

Investigating the Effect of Micro Waqf Bank Sector Expansion on Poverty Alleviation: An Evidence from Indonesia Rural Communities

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Abstract

In many countries, one strategy has emerged to resolve the challenges for improving access to credit facilities by creating a microfinance institution (MFI) that provides credit to low-income families. However, as a Muslim majority country, Indonesia has established a new form of MFI that comply with Shariah's Shariah Microfinance Institution (SMFI). Besides the shariah based product, SMFI has existed in rural areas, including *Pesantren* is known as Micro Waqf Bank (MWB). It has created to solve the poverty issues among low-income families that live in rural areas. Also, the main goal of MWB is to provide the convenience platform regarded as the business capital and financing to middle-lower income people and micro, small and medium enterprises (MSMEs). In line with the vital role of MWB, the present study is written to investigate the effect of MWB sector expansion in reducing the poverty issues among rural communities at 5 selected provinces, Indonesia. This study utilizes the secondary data collected from two sources, i.e. Central Bureau of Statistics (BPS) and Islamic Microfinance Institutions and Micro Waqf Banks (IMFI - BWM) for 2018-2019. This study found that MWB financing has a significant negative effect on poverty alleviation among rural communities at 5 selected provinces, Indonesia. We also found that the number of MWB does not significantly affect poverty alleviation among rural communities at 5 selected provinces, Indonesia. On the basis of the study findings, we concluded that MWB plays an important role in reducing poverty among rural communities. In contrast, increase MWB financing institution will be alleviating the poverty among them. Also, the number of MWB has not been fully affected by the number of low-income families in rural areas, Indonesia, due to the small number of operated MWB in Indonesia.

Keywords

Shariah Microfinance Institution (SMFI), Micro Waqf Bank, Poverty Alleviation, Rural Communities Empowerment

1. Introduction

The poor people are measured by the average per capita expenditure per month below the poverty line (Central Statistics Agency, 2019). Poverty is still a problem in various countries and Indonesia, which is always a complex

problem. The Central Bureau of Statistics noted a decline in the number of poor people in Indonesia. The number of poor people in September 2019 amounted to 24.79 million people or 9.22 per cent, decreased by 0.36 million people or 0.19 per cent against March 2019 and decreased by 0.88 million or 0.44 per cent of people in September 2018. Although Indonesia's poverty rate has fallen, the disparity in poverty between rural and urban areas is still high. The Central Bureau of Statistics noted that the number of poor people in urban areas was 9.87 million people or 6.69 per cent, while the rural poor were 14.93 million or 12.60 per cent. Indonesia has poverty characteristics that are dominated by rural communities. The causes of the high rate of rural poverty are the lack of employment opportunities, areas that are still isolated, and the lack of information and low levels of education and knowledge of the village community.

Many methods have been presented in the literature for analyzing poverty. Despite this, the poor's situation does not appear to be getting better, especially in developing countries. It may indicate a real problem of effectiveness and that it is important to find possible alternative tools to improve the targeting of the poor to increase the effectiveness of poverty alleviation policies (Kacem, 2019). One of the methods in alleviating poverty is by improving the good financial sector. The financial sector is part of the economic system, which functions to transfer economic resources (Merton and Bodie, 1995). The financial sector is the heart of a country's economy. The success of the country's economy is determined by a good country's financial system's success. Various studies that have been conducted show that countries with good financial sector development can encourage increased economic growth, decrease income inequality, and reduce poverty levels (Zhang and Chen, 2015). The financial sector's contribution can increase the economic development of a country, especially in developing countries. Transfer of wealth through financial institutions reduces poverty levels by increasing access to finance for the poor.

One of the improvements in financial access to rural communities is through strengthening microfinance institutions. Various countries have succeeded in overcoming poverty through microfinance institutions. For example, the World Bank declared 2005 to be the microfinance year to expand its poverty alleviation campaign (Rahman and Rahim, 2007). In rural areas (Khandker, 2005), the research conducted by (Prastowo, 2018) The case study was carried out across 33 provinces from 2014 to 2016 using the least-squares panel. This study indicates that financial inclusion in Islamic banking has a negative effect on income inequality. Financial inclusion contributes to reducing income inequality. This result reaffirms that full support from the government is needed to develop banking further. One of the developments in microfinance institutions that have become a barometer of poverty alleviation is establishing the Grameen bank in Bangladesh, which was established in 1976. Grameen Bank of Bangladesh has recorded an outstanding performance in improving the suffering of the poor through microfinance. The only concern about the bank's initiative is that its microfinance scheme is interest-based (usury). The interest rate charged is minimal and never increased because the main objective is to empower the poor and make them economically independent (Wilson, 2013). The economic empowerment of rural communities is not by providing business financing but by more comprehensive financial inclusion and literacy such as Grameen Bank. The Grameen model assumes that the skills of the poor are underutilized. Also, it is also believed that charity will be ineffective in eradicating poverty because it will cause dependence and a lack of initiative among the poor (Rahim Abdul Rahman, 2010).

Islam as comprehensive teaching that regulates all lines of life, not only in a vertical context with God but also regulates life in the order of social life. In other words, Islam is called the way of life or way of life. The presence of Islamic financial institutions formed from Islamic economic thinking does not only fulfill social needs but also has a social function. It can be seen from the formation of micro waqf banks in Indonesia which are not commercial in nature but social in nature by utilizing waqf funds. The government and the financial services authority have innovated by establishing micro waqf banks in 2017. In their operations, micro waqf banks only channel financing to their customers and do not collect funds. The government has currently established 56 micro waqf banks with total financing of 44.7 billion (lkmsbwm.id, 2020). Establishing a micro waqf bank aims to provide access to capital or finance for small communities who do not yet have access to formal financial institutions. Micro waqf banks are expected to improve people's lives and reduce inequality and poverty (OJK, 2018).

Micro waqf banks are Islamic financial institutions that have sources of funds from donors. Micro waqf banks (BWM) is a Sharia Microfinance Institution registered and supervised by the Financial Services Authority (OJK), aiming to provide access to capital for small people who do not have access to formal financial institutions. Micro waqf banks have a role in empowering communities around Islamic boarding schools by encouraging their business development by providing loan funds for productive community business groups (lkmsbwm.id, 2020). Increasing access to finance through micro waqf banks can reduce poverty and provide an equal distribution of welfare between rural and urban areas. This study aims to see how much impact the micro waqf bank has on poverty alleviation for Indonesia's rural communities.

2. Methodology

The data source used in this study is secondary data in the form of data on the number of poor people, the amount of financing provided by micro waqf banks and the number of micro waqf banks. The data is obtained from the Central Bureau of Statistics (BPS) and Islamic micro-finance institutions, micro waqf banks (LKMS BWM). To answer poverty problems by strengthening micro waqf banks' institutional role, using a panel data regression approach to 5 provinces in Indonesia which channelled micro waqf bank financing during 2018-2019 using data per semester. According to Widarjono, there are several methods commonly used in estimating regression model with panel data, namely pooling least square (Common Effect), fixed effect approach (Fixed Effect), random effects approach (Random Effect) (Widarjono, 2007).

In the regression model estimation method using panel data, three approaches can be made, including Common effect model (CEM), Fixed effect model (FEM), Random effect model (REM) (Basuki and Prawoto, 2016). To choose the most appropriate model, we use panel data regression model; several tests can be done (Basuki and Prawoto, 2016: 277), including the Chow test which is a test to determine the fixed effect or common effect model that is most appropriate for estimating panel data. (Basuki and Prawoto, 2011: 294). The Hausman test is a statistical test to choose whether a fixed effect or random effect model is most appropriate (Yamin et al., 2011). The significance test was then carried out to determine the effect of the independent variable on the dependent variable consisting of the F test, t test, and R2 test. The F test in multiple linear regression analysis aims to determine the effect of the independent variables simultaneously, as shown in the Anova table (Basuki and Prawoto, 2016: 51). The t-test is a test that is usually used by econometric experts to test hypotheses about individual regression slope coefficients (Sarwoko, 2005: 65). The coefficient of determination (R2) reflects how much variation in the dependent variable Y can be explained by the independent variable X (Nachrowi and Usman, 2006: 20).

3. Results and Discussion

In the regression model estimation method using panel data (See Table 1, Table 2 and Table 3), three approaches can be made, namely the Common Effect Model (CEM), Fixed Effect Model (FEM) and the Random Effect Model (REM). The following are the regression results using the three-panel data estimation models.

Table 1. Common Effect Model (CEM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(LOAN)	0.256943	0.024716	10.39564	0.0000
LOG(BWM)	0.871003	0.294808	2.954476	0.0183

Table 2. Fixed Effect Model (FEM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-86.14843	186.8855	-0.460969	0.6507
X1 (LOAN)	-3.36E-07	7.65E-08	-4.399834	0.0004
X2 (BWM)	387.9536	46.57194	8.330200	0.0000

Table 3. Random Effect Model (REM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1409.431	141.9008	9.932511	0.0000
X1 (LOAN)	-1.77E-08	7.87E-09	-2.255267	0.0376
X2 (BWM)	-10.17797	8.168510	-1.246001	0.2297

There are two types of tests to determine the most appropriate estimation model to use in managing panel data, namely the chow test to determine the most appropriate fixed-effect or common effect model and the Hausman test to determine the most appropriate fixed effect or random effect model to use. This test is carried out after knowing the results of the panel data regression testing of each model. The hypothesis in the Chow test is as follows (Basuki, 2016)

H0: Common effect model

H1: Fixed effect model

Suppose the chow test result's probability value is less than the significance level (5%) used in this study. In that case, H0 is rejected, and H1 is accepted so that the fixed effect is more appropriate to use and vice versa. Following are the results of the chow test with E-views 10.

Table 4. Result of the Chow Test

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	947.887088	(4,13)	0.0000
Cross-section Chi-square	113.580064	4	0.0000

Based on the Table 4, the Chow test results above show that the probability of cross-section F is $0.0000 < 0.05$ (with a significance level of 5%). Based on the test results, the fixed effect is more appropriate to use in this study. The next step is to do the Hausman test. In the Hausman test, the hypothesis used is as follows (Yamin, 2011).

H0: Random effect model

H1: Fixed effect model

Suppose the Hausman test results' probability value is less than the significant level (5%). In that case, H0 is rejected, and H1 is accepted so that the most appropriate fixed effects regression model is used and vice versa. Following are the results of the Hausman test with E-Views 10.

Table 5. Result of the Hausman Test

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	58.660415	2	0.0000

Table 5 displays that the Hausman test results show that the probability of random cross-section is $0.000 < 0.05$ (with a significance level of 5%) so that it rejects H0. Based on the test results, we concluded that the fixed effect is more appropriate for this study. Based on the results of the regression output of the fixed-effect model, the regression model equation is shown in the following table:

Table 6. Result of Signification Test in *Fixed Effect Model*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.524133	1.066581	7.054444	0.0059
LOG(LOAN)	-0.029840	0.055674	-0.535985	0.6292
LOG(BWM)	0.007564	0.071926	0.105165	0.9229
Fixed Effects (Cross)				
_WEST_JAVA--C	0.222451			
_CENTRAL_JAVA--C	0.146353			
_YOGYAKARTA--C	0.769389			
_EAST_JAVA--C	0.772448			
_BANTEN—C	-1.910641			
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.999995	Mean dependent var		20.85723
Adjusted R-squared	0.999985	S.D. dependent var		16.14773
S.E. of regression	0.021359	Sum squared resid		0.001369
F-statistic	97200.50	Durbin-Watson stat		3.333333
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.999826	Mean dependent var		6.901824
Sum squared resid.	0.001648	Durbin-Watson stat		3.333333

Based on Table 6 above, the regression model equation between Loan and BWM variables is obtained, as follows:

$$Y_{it} = \beta_{0i} + \beta_1 X_{1it} + \beta_2 X_{2it} + \epsilon_{it}$$

$$\text{LOG(POVERTY)}_{it} = 7.524133 - 0.029840 \text{ Log (LOAN)}_{it} + 0.007564 \text{ Log(BWM)}_{it} + e$$

From the equation model above, the interpretations are made:

- If all independent variables are considered constant or zero, it means that the independent variable does not increase or decrease, then the poverty value is 7.524133
- The financing variable's regression coefficient value is -0.029840, which means that every 1% increase in financing will cause a decrease in the poverty variable by -0.029840%.
- The BWM coefficient value is 0.007564, which means that every 1% increase in BWM will cause an increase in the poverty variable by 0.007564%.

Table.7 Results Individual Effect

Fixed Effect (Cross)	Coefficient
JAWA BARAT—C	0.222451
JAWA TENGAH—C	0.146353
DI YOGYAKARTA—C	0.769389
JAWA TIMUR—C	0.772448
BANTEN—C	-1.910641

Based on table 7, the regression model equation for each province is obtained as follows:

1. The equation of the West Java province regression model

$$\text{LOG (POVERTY) WEST_JAVA} = 0.222451 - 0.029840 \text{ LOG (LOAN) }_{it} + 0.007564 \text{ Log (BWM) }_{it} + e$$

A constant of 0.222451 indicates that if the independent variables (loan and bwm) are zero, then the poverty in West Java province is 0.222451

2. Equation of the regression model for Central Java province

$$\text{LOG (POVERTY) CENTRAL_JAVA} = 0.146353 - 0.029840 \text{ LOG (LOAN) }_{it} + 0.007564 \text{ Log (BWM) }_{it} + e$$

A constant of 0.146353 indicates that if the independent variables (loan and bwm) are zero, then the poverty in Central Java province is 0.146353

3. The regression model equation for Yogyakarta province

$$\text{LOG (POVERTY) YOGYAKARTA} = 0.769389 - 0.029840 \text{ LOG (LOAN) }_{it} + 0.007564 \text{ Log (BWM) }_{it} + e$$

A constant of 0.769389 indicates that if the independent variables (loan and bwm) are zero, then the poverty in Yogyakarta province is 0.769389

4. The equation of the regression model for East Java province

$$\text{LOG (POVERTY) EAST_JAVA} = 0.772448 - 0.029840 \text{ LOG (LOAN) }_{it} + 0.007564 \text{ Log (BWM) }_{it} + e$$

A constant of 0.772448 indicates that if the independent variables (loan and bwm) are zero, then the poverty in East Java province is 0.772448

5. The regression model equation for Banten province

$$\text{LOG (POVERTY) BANTEN} = -1.910641 - 0.029840 \text{ LOG (LOAN) }_{it} + 0.007564 \text{ Log (BWM) }_{it} + e$$

A constant of -1.910641 indicates that if the independent variables (loan and bwm) are zero, then the poverty of Banten province is -1.910641

The t-test is used to show the magnitude of each independent variable (Loan and BWM) on the dependent variable, namely partial poverty. If $t_{count} > t_{table}$, then H_0 is rejected. we concluded that the independent variable affects the dependent variable and vice versa if the t value $< t_{table}$ value then H_0 is accepted and H_1 is rejected. By comparing the value of $t_{count} > t_{table}$ with a significant value $\alpha = 0.05$ or 95%, where $df = (n - k) = (20 - 3) = 17$, then the t table is 2. 10982. The following are the results of the t -test as seen in Table 8 below:

Table 8. Result of t-test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.524133	1.066581	7.054444	0.0059
LOG(LOAN)	-0.029840	0.055674	-0.535985	0.6292
LOG(BWM)	0.007564	0.071926	0.105165	0.9229
Fixed Effects (Cross)				
_WEST_JAVA--C	0.222451			
_CENTRAL_JAVA--C	0.146353			
_YOGYAKARTA--C	0.769389			
_EAST_JAVA--C	0.772448			
_BANTEN—C	-1.910641			

Based on table 8 above, it can be explained as follows:

The effect of Loan on poverty

The test results with the panel data regression analysis above show the t-statistic value of -0.535985 and a probability value of 0.6292. With this value, the t-count is $-0.535985 < t_{table} 2.10982$ and a probability value of $0.6292 > 0.05$. So statistically, it shows that the Loan variable does not significantly affect Indonesia's amount of poverty, meaning that H0 is accepted and H1 is rejected.

The Influence of Micro Waqf Banks (BWM) on poverty

The test results with the panel data regression analysis above show a t-statistic value of 0.105165 and a probability value of 0.9229. With this value, the t-count is $0.105165 < t_{table} 2.10982$ and a probability value of $0.9229 > 0.05$. So statistically shows that the variable Number of Micro Waqf Banks does not significantly affect the amount of poverty in Indonesia, meaning that H0 is accepted and H1 is rejected. To find out the significant effect of all independent variables, we use the F-test, namely by comparing the $F_{count} > t_{table}$ with a significance value of 0.05 or 5%. It is known that F_{table} with a level of 5% and $df_1 (k-1) = 2$ and $df_2 (n-k) = 17$, the F_{table} value is 3.59.

Table 9. Result of F Test

R-squared	0.999995	Mean dependent var	20.85723
Adjusted R-squared	0.999985	S.D. dependent var	16.14773
S.E. of regression	0.021359	Sum squared resid	0.001369
F-statistic	97200.50	Durbin-Watson stat	3.333333
Prob(F-statistic)	0.000000		

The hypothesis is as follows:

H0: There is no significant influence between Loan and the number of micro waqf banks (BWM) simultaneously on the amount of poverty in Indonesia.

H1: There is a significant influence between Loan and the number of micro waqf banks (BWM) simultaneously on Indonesia's poverty level. Based on the F test output results above, we concluded that the F statistic or F count is 97200.50 with a probability value (F-statistic) of 0.000000. So, it can be concluded that F count is greater than F table ($97200.50 > 3.59$). In addition, it can also be seen from the Prob value (F-statistic) of 0.000000 smaller than the significance value of 0.05, so that H0 is rejected and H1 is accepted. It means that all variables have a simultaneous influence on the amount of poverty in Indonesia.

The coefficient of determination is used to measure how much the ability of the independent variables used in the model can explain the dependent variable, it can be seen from the magnitude of the multiple correlation coefficient (Adjusted R2). It shows that based on the regression results with the fixed-effect model, the Adjusted R-Square value is 0.999985. With the Adjusted R-Square value in the study, the independent variables (Loanable Loan and Micro Waqf Banks) can simultaneously explain the dependent variable (Poverty in Indonesia) by 99%. In comparison, other factors outside the model explain the remaining 1% panel data regression under study.

Based on the study results, it is stated that Loan and the number of micro waqf banks (BWM) affect the amount of poverty in Indonesia. The following is an interpretation of the research results between the dependent variable and the independent variable. The amount of financing provided by micro waqf banks to customers has increased every year. It has become an option or source of funds for economic actors in rural areas, and micro waqf bank financing is a potential source of funds. The results of this study show that micro waqf bank financing has no significant effect at the 5% with a probability value of 0.6292 and is negatively related to the coefficient value obtained of (-0.029840),

which means that if Islamic bank financing increases by 1 per cent, then poverty will decrease by 0.029840 per cent. These results are following the theory and previous research, which form the basis of this study's theory. This research is in line with the research (Rahim Abdul Rahman, 2010) entitled Potential Shariah Compliant microfinance in alleviating poverty in Nigeria".

The existence of a micro waqf bank amid rural communities shows the level of prosperity of an area. With a micro waqf bank, it is hoped that it can increase financial access for rural communities and reduce poverty. This study indicates that the variable number of micro waqf banks shows a positive and significant effect on 5% with a probability value of 0.9229. It is positively related to the obtained coefficient value of (0.007564), which means that if the number of micro waqf banks increases by 1 per cent, poverty will increase by 0.007564 per cent. These results are not by the theory and previous research, which form the basis of this study's approach. This research is not in line with research conducted by (Prastowo, 2018). The case study was conducted across 33 provinces from 2014 to 2016, using the least-squares panel. This study indicates that financial inclusion in Islamic banking has a negative effect on income inequality. Financial inclusion contributes to reducing income inequality. This result reaffirms that full support from the government is needed to develop banking further.

4. Conclusion

This study aims to determine the impact of micro waqf banks on poverty alleviation of rural communities in Indonesia from 2018 to 2019. Based on research that has been done by conducting, testing the equation model using the common effect model, the fixed-effect model, and a random effect model. The selection of model equations using the Chow test and the Hausman test and the panel data linear regression test using the fixed effect model. Several conclusions are drawn from the results of this study, including Micro Waqf Bank Loan has a negative and significant impact on poverty in Indonesia, which means that when Micro Waqf Bank Loan increases, it will reduce poverty levels. Micro Waqf Bank Financing benefits can improve the welfare of the Indonesian population, and the poverty rate will be reduced. Micro Waqf Bank Loan, which is suitable in alleviating poverty. In carrying out its operations, micro waqf banks are not allowed to raise funds.

The source of funds for micro waqf banks comes from social funds, both from corporate CSR and personal donations in collaboration with Amil zakat institutions. The existence of donors plays an important role in the development of the micro waqf bank business model. In empowering the poor, micro waqf banks focus on poor productive communities in financing and assistance. The productive poor have been able to meet basic needs for their survival and have productive businesses or have a strong will and enthusiasm to work. In fulfilling their operational needs, the micro waqf bank's income comes from sharia deposit revenue sharing, financing, and other service income. The difference and uniqueness of micro Waqaf bank from other financial institutions lies in customer assistance. The number of micro waqf banks does not significantly affect poverty in Indonesia. It means that the number of micro waqf banks has not fully affected Indonesia's amount of poverty due to the small number of micro waqf banks available in rural areas in Indonesia.

Policy Recommendations

This study's results give full attention and support to Islamic microfinance institutions in the form of micro waqf banks. For the Islamic economy, we know that most Indonesian people are Muslim, especially the addition of funding funds sourced from donors channelled by micro waqf banks to low-income families in rural areas in Indonesia. With the increase in donors and the amount of micro waqf bank financing, it can contribute to the poor in poverty alleviation through the increase in UMKM in Indonesia. The recommendation is to increase the number of micro waqf banks in Indonesia. The government needs to make policies that can encourage financial inclusion to grow, especially in Indonesia's remote areas. Micro waqf banks' impact on poverty alleviation in Indonesia is because there are too few waqf banks spread across Indonesia.

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Acknowledgements

We would like to thank you for Universitas Malikussaleh, which provides PNPB funds in 2020. We would also like to express our appreciation to Universiti Malaysia Terengganu for this excellent collaboration works.

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