

ABSTRACT

This study aimed to analyze the influence of internal and external Bank variables to profitability Return On Asset (ROA) of Islamic Bank in Indonesia using Artificial Neural Network (ANN). This study also trying to analyze the best models between Artificial Neural Network (ANN) and Multiple Linear Regression (MLR) by comparing the value of Mean Square Error (MSE).

Data used in this study are quarterly data from 2006.I until 2016.I. Variables used in this study consisted of input variables and output variables. Non Performing Financing (NPF), Financing to Deposit Ratio (FDR), Operating Expenses to Operating Income (BOPO), Size, Inflation and Gross Domestic Product (GDP) are used as input variable. Profitability Return on Assets (ROA) of Islamic Banks is used as output variable. The number of samples are 41.

The results using ANN model showed that from seven independent variables are used, the Operating Expenses to Operating Income (BOPO) variables is the most influential variables in determining profitability Return On Asset (ROA). Then, the other variables also influence Return On Asset (ROA), they are Gross Domestic Product (GDP), Financing to Deposit Ratio (FDR), Size, Inflation Rate, and Non Performing Financing (NPF). The best model testing showed that ANN is better than MLR because it give lower value of Mean Square Error (0,00069 compared 0,111). Thus the ANN model give more accurate prediction than MLR.

Keywords: Profitability, Islamic Bank, ANN, MLR