The Margin of Islamic Microfinance Institution: To What Extent Does Capital Structure Matter

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Abstract

The aim of this research is to analyze role of Islamic Microfinance Institution for empowering and developing micro industry. The measurement of the performance institution to stimulate economic growth is NPLSM (Net Profit Los Sharing Margin). This study analyze how is capital structure affect NPLSM (Net Profit Los Sharing Margin) in Indonesia by using multiple linear regression and data panel to see the great NPLSM which is influenced by capital structure. To see how is capital structure influence of margin, using data on period 2010-2016. It is, where the capital structure as the independent variable and the margin as the dependent variable. The result is the capital structure has no effect on the margin.

Keywords: Margin, NPLSM, Capital Structure

Abstrak

Sebuah Tujuan dari penelitian ini adalah untuk menganalisis peran Lembaga Keuangan Mikro Syariah dalam pemberdayaan dan pengembangan industri mikro. Alat ukur yang digunakan untuk mengukur kinerja lembaga dalam merangsang pertumbuhan ekonomi adalah NPLSM (Net Profit Los Sharing Margin). Studi ini menganalisis bagaimana struktur modal mempengaruhi NPLSM (Net Profit Los Sharing Margin) di Indonesia dengan menggunakan regresi linier berganda dan data panel untuk melihat NPLSM yang dipengaruhi oleh struktur modal. Untuk melihat bagaimana struktur modal berpengaruh pada margin, menggunakan data pada periode 2010-2016. Hal ini, di mana struktur modal sebagai variabel independen dan margin sebagai variabel dependen. Hasilnya adalah struktur modal tidak berpengaruh pada margin.

Kata kunci: Margin, NPLSM, Struktur Modal

Introduction

haria Banking as well as general bank is the institution of financial intermediation that is the institution of collecting funds from public society even by credit or financing.¹ The growth of Islamic financial institution in Indonesia running without any Government's support from the beginning and its impact to the slow development of Islamic banking and has no integrated of

¹ Aldira Maradita, "Karakteristik Good Corporate Governance Pada Bank Syariah Dan Bank Konvensional," *Yuridika* 29, no. 2 (2014): 191–204.

it.² Problems rise and the one of it is the economic crisis, cause of the highest of interest rate and the swelling of debt as the consequences of monetary policy liberalization which has an impact to people's welfare.³ And at the end, the Government has no choices except supporting and empowering Small and Micro Business as the power of Islamic Finance.⁴

The biggest problem of Indonesia citizen is poverty from many dimensions, culture, social, and religion.⁵ One of it factors is the existence of retarded regions which had been isolated for a long time and also some regions which accommodate too many worker, while the rate of the productivity of it's region down. And also, some sectors unqualified for development process.

Indonesia Islamic Banking was growth faster since 1992. It based on the statistical report of Islamic Banking, Central Bank of Indonesia on period 2019, there are 122 Islamic Bank and 164 Sharia Rural Bank (BPR).⁶ In addition of the growth of the number of bank and office, also showed the banking performance such as Financing to Deposit Ratio (FDR), Non Performing financing (NPF), the development of total asset, financing and deposit. Nevertheless, to extend the strong indicators of banking nowadays is more difficult. There are many internal and external obstacles affect to the banking operation performance.⁷

The most important factor of the productivity support and competitiveness of small and micro business is the availability of sufficient capital.⁸ The general problem of capital for small and micro business is rejection debt from bank. Currently, the business world is very dependent on funding issues.⁹ The business world was experiencing a setback due because of financial institutions face the financial difficulties because of bad debt in the business world without taking into account the maximum credit limit in the past by banks

² Werner DeBondt et al., "What Can Behavioural Finance Teach Us about Finance?," *Qualitative Research in Financial Markets* 2, no. 1 (2010): 29–36,.

³ Ehsan Poursoleiman, Gholamreza Mansourfar, and Sazali Abidin, "Financial Leverage, Debt Maturity, Future Financing Constraints and Future Investment," *International Journal of Islamic and Middle Eastern Finance and Management* 13, no. 4 (2020): 613–34.

⁴ Subekti. Chabib. L, Febrianti. Y, Safarullah. M, "Pemberdayaan Dan Pengembangan Ukm Sebagai Penggerak Ekonomi Desa," *Asian Journal of Innovation and Entrepreneurship* 01, no. 03 (2016): 203–9.

⁵ D. Ernita, S. Amar, and E. Syofyan, "Analisis Pertumbuhan Ekonomi, Investasi, Dan Konsumsi Di Indonesia," *Jurnal Kajian Ekonomi* 1, no. 2 (2013): 7108.

⁶ Badan Pusat Statistik, "Jumlah Bank Dan Kantor Bank (Unit), 2017-2019," 2019, https://www.bps.go.id/indicator/13/937/1/jumlah-bank-dan-kantor-bank.html.

⁷ Rifki Ismal, "Volatility of the Returns and Expected Losses of Islamic Bank Financing," *International Journal of Islamic and Middle Eastern Finance and Management* 3, no. 3 (2010): 267–79,.

⁸ Barry Quinn et al., "'Seeds' for Growth? Policy and Support for Micro Rural Food Enterprises in a Peripheral Region," *Contemporary Issues in Entrepreneurship Research* 4 (2014): 233–57.

⁹ Kustiadi Basuki, "Pelayanan Perizinan Terpadu Dalam Meningkatkan Investasi dan Pertumbuhan UMKM," ISSN 2502-3632 (Online) ISSN 2356-0304 (Paper) Jurnal Online Internasional & Nasional Vol. 7 No.1, Januari – Juni 2019 Universitas 17 Agustus 1945 Jakarta 53, no. 9 (2019): 1689–99

and the approval of creditworthiness problem.¹⁰ To anticipate it, company managers must be careful in determining the capital structure, while the company vision is to increase the company value and to be superior in facing business competition.¹¹

The capital structure represents a mixture of debt and equity. The ideal combination of debt and equity in the company is one that maximizes company value and minimizes the overall cost of capital, no taxes, no transaction costs and no bankruptcy costs and no ideal mix.¹² Irrelevant debit shows when a perfect capital market does not contain asymmetric information, or in another word is the choices between debt and equity is irrelevant. However, if there is a corporate tax, the capital structure becomes an important due because the facts of interest costs are tax deductible.¹³ Therefore, debt financing will not only increase total assets after tax returns to debt and equity investors, but also increase the company value.

Generally, one of the main functions of the financial system and banking system in particular is to support economic growth through efficient intermediation between savings from deposits and investment in finance. ¹⁴ Reminding that the financial market was translated into the high margin and acts as disincentive for the investment and savings, the banking sector must be efficient and competitive. ¹⁵

The capital structure relates to the amount of debt and equity that used to financing company assets. An effective capital structure is able to create a company with strong and stable finance. The capital structure was become the one of the important considered. It is relate with the risk and income that will be received. When looking at the company's capital structure, investors can't be separated from company information in the form of financial reports that are issued annually. Investors will carry out various analyzes relate to the decision of

 $^{^{\}rm 10}$ Larry D Compeau, "The Influence of Bad Credit on Consumers ' Identities" 14 (n.d.): 51–77.

¹¹ Abdulazeez Y H Saif-alyousfi, "Determinants of Capital Structure: Evidence from Malaysian Firms," *Asia-Pacific Journal of Business Administration*, 2019,.

¹² Nadeem Ahmed Sheikh Muhammad Azeem Qureish, "Determinants of Capital Structure of Islamic and Conventional Banks: Evidence From Pakistan", emerald insight, International Journal of Islamic and Middle Eastern Finance and Management, Volume. II ISS 1 pp, hal. 2

¹³ Basil Al-Najjar and Khaled Hussainey, "Revisiting the Capital-Structure Puzzle: UK Evidence," *Journal of Risk Finance* 12, no. 4 (2011): 329–38,.

¹⁴ For Authors, "Marketing Islamic Banking Products: Malaysian Perspective," *Business Strategy Series*, 2013.

¹⁵ Working Paper, "FAKTOR-FAKTOR PENENTU EFISIENSI KREDIT," 2014.

¹⁶ Van Dan Dang, "Monetary Policy, Bank Leverage and Liquidity," *International Journal of Managerial Finance*, 2020.

¹⁷ Jurnal Jdm et al., "Badawi, Hal.74-86 Jurnal JDM, Vol. I No.02 Sept 2018," *Jurnal Doktoral Manajemen* I, no. 02 (2018): 74–86.

invest in the company through information, one of it is comes from company's financial statement.¹⁸

Reminding how important the role of Sharia Micro Finance Institution, there has been many studies about the factors that influence the Sharia Micro Finance Institution. This study aims to open further and wider about how is the importance of the capital structure of Sharia Micro Finance Institution? What are the most significant factors that influence on the capital structure?

Literature Review

The theoretical model show that the optimal bank interest margin depends on foru factors. Those are; the level of risk reduction, market structure, average size of bank transactions and variety of interest rate on loans and deposits. It was stated by Ho and Saunders (1981), they estimate that the empirical modal for US bank has two step of approach. First step, they estimate the regression of the bank interest margin against more specific variables (interest rate, opportunity cost of reserves, premium), that is against variables that are not determined in the theoretical model. The term of this constant regression is represents the estimation of "pure spread component" for the bank, that is the part of margin that can't be explain by specific bank characteristics. Second step, they estimate a "pure spread" regression as the function of the interest rate volatility.

The original model by Ho and Saunders (1981) has been extended theoretically and estimate empirically by another author named Allen (1988) and has expanded theoretically and estimate empirically from one of loan type and deposit for loans and deposits with due of the portfolio securities capital structure that clearly determines the margins.

Angbazo (1997) argued that the net interest margin of commercial banks reflect default and higher interest rate will prefer loans and deposit interest rates to achieve higher net interest margins and differences in interest rate risk and liquidity risk associated with many differences in balance sheet exposure.

Saunders and Schumacher (2000) conducted an international study at United States of America and European banks for the related net interest margin on period 1988 – 1995. They found that the implicit interest payments, opportunity costs, capital to asset ratios, market forces, and interest volatility affect net interest margins positively, but the proxy variables omitted to avoid risk and transaction size in their model.

Affanisier et.al (2002) used panel regression data of 142 Brazilians banks and found that the bank size, opportunity cost and positive operating costs related to attractive margins but a set of macroeconomics variables such as market interest rates, market interest rate volatility, inflation rate and growth output are also affect margins greatly.

¹⁸ Antonella Francesca Cicchiello et al., "Entrepreneurial Dynamics and Investor-Oriented Approaches for Regulating the Equity- Based Crowdfunding," *Journal of Entrepreneurship and Public Policy*, 2020.

In the literature of determinants of interest margin bank, a study conducted by Bernake et.al (1999), Gertler and Kiyotaki (2011), they thought that the macroeconomics on interest margin to avoid the risk affects the net margin of bank interest.

Methodology

Description of Variables and Model for Net Interest Margin (NIM)

Model seminal by Ho and Saunders have been extend in further study by inputting different factors to describe the net interest margin. Nevertheless, until now not all the individual contributions have been integrated into a single model. This section aims to build an integrated model completely, included the determinants of simultaneously operating costs and diversification of net interest income. In addition, this section aims to build an integrated model of the factors affecting net interest margin (NIM) including operating costs, diversification and specialization variables.

The essence of this model is to consider bank to avoid risk that play a role as intermediary between deposit supplier and demanders of loans and non-interest output. Bank face risks, those are the changes of the interest rate on the money market and uncertainly of net credit repayments. Therefore, the interest rate set (deposit rD, rL loan and non-traditional output rN) as margin of interest rate on the money market (r) to avoid risk. Planning is one period and assumed that bank set the interest rate before transactions that they remain constant until the end of the period. It is also assumed that the amount of loan transaction, savings and non-traditional output is Q constant.

Based on multi-product framework by Carbo and Rodriguez (2007), the margin of interest rate will be balance + bL (the proximity of the costs for providing deposits and loans, respectively) and the gross margin will a + bL + bN (where bN is cost of non- traditional activities). If we assumed like Maudos and Fernandes de Guevara, that the operational cost (c) is the function of traditional and non-traditional activities, the first order condition of the maximization problem to result the intermediation of optimal margin.

In the empirical study, to analyze The Margin of Islamic Microfinance Institution: To What Extent Does Capital Structure Matter. This study used two variables; those are dependent and independent variable.

Dependent Variable: Margin

In this study, the method for measuring at BPRS in Indonesia by formula: Net Profit Margin = Net Income / Net Sales

Can be calculated also by this formula $\frac{Net\ Operating\ Income}{Net\ Sales} \times 100\%$

The Methodology of measuring NIM (Net Interest Margin) as follows:

$$a + bl = \frac{1}{2} \left(\frac{\alpha D}{\beta D} + \frac{\alpha L}{\beta L} \right) + \frac{C(D) + C(L)}{2Q} + \frac{RQ}{2} \left[\sigma_I^2 + \sigma_M^2 - 2\sigma_{IM} \right] + \frac{\delta L}{4\beta L} \left\{ 2b_n \left(1 + \frac{\delta n}{\delta L} \right) - RY - \frac{2C(N)}{Q} \right\}$$

Where α/β (proxies for the market power) is the intercept ratio from deposit and loan from bank, Q is the output transaction measurement, R = U"/U'

is the coefficient ratio, σ_1^2 is the variance of the output stock (uncertainty of net credit returns), r2M is the volatility of money market on the interest rate.

Independent Variable: Capital Structure

Independent variable used to indicate an influence between the margin and capital structure. While, the formula is for finding the capital structure use ETA (Equity to Total Assets).

Variable Control

In addition, to the margin factor, capital structure, and another factors that also affect margins such as Equity, Liability, Bank Performance (ROA/ROE), NPF, Inflation, unemployment, GDP, GNP. Here are the names of the variables and it definition:

Table 1. Variable Description

Variabl	Definition		
	Definition		
e NPLSM	Net Profit and Loss Sharing Margin: income from		
INI LSIVI	financing activity		
Equity	The amount of Bank equity		
Liability	The amount of bank liability		
Bank	ROA: ratio of net income to the amount of assets		
Performance	ROE: ratio of net income to the amount of equity		
	Formulation for ROA:		
	$ROA = \frac{\textit{net Income (margin before tax)}}{\textit{the amount of assets}} \times 100\%$		
NPF	The comparison ratio between the amount of non-performing financing and financing. Non-performing loans are loans of substandard, doubtful and bad quality. Total loans represent loans that given to the third parties (not including the loans to another banks). $ \frac{NPF}{\frac{The\ amount\ of\ non-performing\ finance}{The\ amount\ of\ financing}} \times 100\% $		
Inflation	Indonesia's inflation rate		
Unempl	Indonesia's unemployment rate		
oyment			
GDP per	Indonesia's Bruto Domestic Product per capita		
capita			
GDP per	Gross Domestic Product growth rate per capita		
capita gr	0 1 1		
Capital Structure	ETA (equity to total assets)		

Besides it, with the goal to control the possible effect on the margin of the macroeconomics condition, the following variables are often used:

- a. The growth of GDP. The growth rate of a country's GDP is an important variable to influence the determinants of the bank's net interest margin. The GDP growth rate directly affects the demand and supply of deposits and loans. Kunet et.al (1999), studied how important the rate of economic growth to determine NIM. Banks can also do business with ease and thus allow a small fee as an interest margin. Then the GDP level has a significant negative effect on NIM.
- b. Inflation rate. Although there is no empirical consensus on the impact of inflation on NIM, generally, high inflation prices are associated with high interest rates. Even if inflation is not anticipated by the bank in the short term but the interest rate may not reflect the increase of inflation, but in the medium and long term the bank will adjust the inflation compensation for the investor and will increase the margin.

Econometric Model

In this section, we will describe an empirical approach to how the capital structure affects margins in Islamic Microfinance Institutions. Margin is the difference between finance income and finance costs divided by total assets. We estimate the regression model as follows:

$$M_{it} = \mathbf{a}_i + \sum_{j=1}^J \beta^j \, P S_{it}^j + \sum_{k=1}^K \gamma^k \, B S_{it}^k + \sum_{l=1}^L \delta^l M E_t + \sim_{it}$$

Formula:

t = 1,...,T, T is the number observed time

I = 1,..., I, I is the total number of bank. Therefore, I and t refer to bank I at t time respectively. Pure spread (the differences between supply and demand) all variables that theoretically determine the margin.

Analysis and Hypothesis Testing

Analysis and evaluation of data using the descriptive analysis and multiple linear regression models. Descriptive analysis used to determine and describe the variable X (*independent*) and variable Y (*dependent*). The independent variable in this study is the capital structure. While, the dependent variable in this study is margin.

Multiple linear regression analysis is used to see the functional relationship between the independent variable (capital structure) and the dependent variable (margin) where analyzing the data uses the STATA program (Statistical Data Analysis) program version 13.

Result

Multiple linear regression analysis aims to calculate the influence of the independent variable on the dependent variable. In this study, the multiple

linear regression equation uses STATA as the analysis tool. The results of the analysis show in the following table:

Table 2. Multiple Linear Regression Results

Variable	Coeffic	Robust	Pro
1 41142 20	ient	std. Error	ь
С	.126443	.0355288	0.00
	6		0
Equity	7.77	7.68	0.919
Income	1.32	7.01	0.19
Profit Sharing	-1.81	2.24	-0.81
Gain on allowance for	1.16	2.50	0.573
asset losses			
Paid-up capital	-1.32	7.14	0.853
Retain Margin	-1.18	1.23	0.337
Reserve	3.72	1.94	0.848
KL_remover	-1.02	1.52	0.502
M_remover	-1.43	1.93	0.460
D_remover	-1.26	9.05	0.989
Capital structure	.01854	.12980	0.886
ROE	00013	.000149	0.367
ROA	.00738	.025002	0.30
NPF	21743	.136609	0.112
R2	0.0026		
N	3089		
F-count	0.50		

Source: Data Processing Results, STATA

Based on the results of the regression analysis that the author conducted, it shows that not all variables have a prob value <0.05, it can be concluded that the margin is not simultaneously influenced by capital structure, NPLSM, Equity, Liability, Bank performance, NPF, inflation, unemployment, and GDP.

Hausman test

The hypothesis in the Hausman test as follows:

- 1. H₀ = model chosen by Random Effect Model
- 2. H₁ = model chosen by Fixed Effect Model

Table 3. Hausman Test

Criteria	Decision
Hausman Statistics > chi	Fixed Effect
square	

Hausman Statistics < chi	Random Effect
square	

Based on the result of *Hausman Test* where p-value (Prob>Chi2) < Alpha 0,05 then H1 is rejected or which means that the best choice is to use RE (Random Effect) than FE (Fixed Effect).

Classic Assumption Test

Before analyzing data, it is necessary to test classical assumptions on the available data. If there is a deviation from the classical assumptions, non-parametric statistical testing can be used. The explanation regarding the classical assumption test as follows:

Table 4. Multicolinearity Test Result

Variable	VIF	1/VIF
Total assets	35.42	0.028233
Equity	33.88	0.029512
Income	30.07	0.033251
Profit Sharing	28.75	0.034781
Allowance for profit	25.97	0.038508
Paid-up capital	11.95	0.083676
Retain earning	8.80	0.113615
Reserve	6.13	0.163499
KL_remover	2.77	0.358862
M_remover	2.79	0.358662
D_remover	2.77	0.361334
Capital structure	1.57	0.636325
ROE	1.38	0.727237
ROA	1.32	0.756392
NPF	1.19	0.838704
Mean VIF	12.32	

Source: Results of data processing, STATA

Analyzing from VIF value (Variance Inflation Factors) if the value of vif > 10 then could be indicated that there is multicolinearity in the model. Therefore, each of the independent variables I the table above with the value of vif > 10 there is multicolinearity. However, other variable have the value of vif < 10 there is no multicolinearity. The values above show the correlation between variables, where X_1 in the hhicomplete column with X_2 in the quick ratio line has the big

correlation value 0.0044. It showed H₀ receive or there is no multicolinearity problem if the correlation value between variable ia not more than 0.70

Table 5. Heteroscedasticity Test Result

chi2(1)	2397.67
Prob>chi2	0.0000

Source: data processing results, STATA

Based on the result above p-value (Prob>Chi2) 0,0000 < Alpha 0,05 then the regression model is free from heteroscedasticity symptoms or called homoscedasticity.

Hypothesis Testing

a. Test of Individual Significance (partial t-test)

The result if $t_{count} < t_{table}$ then H_a rejected, while H_0 accepted or the independent variable does not have a significant effect on the dependent variable.

The result if $t_{count} > t_{table}$ then H_a accepted, while H_0 rejected or independent variables have a significant effect on the dependent variable.

Based on the result of fixed effect regression above, the capital structure variable has a significant level of 0,05. Where t $_{count}$ -0,14 < t $_{table}$ 0,629 means it is not significant. So, the capital structure partially does not have a significant effect on margins.

b. Simultaneous Significance Test (f-test)

 H_0 Accepted if $F_{count} < F_{table}$ pada $\alpha = 5\%$

 H_0 Rejected if $F_{count} > F_{table}$ pada $\alpha = 5\%$

The table above shown F 0,0000.So, if looked at *the probability* the bopo variable can be used simultaneously with the independent variable with a significance level 0,05.Where F_{count} 3125,68 > F_{table} 0,0000. Then, hypothesis of this study is the independent variables simultaneously have a significant effect on margins.

c. Coefficient of Determination (R-square)

The result of the fixed effect regression above shown, based on output *Adjusted R Square* figure -0,0026. This showed that the independent variable is able to explain the dependent variable that is margin 0,26% and the remaining 99,74% is explained by another variables outside the variables used.

Conclusion

Using panel data from BPRS throughout Indonesia, this paper presents whether the capital structure affects margins. We started with Ho Saunders (1981) model and then followed by another researcher. An empirical method is

findings indicate that the capital structure does not support a significant relationship to margins.

The existence of an insignificant relationship is possible for several reasons. One of the functions of the bank is to raise as much funds as possible. So Islamic banks offer a variety of contracts, which are clearly did not found in conventional banks (*mudharabah*, *musyarokah*, *murabahah*, etc.). Generally, Islamic banks remain in small scale. The size of the bank also affects the ease of transactions. Islamic banks or BPRS tend to provide many conveniences and does not as strict as conventional large-scale banks. Therefore, we know that the capital required by banks is in accordance with the scale they have. Islamic banks tend to be small in scale, so the capital required is not as big as conventional banks. Therefore, the capital structure does not have a significant effect on margins.

Regarding the policies that should be taken by BPRS, it is also must to pay attention to capital, because without it, banking operations will not run smoothly, in fact it like to be exposed to liquidity. By considering all aspects, capital should be calculated. Because it can make the scale of Islamic banks bigger. So, every Islamic bank director must be able to raise as much capital as possible, and not be bound by the view that Islamic banks are generally in small scale. The regression result for the overall variance, it is known that the pro value. 0,0000. The conclusion is the methods or analysis tools used are standard. Even though after looking at each variable, it does not show a significance value for variable Y.

Look at previous literature studies, we have not found any research that discusses the effect of capital structure on margins. This is one of the reasons why the researcher chose this study because the previous estimation shown that increasing capital would have a significant effect on margins.

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