as the *takaful* industry prioritizes Islamic values in it. In its implementation, Islamic insurance uses several

contracts reflected in the muamalah content, such as *mudharabah*, *wakalah*, and hibah contracts. These contracts are designed to provide convenience for customers and real sector activists. That way, the circulation of money will run more dynamically.

Effect of Inflation on Asset Growth

Inflation is a condition in which the prices of goods and services increase continuously and within a certain period of time. Inflation variables partially have no effect on the asset growth of Islamic insurance companies in Southeast Asia. An increase or decrease in inflation in the long term will not affect the asset growth of Islamic life insurance companies.

When tested per country based on the research observation unit, similar results show that both in Indonesia and Malaysia, the inflation variable has no effect on the asset growth of Islamic life insurance companies. The results of this study are in line with research conducted by [Suryadi & Effendi \(2021\)](#) about the factors that influence the asset growth of the Islamic insurance industry in Indonesia. The results of this study state that inflation has no significant effect on the asset growth of the Islamic insurance industry in Indonesia. The study believes that an increase in inflation will increase the risk of investment projects resulting in a decrease in investment returns.

Then it is also reinforced by a study conducted by [Ismail et al \(2018\)](#) testing macroeconomic factors on the performance of insurance companies in Malaysia states that CPI as an indicator to measure inflation has no effect on the performance of insurance companies in Malaysia. In times of inflation, people tend to save rather than spend money.

This does not only happen in the insurance industry, but also in the Islamic banking industry. This is evidenced by a study conducted by [Nahar et al \(2020\)](#) [Nurazlina & Mauluddin \(2020\)](#) which states that inflation has no significant effect on the development of Islamic commercial banks. Inflation is an external factor that does not affect the growth of Islamic banks. When Islamic banks expand and increase their assets, it will not be affected by the increase in inflation or the decline in inflation that is happening. This can happen because the government and the central bank have a role as regulators, where the inflation rate can be controlled. Islamic financial industry players can also minimize the various impacts of changes in the inflation rate by developing strategies because changes in inflation can be predicted. Likewise, with the non-bank financial industry (IKNB), including Islamic

insurance. Inflation is not a reference in measuring the company's asset growth. The results of this study are also reinforced by [Fadah et al \(2021\)](#) that inflation has no effect on asset growth. An increase in inflation will increase the risk of investment projects which results in decreased investment returns.

In addition, the insignificant effect on the inflation variable can be said that inflation does not hinder Islamic economic activities because it is in accordance with pure Islamic economic theory, where in sharia itself prioritizes the circulation of money in the real sector and investment to carry out activities that are productive so that this will not hinder the development of the Islamic insurance industry in increasing its market share. Inflation is an external factor that will not affect the management of the company.

However, the results of research on the object of Islamic life insurance in Brunei Darussalam show different results, that inflation has a negative effect on the asset growth of Islamic life insurance companies in Brunei Darussalam. [Baroroh \(2021\)](#) and [Ward & Zurbruegg \(2000\)](#) which shows the finding that inflation has a negative effect on asset growth.

Effect of Exchange Rate on Asset Growth

Exchange rate is the exchange rate of a currency against current or future payments, between two currencies of each country or region. In this study, the exchange rate partially negatively affects the asset growth of Islamic life insurance companies in Southeast Asia. When classified and tested based on the country observation unit in this study, the results obtained in testing in Indonesia and Brunei Darussalam also prove the same thing, that the exchange rate has a negative effect on the asset growth of Islamic life insurance companies in Indonesia.

This research is in line with that conducted by [Ally \(2022\)](#) stated that the exchange rate has a negative influence on the *return on assets* of insurance companies by 65.52%. The weakening of the exchange rate against the dollar has a negative impact on the capital market, causing the capital market to have no appeal. This causes investors to switch to the money market because the returns obtained in the money market are greater than the capital market which will ultimately reduce stock prices and of course will also reduce asset growth. It can be concluded that the asset growth of a company is affected by inadequate exchange rate movements. If the exchange rate soars, it is certainly difficult to increase the asset growth of a company.

This is also reinforced by the study of Mwangi (2017) which states that the exchange rate has a negative effect on the ROA of Islamic insurance companies.

Effect of Contribution, Investment Income, GDP, Inflation and Exchange Rate on Asset Growth

Based on the results of the analysis to prove the hypothesis that has been determined, simultaneously, all variables consisting of contributions, investment, GDP, inflation and exchange rates affect the asset growth of Islamic life insurance companies in Southeast Asia. It is known that the *probability F statistic* value is 0.000022, smaller than the error rate of 0.05. This means that simultaneously the independent variable affects the dependent variable. thus, Then based on the results of the coefficient of determination test above. The *R-squared* value shows the number 0.466887. This value can be interpreted that the independent variable affects the dependent variable by 47%. It can be concluded that the contribution, investment, GDP, inflation and exchange rate variables affect asset growth by 47%. The rest (53%) is influenced by other variables not discussed in this study.

Changes in the exchange rate are influenced by inflation, the existence of inflation will affect the gross domestic product of a country. These three macroeconomic variables will also affect the company's internal variables, such as investment income and contribution income discussed in this study. These macroeconomic variables are indicators of a country's development and continuous price increases. These variables can affect people's ability to save and invest in Islamic insurance. While internal factors affect the ability to manage funds in Islamic insurance companies in Southeast Asia.

Asset growth will affect the profitability of a company. As stated by Triyani et al (2018) that asset growth will have an influence on company profitability. This means that the greater the company's assets, the profitability will also increase. Insurance company managers and policy makers must implement better policies and strategies aimed at increasing the overall profitability of insurance companies. Companies need to consider contributions, investment income, GDP, inflation and exchange rates together because these variables together have an influence on the growth of Islamic life insurance assets in Southeast Asia.

CONCLUSIONS

Based on the results of the analysis described in the previous chapter, it can be concluded that partially, the contribution variable has a significant positive effect on the asset growth of Islamic life insurance companies in Southeast Asia. GDP and exchange rates have a significant negative effect on the asset growth of Islamic life insurance companies in Southeast Asia. Inflation and investment income have no effect on asset growth of Islamic life insurance companies in Southeast Asia. Simultaneously, all independent variables affect the growth of company assets. That means, contributions, investment income, GDP, inflation and exchange rates affect the asset growth of Islamic life insurance companies in Southeast Asia by 47%. The rest (53%) is influenced by other variables not discussed in this study.

This study has several limitations including Sampling in this study only focuses on Islamic life insurance companies, not seeing general insurance and Islamic reinsurance spread across Southeast Asia. In addition, this study only focuses on three countries, while there are 10 countries in Southeast Asia. The internal variables measured in this study only refer to and investment income only, have not explored further about other variables such as claims, operating costs and other internal variables. Then for external variables used only GDP, inflation and exchange rates, even though there are still many other variables that can influence the growth of Islamic insurance assets.

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