Poverty Determinants of Micro Entrepreneurs with Logistic Regression

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ABSTRACT

This study examines several determinants of poverty in the household. Several variables as independent variables in this study are income, number of dependents, number of loans from Islamic microfinance institutions, and expertise. This study uses the Logit model, which is a non-linear regression model that produces an equation where the dependent variable is categorical. The research location is at BMT Amanah Ummah, Sukoharjo, Central Java. The results in this study indicate that the Skills/Training Factors, Number of Dependents in the Family, Age, and Number of Loans have a significant influence in influencing household poverty.

Keywords: Poverty, Sharia Micro Institutions, Micro Enterprises, Logit Model

1. INTRODUCTION

The prevalence of poverty begins with human existence and currently occupies the most important development agenda for almost all countries in the world. Islamic microfinance (IM) is becoming increasingly popular in poverty alleviation mechanisms, especially in developing countries around the world. The concept of Islamic microfinance adheres to Islamic principles and is a socially responsible form of investment. In this perspective, many economists think that this is a general goal in Islam and microfinance which can be concluded to make people independent, enterprising and respect each other. The solution to achieve the poverty eradication target is to practice Islamic microfinance. Strategies, empowering and increasing the productivity of the poor, providing social benefits for them in a sustainable manner, and helping economic growth [1]. Islamic microfinance is a combination of Islamic finance and microfinance. This phenomenon has great potential to combine Islamic principles of concern for the poor and the deprived with the mission of microfinance to reach the poor and provide access to finance [2].

The value of social capital embedded in Islamic microfinance-based groups influences the behavior of the poor in paying their debts. As a policy recommendation, Islamic Banks should consider selecting Islamic microfinance-based groups as partners in the realization of their linkage program for the poor so that poverty alleviation programs can be optimally implemented [3]. Given the ability of microfinance to eradicate poverty, the United Nations has decided to include it in its list of potential contributions to achieving the millennium development goal set in 2015 to halve the number of people living in poverty [4].

Globally, based on data from the Global Islamic Economic Indicator 2017, Indonesia is in 10th position. The development of the Islamic economy continues to increase its growth. Currently, Indonesia is ranked 9th in the world in the category of total Islamic financial assets, still far below neighboring Malaysia which is in 3rd position.

Graph 1.1 Countries With the Largest Islamic Financial Assets in the World


The government and related agencies have made new breakthroughs to increase sharia economic growth in Indonesia. This can be seen by the continued increase in the number of Islamic economic market share every year. The impact of the development of the sharia economy in...
Indonesia can be seen from the increasing number of sharia investment products, sharia financing, such as government sukuk, corporate sukuk to individual financing. Sukuk itself is a bond product in the form of sharia.

Research conducted by Niazi & Khan (2012) shows that the absence of education contributes significantly to multidimensional poverty at various levels [5]. This is supported by research by Afzal et al., (2012), education has a significant effect on poverty, education can help reduce poverty and improve the socio-economic status of both individuals and communities [6].

The variables of education and credit have a positive and significant effect which is needed to support the financial needs of the lower class society [7]. This is supported by research by Amini & Bianco (2016) which results that education and health have a significant role in reducing poverty [8]. However, this study contradicts the research conducted by Mukli & Mersini (2013) that the level of parental education does not have a statistically significant effect on improving poverty levels [9].

The dependency ratio, gender of the head of the household, the occupational status of the head of the household and the marital status of the head of the household were statistically significant determinants of family welfare [10]. However, this research contradicts the research that has been done by Zahid Mahmood et al., (2017) Age, income, number of family members, and management attributes significantly affect poverty while the number of loans, gender, family involvement does not significantly affect poverty [2]. There are various results of these studies so that researchers will analyze the Poverty Determinants of Micro Entrepreneurs with the Logit Model.

2. LITERATURE REVIEW

2.1. Poverty

Poverty is multidimensional. People living below the poverty line have low income, engage in bad jobs, poor health conditions, skip meals, are uneducated, experience violence and humiliation, continue to be powerless, do not enjoy rights and so on. Poor people cannot lead productive and creative lives according to their needs and interests. Again, the upper classes have better access to resources and tend to have more control, more than the lower classes [11].

The welfare characteristic that is most widely used in economics is the utility function, which is defined as the consumption of goods, so that the reproductive function according to consumer preferences exceeds consumption as an alternative. Following this approach, the poverty line can be interpreted as a point on the consumer expenditure function, which gives the minimum cost for households to achieve a certain level of utility at prevailing prices and according to household characteristics [12].

Poverty can be understood from two broad approaches: the income and basic needs approach and the ability approach. The income and basic needs approach is mainly characterized by quantitative indicators, while the human capabilities approach is characterized by quantitative and qualitative indicators. The capabilities approach usually incorporates more qualitative indicators in addition to the income and basic needs approach. Income indicators are used in the monetary approach and the basic needs approach to measure poverty, while in the capability approach, welfare is understood as the expansion of human capabilities. The latter approach assesses well-being and policy objectives in terms of the freedom of individuals to live worthy lives in realizing their true potential. This approach can be further divided into a capability approach and a participatory approach [13].

The low level of community income, which is caused by a low level of productivity, causes people's ability to save is also low. This will lead to a low level of capital formation. The latter situation will further cause individuals to face a shortage of capital goods and thus the level of productivity will remain low. This will cause people to not be able to make proper consumption to meet their needs. Low consumption leads to poverty.

Research by Afzal et al., (2012) with Toda Yamamoto Augmented Granger Causality Tests confirms that there is a two-way causality between education and economic growth, between economic growth and poverty, and between education and poverty [6]. Physical capital causes economic growth, poverty and education. The effect of education is more on economic growth than on poverty alleviation. Physical capital seems to be a very helpful variable in explaining the relationship between education, economic growth and poverty.

According to Nurkse, in the vicious circle of poverty, it is stated that human capital affects productivity. One form of capital is the human ability to have skills or expertise that can be obtained by attending training or workshops. The expertise that a person has can increase income, so that the family does not become poor [14].

Research conducted by Niazi & Khan, (2012) covers the importance of education in dealing with multidimensional poverty problems in Punjab by using the index methodology [5]. The data consistently show that the incidence of multidimensional poverty is higher in rural areas than in urban areas during the study period. The results show that education has a significant role in alleviating poverty with certain regional and demographic characteristics.

2.2. Sharia Microfinance Institutions

Microfinance and Islamic finance have a lot in common. Islam emphasizes ethical, moral, social, and religious factors to promote equality and justice for the good of society as a whole. The principles that encourage risk sharing, individual rights and obligations, property rights, and the purity of contracts are part of the Islamic code that underlies the financial system. In conclusion, many elements of microfinance are consistent with the
broader goals of Islamic finance [15].

The role of BMTs to participate in poverty alleviation, BMTs must offer higher financing amounts, provide more social services to customers, provide more information about financing products to the wider community, better educate customers in order to increase understanding of Islamic terms used in financing products, and to innovate financing products to meet customer needs [16].

Financial-based programs will be the answer for households that really need financial assistance and it remains promising that microfinance is very beneficial for households that are not too poor but still below the poverty line [17].

3. RESEARCH METHOD

This study will explain the role of Islamic microfinance institutions in reducing poverty. This study takes a case study of KSPPS or BMT KUBE Colomadu Sejahtera in Karanganyar Regency.

The data used in this study is primary data, by collecting, recording, and reviewing and distributing questionnaires to KSPPS/BMT Amanah Ummah Sukoharjo customers, Central Java, especially customers who apply for financing for business capital. The sample used in this study was 122 customers. The formula to determine the number of samples in this study uses:

\[ n = \frac{N \cdot d^2 \cdot \pi \cdot (1-\pi)}{n \cdot (\pi \cdot (1-\pi) + \frac{d^2}{4})} \]

Where:
- \( n \) = sample
- \( N \) = population
- \( d \) = 95% precision value or \( \pi \cdot 0.05 \)

The research model used in this study using the logit model is a non-linear regression model that produces an equation where the dependent variable is categorical. The most basic categories of the model produce binary values such as the numbers 0 and 1. The resulting numbers represent a certain category resulting from calculating the probability of the occurrence of that category. Number 0 indicates poor, and number 1 indicates not poor, which is formulated as follows [18]:

\[
\ln \left( \frac{P_i}{1 - P_i} \right) = \beta_0 + \beta_1 \text{Edu} + \beta_2 \text{Tra} + \beta_3 \text{Dep} + \beta_4 \text{Age} + \beta_5 \text{Loan} + e
\]

Edu = Education  
Tra = Training  
Dep = Number of dependents  
Age = Age  
Loan = Loan Amount

4. RESULTS AND DISCUSSION

In the Wald Test, hypothesis testing will be carried out individually or partially. Hypothesis testing was done by entering one by one the variables of family involvement in the business, number of dependents, education, age, gender, number of loans and training on the dependent variable, namely poverty.

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1. Education

Based on Table 4.1, it can be seen that the wald value is 1.145 (sig 0.285). The significance value of 0.285 is greater than the significance level of 0.05 (5%). So it can be concluded that rejecting the hypothesis, the education variable does not affect poverty. Thus, the demographic-educational factor of the customer (elementary, junior high, high school or college graduates) does not affect household poverty.

2. Training

Based on Table 4.1, it can be seen that the wald value is 4.292 (sig 0.038). The significance value of 0.038 is smaller than the significance level of 0.05 (5%). So it can be concluded that we accept the hypothesis, that the training variable affects poverty in the household. Thus the skill factor (training variable) affects poverty in the household.

The coefficient of the training variable with a negative sign (-) indicates that if the customer attends the training, it has a tendency or probability that the customer does not experience poverty. The odd ratio value of 0.263 indicates that the more customers participate in the Training, the less likely it is that customers will not experience poverty in their family by 0.263 than customers who do not attend the Training.

3. Number of Dependents

Based on Table 4.1, it can be seen that the wald value is 5.173 (sig 0.023). The significance value of 0.023 is smaller than the significance level of 0.05 (5%). So it can be concluded that the hypothesis is accepted, the number of dependents variable affects poverty. Thus, demographic factors (variable number of dependents) affect poverty.

The coefficient of the variable number of dependents is negative (-) indicating that the greater the number of dependents the customer has a tendency or probability that the customer will experience poverty. The odd ratio value of 0.406 indicates that the more customers have a number of dependents, the greater the tendency or probability of customers to experience poverty in their family is
4. Age

Based on Table 4.1 above, it can be seen that the wald value is 7.568 (sig 0.006). The significance value of 0.006 is smaller than the significance level of 0.01 (1%). So it can be concluded that the hypothesis is accepted, the age variable affects poverty. Thus, demographic factors (age variable) affect poverty.

The Age Variable Coefficient marked Positive (+) indicates that if the age of the customer is increasing, the tendency or probability that the customer is not experiencing poverty is increasing. The odd ratio value of 0.263 indicates that the older the customer, the lower the tendency or probability that the customer will be 0.263 more likely to not experience poverty in his family than the very young customer.

5. Loan Amount

Based on Table 4.1 above, it can be seen that the wald value is 3,477 (sig 0.062). The significance value of 0.062 is smaller than the significance level of 0.01 (10%). So it can be concluded that the hypothesis is accepted, the age variable affects poverty. Thus, Institutional Factors (variable loan amount) affect poverty.

The Coefficient of Loan Amount Variable with a positive sign (+) indicates that if the number of customer loans is increasing, then there is a tendency or probability that the customer does not experience poverty. The odd ratio value of 1 indicates that the older the number of customer loans, the lower the tendency or probability that customers will be 0.263 more likely to not experience poverty than customers who have few loans.

4.2. Coefficient of Determination (Nagelkerke R Square)

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Source: primary data, SPSS 22

The value of the coefficient of determination in the logistic regression model is indicated by the value of Nagelkerke R Square. The value of Nagelkerke R Square is 0.382, which means that the variability of the dependent variable that can be explained by the independent variable is 38.2%, while the remaining 61.8% is explained by other variables outside the research model.

4.2 Testing the Feasibility of the Regression Model

Testing the feasibility of the regression model using the Hosmer and Lemeshow test Goodness of fit can be shown in Table 4.2 below:

| Table 4.3 Testing the Feasibility of the Model Hosmer and Lemeshow Test |
|---------------------------|-----------------|--------|------|
| Step | Step | Chi-square | df | Sig |
| 1 | Block | 31.172 | 5 | .000 |
| 2 | Mode | 31.172 | 5 | .000 |

Source: primary data, SPSS 22

Table 4.3 shows the Chi-square value of 31,172 with a significance (p) of 0.000. Based on these results, because the significance value is less than 0.01, it can be concluded that the model is able to predict the observed value or it can be said that the model is acceptable because it matches the observation data.

4.3 Discussion

1. Education.

According to Nurkse, the vicious circle theory illustrates that backwardness and backwardness are something that must be broken in the chain in order to overcome the problem of poverty that occurs. Underdevelopment and underdevelopment can be overcome by education carried out by the state for its citizens in order to gain knowledge that can reduce the level of underdevelopment. Education is human capital, the higher the education, the higher the productivity. This increase in productivity will increase income. With an increase in income, it can reduce poverty.

This is supported by previous studies. Education is related to knowledge, skills, problem solving ability, discipline, motivation, and self-confidence. Education has no significant effect on business performance in the second year of the study [19]. Total population, education, and graduates of higher education institutions have no effect on operating profit [20]. So that micro business owners cannot increase their income so that it can increase poverty.

2. Training.

According to Nurkse [14], in the vicious circle of poverty, it is stated that human capital affects productivity. One form of capital is the human ability to have skills or expertise that can be obtained by attending training or workshops. A person's expertise can increase income, so the family does not become poor. This is supported by research by Biyase and Zwane which concludes that the level of expertise gained from training or secondary education from the head of the household reduces the likelihood of becoming poor. These results indicate that investment in education and improving the economic conditions of the rural population (traditional rural areas) should continue to be the main focus of poverty alleviation efforts [21].

3. Number of Dependents.

The number of dependents is the number of people who are the burden or dependent of the Head of the Family. The number of dependents is the wife/husband, the number of children, and/or parents whose living expenses are borne by the head of the...
family. The higher the number of dependents, the higher the family's living costs for food, clothing, and housing. Therefore, the greater the number of dependents who are not followed by high incomes, the smaller the budget for the family's living expenses or the family can enter the category of poor families.

This is in accordance with the research conducted by Purwanti and Rohayati which concluded that the number of dependents in the family can contribute 36.6% to changes in female workforce participation. So this provides an opportunity for families to be able to increase income so that it can reduce poverty [22].

The results of this study are supported by Chaudhry (2009) which states that the probability of an individual or household being in poverty increases if the household size is large [23]. In addition, one unit increase in management level/attribute reduces the probability of a household being in poverty by 0.258 times with all other predictors held constant.

4. Age

Productive age should have high productivity. High productivity is expected to increase income. The high income of the head of the family can have an impact on increasing consumption and meeting the needs of life, so that the family does not experience poverty.

This is in accordance with research conducted by Manoppo which states that there is a significant and negative relationship between the age of the head of the family and household poverty [24].

5. Loan Amount.

One of the factors causing poverty is limited access to finance or capital assistance for businesses. The existence of loans from Islamic Microfinance Institutions supports the community to be able to increase their business or productivity. Increased productivity can have an impact on increasing profits or profits. An increase in profits can increase income, so that poverty can be reduced.

BMT is effective in reducing poverty. Most of the respondents were expected to increase their income after receiving BMT financing. BMT products, especially BBA (Bai Bithaman Ajil)-sales and purchase contracts and mudarabah, can empower the poor in various productive businesses so as to reduce the severity of poverty. Therefore, the integrated program for the poor designed by BMT, namely the provision of financial and non-financial services including spiritual development through the internalization of Islamic moral values, is an important tool in alleviating poverty. BMT not only has an important role in reducing poverty and promoting economic development but also relieves illegal moneylenders who trap the poor. Using the qard hasan scheme, BMT succeeded in reducing the number of people who borrowed from moneylenders as well as educating people about the dangers of usury [25].

The study of Memon et al. (2010) concluded that microfinance contributes to employment development in urban and rural areas of Pakistan. Microfinance has supported the lower classes of society to stand on their own feet instead of depending on others or the government. In this case the government should also take steps to strengthen the microfinance sector because it can be a strong factor to increase employment. If the government fails to provide job opportunities for the majority of the general public then microfinance can be the right hand to solve the unemployment problem and also can control the poverty rate in the years to come. This study also concludes that in addition to loan facilities, microfinance institutions also try to provide additional services to customers such as savings, insurance at the micro level [26].

5. RESEARCH CONTRIBUTION

The results of this study are expected to contribute as follows:

1. Theoretical
   a. The results of this study are expected to contribute to increasing knowledge, especially in the field of development economics.
   b. Become a reference for further research, especially for research in the field of welfare and poverty.

2. Practical Benefits
   a. For Local Government
      Provide information and input related to poverty problems in the local area and also as input in further decision making.
   b. For Further Researchers
      As a means of increasing knowledge and insight in applying knowledge and developing further research using different analytical tools and different research locations.

6. CONCLUSION

The factors that affect poverty in this study are the training factor, number of family dependents, age and number of loans. Therefore, various parties involved in poverty alleviation programs must pay attention to: 1. Increasing entrepreneurial programs that can increase the community's ability to can improve small businesses, 2. Increase managerial training or business development that is needed by small business owners, 3. Support from related parties to move and market products from small businesses so that maximum targets are achieved from business owners.

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