THE EFFECT OF DEBT-BASED FINANCING AND EQUITY-BASED FINANCING ON PROFITABILITY OF ISLAMIC BANKS IN INDONESIA

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Abstract

This study's main objective was to investigate the equity-based financing and debt-based financing on the profitability of Islamic banking in Indonesia. This research was expected to provide contribution to both theoretical and practical dimensions. Based on the theoretical dimension, this study can provide evidence whether equity-based financing and debt-based financing affect profitability of Islamic banking. Meanwhile, based on practical dimension, Islamic banks in Indonesia can determine their extensive profitability and, in turn, the competitiveness of Islamic banks is able to be developed in line or even better than that of conventional banks. The data were analyzed using a panel regression technique with data time series and cross-section. Furthermore, the panel data model was estimated by common effect, fixed effect, and random effect. The result of this study showed that equity-based financing partially did not affect ROE. At the same time, debt-based financing affected ROE of Islamic banks. Equity-based financing and debt-based financing partially did not affect ROA of Islamic banks. However, The test results of both independent variables, consisting of equity-based financing and debt-based financing, simultaneously had a strong influence on the dependent variable, that is, profitability, as measured by ROA and ROE.

1. Introduction

In 2019, the development of Islamic banking in Indonesia experienced a rapid growth (OJK, 2019), although the macro and microeconomic conditions experienced a slowdown in various regions (Bank Indonesia, 2019). The growth was driven by multiple factors, ranging from the increasing Islamic banking networks, number of third parties' funds, and financing performance which nationally stimulated growth in the market share.

As an intermediary financial institution, Islamic banks rely on the distribution of funds or financing to benefit their operations. The Islamic bank financing model uses a profit and loss sharing scheme and trade financing. There are differences in risk characteristics between them which also affect the amount of profit. According Iqbal and Molyneux (2005), this financing distribution scheme is based on the equity-based financing and debt-based financing.

Based on its characteristics, the equity-based financing benefits will be received by the Islamic banks as much as the debtor's business profits following the agreed ratio in the contract. Conversely, if the debtor incurs a loss, the Islamic banks will also experience a loss. In debt-based financing, Islamic banking will earn a definite profit, equal to the profit agreed in the contract. In other words, this system is easy to implement, and the profits can be predicted (van Greuning and Iqbal 2007; Nafik, Ryandono, and Wahyudi 2018).

The statistics of Financial Services Authority (FSA) in 2008-2018 showed the fluctuations related to the portions of equity-based financing (EBF) and debt-based financing (DBF) of Islamic banks as presented in table 1. The statistics showed that the share of debt-based financing had a more significant portion than that of equity-based financing in channeling the Islamic bank financing.

Table 1. The Financing Portions Based on Equity-Based Financing (EBF) and Debt-Based Financing (DBF)

Portion	2014	2015	2016	2017	2018
DBF	65.55%	62.82%	81.5%	82.9%	80.9%
EBF	32.85%	35.81%	34.64%	35.22%	36.56%

Source: OJK, Processed data

Table 1 shows that DBF performance increased from 2014 to 2018. Likewise, EBF performance also increased from 2014 to 2018 yet only decreased in 2016. Healthy and sustainable profitability is significant in maintaining the financial system stability, including Islamic banking. Profitability is influenced by several factors, such as capital, efficiency, decisions, and management policies regarding to the bank operations. Therefore, research on profitability is still relevant to investigate, in addition to the purpose of a business which is to gain profits, due to the business environment changes in response to the presence of digital banking.

Several previous studies related to the factors determining the profitability showed various results. The different findings in the previous studies were used as the bases of this research. Besides, increasing the number of periods and bank samples is also expected to improve the quality of the research results. Meero (2015) conducted a study in GULF countries in the period of 2005-2014, comparing the Islamic banks with conventional banks based on capital structure and performance represented by ROA and ROE, The research concluded that there were similarities between them. Zafar, Zeeshan, and Ahmed (2016) found a positive

relationship between the determinants' capital structure and the banking industry's performance in Pakistan.

Meanwhile, the studies conducted in Indonesia showed that there were not much different results. Andini (2019) examined the Debt-based financing and Equity-based financing of Cash Ratio at PT. Bank Panin Dubai Syariah Ltd. in the Period of 2015 - 2017. The findings indicated that partially and simultaneously, there was no significant effect of debt-based financing and equity-based financing on cash ratio at PT. Bank Panin Dubai Syariah Ltd. in 2015-2017.

Latifah (2018) investigated the debt-based financing and equity-based financing of Return on Equity (ROE) at PT. Bank Shariah Jabar Banten shows a strong relationship between Debt-based financing and Equity-based financing on Return on Equity (ROE). The findings of a research conducted by Nuha & Mulazid (2018), who investigated seven Sharia banks in the period of 2011-2015, showed that Non-Performing Financing (NPF), Operational Income Operating Expenses (BOPO), and Revenue Sharing Funding simultaneously influenced ROA.

Wahyudi, Mujibatun, and Riduwan (2019) investigated the impact of debt-based financing and equity-based financing on profitability with bank size as the moderating variable. This study used Islamic bank panel data from the financial statements published in the period of 2008-2017. The findings of this study indicated that debt-based financing had a negative and significant effect on profitability measured using ROA and ROE. The equity-based financing did not affect the level of profitability measured by the ROA and ROE of Islamic banks, while bank size could not become the moderating variable.

Indriyanto, Iskandar, and Deviyanti (2018) conducted a study of Debt Financing and Equity Financing on Return on Equity in Islamic Banks from 2015-2017. The data were analyzed using a multiple linear regression analysis. The results of this study indicated that: (1) Debt Financing had a positive and significant effect on ROE of BNI Syariah, Mega Syariah, Muamalat, and Mandiri Syariah from 2015-2017. (2) Equity Financing had a negative and significant effect on ROE on BNI Syariah, Bank Mega Syariah, Bank Muamalat, and Bank Mandiri Syariah from 2015-2017.

Firdaus dan Prasetyo (2017) found that debt-based financing and equity-based financing affected profit expense ratio. The research samples were three Islamic banks consisting of Bank Muamalat, Bank Mandiri Syariah, and Bank BRI Syariah, in the period of 2011-2015. The findings of this study indicated that debt-based financing and equity-based financing partially and simultaneously had a significant effect on profit expense ratio. Mariam et al. (2017) also had a similar research on two samples, consisting of Bank Muamalat and Bank Mandiri Syariah, in the period of 2011-2013. The findings reinforced the previous conclusions that equity-based financing partially had a significant effect on profit expense ratio, while debt-based financing simultaneously affected profit expense ratio. These findings were greatly interesting as equity-based financing contributed more to profitability when compared to debt-based financing.

Zahara dan Islahuddin (2014) also studied the effect of debt-financing and equity-financing on Islamic banks' financial performance in the period of 2006-2010. The results indicated that debt-financing and equity-financing simultaneously affected the financial performance of Islamic Banks operating in Indonesia. Meanwhile, debt financing Partially had a significant effect on the financial performance of Islamic banks. In contrast, equity financing did not affect the financial performance of Islamic banks operating in Indonesia. Debt financing had a positive direction to the financial performance of Islamic banks in Indonesia.

In contrast, equity financing had a negative direction to the financial performance of Islamic banks in Indonesia.

The main objective of this study is to investigate equity-based financing and debt-based financing on profitability of Islamic banking in Indonesia. This research is expected to provide contributions to the theoretical and practical dimensions. On the conceptual aspect, this study can provide evidence whether or not equity-based financing and debt-based financing affect the profitability of Islamic banking. Meanwhile on the practical aspect, Islamic banks in Indonesia can find out the extent of their profitability and in turn the competitiveness of Islamic banks can be developed in line with or even better than that of conventional banks.

2. Research Method

This study used the panel data population from 14 Sharia Commercial Banks. The samples were taken within the period of 2008-2017. During this period, Indonesia experienced and was affected by the global economic crisis. However, of those 13 Sharia Commercial Banks, seven banks (Bank Aceh Syariah, Bank Victoria Syariah, Bank BCA Syariah, Bank Panin Dubai Syariah, Bank Bukopin Syariah, Bank Tabungan Pensiunan Nasional Syariah, and Maybank Syariah Indonesia) were eliminated because data were not yet available in the study period.

Return on Assets (ROA) is calculated by dividing the net income on total assets which gives the ratio of income generated from the invested capital. The higher ROA, the more profitable the banks are (Javaid and Alalawi 2018; Nahar and Prawoto 2017; Tian-ShyugLee, Chih-Chou Chiu, Chi-Jie Lu 2002). This ratio is widely used as a proxy for profitability. This measure was chosen and extensively used to measure the banking performance (Bruggen 2015). Besides, Return on Assets (ROA) is one most important and useful indicator of bank profitability (Nguyen, Ta, and Nguyen 2018). In most studies on profitability of commercial banks throughout the world, the proxies for the profitability of commercial banks often use ROE, such as (Mansour et al. 2018; Nguyen, Ta, and Nguyen 2018). ROE is calculated by dividing the net income after tax on total equity (Jarbou, 2018).

The data were analyzed using a panel data regression analysis with time series and cross-section data. Furthermore, the panel data model was estimated and divided into three: common effect, fixed effect, and random effect. The statistical t test is conducted to examine the effect of each independent variable on dependent variable and assume that the other independent variables are constant. The coefficient of determination (R^2) is used to figure out the percentage variations of the dependent variables to the model explained by the independent variable. F test is performed to choose the OLS methods without dummy variables or fixed effects. The F test is used to determine whether or not the panel data regression technique with fixed effects is better than that without dummy variables by looking at the residual sum squares.

3. Results and Discussion

Model Estimation and Results
   a. **The Effect of Debt-based Financing and Equity-based Financing on ROE**
      1) Model Estimation
         The model estimation in the panel data regression included three steps:
      a) Common Effect

Table 2. Model with Common effect

Variable	Coefficient	Std. Error	t-Statistics	P-Value

C	-107.7619	3070.674	-0.035094	0.9722
Equity-based financing	85.03424	91.32204	0.931147	0.3565
Debt-based financing	-71.39938	141.7137	-0.503828	0.6167

Source: Authors (2020), processed data

b) Fixed Effect

Table 3. Model with Fixed effect

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	10078.90	4655.118	2.165122	0.0360
Equity-based financing	170.8818	206.7286	0.826599	0.4130
Debt-based financing	-498.7969	209.9112	-2.376228	0.0220

Source: Authors (2020), processed data

c) Random Effect

Table 4. Model with Random effect

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	4146.551	3497.175	1.185686	0.2417
Equity-based financing	132.7674	117.6632	1.128368	0.2649
Debt-based financing	-261.2999	160.4428	-1.628618	0.1101

Source: Authors (2020), processed data

Based on the available data, the t value of equity-based financing statistics was 0.931147 with the p-value of 0.3565, while the t-value of debt-based financing statistics was -0.503828 with the p-value of 0.6167 as shown in table 2. The t-value of equity-based financing statistics was 0.826599 with the p-value of 0.4130, while the t-value of debt-based financing statistics was -2.376228 with the p-value of 0.0220 as shown in table 3. Furthermore, the t-value of equity-based financing statistics was 1.128368 with the p-value of 0.2649, while the t-value of debt-based financing statistics was - 1.628618 with the p-value of 0.1101 as shown in table 4.

b. Significance Test

To choose the most appropriate model for panel data processing, there are several tests conducted, including:

1) Fixed effect significance test

Table 5. Fixed effect significance test

Effect Test	Statistics	d.f.	p-value
Cross-section F	4.105233	(4.43)	0.0066
Cross-section Chi-square	16.172321	4	0.0028

Source: Authors (2020), processed data

2) Fixed effect and random effect significance test

Table 6. Fixed effect and random effect significance test

Test Summary	Chi-Sq. Statistics	Chi-Sq. d.f.	p-value
Cross-section random	6.236843	2	0.0442

Source: Authors (2020), processed data

Based on the available data, the p-value of the f-test was 0.0066 smaller than the alpha value. Thus, the chosen model was the fixed effect shown in table 5. Based on the test results,

it showed in table 6 that the p-value was 0.0442. Thus, the model chosen was the fixed effect and the hypothesis rejected the random effect.

c. Hypothetical Test
1) Partial Test (t Test)

Table 7. Fixed effect Test Result

Variable	Coefficient	Std. Error	t-Statistics	p-value
C	10078.90	4655.118	2.165122	0.0360
Equity-based Financing	170.8818	206.7286	0.826599	0.4130
Debt-based financing	-498.7969	209.9112	-2.376228	0.0220

Source: Authors (2020), processed data

Based on the available data, the statistics of t-value was 0.826599 with the p-value of 0.4130. Furthermore, the statistics of t value was -2.376228 with the p-value of 0.0220.

2) Coefficient Test (R2) Determination

The coefficient value of multiple determinations was 0.289943. It means that a set of predictor variables in the model could explain the response variable by 28.9943%, while the rest was explained by other non-examined variables.

b. **Effect of debt-based financing and equity-based financing on ROA**
1) Model Estimation

The model estimation in the panel data regression includes three steps:

a) Common Effect

Table 8. Common Effect Model

Variable	Coefficient	Std. Error	t-Statistics	p-value
C	-7.439193	138.5317	-0.053700	0.9574
Equity-based financing	3.639078	4.119943	0.883284	0.3816
Debt-based financing	-2.938294	6.393335	-0.459587	0.6479

Source: Authors (2020), processed data

b) Fixed Effect

Table 9. Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	439.3282	211.3769	2.078411	0.0437
Equity-based financing	7.921219	9.387016	0.843848	0.4034
Debt-based financing	-22.17944	9.531530	-2.326955	0.0247

Source: Authors (2020), processed data

c) Random Effect

Table 10. Random Effect Model

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	171.4139	157.1624	1.090680	0.2810
Equity-based financing	5.748663	5.250728	1.094832	0.2792
Debt-based financing	-11.02053	7.213082	-1.527854	0.1333

Source: Authors (2020), processed data

Based on the available data, the t-value of equity-based financing statistics was 0.883284 with the p-value of 0.4034, while the t-value of debt-based financing statistics was -0.459587

with the p-value of 0.6479 as shown in table 8. The t-value of equity-based financing statistics was 0.843848 with the p-value of 0.4034, while the t-value of debt-based financing statistics was -2.376228 with the p-value of 0.0220 as shown in table 9. Furthermore, the t-value of equity-based financing statistics was 1.094832 with the p-value of 0.2792, while the t-value of debt-based financing statistics was - 1.527854 with the p-value of 0.1333 as shown in table 9.

    d. Hypothetical Test
       1) Partial Test (t Test)

Table 11. Fixed Effect Model

Variable	Coefficient	Std. Error	t-statistics	p-value
C	-7.439193	138.5317	-0.053700	0.9574
Equity-based financing	3.639078	4.119943	0.883284	0.3816
Debt-based financing	-2.938294	6.393335	-0.459587	0.6479

Source: Authors (2020), processed data proceed

Based on the available data, the statistics of t value was 0.883284 with the p-value of 0.3816. Furthermore, the statistics of t value was -0.459587 with the p-value of 0.6479.

    e. Simultaneous Test (F Test)

Table 11. F-Test Statistics

Variable	Probability (F-Statistic)	Significant Level	Decision	Significant
Independent variables (ROA & ROE)	2.779771	0.022531 < 0.05	H0.1 was rejected	Significant Effect

Source: Authors (2020), processed data

Based on the available data, the statistics of f-value was 0.022531 with the p-value of 0.022531 < 0.05 or the critical limit of the study. Thus, it can be concluded that H1 was accepted. The accepted H1 in a simultaneous test means that the independent variable simultaneously had a significant effect on the dependent variable.

The results of multiple coefficient test determination showed that the response variable was 0.289943. It means that 29 percent of the independent variables used in the model was able to explain the dependent variable. Meanwhile, the other 71 percent was explained by the other variables outside of the model, such as cash ratio, profit expense ratio, Non Performing Financing (NPF), and Operational Income Operating Expenses (BOPO) as well as the external factors covering both macro and microeconomics.

The test results showed that equity-based financing partially did not affected ROE. Meanwhile, debt-based financing affected the ROE of Islamic banking as shown in Table 7. It can be seen from the significance value of debt-based financing which was equal to 0.0220 was smaller than the significance level of 5%. These results can be seen from the characteristics of equity-based financing of the Islamic banks could also experience loss, while the debt-based financing of Islamic banks could earn profits. Thus, equity-based financing had more effect on the returns received by the Islamic banks. The coefficient value of the debt based financing variable which was negative indicated that when there was an increasing debt financing, there will be also decreasing bank profitability as measured by ROE. Conversely, when there is a decreasing debt-based financing, there will an increasing profitability as measured by ROE. This finding was in line with the research conducted by Indriyanto, Iskandar,

and Deviyanti (2018) showing that Islamic banking will be more effective if the financing is distributed to the productive sectors when compared to that classified into debt.

The results of statistical tests showed that both equity-based financing and debt-based financing partially did not affect ROA of Islamic banks as shown in table 11. These can be seen from their significance value of respectively 0.3816 and 0.6479 greater than the significance level of 5%. Since the financing either EBF or DBF did not have a direct correlation with ROA, those related variables should be re-proxied. The coefficient value of debt-based financing variable which was negative indicated that when there is an increasing debt financing, there will be also decreasing bank profitability as measured by ROA. Conversely, when there is a decreasing debt-based financing, there will be an increasing profitability as measured by ROA. This finding was different from that of research conducted by Qonitah dan Nuha (2018).

This finding simultaneously showed that the results of independent variable test consisting of equity-based financing and debt-based financing had a strong effect on the dependent variable, that is, profitability as measured by ROA and ROE. This finding was similar with that of previous studies (Amanda Maulidiyah Firdaus dan Ari Prasetyo 2017; Anafil Windriya 2019; Latifah 2018; Siti Zahara, Islahuddin 2014). On the other hand, these results were different from those of the other previous studies (Andini 2019; Wahyudi, Mujibatun, and Riduwan 2019). The interesting part in this research finding was that debt-based financing provided more contributions to profitability when compared to equity-based financing as seen from the characteristics of equity-based financing and debt-based financing of Islamic banking. EBF is more volatile in term of incomes and losses caused by the profit and loss sharing, while DBF tends to be more constant due to the projected profits.

4. Conclusion

Based on the results of data analysis, it can be concluded that the results of statistical tests showed that the independent variables, consisting of equity-based financing and debt-based financing, simultaneously had a strong effect on the dependent variable. The researchers realized that the main limitation of this study was the large number of data used. The use of more data and measurement panel to the other types of equity-based financing and debt-based financing is expected to provide a more representative of realistic results.

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