

DETERMINANTS OF FINANCIAL STABILITY OF ISLAMIC INSURANCE COMPANIES LISTED ON INDONESIA FINANCIAL SERVICES AUTHORITY

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ABSTRACT - Islamic insurance is an Islamic financial service that guarantees a participant's life, health, education, asset, and business. Some of them experienced a decline in their financial stability. This study aims to analyze the determinants of financial stability of Islamic insurance companies registered at the Indonesian Financial Services Authority (*Otoritas Jasa Keuangan - OJK*) from 2014 to 2018. Thirty-eight data observations were acquired from eight full-fledged Islamic insurance businesses' financial reporting and analyzed using panel data regression. The dependent variable is financial stability, whilst investment, capital structure, insurance premiums, independent board of commissioners, sharia supervisory board, board of directors, and institutional ownership are the independent variables. The results show that financial stability is significantly affected by investment, insurance premiums, independent boards, and institutional ownership. The capital structure, sharia supervisory board, and board of directors do not affect the financial stability. Increasing the number of participant contributions and strategic investments should be a concern of Islamic insurance managers. The role of an independent board and Institutional owners supervisory could strengthen the financial stability of Islamic Insurance. Research on Financial stability is supporting the development of Islamic insurance companies.

Keywords: Financial Stability, Investment, Capital Structure, Insurance Premiums, Good Corporate Governance, Islamic Insurance

ABSTRAK – Determinan Stabilitas Keuangan Perusahaan Asuransi Syariah yang Terdaftar pada Otoritas Jasa Keuangan. Asuransi syariah adalah salah satu jasa keuangan Syariah untuk menjamin jiwa, kesehatan, pendidikan, aset dan bisnis. Beberapa perusahaan tersebut mengalami penurunan stabilitas keuangannya. Penelitian ini bertujuan untuk menganalisis determinan stabilitas keuangan perusahaan asuransi syariah yang terdaftar pada Otoritas Jasa Keuangan (OJK). Sebanyak 38 observasi diperoleh dari laporan keuangan 8 perusahaan asuransi syariah periode 2014-2018. Analisis dilakukan menggunakan regresi data panel. Variabel yang dipilih dalam penelitian ini adalah stabilitas keuangan sebagai variabel dependen, investasi, struktur modal, premi asuransi, dewan komisaris independen, dewan pengawas syariah, dewan direksi dan kepemilikan saham institusi. Hasil penelitian menunjukkan bahwa variabel investasi, premi asuransi, dewan komisaris independen dan kepemilikan saham institusi berpengaruh terhadap stabilitas keuangan perusahaan asuransi. Variabel struktur modal, dewan pengawas syariah dan dewan direksi tidak berpengaruh terhadap stabilitas keuangan. Peningkatan jumlah iuran peserta dan investasi strategis harus menjadi perhatian pengelola asuransi syariah. Peran dewan independen dan pengawasan pemilik institusi dapat memperkuat stabilitas keuangan asuransi syariah. Penelitian stabilitas keuangan pada perusahaan asuransi memberikan dukungan terhadap pengembangan perusahaan asuransi syariah.

Kata Kunci: Stabilitas Keuangan, Investasi, Struktur Modal, Premi Asuransi, Tata Kelola Perusahaan Yang Baik, Asuransi Syariah.

INTRODUCTION

Indonesia is the most prominent Muslim majority country with a vital role in globally developing the Islamic financial system. This country can become an Islamic finance global hub supported by the awareness increase of most Muslims on Islamic finance. Islamic banking was developed in 1992 under Islamic banking Government Regulation No. 72 of 1992. In addition to Islamic Banking, other Islamic financial institutions such as Islamic Insurance services, Islamic capital markets, Islamic hotels, Islamic tourism, and Islamic microfinance have also been developed. These developments were very well-received and positive responses from the Muslim society in Indonesia.

Islamic insurance companies also have an essential role in supporting the development of the Islamic financial system. These companies have almost the same activities as Islamic banking in providing financial services and investment with Islamic contracts, including *Murabaha*, *Salam*, *Istishna*, *Mudharabah*, *Musyarokah*, *Ijarah*, and other contracts. However, the difference is that Islamic insurance companies do not provide savings and deposit services as practiced in Islamic banking. Instead, the source of funds comes from participant contribution (premium payment) and investments (in shares). In 2020, the total asset of Islamic insurance experienced a decrease to Rp. 44.44 trillion compared to its total asset in 2019 Rp. 45.40 trillion (Ardianto, 2021). There are 62 Islamic insurance companies in Indonesia, consisting of 30 Islamic life insurance, 29 Islamic general insurance, and 3 Islamic reinsurance (Sari, 2018).

Based on PSAK 108, Islamic Insurance companies can act as agents or fund managers of insurance participants where the insurance companies allocate a portion of the funds received from participants to be invested to generate profits, increasing the participant's funds. When the company acts as an agent, the contract between the participant and the company is a *wakalah* contract, so the company gets a fee (*ujrah*). Whereas when the company acts as a manager, the contract used is the *mudharabah* contract, so that the company receives the profit-sharing from the managed funds.

Islamic insurance companies must be selective in allocating funds for investment and try as optimal as possible to avoid losses. Therefore, the companies can allocate a portion of participant funds to finance or invest with contracts in Islamic banking. The allocation of funds for financing and



investment is intended to maintain the company's financial stability. Hence, when getting profits from financing and investment, these benefits can increase the funds of participants. Some insurance companies experienced a decrease in their financial stability; one of them is Mubarakah Islamic Insurance. The company was reported by the Financial Services Authority (OJK) for bankruptcy (Pradana, 2016). Likewise, BPJS insurance also has faced a deficit fund (Anwar, 2018). PT. Asuransi Takaful Umum also experienced a decrease in financial stability (Fitri & Arifin, 2013), decreasing total assets to 38% in 2017 and experiencing a deficit of IDR9.69 billion in 2016 and IDR8.03 billion in 2017.

The number of participant contributions (premium) plays a vital role in maintaining the financial stability of Islamic insurance. Due to the contribution of the participants' funds, the company can carry out potential investment and financing activities and generate profits which can improve the company's performance. In addition, the proportion of liabilities to capital can also affect the company's financial stability. With strict supervision by the independent board, Sharia supervisory board and board of directors, and institutional ownership support are expected to affect the level of financial stability of the company.

This study aims to determine the effect of investment and financing, capital structure, insurance premiums, independent board, sharia supervisory board, board of directors, and Institutional ownership on the financial stability of Islamic insurance. This study involves Islamic insurance companies' financial characteristics and governance to maintain the company's financial strength. Research on financial stability has been carried out by previous researchers, including Elbadry (2018), Lassoued (2018), Korbi & Bougatef (2017), Kobayashi (2017), Kay (2018), Ozili (2018), Mat Rahim et al. (2012) and Rashid, et al. (2017). However, their studies were conducted in banking companies. This study also measures financial stability in Islamic insurance companies using the Altman Z score.

LITERATURE REVIEW

Conventional Insurance Vs. Islamic Insurance

Financial institutions in the insurance sector have been operating since 1912 with the establishment of PT. BNI Life Insurance, followed by Boemi Poetra Life Insurance in Indonesia. In contrast, PT. Syarikat Takaful Indonesia



established the first Islamic-based insurance company in 1994. This financial service aims to facilitate the community in facing financial difficulties to cover hospital costs, accidents, schools, vehicles, electronic equipment, business losses, and others. However, there is a differentiation between conventional insurance and Islamic insurance. Including investments, placement of funds, financing to customers, the status of participant funds, rights and obligations between participants, and management must be under Islamic principles.

The conventional insurance system uses a risk transfer basis, while the Islamic insurance system uses a risk-sharing basis. Risk transfer means that participants, who pay insurance contributions, transfer risk to the insurance company. The company owns the fund paid by participants. When a participant makes a claim, the company covers the costs borne by the participant. However, if there are no claims from participants, the funds will be the company's profits or shareholders. Therefore, the relationship between participants and established insurance companies is buying and selling insurance services. Conventional insurance companies put their funds in conventional banks based on a usury scheme. Also, there are no restrictions on investing or financing in either halal or unlawful products. The priority is how to maximize the profit.

Islamic Insurance System

The Islamic Insurance system uses the Islamic principles to help others as recited in the Al Qur'an chapter Al Maidah verse 2 as follows:

"And please help you in (doing) virtue and piety, and do not help in committing sins and transgressions. And fear Allah, verily Allah is severely tortured".

Insurance in Islamic terms is *takaful*, *tadhamun*, *taawwun*, and *ta'min*, which means to bear one another, guarantee each other, and help each other look after one another. Islamic insurance aims to increase relationships (*ukhuwah*) among Muslims with mutual help, security, and convenience for problems faced by fellow Muslims.

The definition of Islamic Insurance according to the National Sharia Council Fatwa No. 21 / DSN-MUI / X / 2001:

Islamic insurance (*Takmin*, *Takaful*, or *Tadhamun*) is a business that supports each other and helps other people or parties through



investments in the form of assets and or *tabarru* that provides a pattern that can help to fix certain problems through *aqad* (engagement) that is in accordance with Islamic rules.

The insurance company acts as a representative of the participants to manage the participant's funds. Some percentage of participant funds are allocated to a potential investment using Islamic principles. The company's role can act as a representative with a contractual agreement. In addition, the company can play a role as a *mudharib* (manager) to generate profit-sharing from the management of participant funds (Ibrahim, 2010). When there is a claim from the participant, the company pays the costs borne by the participant, and if there is no claim, then the funds are allocated to *tabarru* funds, not owned by the company.

Financial Stability

Financial stability can be defined as the level of profitability fluctuations of a company (Wardiah & Ibrahim, 2013). Companies with lower profit swings indicate a higher level of financial stability. Previous researchers have researched the company's financial stability, including Lassoued (2018) and Korbi & Bougatef (2017). Both studies use the Boyd and Runkle (1993) model to develop a model to measure the financial stability of a company. In addition, Elbadry (2018) measures financial stability using the capital adequacy ratio (CAR), leverage, liquidity, and loan to deposit ratio.

Factors affecting financial stability include the board of directors (Lassoued, 2018), capital ratios (Chattha and Archer, 2016), intermediation margins, total assets, liquidity, credit risk, inflation, economic growth (Korbi & Bougatef, 2017), insurance sector development (Ihejirika & Ehiogu, 2018), interest rates (Kay, 2018), efficiency, foreign banks, bank concentration, bank size, government effectiveness, political stability, regulator quality, investor protection, corruption, and unemployment control (Ozili, 2018).

Tabarru' (Premium) Fund

Tabarru funds are the number of funds paid by participants as contribution payments to Islamic insurance companies. This fund can be obtained from the profit-sharing of the fund's management by the Islamic insurance management. It is also received from the remaining funds of participants after deducting insurance participant claims. Puspitasari (2016) found that claims, reinsurance activities, commission fees, and general administrative expenses significantly



affected the proportion of *tabarru* funds. In addition, Safitri & Suprayogi (2017) examines the effect of *Tabarru* funds on the financial health of insurance companies. They found that risk-based capital has a significant impact on financial stability.

Capital Structure

Capital structure in a company is a component of capital that consists of a proportion between debt and equity. Some researchers use the term debt to equity ratio (DER). The higher the DER level, the higher proportion of total debt to capital. Korbi & Bougatef (2017) and Chattha & Archer (2016) found that capital adequacy has a significant effect on financial stability in banks. Other studies measure capital structure using total equity divided by total assets.

Investment and Financing

Investment of financing funds allocated for developing the funds through investment in a company, the purchase of securities in the form of bonds or shares in the capital market. While financing is funds allocated to meet customer needs in *murabahah*, *istishna*, *salam*, *mudharabah*, *musyarakah*, and *ijarah* contracts. Elbadry (2018) found that the loan to deposit ratio has a significant effect on credit risk.

Good Corporate Governance

Corporate governance is the managerial framework of a company in the form of an organizational structure consisting of independent and non-independent commissioners, boards of directors, president directors, audit committees, sharia supervisory boards, and others. Governance has a controlling role in the company's operations. This framework was formed to protect the company's stakeholders, specifically shareholders. Other interested parties are employees, the community, government, non-government organizations, and others. Lassoued (2018) examines the relationship between governance and financial stability. The result concluded that the independent board of commissioners had a significant effect on financial stability.

Previous Studies

The financial stability was measured by several previous researchers using the Z score model. One of them was conducted by Bakhtiar, Munir, and Qasas



(2018), which estimated Islamic insurance companies' financial stability in Indonesia. Two factors affect financial stability, namely micro and macro factors. Similarly, other studies found that some micro factors that affect the financial stability of companies include corporate governance (Lassoued, 2018), financial performance (Elbadry, 2016; Rashid, Yousaf & Khaleequzzaman, 2017), human resources performance (Djafri, Noordin & Mohammed, 2018; Piaralal et al., 2016), market control (Husin & Rahman, 2016; Rashid, Yousaf & Khaleequzzaman, 2017), audit opinion (Foster & Zurada, 2013) and excellent service (Piaralal et al., 2016). Meanwhile, macro factors that affect financial stability are political stability (Ozili, 2018), government regulations and policies (Kay, 2018; Berkem, 2014), level of corruption (Korbi & Bougatef, 2017; Ozili, 2018), government supervision (Kobayashi, 2017; Yusuf & Babalola, 2009), level of competition (Ozili, 2018) and level of productivity or unemployment (Din, Regupathi & Abu-Bakar, 2017).

Research Framework

Financial stability can be influenced by many factors, including the board of directors (Lassoued, 2018), capital ratios, intermediation margins, total assets, liquidity, credit risk, inflation, economic growth (Korbi & Bougatef, 2017), Insurance sector development (Ihejirika & Ehiogu, 2018) interest rates (Kay, 2018), efficiency, foreign banks, bank concentration, bank size, government effectiveness, political stability, regulator quality, investor protection, corruption, unemployment control (Ozili, 2018), and Capital Adequacy Ratio (Chattha & Archer, 2016). In this study, several factors predicted to influence and improve a company's financial stability are total investment and financing, insurance premiums, capital structure, and corporate governance.

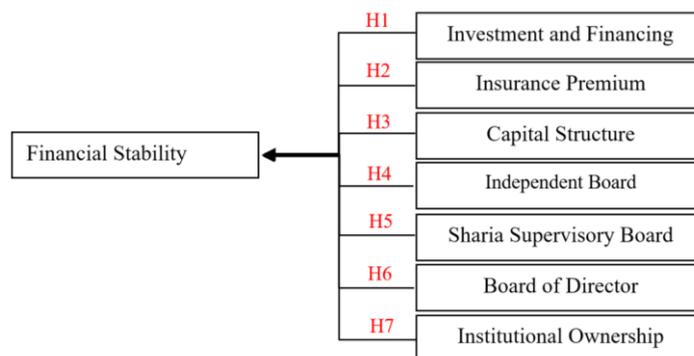


Figure 1. Research Framework



Hypothesis Development

The Effect of Total Investment and Financing on Insurance Financial Stability

Insurance financial institutions allocate some of the funds raised from participants for financing and investment to get profit. The assumption is that the higher the investment and financing fund, the higher the yield gained. Hence, these benefits can back up the participant's claims which may exceed a predetermined limit. Therefore, insurance companies that obtain higher profits will avoid financial deficits/instability (Elbadry, 2018). From this explanation, the first hypothesis is as follows:

H1: Total investment and financing have a positive effect on the financial stability of insurance companies

The Effect of Capital Structure on Insurance Financial Stability

The composition of capital structure has a significant role in a company. The company is claimed as bankrupt if the company's debt is greater than the total assets. The higher the debt ratio to the company's equity shows that the company is not productive because the company cannot generate profits that can increase the equity value. Therefore, it affects the company's financial stability; the study is also conducted by Korbi & Bougatef (2017) and Chattha & Archer (2016). From this explanation, the second hypothesis is as follows:

H2: Capital structure has a positive effect on the financial stability of insurance companies

The Effect of Insurance Premiums on Insurance Financial Stability

One source of funds obtained by insurance companies is participant contributions. The higher the level of the participant in contributing premiums, the greater the company's ability to pay claims. Besides, funds obtained from participants are allocated for investment and financing. The higher the level of insurance participant claims affects the proportion of tabarru funds and insurance companies' financial stability (Puspitasari, 2016; Safitri & Suprayogi, 2017). From this explanation, the third hypothesis is as follows:

H3: Insurance premiums have a positive effect on the financial stability of insurance companies



The effect of Independent Board on Insurance Financial Stability

Each company has a board of commissioners to provide oversight and control of the company's operations. The board of commissioners consists of independent and non-independent. The independent board of commissioners has a neutral position towards the company, and they cannot own the shares. Therefore, the more influential the company's independent board of commissioners, the higher the potential profit obtained. As a result, the governance framework can significantly impact corporate financial stability (Lassoued, 2018). According to the explanation, the fourth hypothesis is as follows:

H4: The Independent Board has a positive effect on the financial stability of insurance companies

The Effect of the Sharia Supervisory Board on Insurance Financial Stability

The sharia supervisory board (SSB) is part of the corporate governance component in Islamic institutions. Therefore, they can legalize Islamic compliance with Islamic financial institution products. Hendra (2017) concluded that the number of SSB members affected the company's earnings quality. Therefore, financial stability is also the responsibility of SSB to ensure that the company's finances are well managed and under Islamic rules. From this explanation, the fifth hypothesis is as follows:

H5: The Sharia Supervisory Board has a positive effect on the financial stability of insurance companies

The Effect of the Board of Directors on Insurance Financial Stability

The board of commissioners appoints the board of directors to run the company's operations. They are given a target to generate profits. In addition, they must follow company policies that the company's board of commissioners has formulated. Therefore, the board of directors is expected to influence its financial stability because they are the primary key to the operation of company activities. Tornyeva & Wereko (2012) concluded that the number of boards of directors affected the company's performance. Based on the explanation, the sixth hypothesis is as follows:



H6: The Board of Directors has a positive effect on the financial stability of insurance companies

The Effect of Institutional Ownership on Insurance Financial Stability

Institutional share ownership is almost found in all companies. First, this is because institutional shareholders are more stringent in overseeing the company's operations. Second, they manage institutional funds owned by the investment companies with a higher portion of funds. As a result, these investments benefit institutional stockholders. Previous research conducted by Hidayat & Firmansyah (2017); Gugong & Dandago (2014) concluded that institutional ownership has a significant effect on the performance of insurance companies. Based on the explanation, the seventh hypothesis is as follows:

H7: Institutional Ownership has a positive effect on the financial stability of insurance companies

METHODOLOGY

This study employs a quantitative approach using analysis in which data is statistically examined and then descriptively interpreted. The research sample was determined using a purposive sampling technique, with the following criteria: full-fledged Islamic life insurance and general insurance companies listed on the Indonesia Financial Services Authority (Otoritas Jasa Keuangan - OJK). The research period is five years, starting from 2014 to 2018.

Table 1. List of Full-Fledged Islamic Insurance

No	Nama Perusahaan
1	PT. Asuransi Takaful Keluarga
2	PT. Asuransi Jiwa Syariah Al-Amin
3	PT. Asuransi Jiwa Syariah Amanahjiwa Giri Artha
4	PT. Asuransi Jiwa Syariah Jasa Mitra Abadi
5	PT. Asuransi Syariah Keluarga Indonesia
6	PT. Asuransi Takaful Umum
7	PT. Jaya Proteksi Takaful
8	PT. Asuransi Sonwelis Takaful

The dependent variable in this study is the financial stability of Islamic insurance companies, which is measured using the Boyd and Runkle (1993) model as follows:



$$Z_{i,t} = \frac{E(ROA)_{i,t} + \left(\frac{eq_{i,t}}{ta_{i,t}}\right)}{\sigma ROA_{i,t}} \dots\dots\dots (1)$$

Description:

- Z : Financial Stability
- E(ROA) : Return on Asset
- σROA : Standard of Deviation of Return on Aset (ROA)
- eq : Total Equity
- ta : Total Asset

If the Z value approaches 0, the company has high financial stability. In other words, the greater the value of Z indicates the higher the level of risk or the level of bankruptcy. This model is also used by Korbi & Bougatef (2017), Mat Rahim, Mohd Hassan & Zakaria (2012), and Lassoued (2018). The theory behind this model is that financial stability can be measured by profitability and the ratio of capital to total assets. If the level of profitability is high and the ratio of capital to total assets shows that the company's ability to pay liabilities is relatively high. This measurement of financial stability is used based on having the same characteristics between banks and insurance companies, namely financial service companies.

Meanwhile, the independent variables include:

- a. Investment and Financing - This variable is measured by dividing the total financing and investment in the insurance company by total assets.
- b. Capital Structure - This variable is measured by total debt divided by total equity.
- c. Insurance Premium (Tabarru' Fund) - This variable is measured by the total insurance premium funds divided by the insurance company's total assets.
- d. The Good Corporate Governance (GCG) - This variable is measured based on regulations set by the financial services authority (OJK) number: 73 / POJK.05 / 2016 concerning good corporate governance for insurance companies.
- e. Independent Board - This variable is measured by the percentage of the independent board member to the total of the board member.
- f. Sharia Supervisory Board - This variable is measured by the total of the sharia supervisory board member.
- g. Board of Director - This variable is measured by the total of the board of directors members.



- h. Institutional Ownership - The percentage of institutional share ownership measures this variable to total share ownership.

Table 2. Variables Measurement

Variable	Measurement	Scale
Financial Stability	Altman Z-Score $Z_{i,t} = \frac{E(ROA)_{i,t} + (\frac{eq_{i,t}}{ta_{i,t}})}{\sigma ROA_{i,t}}$	Ratio
Investment and Financing	$\frac{Total\ Investment\ and\ Financing}{Total\ Asset}$	Ratio
Capital Structure	$\frac{Total\ Debt}{Total\ Owner\ Equity}$	Ratio
Insurance Premium	$\frac{Total\ insurance\ premium}{Total\ Asset}$	Ratio
Independent Board	$\frac{Numbers\ of\ Independent\ Board}{Total\ Board\ Member}$	Ratio
Sharia Supervisory Board	Numbers of Sharia Supervisory Board	Nominal
Board of Director	Numbers of Boards of Directors	Nominal
Institutional ownership	$\frac{Total\ Intitutional\ Ownership}{Total\ Shares}$	Ratio

The research model as follow:

$$FS_{it} = \beta_0 + \beta_1 INV_{it} + \beta_2 DER_{it} + \beta_3 PRE_{it} + \beta_4 BIND_{it} + \beta_5 SSB_{it} + \beta_6 BOD_{it} + \beta_7 OWN_{it} + \varepsilon_{it}.....(2)$$

Description:

- FS : Financial Stability
- INV : Investment and Financing
- DER : Capital Structure
- PRE : Insurance Premium
- BIND : Independent Board
- SSB : Sharia Supervisory Board
- BOD : Board of Director
- OWN : Institutional Ownership

Data were obtained from the annual financial reporting of insurance companies registered at the Financial Services Authority by downloading the financial statements from each company's website. Before analyzing the data, classical assumptions such as normality, multicollinearity, heteroscedasticity, and autocorrelation tests are performed. Besides, the best model is selected in panel



data regression using the Chow test, Hausman test, and Lagrange multiplier test. The data were analyzed using panel data regression with STATA software. Then the results are described and supported by the results of previous studies.

RESULT AND DISCUSSION

Descriptive Statistics

The Islamic insurance companies registered at the Financial Services Authority (OJK), 38 out of 40 financial reports from 2014 to 2018 are used as observations in this study. Two Islamic insurance companies did not provide financial reports in 2014, namely PT. Asuransi Syariah Keluarga Indonesia (Asyki) and PT. Asuransi Sonwellis Takaful. This is because Asyki only began operating in 2015, and the financial statement of PT. Asuransi Sonwellis Takaful year 2014 is not accessible. From the data observation, panel data regression is run using STATA software. Table 3 displays the descriptive statistics of the variables.

Table 3. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
FS	38	47.37	56.60	0.40	212.54
INV	38	0.64	0.23	0.10	0.93
DER	38	1.28	1.23	0.00	4.43
PRE	38	0.28	0.20	-0.14	0.75
BIND	38	0.40	0.20	0.00	0.67
SSB	38	2.03	0.59	1.00	3.00
BOD	38	2.79	0.53	1.00	3.00
OWN	38	0.83	0.32	0.00	1.00

The financial stability variable (FS) has a minimum value of 0.40, a maximum of 212.54, and an average of 47.37. This result shows that they mostly have good financial stability. Financial stability is measured following the Boyd and Runkle (1993) model; if the value is close to 0, then the company has a high level of financial stability and vice versa. The investment and financing (INV) variable have a minimum value of 0.10, a maximum of 0.93, and an average of 0.64. This shows that most Islamic insurance companies put their funds on customers' investments and financing. This policy increases Islamic insurance companies' profits and maximizes benefits from the insurance participant's fund. The income of the investment is shared between the company and *Tabarru* (participant) funds. Therefore, participants will get more benefits from the investment income.



The capital structure variable (DER) has a minimum value of 0.00, a maximum of 4.43, and an average of 1.28. This result shows that almost all Islamic insurance companies have debts that exceed the equity. At the same time, the insurance premium variable (PRE) has a minimum value of -0.14, a maximum of 0.75, and an average of 0.28. This shows that most Islamic insurance companies have low insurance premium income. GCG Variables consist of the independent board of commissioners (BIND), the sharia supervisory board (SSB), the board of directors (BOD), and institutional ownership (OWN) have an average value close to the maximum.

Regression

From the above data, running panel data regression uses three models, namely Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM); the results are as follows:

Table 4. Result of Regression

FS	CEM		FEM		REM	
	Coef.	P>t	Coef.	P>t	Coef.	P>z
C	146.7365	0.0010	177.2500	0.0000	146.7365	0.0000
INV	-44.8704	0.2060	-89.9511	0.0260*	-44.8704	0.1960
DER	-6.3955	0.1560	-2.0930	0.6440	-6.3955	0.1460
PRE	-79.4941	0.0170*	-130.7665	0.0010*	-79.4941	0.0120*
BIND	23.0356	0.3860	63.3432	0.0390*	23.0356	0.3790
SSB	15.7272	0.1440	10.9987	0.3190	15.7272	0.1340
BOD	5.0285	0.6040	1.4085	0.8850	5.0285	0.6010
OWN	-114.4351	0.0000*	-101.5036	0.0000*	-114.4351	0.0000*

*significant 5% (0.05)

Panel data regression analysis using CEM and REM model shows two significant variables (under 0.05), namely the insurance premium variable (PRE) and Institutional Ownership (OWN). On the other hand, according to the results of panel data regression using the FEM model, four variables are significant: investment and finance variables (INV), insurance premiums (PRE), independent board (BIND), and institutional ownership (OWN).

Model Selection Test

A model selection test using the Chow, Lagrange Multiplier (LM), and Hausman tests is required to discover the best model among the three CEM,



FEM, and REM models. Then the result of Chi2 value and Chi2 probability is as follows: (see Table 5).

Table 5. Model Selection Test

	Chow	Hausman
Chi2	126.320	3.750
Prob>Chi2	0.000	0.008

Table 5 shows the results of the model selection tests that determine the best panel data regression model: the Fixed Effect Model (FEM). This can be seen in the probability value at Prob> Chi2. The result of the Chow test shows significantly under 5% (0.05), so the FEM regression model is good. While the Hausman test also shows significant results, it indicates that the FEM is the best panel data regression model in this study. Langrange Multiplier test is not performed because the Chow and the Hausman test show that the best model is the Fixed Effect Model.

Classical Assumption Tests

The classic assumption test is performed to ensure that the variable data used for panel data regression analysis is free from regression problems. So it needs to be tested for normality, multicollinearity, heteroscedasticity, and autocorrelation. Data can be used for panel regression analysis if free from the four classic assumption tests. The results are as follows:

Normality test

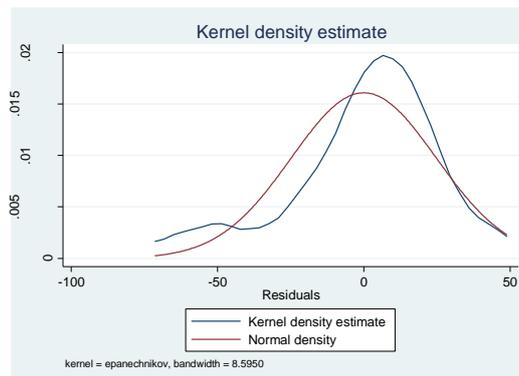


Figure 2. Normality Test



Figure 2. shows that customarily distributed data can be seen from the shape of lines that resemble reverse bells. As a result, the data in this study are dispersed in a usual manner.

Multicollinearity

Table 6 shows that the data in this study are free from multicollinearity problems. It can be seen from the VIF value on each variable that it does not exceed 10.

Table 6. Multicollinearity Test

Variables	VIF	1/VIF
INV	3.07	0.3256
DER	2.39	0.4180
PRE	1.94	0.5167
BIND	1.89	0.5305
SSB	1.44	0.6945
BOD	1.36	0.7346
OWN	1.25	0.7969
Mean VIF	1.91	

Heteroscedasticity

Figure 3 shows that the data does not form a specific pattern, so this research data is free from heteroscedasticity problems.

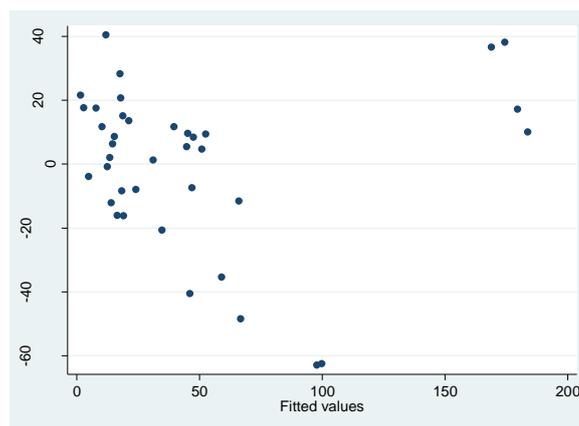


Figure 3. Heteroscedasticity Test



Autocorrelation

Table 7 shows the results of the autocorrelation test, which indicates that there is no strong correlation between variables. The correlation value does not reach 80% (0.80), as seen in Table 7. As a result, the data in this investigation is devoid of autocorrelation issues.

Table 7. Autocorrelation Test

	FS	INV	DER	PRE	BIND	SSB	BOD	OWN
FS	1.0000							
INV	-0.5596	1.0000						
DER	-0.4368	-0.0283	1.0000					
PRE	-0.1662	-0.4314	0.3105	1.0000				
BIND	0.2210	-0.4385	-0.0869	0.3196	1.0000			
SSB	0.0563	-0.4506	0.2642	0.6098	0.2566	1.0000		
BOD	0.2384	-0.3570	-0.0569	0.2835	0.1907	0.3640	1.0000	
OWN	-0.6537	0.5734	0.3791	0.0919	-0.1307	0.0305	-0.1871	1.0000

R Square and F Test

The R square test shows that 76% of the independent variables can explain its effect on the insurance company's financial stability. The results of the F test also support this; the probability value of prob> F is significant because it is under 5%.

Table 8. R square and F test

Adj R square	0.7673
Prob > F	0.0000

T-Test

From the selection model test of panel data above, the FEM model is the best panel data regression. Accordingly, the FEM model results explain the determinants of financial stability in Islamic insurance companies.

Table 9. T-Test of Fixed Effect Model

FS	FEM	
	Coef.	P>t
C	177.2500	0.0000



INV	-89.9511	0.0260*
DER	-2.0930	0.6440
PRE	-130.7665	0.0010*
BIND	63.3432	0.0390*
SSB	10.9987	0.3190
BOD	1.4085	0.8850
OWN	-101.5036	0.0000*

* significant at 5%

The results of panel data regression using FEM models can be interpreted as follows:

Investment and Financing. The investment (INV) variable has a negative coefficient (-89.2500) and a significant probability level (0.0260). As a result, the variable is a beneficial and considerable impact on Islamic insurance businesses' financial stability.

Capital Structure. The Capital Structure (DER) Variable has a negative coefficient (-2.0930) and an insignificant probability level (0.6440). As a result, the variable is said to have a non-favorable effect on the financial stability of Islamic insurance businesses.

Insurance Premium. The insurance premium (PRE) Variable has a negative coefficient (-130.7665) and a significant probability level (0.0010). As a result, the variable is said to have a negative and severe impact on Islamic insurance businesses' financial stability.

Independent Board. The Independent Board of Commissioners (BIND) variable has a negative coefficient (-63.3432) and a significant level of probability (0.0390). As a result, the variable is said to have a negative and severe impact on Islamic insurance businesses' financial stability.

Sharia Supervisory Board. The Sharia Supervisory Board (SSB) variable has a positive coefficient (10.9987) and an insignificant probability level (0.3190). As a result, the variable has been certified to have no substantial impact on the financial stability of Islamic insurance businesses.

Board of Directors. The Board of Directors (BOD) variable has a positive coefficient (1.4085) and an insignificant level of probability (0.8850). As a result, the variable does not affect the financial stability of Islamic insurance businesses.



Institutional Ownership. Institutional Share Ownership (OWN) Variable has a negative coefficient (-101.5036) and a significant level of probability (0.0000). As a result, the variable has a negative and considerable impact on Islamic insurance businesses' financial stability.

Hypothesis Test

The Effect of Investment and Financing on Financial Stability

The first hypothesis states that "The total investment and financing positively affect insurance companies' financial stability" is accepted. As a result, the greater the magnitude of the company's investment and financing, the greater the company's financial stability. This is because the level of profitability of Islamic insurance companies is influenced by the total investment and financing made by the company. Besides, companies with an increasing profit trend can increase the value of the company's equity. Therefore, the profit can be generated from investment and financing income. The results of this study are consistent with Elbadry (2018), who concluded that companies with high profits could avoid financial instability (bankruptcy).

The Effect of Capital Structure on Financial Stability

The second hypothesis states that "The capital structure has a positive effect on insurance companies' financial stability," is rejected. Therefore, the proportion of debt to capital does not affect financial stability because most of the company's debt has no impact on profits. The debt consists of an allowance for claims that have not yet been paid and contribution payment of total premiums for one period in the beginning. The fund is not managed for investment or financing. The results of this study contradict the results of Korbi & Bougatef (2017) and Chattha & Archer (2016). They concluded that the magnitude of the company's equity value could affect the level of financial stability of the company.

The Effect of Insurance Premium on Financial Stability

The third hypothesis states that "The insurance premium has a positive effect on insurance companies' financial stability," is accepted. As a result, the more the insurance premium payment funds acquired from participants, the better the organization's financial stability. This is because the company's financial stability can be increased by obtaining participants' funds (*tabarru'*),



investment, and financing income. Although most insurance companies are concerned about insurance premium funds paid by participants, this must be supported by an increase in the efficiency of operating expenses; then, the company will experience good financial stability. The result is consistent with Safitri and Suprayogi's (2017) study, which concluded that the number of insurance premiums obtained from participants could increase financial stability. However, the results of this study contradict the Markonah et al. (2017) study, which concludes that insurance premiums do not affect profitability.

The Effect of Independent Board on Financial Stability

The fourth hypothesis, which states that "The independent board has a positive effect on insurance companies' financial stability," is rejected. The direction of the coefficient values of the independent board of commissioners shows a positive sign. This indicates that the independent board of commissioners has a significant adverse effect on the company's financial stability. The more significant the proportion of independent commissioners on the board of directors, the lower the level of corporate financial stability. This is because the independent board of commissioners is more likely to convey company conditions in line with reality in the field. In addition, the board of independent commissioners has no interest in the company except to carry out their duties to oversee its operations. In contrast, the non-independent board of commissioners prioritizes company performance, providing a loophole for earnings management. This is consistent with Najjar and Salman (2013), who concluded that the size of the board of commissioners affects the performance of insurance companies.

The Effect of Sharia Supervisory Board on Financial Stability

The fifth hypothesis, which states that "The sharia supervisory board has a positive effect on insurance companies' financial stability," is rejected. The number of SSB does not affect the company's financial stability. In terms of SSB authority, they do not intensively monitor the company's financial condition. The authority of SSB is more considered on the legalization of companies' products with Islamic principles. This is contrary to the research results conducted by Hendra (2017) that the number of SSB affects the level of earnings quality.



The Effect of Board of Directors on Financial Stability

The sixth hypothesis, "The Board of Directors has a positive effect on insurance companies' financial stability," is rejected. The number of board of directors members does not affect the company's financial stability. This is because the board of directors' authority is to carry out policies determined by commissioners. The board of directors is conducting what has been instructed by the board of commissioners. Therefore, they have limited influence on company policies. This result supports Fekadu (2015) and Aribaba & Lateef (2017), who conclude that the number of boards of directors does not affect company performance.

The Effect of Institutional Ownership on Financial Stability

The seventh hypothesis states that "The institutional ownership has a positive effect on insurance companies' financial stability," is accepted. The more significant the proportion of institutional ownership, the higher the level of corporate financial stability. This is because institutional shareholders have a decisive control role. Also, they have a great responsibility for the funds which is under their management. The funds invested do not belong to individuals but agencies that expect to generate more profits from the investment activities. The results of this study support Hidayat & Firmansyah (2017); Gugong & Dandago (2014), who concluded that institutional ownership has a significant effect on the performance of insurance companies.

CONCLUSIONS

Islamic insurance companies are one of the foundations of Islamic economic development. Many benefits can be obtained from Islamic insurance companies, including life protection and family health insurance. In addition, some of the funds collected from participants can be invested to drive the wheels of the community's economy. Therefore, insurance companies' financial stability must be a genuine concern for practitioners and researchers to ensure that Islamic insurance companies can develop in providing financial services in Islamic insurance. This study aims to identify the determinants that affect the financial stability of Islamic insurance companies. Eight full-fledged Islamic insurance companies registered at the Financial Services Authority (OJK) are employed as samples for the financial reporting period from 2014 to 2018. The results show that total investment and financing, insurance premiums, independent board of commissioners, and institutional ownership have a



positive and significant effect on the financial stability of Islamic insurance companies.

Meanwhile, the capital structure, sharia supervisory board, and the board of directors do not affect the financial stability of Islamic Insurance companies. From the result, the Islamic insurance companies should concern about the findings to enhance their financial stability. However, the financial report of Islamic insurance companies mainly presents limited information. As a result, the financial report provides little information. The implication is that an increase in participant contributions and strategic investments and financing should be a concern for Islamic insurance fund managers. In addition, operational supervision by independent parties and the role of institutional shareholders can strengthen the financial stability of Islamic insurance companies. Further research, direct interview with Islamic insurance managers, and the variables can be developed with more relevant measurements

REFERENCES

- Anwar, M.C. (2018) Wah, 2019 Defisit BPJS Kesehatan Bisa di atas Rp 16,5 T, <https://www.cnbcindonesia.com/news/20181211202200-4-45946/wah-2019-defisit-bpjs-kesehatan-bisa-di-atas-rp-165-t>
- Aribaba, F. O. and Lateef, A. O. (2017) 'Corporate Governance Mechanisms and Financial Performance of Quoted Corporate Governance Mechanisms and Financial Performance of Quoted Insurance Companies in Nigeria', *International Journal of Management Studies, Business & Entrepreneurship Research*, 2(4), p.: 2545-5885.
- Ardianto, P. (2021) Alhamdulillah, Pangsa Pasar Asuransi Syariah Sudah 6%, <https://investor.id/finance/alhamdulillah-pangsa-pasar-asuransi-syariah-sudah-6>.
- Bakhtiar, F., Munir, M. and Qasas, A. Al (2018) 'Deteksi Kebangkrutan pada Industri Asuransi Syariah di Indonesia', *Ihtifaz Journal of Islamic Economics, Finance and Banking*, 1(1&2), pp. 123–136.
- Berkem, Z. (2014) 'Effective supervision of Islamic insurance according to Malaysian experience (1984-2012)', *International Journal of Social Economics*, 41(12), pp. 1220–1242. DOI: 10.1108/IJSE-08-2013-0182.



- Boyd, J. H., & Runkle, D. E. (1993). Size and performance of banking firms: Testing the predictions of the theory. *Journal of monetary economics*, 31(1), 47-67.
- Chattha, J. A. and Archer, S. (2016) 'Solvency stress testing of Islamic commercial banks Assessing the stability and resilience,' *Journal of Islamic Accounting and Business Research*, 7(2), pp. 112–147. DOI: 10.1108/JIABR-09-2014-0031.
- Din, S. M. ul, Regupathi, A. and Abu-Bakar, A. (2017) 'Development Insurance effect on economic growth – among economies in various phases of development,' *Review of International Business and Strategy*, 27(4), pp. 501–519. DOI: 10.1108/RIBS-02-2017-0010.
- Djafri, F., Noordin, K. Bin and Mohammed, K. N. (2018) 'The measurement model of performance determinants A case study of Islamic insurance,' *International Journal of Ethics and Systems*, 34(2), pp. 166–185. DOI: 10.1108/IJOES-05-2017-0075.
- Elbadry, A. (2018) 'Bank's financial stability and risk management,' *Journal of Islamic Accounting and Business Research*, 9(2), pp. 119–137. DOI: 10.1108/JIABR-03-2016-0038.
- Fekadu, G. W. (2015) 'Corporate Governance On Financial Performance Of Insurance Industry,' *Corporate Ownership & Control*, 13(1), pp. 1201–1209.
- Fitri, S., & Arifin, M. (2013). 'Analisis Tingkat Kepuasan Nasabah Terhadap Nilai Pertanggungans Risiko Polis Fulnadi Pada Asuransi Takaful Keluarga Banda Aceh,' *Share: Jurnal Ekonomi dan Keuangan Islam*, 2(2), 188-214
- Foster, B. P., and Zurada, J. (2013) 'Loan defaults and hazard models for bankruptcy prediction,' *Managerial Auditing Journal*, 28(6), pp. 516–541. DOI: 10.1108/02686901311329900.
- Gugong, B. K. and Dandago, K. I. (2014) 'The Impact of Ownership Structure on the Financial Performance of Listed Insurance Firms in Nigeria', *International Journal of Academic Research in Accounting, Finance and Management Science*, 4(1), pp. 409–416. DOI: 10.6007/IJARAFMS/v4-i1/698.
- Hendra, G. I. (2017) 'Analysis of the Effect of Shariah Supervisory Board (SSB) Function on Earning Quality of Islamic Banks', *Tazkia Islamic Finance and Business Review*, 10(2), pp. 143–161.



- Hidayat, I. P. and Firmansyah, I. (2017) 'Determinants Of Financial Performance In The Indonesian Islamic Insurance Industry', *Etikonomi*, 16(April), pp. 1–12. doi: 10.15408/etk.v16i1.4648.
- Husin, M. M. and Rahman, A. A. (2016) 'Do Muslims intend to participate in Islamic insurance ? Analysis from the theory of planned behaviour', *Journal of Islamic Accounting and Business Research*, 7(1), pp. 42–58. DOI: 10.1108/JIABR-03-2014-0012.
- Ibrahim, A. (2010). Konsep akuntansi konvensional dalam pandangan syariah: Telaah kritis terhadap komponen pembentuk akuntansi konvensional. *Jurnal Media Syariah*, 12(23).
- Ihejirika, P. O. and Ehiogu, C. P. (2018) 'Insurance market development and financial stability, *Crawford Journal Of Business & Social Sciences (CJBASS)*, 13(2), pp. 28–38.
- Kay, B. S. (2018) 'Implications of Central banks' negative policy rates on financial stability,' *Journal of Financial Economic Policy*, 10(2), pp. 310–320. DOI: 10.1108/JFEP-10-2017-0096.
- Kobayashi, S. (2017) 'Insurance and financial stability,' *Journal of Financial Regulation and Compliance*, 25(1), pp. 105–112. DOI: 10.1108/JFRC-06-2016-0049.
- Korbi, F. and Bougategf, K. (2017) 'Regulatory capital and stability of Islamic and conventional banks, *International Journal of Islamic and Middle Eastern Finance and Management*, 10(3), pp. 312–330. DOI: 10.1108/IMEFM-06-2016-0079.
- Lassoued, M. (2018) 'Corporate governance and financial stability in Islamic banking,' *Managerial Finance*, 44(5), pp. 524–539. DOI: 10.1108/MF-12-2016-0370.
- Markonah, Sudiro, A., Surachman and Rahayu, M. (2017) 'The Effect of Good Corporate Governance and Premium Growth on the Performance of Insurance Companies', *Journal of Finance and Banking Review Journal*, 2(2), pp. 1–7.
- Mat Rahim, S. R., Mohd Hassan, N. and Zakaria, R. H. (2012) 'Islamic Vs . Conventional Bank Stability: "A Case Study Of Malaysia"', *Prosiding Perkem VII*, 2, pp. 839–850.
- Najjar, N. and Salman, Roqaya, A, M. (2013) 'The Impact of Corporate Governance on the Insurance Firm' s Performance in Bahrain,'



International Journal of Learning & Development, 3(2), pp. 56–69.
DOI: 10.5296/ijld.v3i2.3511.

Ozili, P. K. (2018) ‘Banking stability determinants in Africa’, *International Journal of Managerial Finance*, 14(4), pp. 462–483. DOI: 10.1108/IJMF-01-2018-0007.

Piaralal, S. K., Bhatti, M. A., Piaralal, N. K. and Juhari, A. S. (2016) ‘Factors affecting service recovery performance and A study of Malaysian life insurance industry,’ *International Journal of Productivity and Performance Management*, 65(7), pp. 898–924. DOI: 10.1108/IJPPM-04-2014-0060.

Pradana, Rio Sandy (2016) PT Asuransi Syariah Mubarakah Pailit, Begini Nasib Pemegang Polis, <https://finansial.bisnis.com/read/20160906/232/581771/pt-asuransi-syariah-mubarakah-pailit-begini-nasib-pemegang-polis>

Puspitasari, N. (2016) ‘Determinan proporsi dana tabarru’ pada lembaga keuangan asuransi umum syariah (Determinants of Tabarru’ Fund Proportion in Sharia General Insurance), *Jurnal Akuntansi dan Keuangan Indonesia*, 13(2), pp. 160–173.

Rashid, A., Yousaf, S. and Khaleequzzaman, M. (2017) ‘Does Islamic banking really strengthen financial stability? Empirical evidence from Pakistan’, *International Journal of Islamic and Middle Eastern Finance and Management*, 10(2), pp. 130–148.

Safitri, E. K. and Suprayogi, N. (2017) ‘Analisis Rasio Kesehatan Keuangan Dana Tabarru’ Yang Mempengaruhi Profitabilitas Pada Asuransi Syariah Di Indonesia (Periode 2012-2014)’, *Jurnal Ekonomi Syariah Teori dan Terapan*, 4(1), pp. 73–88.

Sari, Ferrika (2018) Kedatangan pemain baru, premi asuransi syariah diramal tumbuh 11% pada 2019, <https://keuangan.kontan.co.id/news/kedatangan-pemain-baru-premi-asuransi-syariah-diramal-tumbuh-11-pada-2019>

Tornyeva, K. and Werekko, T. (2012) ‘Corporate Governance and Firm Performance: Evidence from the Insurance Sector of Ghana’, *European Journal of Business and Management*, 4(13), pp. 95–113.

Wardiah, & Ibrahim, A. (2013). Mekanisme Perhitungan Keuntungan dan Pengaruhnya terhadap Bagi Hasil (Studi terhadap Pembiayaan



Mudharabah pada BPRS Hikmah Wakilah Banda Aceh). *SHARE Jurnal Ekonomi dan Keuangan Islam*, 2(1), 26-45. doi:<http://dx.doi.org/10.22373/share.v2i1.1403>

Yusuf, T. O., and Babalola, A. R. (2009) 'Control of insurance fraud in Nigeria : an exploratory study (case study),' *Journal of Financial Crime*, 16(4), pp. 418–435. DOI: 10.1108/13590790910993744.

