

Determinant of Saving in Islamic Bank: Case Study in Indonesia

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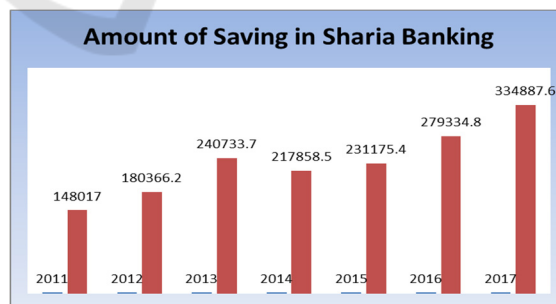
Abstract: The development of the amount of saving in Sharia Banking in Indonesia during the 2011-2017 periods experienced a relatively significant growth. However, in 2014-2015, the growth of the amount of saving has decreased from the previous period. This decline is expected due to the impact of the global financial crisis and high inflation. This research tries to analyse and compare the factors influencing the growth of saving in Sharia Banking by using the VECM Method. The results of this study indicate that in the short term there are two variables that affect the sharia savings significantly; that is the variable of the amount of money in circulation (M2) and the variable of the currency exchange rate of Rupiah to the US dollar (exchange rate). While the BI rate and inflation variables have no effect on sharia savings. And in the long run, all macroeconomic variables are total money supply (M2), Rupiah exchange rate to US dollar (exchange rate), BI rate and inflation signifies sharia savings significantly. In comparison, the sharia saving is most influenced by sharia savings itself with 82% contribution. Then followed by the inflation variable, which contributed 9.5%, and then Bi rate with a contribution of 6.2%, Rupiah exchange rate to US dollar contributed 1.6% and the last variable, the amount of money in circulation (M2) with a contribution of 0.37%.

1 INTRODUCTION

One of the most common problems facing emerging countries like Indonesia is the lack of capital for investments used to support the economic development. Sources of state financing development can come from within the country and abroad. One of the alternatives to obtain domestic financing funds is to source from public savings, government savings, tax revenues and private investment. Therefore, the existence of sharia financial institutions is indispensable in financing economic development.

The growth of savings accounts in sharia banking from 2011 and 2017 is relatively increasing from year to year. However, in 2014-2015, the growth of the level of saving decreased from previous periods. Whereas in the previous five years of 2009-2013 the growth of sharia bank assets experienced an average growth of 43%; however, in the period of 2014-2015 it experienced a decline drastically. This retardation is not only seen from the

decline on assets itself but also financing provided saving.



Source: Bank Indonesia

Figure 1.1 Amount of Saving in Sharia Banking

The decline was also seen in the liquidity and profitability ratios. This is predicted because of the impact of the global financial crisis and high inflation. But the decline is not gradual. In 2016-2017 the growth of sharia banking assets which is shown by the amount of saving has increased relatively highly.

The development of this IB-savings is influenced by the inflation rate. In developing countries, inflation may push down the savings rate because of an expenditure boost for durable goods thereby lowering the savings rate.

Encouraging people to replace their nominal assets into real assets, interest rates also have a role in the level of Islamic banking savings, because interest rates are a factor that can affect the macro economy. Although sharia banking does not use interest rates, the interest rate is still a benchmark to determine the ratio and profit sharing. In addition, the money supply factor also has an important role in increasing the number of Islamic banking savings, because all economic and financial activities are done using the money. Whereas the function of money is no longer only used as a means of payment it is also used as a tool to store wealth or for precaution reasons. The Rupiah exchange rate against the US dollar that becomes a global payment instrument becomes an external factor that has an effect on the amount of savings in sharia banking. So that a crisis that occurs globally either directly or indirectly will affect sharia financial institutions in developing countries including Indonesia.

In response to savings growth experiencing relatively fluctuating growth, it is necessary to evaluate any factors that may affect the growth of Third Party Funds. With this sharia banking can make efforts in coping with the phenomenon of growth retardation that will happen. For that reason, this research aims to discover the factors that cause the growth of third party funds based on macro-economy.

Many studies have conducted research to examine macro-economic impacts on savings. Most researchers have focused on influence only, but there are still few who examine the contribution to macro-economic variables that contribute most to savings growth, such as the research of Muhammad (2011) and Friska. (2013). They found that "per capita income, interest rates and inflation affect short-term savings in Indonesia. Whereas in the long run only the money supply has an effect on savings. Then Haron, Sudin (2015) on Determinant of Islamic and Conventional Deposits in the Malaysian banking system and Loayza and Shankar (2000) measured the relationship between savings in India and factors of macro-economic variables.

Based on the explanation that has been put forward, the formulation of the problem in this research is (1) How the macro-economic variable is influencing the amount of sharia bank savings (2) How is the response of the amount of saving in sharia banks due to macro-economic shock (3) How

big is the contribution of each variable to the saving in sharia banking.

1.1 Macro-economic Internal Indicators

1.1.1 Inflation

• Inflation Relationship Against Saving

A high and uncontrollable inflation may disrupt banking efforts in mobilizing public funds due to high inflation rates causing the real interest rate to decline. Such facts will reduce the public's desire to save money so that the growth of banking funds sourced from the community will decline.

1.1.2 Amount of Money Supply

• Money Supply Relation (M2) Against Saving

The components that contribute to improved M2 are the increase of M1 and the quasi-cash increase. Such increasing is credited by rising amounts of credit or financing issued by sharia banking in both Rupiah currency and foreign currency (Forex). Other than that, the slowdown of the M2 growth that is slow in money creation due to the nonoptimal function of banking intermediation.

1.1.3 The Rupiah Exchange Rate Against the US dollar (Exchange Rate)

• Relation of Rupiah Exchange Rate to Saving

The exchange rate is an external factor that also has an influence on the amount of saving. The weakening of the Rupiah against the US dollar will reflect on the uncertain economic conditions, thereby increasing the risk that will be responded to by the business world. The exchange rate is expected to have an influence on the development of sharia banks saving.

1.1.4 Interest Rate

• Interest Rate Relationship to Savings

According to Pohan the development of unusual interest rates can directly disrupt the development of banking. Low interest rates will reduce the public interest in saving so that the amount of banking funds will decline. However, on the contrary if the interest rates are high it will increase the desire of people to save.

2 METHODOLOGY

2.1 Data Analysis Method

The method of analysis used in this research is Vector Auto-regression (VAR), which in case of integration will be continued with the Vector Error Correction Models (VECM) method. Model selection is VAR/VECM in this study with minimal consideration theoretical approach with the aim of being able to capture the phenomenon economy well (Widarjono, 2013).

The problems in this study will be analyzed using Vector Auto-regression. If the data used is stationary in the first difference then the VAR model will be combined with error correction model becoming Vector Error Correction Model (VECM). Simply, VECM is used to analyze the existence of long-term and short-term relationships between independent variables and dependent variables in time-series data and see the responses and contributions of each variable.

This research uses five variables, so in Vector Auto regression model (VAR) or Vector Error Correction Model (VECM) there are five models of equations that can be processed i.e. one model for each variable studied. The following equation will be obtained from the sharia bank saving equation:

$$\begin{aligned} Saving_t = & A_0 + A_1 Saving_{t-i} + A_2 INF_{t-j} \\ & + A_3 BRate_{t-k} + A_4 Kurs_{t-1} \\ & + A_5 M2_{t-m} + +\varepsilon_{-t} \dots \dots \dots (1) \end{aligned}$$

$$\begin{aligned} NF_t = & A_0 + A_1 Saving_{t-i} + A_2 INF_{t-j} \\ & + A_3 BRate_{t-k} + A_4 Kurs_{t-1} \\ & + A_5 M2_{t-m} + +\varepsilon_{-t} \dots \dots \dots (2) \end{aligned}$$

$$\begin{aligned} Bratet = & A_0 + A_1 Saving_{t-i} + A_2 INF_{t-j} \\ & + A_3 BRate_{t-k} + A_4 Kurs_{t-1} \\ & + A_5 M2_{t-m} + +\varepsilon_{-t} \dots \dots \dots (3) \end{aligned}$$

$$\begin{aligned} Kurst = & A_0 + A_1 Saving_{t-i} + A_2 INF_{t-j} \\ & + A_3 BRate_{t-k} + A_4 Kurs_{t-1} \\ & + A_5 M2_{t-m} + +\varepsilon_{-t} \dots \dots \dots (4) \end{aligned}$$

$$\begin{aligned} M2t = & A_0 + A_1 Saving_{t-i} + A_2 INF_{t-j} \\ & + A_3 BRate_{t-k} + A_4 Kurs_{t-1} \\ & + A_5 M2_{t-m} + +\varepsilon_{-t} \dots \dots \dots (5) \end{aligned}$$

3 RESULT AND DISCUSSION

In the VECM estimation on the sharia savings model, it is explained that in the short term there are two variables that influence the sharia savings significantly, namely the amount of money in circulation (M2) and the Rupiah exchange rate variable to the US dollar (exchange rate). While the BI rate and inflation variables have no effect on sharia savings. And in the long run, the macro-economic variables are total money supply (M2), Rupiah exchange rate to US dollar (exchange rate), BI rate and inflation affect the sharia savings significantly.

The amount of money in circulation is known to have a negative and significant effect on the amount of sharia savings in the short and long term. This is in contrast to Panorama research (2016) which explains that the money supply has a positive influence on the amount of sharia savings. However, the results of this study are consistent with research conducted by Sukmana and Halim (2017) and Haron and Azmi (2008) which explains that an increase in the money supply will make the lending rate of conventional banks decline, thus making the cost of lending cheaper. This will make people borrow a lot of money from banks to conduct economic activities or consumption, thus making the amount of saving decrease.

In addition, customers concerns over the impact of the Greek crises that occurred in 2012 and 2015, which make people prefer to hold their money in hand rather than save their money in the bank. This is in accordance with one of the motive theories of society's behavior in holding money is the motive of vigilance, where to overcome the uncertainty and uncontaminate matters, then we need to hold the money. Assuming people will be more ready to face things that cannot be expected before.

In the variable of the Rupiah exchange rate to the US dollar it is known to have a positive and significant influence on sharia savings either in short or long term. This is in contrast to Muttaqien's (2013) study which explains that sharia banking is vulnerable to changes in the Rupiah exchange rate. If the value of the rupiah weakens, Islamic banking fund deposits will also decline. This is in line with the theory where both individual customers and corporate customers will tend to attract funds. However, the results of this study are consistent with the research by Rudiensyah (2014) which explains that the exchange rate of rupiah against US dollar affects positively savings due to in the sharia bank there is a phenomenon of the terms emotional

customers (spiritual) and rational customers, where the emotional customers are considered to have loyalty to sharia banks higher than the profit-oriented rational customers.

Then, on the variable of BI rate to sharia saving, it has a significant and negative influence. This is because the rise in the interest rates will increase the deposit interest rates and conventional bank lending so that people tend to choose conventional banks as a place to store their funds. According to the classical economic view, saving is a function of the interest rate. A high interest rate will encourage people to save and sacrifice consumption. But unlike Islamic banks that use the profit-sharing system for mudharabah deposit savings and deposit bonuses for wadi'ah contracts people prefer conventional banks compared to sharia banks because the profit in conventional banks is greater.

According to Sudarsono, the rise in BI rate is responded to by the massive rate increase in conventional banks. However, the increase in the interest rate does not directly affect the sharia bank. Sharia banks use a system of sale and purchase (ba'i) where the margin payment is based on the fixed rate of contract provisions and does not change at any time as the interest. In Islamic banks the interest rate is still a benchmark for determining the margin rate and sharia ratio. Meanwhile, an increase in interest rates will lower the public interest in depositing funds in sharia banks because the margin level is lower than the interest rate deposits in conventional banks. Islamic banks will be more profitable for investors because the margin charged is lower. Increased interest and outflow for financing will result in sharia banks increasing financing deposit ratio (FDR) and while the savers will run to conventional banks whose profits are higher, bank deposit funds are reduced and rising as well as exiting will increase the risk of liquidity of sharia banks. To overcome this situation, sharia banks need to increase the rate of bonus fee/profit sharing for demand deposits, savings, and time deposits.

And in the last variable inflation has a significant and negative effect on sharia savings in the long term. This means that the increase in inflation can cause a decrease in sharia savings. The results of this study are in harmony with the research of Sukmana (2017), Siaw and Peter (2015) which explains that when the economy is in high inflation conditions, then the economic actors either house the company's willingness will be forced to disburse their spending to buy goods for production by borrowing money from the bank, thereby reducing the amount of savings in the banking.

3.1 Impulse Response Function

Impulse response analysis is performed to see the response trace of the dependent variable to the shocks on error terms in the VAR system for some future periods. Based on the IRF results in the sharia savings model below, it explains that third-party funds in sharia banks as a whole responded negatively when there was a shock on macro-economic variables consisting of inflation, BI rate, Rupiah to US dollar (exchange rate) and the amount of money in circulation (M2).

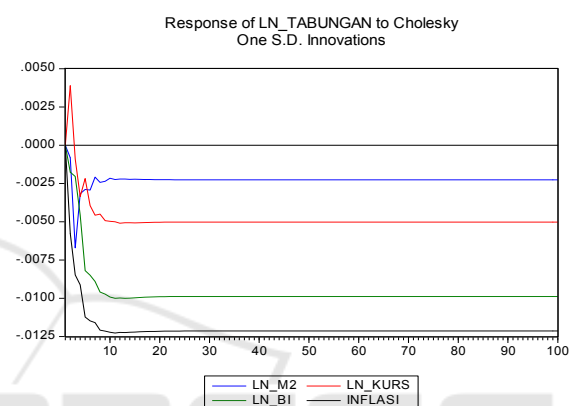


Figure 3.1 Impulse Response Function Sharia Saving Model

Based on Figure 3.1 above, first, when there is a shake on the variable M2 (the amount of money in circulation), the saving in sharia banks responds negatively in the 1st period to the 11th period. The response of saving began to stabilize in the 15th period. Second, when a shock occurs at the Rupiah exchange rate against the US dollar, saving responds positively in the 1st period to the 3rd period, and changed to negative in 7th period. The Rupiah exchange rate variable against US dollar found a stability point in the 25th period. Third, when there is a shock on the variable inflation, the amount of saving in sharia banks responds negatively and reaches the point of stability in the 17th period. And finally, in the event of shocks to the BI rate variable, saving responds negatively and reaches the point of unity in the 18th period.

3.2 IDFEVD

After performing an Impulse Response Function (IRF) analysis, the next step will be analysis using Forecast Error Variance Decomposition (FEVD). According to Ascarya (2009), FEVD is used to predict the contribution of each variable's shocks to

changes in a particular variable. This analysis was conducted to predict the shock contribution of each macro-economic variable to sharia bank savings.

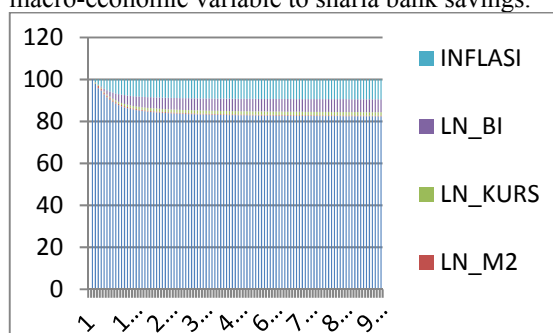


Figure 3.2 Forecast Error Variance Decomposition Sharia Saving Model

It can be seen in Figure 3.2 above that the behavior of sharia savings is most influenced by sharia savings itself with 82% contribution. Then followed by inflation variable which contributed 9.5%, BI rate with the contribution of 6.2%, Rupiah exchange rate to US dollar with the contribution of 1.6% and the last variable amount of money in circulation (M2) with the contribution of 0.37%.

Table 3.1 The Contribution of Macro-economic Variables Shocks to Sharia Bank Savings

Sharia Banking Saving	82%.
Inflation	9,5 %,
BI rate	6,2 %
Exchange Rate	1.6 %
M2	0.37%.

Based on Table 4.1 it can be concluded that the variable that most contributes to sharia savings is the sharia savings variable itself and the second is the inflation variable, the third BI rate, the fourth exchange rate and the last is Money supply (M2)

4 CONCLUSIONS

Based on the results of the research above, it can be concluded that in the short term there are two variables that affect the sharia savings significantly which are the variable of the amount of money in circulation (M2) and the variable of the exchange rate of Rupiah to the US dollar (exchange rate). While the BI rate and inflation variables have no effect on sharia savings. And in the long run, the macro-economic variables are the total money supply (M2), Rupiah exchange rate to US dollar (exchange rate), BI Rate and inflation signifies sharia savings significantly.

Based on the IRF, it explains that first, when there is a shock to the M2 variable (the money supply in circulation), the sharia bank's third-party funds respond negatively in the 1st period to 11th period. The third party fund response starts to stabilize during the 15th period. Rupiah exchange rate against US dollar, third-party funds responded positively on the 1st period to the 3rd period and turned to negative in the 7th period. The rupiah exchange rate variables against the US dollar experience a stability point in the period of 25. Third, when there is a shock on the inflation variable, third-party funds of sharia banks respond negatively and reach the point of stability in the period 17. Finally, in the event of shocks to BI rate variables, third-party funds respond negatively and reach a point of parity in the period of 18.

FEVD explained that the behavior of sharia saving is mainly influenced by the sharia saving itself with 82% contribution. Then followed by inflation variable, which contributed 9.5%, BI rate with contribution of 6.2%, Rupiah exchange rate to US dollar with contribution of 1.6% and the last variable amount of money in circulation (M2) with contribution of 0.37%.

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