

## **Commercial and social activities of Indonesian Islamic banks: do they relate?**

**Budi Sukardi<sup>1</sup>, Muhammad Alan Nur<sup>2,\*</sup>, Fachrurazi Fachrurazi<sup>3</sup>, Fuad  
Dhiya Ul Husaen<sup>4</sup>, Eko Asmanto<sup>5</sup>**

UIN Raden Mas Said Surakarta, Surakarta, Indonesia<sup>1,4</sup>

Airlangga University, Surabaya, Indonesia<sup>2</sup>

IAIN Pontianak, Pontianak, Indonesia<sup>3</sup>

University of Muhammadiyah Sidoarjo, Sidoarjo, Indonesia<sup>5</sup>

Corresponding e-mail: [muhammadalannur@gmail.com](mailto:muhammadalannur@gmail.com)

### **ABSTRACT**

**Purpose** — *This study investigates the relationship between commercial and social activities in Indonesian Islamic banks.*

**Method** — *This study employed a Panel Vector Error Correction Model (PVAR) model with Impulse Response Function (I.R.F), Variance Decomposition (V.D.C), and Granger Causality. Observations were conducted from 2010 to 2020 on eight Islamic banks in Indonesia, representing 72.72 percent of the total Islamic banking population in Indonesia. The collecting of data pertains to the yearly financial report. Social activities are based on the amount of zakat fund distribution (ZKT) and benevolence fund distribution (DKB). Commercial activities are based on Islamic banking financial ratios that are proxied by Return on Assets (ROA), Financing to Deposit Ratio (FDR), and Non-Performing Financing (NPF).*

**Result** — *The results showed that social activities in Indonesian Islamic banks are influenced by their commercial activities, but it does not apply vice versa. In other words, there is a one-way relationship between commercial and social activities in Indonesian Islamic banks.*

**Contribution** — *This study contributes by studying the relationship between commercial and social activities by using the PVAR model with the analysis of Impulse Response Function (I.R.F), Variance Decomposition (V.D.C), and Granger Causality which so far have not been explored.*

**Keywords:** *Islamic banking, commercial-social activities, IRF, VDC, PVAR*



## **INTRODUCTION**

Islamic banking has two leading roles: an institution or business entity carrying out commercial activities and an institution or social entity carrying out social activities ([Ascarya & Yumanita, 2005](#)). Unlike conventional banking oriented to profit and risk transfer ([Zarrouk et al., 2016](#)). It is to shift business risk to customers while still exposed to credit risk ([Grira & Labidi, 2021](#)). Islamic banking is profit-oriented and runs the social aspect ([Ahmad, 2015](#)), where the purpose of Islamic banking is more holistic than conventional banking ([Amaroh, 2016](#)).

With a population of 270.20 million people based on a population survey in 2020 ([Central Bureau of Statistics Republic of Indonesia, 2021](#)), it is estimated that 87% of the population will embrace Islam in 2020 ([Pew Research, 2012](#)). Indonesia is the country with the most significant Muslim majority in the world. Therefore, it is valuable capital for the Islamic finance industry in utilising the massive potential of Indonesia's Islamic financial services market to penetrate.

During the rapid development of Islamic banking, Islamic banks' social impact is still considered weak ([Hamidi et al., 2019](#)). Some opinions reveal that Islamic banking tends to be more profit-oriented (commercial business) and attention to the social aspect is still low ([Asutay & Harningtyas, 2017](#); [Nor, 2016](#); [Dusuki, 2008](#)). Then came the perception that Islamic banking is no different from conventional banking in its function as an intermediation institution ([Abduh & Azmi Omar, 2012](#); [Abdul-Baki & Uthman, 2017](#); [Chong & Liu, 2009](#); [Khan, 2010](#)).

The difference between conventional banking and Islamic banking is nothing more than a product offered by Islamic banking bound by *Sharia* law compliance ([El-Gamal, 2006](#)), as well as the existence of a *Sharia* Supervisory Board (DPS) in Islamic banking institutions ([Ascarya & Suharto, 2021](#)). Moreover finding, only seven Islamic banks pay *zakah* in Indonesia ([Masra et al., 2020](#)). Islamic banking should exceed conventional banking on a social level. In the capitalistic view, conventional banking is only oriented toward maximising profits ([Dusuki, 2008](#)).

The perception that Islamic banks' concern for social functions can be further improved ([Asutay & Harningtyas, 2017](#)). The context of Islamic Banking in Indonesia in Law No. 21 of 2008 provides juridically formal firmness to Islamic banking to carry out the intermediation function of commercial and social activities ([Farahani & Dastan, 2013](#)). Islamic banking intermediation is not limited to having a function as a general banking intermediation institution that collects and distributes depositor funds ([Beck et al., 2013](#)), but as a social institution that manages *zakah*, charity, grants, and other social funds channelled to *zakah* management organs ([Mais et al., 2019](#)).

There have not been many researches that explicitly review and measure the effectiveness of Islamic banking business and social performance relationships in Indonesia, existing research trends, separate business performance and social performance (Puspasari & Mawardi, 2015). However, the existence of Islamic banking serves the community's interests from the point of view of material and social purposes (Al-Omar & Haq, 1996). Doing business and maximising profits are justified by Islam as long as such gains do not violate the limits of *sharia* rules compliance and Islamic business ethics (Haniffa & Hudaib, 2007). Some previous views and studies and empirical exploration conducted to study and reveal the relationship between commercial activities and social activities in Indonesia became the purpose of this research.

Several previous studies relevant to this study, (Jati et al., 2020) explained that profitability and leverage do not affect Islamic banking social performance reporting, while *sharia* liquidity and compliance affect dependent variables. As well as research (Laela & Hasmarita, 2016), the profitability ratio (ROA) and (ROE) significantly affect *zakah* expenditure. The profitability ratio (ROA) significantly affects *zakah* expenditure, while the profitability ratio (ROE) has no significant effect.

Some studies explain the relationship between *zakah* and the financial performance of Islamic banks, that *zakah* has a significant positive effect on the financial performance of Islamic banks, namely business profit (Rosman et al., 2019). In addition, several researchers also explain the relationship of *zakah* by using the variables of bank size, ICSR and net income (Kholidah, 2018; Sidik & Reskino, 2016).

This study reveals the relationship between commercial and social activities by using the PVAR model to analyse Impulse Response Function (IRF), Variance Decomposition (VDC), and Granger Causality, which so far have not been explored. Empirical exploration has revealed the relationship between commercial and social activities in Islamic banking. Commercial activities are based on the performance of Islamic banking, which is reflected in the financial ratio of its business activities. In contrast, social movements are based on the distribution of *zakah* and benevolence funds.

## **METHOD**

This type of research is quantitative research. Data were obtained from the annual financial statements of Islamic banks from 2010 to 2020. Commercial activity performance variables use profitability ratios (ROA), Financing to Deposit Ratio (FDR), and Non-Performing Financing (NPF) as intermediation

proxies and liquidity risk proxies. The social activity variable uses the Indicator of Welfare Fund Distribution (DKB) and *Zakah* Fund Distribution (ZKT). The research population is the financial statements of Islamic Commercial Banks registered with the Financial Services Authority (OJK) since December 2010, 11 *Sharia* Commercial Banks namely Bank Muamalat Indonesia, Bank Syariah Mandiri, Bank Mega Syariah, Bank BRI Syariah, Bank Syariah Bukopin, Bank Panin Syariah, Bank Victoria Syariah, Bank BCA Syariah, Bank Jabar and Banten Syariah, Bank BNI Syariah, and Bank Maybank Indonesia Syariah.

Sampling technique using purposive sampling with the criteria of Islamic banks that have financial statements from 2010, which are eight of Islamic commercial banks including Bank Syariah Muamalat, Bank Syariah Mandiri, Bank Mega Syariah, Bank BRI Syariah, Bank Victoria Syariah, Bank BCA Syariah, Bank Panin Syariah, and Bank BNI Syariah. The sample comprised 72.72 percent of the total population. The Vector Autoregression Panel (PVAR) model, which is a development of the Vector Autoregression (VAR) model, is used for data analysis with a combination of time series and cross-section data (Canova & Ciccarelli, 2013). The PVAR model's advantage is that it can treat many endogenous variables simultaneously (Lof & Malinen, 2014). In general, PVAR is formed from the following equations:

$$y_t = \beta_t + \sum_{l=1}^{m+1} \beta_{lt} y_{t-l} - \sum_{l=1}^{m+1} \alpha_{lt} x_{it-l} + \varepsilon_{it} \quad (1)$$

Value  $\beta_t$  is a dependent variable interception,  $l$  is the number of cross-section data from each individual consisting of  $l = 1, 2, 3, \dots, N$  and  $t$ . Each individual's period consists of  $t = 1, 2, 3, \dots, T$ . The research equations of each model are:

$$\begin{aligned} ROA_t = & \beta_t + \sum_{l=1}^{m+1} \beta_{lt1} ROA_{t-l} + \sum_{l=1}^{m+1} \alpha_{lt} FDR_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} NPF_{it-l} \\ & + \sum_{l=1}^{m+1} \alpha_{lt} DKB_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} ZKT_{it-l} + \varepsilon_{it} \end{aligned} \quad (2)$$

$$FDR_t = \beta_t + \sum_{l=1}^{m+1} \beta_{lt1} FDR_{t-l} + \sum_{l=1}^{m+1} \alpha_{lt} ROA_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} NPF_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} DKB_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} ZKT_{it-l} + \varepsilon_{it} \quad (3)$$

$$NPF_t = \beta_t + \sum_{l=1}^{m+1} \beta_{lt1} NPF_{t-l} + \sum_{l=1}^{m+1} \alpha_{lt} ROA_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} FDR_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} DKB_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} ZKT_{it-l} + \varepsilon_{it} \quad (4)$$

$$DKB_t = \beta_t + \sum_{l=1}^{m+1} \beta_{lt1} DKB_{t-l} + \sum_{l=1}^{m+1} \alpha_{lt} ROA_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} FDR_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} NPF_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} ZKT_{it-l} + \varepsilon_{it} \quad (5)$$

$$ZKT_t = \beta_t + \sum_{l=1}^{m+1} \beta_{lt1} ZKT_{t-l} + \sum_{l=1}^{m+1} \alpha_{lt} ROA_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} FDR_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} NPF_{it-l} + \sum_{l=1}^{m+1} \alpha_{lt} DKB_{it-l} + \varepsilon_{it} \quad (6)$$

Causality between variables uses Granger Causality to determine whether a causal relationship exists between variables ([Hamid & Ibrahim, 2021](#)). In this study, the Impulse Response Function (IRF) and Variance Decomposition (VDC) were used to simulate the occurrence of shocks in the PVAR research model. IRF is used to identify a variable's response to shocks to other variables. VDC is used to estimate the percentage of shocks from one variable to another.

The first step in analysing the PVAR model starts with performing a root unit test of all variables to obtain variable data at a stationary level using the Dickey-Fuller Augmented test (ADF) ([Dickey & Fuller, 1981](#)), with the following equation:

$$\Delta Y_t = \beta_0 + \delta Y_{t-1} + \sum_{i=1}^m \alpha \Delta Y_{t-i} + u_t \quad (7)$$

Where  $\Delta Y_{t-1} = Y_{t-1} - Y_{t-2}$ ,  $\Delta Y_{t-2} = Y_{t-2} - Y_{t-3}$  and so on is the amount of lag formed from derivatives based on the determination of optimum lag. While  $u_t$  it is an error value based on white noise error,  $\delta Y_{t-1}$  they were obtained from the fair value of the lag coefficient. A stationary test can be performed at the first derivative level if the data is not stationary.

The next step is to determine the lag length to determine the optimum lag used in forming the model. This study's optimum lag is based on information obtained from the smallest value of the Akaike Information Criterion (AIC) (Enders, 2014). Model stability tests are also needed to form VAR systems because a stable model can be done forecasting in the form of IRF in this study. The determination of a stable model can be known from each point in the Polynomial Root AR circle graph and the Polynomial Root AR with a value of less than one (Lütkepohl, 2005). Long-term relationships between variables in the VAR model can be known from the cointegration test (Engle & Granger, 1987).

## RESULT AND DISCUSSION

Based on the root test unit at the level obtained results in the following Table 1.

**Table 1.** Stationary test

| Variable(s) | Statistic | Probability | Stationarity |
|-------------|-----------|-------------|--------------|
| ROA         | 65.8218   | 0.0000*     | Stationary   |
| FDR         | 28.0578   | 0.0311*     | Stationary   |
| NPF         | 29.5274   | 0.0206*     | Stationary   |
| ZKT         | 71.5984   | 0.0000*     | Stationary   |
| DKB         | 65.8218   | 0.0000*     | Stationary   |

Source: authors' compilation (2022)

Each variable is determined by the results of the level's stationary root test unit. As stated previously, the cointegration test is not done and the Vector Error Correction Model Panel is not utilized. The following is the optimal lag length determined by the Akaike Information Criterion (AIC):

**Table 2.** Lag optimum

| Lag | LogL     | LR        | FPE       | AIC        | SC         | HQ         |
|-----|----------|-----------|-----------|------------|------------|------------|
| 0   | 119.9733 | NA        | 1.89e-08  | -3.592916  | -3.424253  | -3.526471  |
| 1   | 260.3859 | 254.4979  | 5.15e-10* | -7.199560* | -6.187584* | -6.800891* |
| 2   | 283.3925 | 38.10467* | 5.56e-10  | -7.137266  | -5.281976  | -6.406374  |
| 3   | 302.9391 | 29.31989  | 6.85e-10  | -6.966847  | -4.268243  | -5.903731  |

Source: authors' compilation (2022)

Table 2 above shows that the optimum lag is at the first level. On the other hand, selecting the first lag avoids estimating distorted parameters (Abrigo & Love, 2016). The PVAR model with optimum lag first obtained the following results:

**Table 3.** Model stability test

| Root                 | Modulus  |
|----------------------|----------|
| 0.725754             | 0.725754 |
| 0.334175 - 0.209201i | 0.394256 |
| 0.334175 + 0.209201i | 0.394256 |
| 0.372473             | 0.372473 |
| 0.102667             | 0.102667 |

Source: authors' compilation (2022)

Based on Table 3 above, the PVAR model with the first level optimum lag selection indicates that the stability of the model has been met. The results of the analysis of the PVAR model are as follows:

**Table 4.** Output model PVAR

| Dependent Variables |          | Independent Variables |          |          |           |         |  |
|---------------------|----------|-----------------------|----------|----------|-----------|---------|--|
| ROA                 | ROA(-1)  | FDR(-1)               | NPF(-1)  | ZKT(-1)  | DKB(-1)   | C       |  |
| t-statistic         | 1.02407  | -1.45703              | -0.70401 | -0.49343 | -1.15053  | 3.22124 |  |
| Dependent Variables |          | Independent Variables |          |          |           |         |  |
| FDR                 | ROA(-1)  | FDR(-1)               | NPF(-1)  | ZKT(-1)  | DKB(-1)   | C       |  |
| t-statistic         | -2.63022 | 5.81429*              | -1.60321 | 0.46395  | -2.87747  | 8.11160 |  |
| Dependent Variables |          | Independent Variables |          |          |           |         |  |
| NPF                 | ROA(-1)  | FDR(-1)               | NPF(-1)  | ZKT(-1)  | DKB(-1)   | C       |  |
| t-statistic         | 0.93839  | 0.02495               | 5.49767* | 1.36376  | -0.71821* | 0.44236 |  |
| Dependent Variables |          | Independent Variables |          |          |           |         |  |
| ZKT                 | ROA(-1)  | FDR(-1)               | NPF(-1)  | ZKT(-1)  | DKB(-1)   | C       |  |
| t-statistic         | 8.10314* | -3.37382*             | 1.91460* | 2.38425* | 6.69949*  | 4.97141 |  |
| Dependent Variables |          | Independent Variables |          |          |           |         |  |
| DKB                 | ROA(-1)  | FDR(-1)               | NPF(-1)  | ZKT(-1)  | DKB(-1)   | C       |  |
| t-statistic         | 4.21297* | 4.44153*              | 3.25013* | 2.65066  | 7.01202*  | 1.15853 |  |

Source: authors' compilation (2022)



Based on the preceding table, the first level generated PVAR model results with the optimal lag. As a dependent variable, a commercial activity from the profitability element of Islamic banking, the PVAR ROA equation model determined that none of the variables significantly affects ROA. It is shown that social activities do not impact the profitability of Islamic banking. This outcome contradicts the study's conclusion that *zakah* has a substantial impact on the profitability of Islamic banking ([Rhamadhani, 2017](#); [Rosman et al., 2019](#); [Sidik & Reskino, 2016](#)).

The model of the FDR PVAR equation as a dependent variable is a commercial activity from the intermediation aspect of Islamic banking. The result is positive, meaning that the FDR of Islamic banking is only influenced by itself with the relationship formed. It can be interpreted that the increase influences the increase in FDR in the current period in FDR one previous period. It is indicated that social activities do not influence the distribution of Islamic banking financing from the funding received through the distribution of *zakah* funds and welfare funds in the previous period.

The model of NPF PVAR equation as a dependent variable, a commercial activity from the liquidity risk aspect of Islamic banking, obtained the result that NPF Islamic banking is positively influenced by itself and DKB negatively. It is indicated that the increase influences the increase in liquidity risk of Islamic banking in the current liquidity risk period and decreases the distribution of benevolent funds in the previous period.

The model of the ZKT PVAR equation as a dependent variable is the social activity of Islamic banking in terms of the distribution of *zakah* funds obtained the result that ROA, FDR, and NPF also influence ZKT Islamic banking. It is indicated that social activities, namely the distribution of *zakah* carried out by Islamic banking, are influenced by profitability, intermediation, and liquidity. Profitability and liquidity risk positively relate to the distribution of Islamic banks' *zakah*. The increase influences the distribution of Islamic banks' *zakah* in profitability and liquidity risk.

Intermediation of Islamic banking through the distribution of Islamic banks' financing has a negative relationship that indicates that the distribution of Islamic banks' *zakah* in the current period will decrease if there is an increase in the distribution of financing carried out by Islamic banking in the previous period. This finding is in line with the study of [Laela & Hasmarita \(2016\)](#), where profitability significantly affects the expenditure of Islamic banks' *zakah*. In addition, this study is also in line with the research results where FDR has a significant effect on the distribution of Islamic banks' *zakah*. On the other hand,

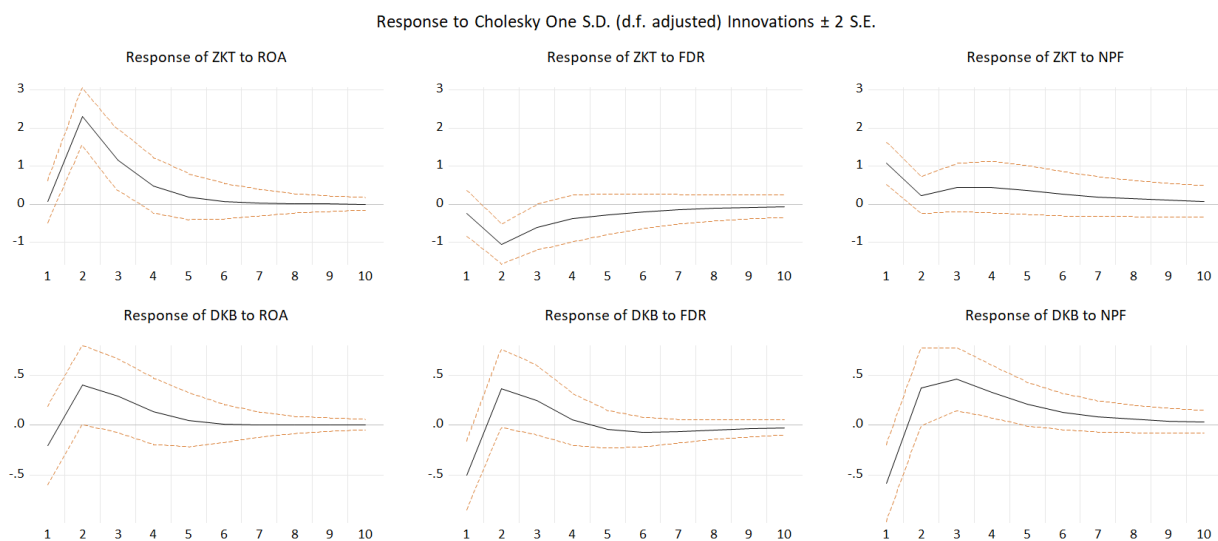


this study is different from the research conducted by [Romadhani & Wahyudi \(2015\)](#). ROA and NPF have no significant effect on the distribution of Islamic banks' *zakah*.

The model of the equation of PVAR DKB as a dependent variable is the social activity of Islamic banking in terms of the distribution of welfare funds obtained the result that ROA, FDR, and NPF also influence DKB. It is indicated that Islamic banks' social activity through the distribution of benevolent funds is also influenced by profitability, intermediation, and liquidity risk. Each variable has a positive relationship, meaning that the increase in benevolent funds in the current period is influenced by increased profitability, intermediation, and liquidity risk.

IRF is used to simulate forecasting in the event of a shock in another variable to the observed variable to determine how the variable responded to shocks in other variables. This study simulates the occurrence of shocks in commercial activities, knowing how the response of social activities and the opposite applies.

**Figure 1.** Commercial activity shocks and social activity response



Source: authors' compilation (2022)

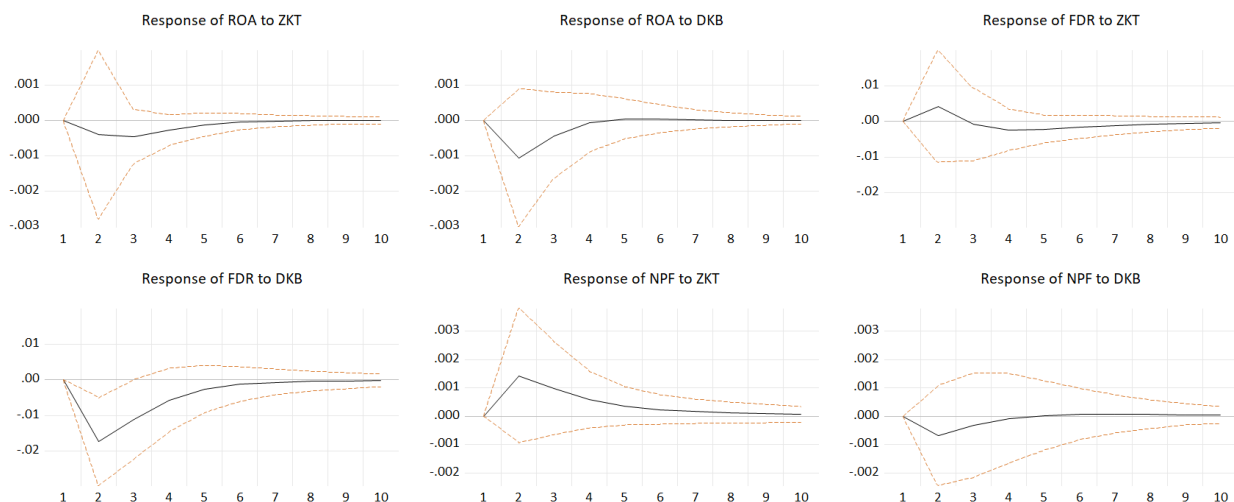
The first forecasting is done by simulating the occurrence of shocks of commercial activity to social activities so that it is known the response given social activity from the occurrence of commercial activity shocks. The response to the profitability shock, the distribution of Islamic banks' *zakah* immediately increased sharply until the following two periods, but the period after gradually fell and returned to normal conditions in the eighth period. The response to the intermediation shock, the distribution of Islamic banks' *zakah* immediately

decreased until the following two periods, but the period after gradually rose and returned to normal conditions in the 10<sup>th</sup> period.

In response to the shock to liquidity risk, the distribution of Islamic banks' *zakah* immediately increased only in the first period but began in the second period. The period after gradually fell and returned to normal conditions in the 10<sup>th</sup> period. The response to the profitability shock, the distribution of Islamic banking welfare funds immediately increased until the following two periods, but the period after gradually fell and returned to normal conditions in the seventh period. The response to the intermediation shock, the distribution of Islamic banking welfare funds immediately increased until the following three periods, but the period after gradually fell and returned to normal conditions in the 10<sup>th</sup> period. In response to shocks to liquidity risk, the distribution of Islamic banking welfare funds immediately increased only in the first period but began in the second period. The period after gradually fell and returned to normal conditions in the tenth period.

**Figure 2.** Social activity shocks and commercial activity response

Response to Cholesky One S.D. (d.f. adjusted) Innovations  $\pm$  2 S.E.



Source: authors' compilation (2022)

The second forecasting is done by simulating the occurrence of social activity shocks to commercial activities so that the response given by commercial activity from the occurrence of social activity shocks is known. The response to the shock of *zakah* distribution, the profitability of Islamic banking at once decreased until the following three periods, but the period after gradually rose and returned to normal conditions in the ninth period. The response to the shock of *zakah* distribution, Islamic banking intermediation once increased until the following

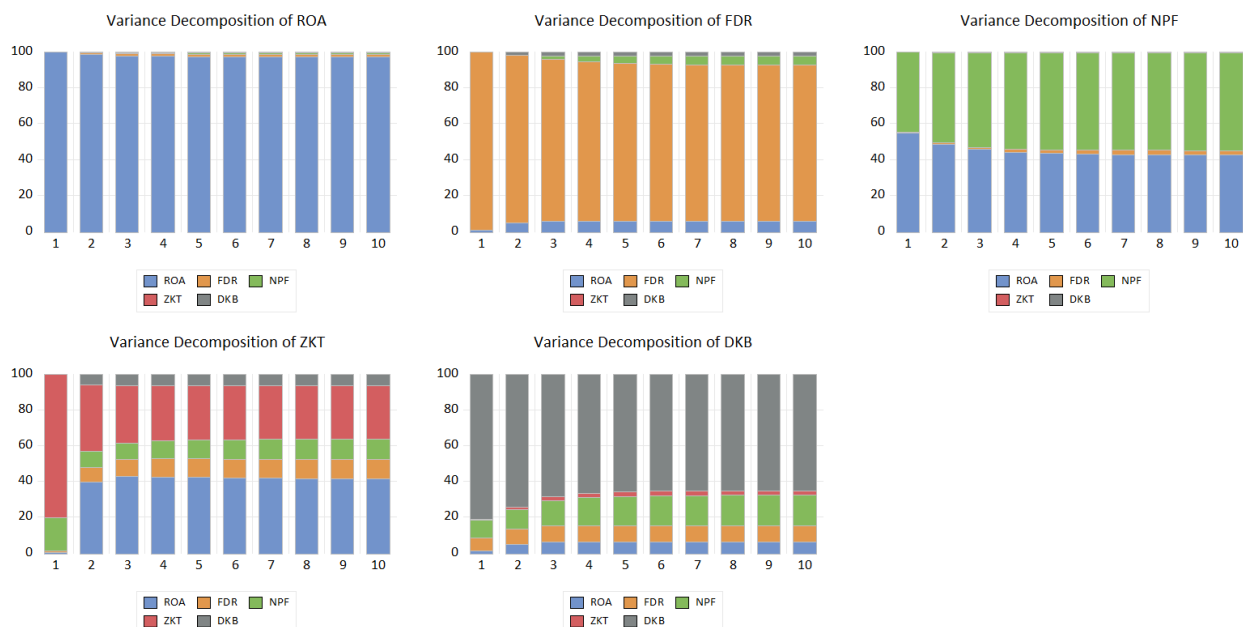
two periods, but the period after gradually fell and returned to normal conditions in the tenth period. The response to the shock of *zakah* distribution, the risk of Islamic banking liquidity at once increased until the following two periods, but the period after gradually fell and returned to normal conditions in the tenth period.

The response to the shock of the distribution of welfare funds, the profitability of Islamic banking at once decreased until the following two periods, but the period after gradually rose and returned to normal conditions in the fifth period. The response to the shock of the distribution of welfare funds, the intermediation of Islamic banking once decreased until the following two periods. However, the period after that gradually rose and returned to normal conditions in the ninth period. The response to the shock of the distribution of welfare funds, the risk of Islamic banking liquidity once decreased until the following two periods, but the period after that gradually fell and returned to normal conditions in the fifth period.

VDC is used to decipher each variable's variance contribution to know how much influence a variable has on other variables when a correction occurs. The variance contribution of each variable can be seen in the following Figure 3.

**Figure 3. Variance decomposition**

Variance Decomposition using Cholesky (d.f. adjusted) Factors



Source: authors' compilation (2022)

When corrections occur in ROA and FDR, each variable is self-affected, which indicates that both variables have intense levels of endogeneity. On the other hand, the correction that occurs in NPF is influenced by ROA, compared to other variables that indicate that ROA is a variable that has strongly exogenous to NPF. ROA, FDR, and NPF contribute to the correction in ZKT, where ROA becomes the most potent exogenous variable. In DKB correction, NPF becomes the exogenous variable that exerts the most decisive influence on NPF, followed by ROA and FDR.

From the results of VDC, it is known that ZKT and DKB are not variables that have a solid exogenous of ROA, FDR, and NPF. It can be interpreted that the influence of social activities on commercial activities is minimal. However, commercial activity influences social activity, where ROA, FDR, and NPF become exogenous variables that affect correction in ZKT and DKB, although DKB endogeneity is stronger than ZKT when correction occurs.

To determine the causal relationship between the observed variables, reveal the causality of each variable, it can be seen in Table 5 as follows:

**Table 5.** Output model Granger Causality

| <b>Hypothesis</b>                     | <b>F-Statistic</b> | <b>Probability</b> |
|---------------------------------------|--------------------|--------------------|
| <i>ROA does not Granger Cause ZKT</i> | 34.4920            | 0.0000*            |
| <i>ZKT does not Granger Cause ROA</i> | 0.18903            | 0.8282             |
| <i>FDR does not Granger Cause ZKT</i> | 4.27656            | 0.0179*            |
| <i>ZKT does not Granger Cause FDR</i> | 1.11883            | 0.3327             |
| <i>NPF does not Granger Cause ZKT</i> | 23.8297            | 0.0000*            |
| <i>ZKT does not Granger Cause NPF</i> | 1.52357            | 0.2254             |
| <i>ROA does not Granger Cause DKB</i> | 1.23077            | 0.2986             |
| <i>DKB does not Granger Cause ROA</i> | 0.23443            | 0.7917             |
| <i>FDR does not Granger Cause DKB</i> | 3.32709            | 0.0419*            |
| <i>DKB does not Granger Cause FDR</i> | 0.01335            | 0.9867             |
| <i>NPF does not Granger Cause DKB</i> | 0.47146            | 0.6261             |
| <i>DKB does not Granger Cause NPF</i> | 0.13644            | 0.8727             |

Source: authors' compilation (2022)

Based on Table 5, ROA, FDR, and NPF are the cause of changes from ZKT, but ZKT is not the cause of changes in ROA, FDR, and NPF. There is a one-way relationship where changes in commercial activities (ROA, FDR, and NPF) cause changes in the distribution of Islamic banking *zakah* funds. FDR is the cause of DKB changes, and DKB is not the cause of ROA, FDR, and NPF changes. It is interpreted that the changes in the intermediation of Islamic banking resulted in changes in the distribution of Islamic banking welfare funds. Causality relationships in this study stated that changes in commercial activities resulted changes of social activities, but do not apply vice versa.

## **CONCLUSION**

The two-way relationship between commercial activity and social activity can be known if commercial activity and social activity influence each other. The study results concluded that the relationship occurs only one way, where commercial activities influence social activities, but do not apply vice versa. It is indicated that the social intermediation carried out by Islamic banking in Indonesia depends on banking intermediation. The distribution of social funds, both in the form of *zakah* funds and benevolent funds, tends to depend on the performance of Islamic banking in providing banking transaction services following *Sharia* principles and not as social institutions.

There have been limited studies; firstly, this study measured commercial activity based on Islamic banking financial ratios to further expand the commercial activity proxy with other variables on each contract performed by Islamic banking. Second, this study only explored Islamic banking in Indonesia, and it is necessary to observe this banking type in other countries. Third, social activities are only measured from the distribution of *zakah* and benevolence funds and do not include CSR in Islamic banking. Fourth, research can further expand the study by observing the impact of the Islamic banking economy's commercial and social activities on society.

Further research can examine in more depth the relationship between commercial and social activities of Islamic banking in the future or the sustainability of Islamic banking finance in developed and developing countries in terms of commercial and social activities. It is important to do this so that Islamic banking is capable and relevant to the times, as well as being a representation of the Islamic religion that is mercy for the whole world.

## REFERENCES

1. Abduh, M., & Azmi Omar, M. (2012). Islamic Banking and Economic Growth: the Indonesian Experience. *International Journal of Islamic and Middle Eastern Finance and Management*, 5(1), 35–47. [[link](#)]
2. Abdul-Baki, Z., & Uthman, A. B. (2017). Exploring the “Social Failures” of Islamic Banks: A Historical Dialectics Analysis. *Journal of Islamic Accounting and Business Research*, 8(3), 250–271. [[link](#)]
3. Abrigo, M. R. M., & Love, I. (2016). Estimation of Panel Vector Autoregression in Stata. *The Stata Journal: Promoting Communications on Statistics and Stata*, 16(3), 778–804. [[link](#)]
4. Ahmad, A. (2015). Islamic Attitudes towards Environmental Problems and Practices : A Case Study of the Muslim Community in Brunei Darussalam. *Worldviews: Environment, Culture, Religion*, 19(3), 209–225. [[link](#)]
5. Al-Omar, F., & Haq, M. A. (1996). *Islamic Banking : Theory, Practice & Challenges*. Zed Books.
6. Amaroh, S. (2016). Tanggung Jawab Sosial Bank Syariah Terhadap Stakeholder dalam Perspektif Maqâshid Syari’ah. *AHKAM: Jurnal Ilmu Syariah*, 16(1). [[link](#)]
7. Ascarya, & Suharto, U. (2021). Integrated Islamic Social and Commercial Finance to Achieve SDGs. In *Islamic Wealth and the SDGs* (pp. 105–127). Springer International Publishing. [[link](#)]
8. Ascarya, & Yumanita, D. (2005). Bank Syariah: Gambaran Umum. In *Seri Kebanksentralan* (Vol. 14, Issue 14). [[link](#)]
9. Asutay, M., & Harningtyas, A. F. (2017). Developing Maqasid al-Shari’ah Index to Evaluate Social Performance of Islamic Banks: A Conceptual and Empirical Attempt. *International Journal of Islamic Economics and Finance Studies*, 1(1), 5–54. [[link](#)]
10. Beck, T., Demirgüç-Kunt, A., & Merrouche, O. (2013). Islamic vs. Conventional Banking: Business Model, Efficiency and Stability. *Journal of Banking & Finance*, 37(2), 433–447. [[link](#)]
11. Canova, F., & Ciccarelli, M. (2013). *Panel Vector Autoregressive Models: A Survey* (pp. 205–246). [[link](#)]
12. Central Bureau of Statistics Republic of Indonesia. (2021). *The 2020 Population Census*.

13. Chong, S., & Liu, M. (2009). Islamic Banking: Interest-free or Interest-based ? *Pacific-Basin Finance Journal*, 17(1), 125–144. [[link](#)]
14. Dickey, D. A., & Fuller, W. A. (1981). Likelihood Ratio Statistics for Autoregressive Time Series with a Unit Root. *Econometrica*, 49(4), 1057. [[link](#)]
15. Dusuki, A. W., (2008). Understanding the Objectives of Islamic Banking: A Survey of Stakeholders' Perspectives. *International Journal of Islamic and Middle Eastern Finance and Management*, 1(2), 132–148. [[link](#)]
16. El-Gamal, M. A. (2006). *Islamic Finance*. Cambridge University Press. [[link](#)]
17. Enders, W. (2014). Applied Econometric Time Series Fourth Edition. In Wiley. [[link](#)]
18. Engle, R. F., & Granger, C. W. J. (1987). Co-Integration and Error Correction: Representation, Estimation, and Testing. *Econometrica*, 55(2), 251. [[link](#)]
19. Farahani, Y. G., & Dastan, M. (2013). Analysis of Islamic Banks' Financing and Economic Growth: A Panel Cointegration Approach. *International Journal of Islamic and Middle Eastern Finance and Management*, 6(2), 156–172. [[link](#)]
20. Grira, J., & Labidi, C. (2021). Banks, Funds, and Risks in Islamic Finance: Literature & Future Research Avenues. *Finance Research Letters*, 41, 101815. [[link](#)]
21. Hamid, F. S., & Ibrahim, M. H. (2021). Competition, Diversification and Performance in Dual Banking: A Panel VAR analysis. *Economic Research-Ekonomska Istrazivanja*, 34(1), 194–220. [[link](#)]
22. Hamidi, M. L., Worthington, A., West, T., & Ismal, R. (2019). The Prospects for Islamic Social Banking in Indonesia. *Journal of Islamic Monetary Economics and Finance*, 5(2), 237–262. [[link](#)]
23. Haniffa, R., & Hudaib, M. (2007). Exploring the Ethical Identity of Islamic Banks via Communication in Annual Reports. *Journal of Business Ethics*, 76(1), 97–116. [[link](#)]
24. Jati, K. W., Agustina, L., Muliasari, I., Armeliza, D., Putra, W. E., & Lubis, T. A. (2020). What Factors Do influence Islamic Social Reporting (ISR) Disclosure? Evidence from Indonesia. *International Journal of Recent Technology and Engineering*, 15(5), 50–55. [[link](#)]
25. Khan, F. (2010). How “Islamic” is Islamic Banking? *Journal of Economic Behavior and Organization*, 76(3), 805–820. [[link](#)]



26. Kholidah, H. (2018). Pengaruh Kinerja Sosial Terhadap Profitabilitas pada Bank Syariah The Effect of Social Performance to the Profitability of Islamic Banks. *The Internasional Journal of Applied Business TIJAB*, 2(November), 1–11. [[link](#)]
27. Laela, N. N., & Hasmarita, A. Ek. (2016). The Effect of Profitability on Zakat Expenditures on *Sharia* Banks. *Ekonomi Islam*, 15(1), 103–121. [[link](#)]
28. Lof, M., & Malinen, T. (2014). Does Sovereign Debt Weaken Economic Growth? A Panel VAR Analysis. *Economics Letters*, 122(3), 403–407. [[link](#)]
29. Lütkepohl, H. (2005). New Introduction to Multiple Time Series Analysis. In *New Introduction to Multiple Time Series Analysis*. Springer-Verlag. [[link](#)]
30. Mais, R. G., Sukoharsono, E. G., Rahman, A. F., & Mulawarman, A. D. (2019). *Concept of Corporate Social Responsibility According to Perspective of Ihsan on Sharia Banking*. 73, 178–181. [[link](#)]
31. Masra, Saleh, S., & Hamid, W. (2020). Analisis Kinerja Keuangan Ditinjau Dari Rasio Maqashid Syariah (Studi Kasus Pada Bank Umum Syariah Di Indonesia Periode 2014-2018). *Jurnal Manajemen Dan Kewirausahaan*, 12(2), 57–69. [[link](#)]
32. Nor, S. M. (2016). Islamic Social Bank: An Adaptation of Islamic Banking?. *Jurnal Pengurusan*, 46, 43–52. [[link](#)]
33. Pew Research. (2012). *The Global Religious Landscape*.
34. Puspasari, R., & Mawardi, I. (2015). Pengaruh Kinerja Sosial Terhadap Profitabilitas Bank Syariah. *Jurnal Ekonomi Syariah Teori Dan Terapan*, 1(7), 456. [[link](#)]
35. Rhamadhani, R. F. (2017). Pengaruh Zakat terhadap Kinerja Perusahaan (Studi Empiris pada Bank Umum Syariah di Indonesia). *HUNafa: Jurnal Studia Islamika*, 13(2), 344. [[link](#)]
36. Romadhani, E. L., & Wahyudi, R. (2015). Pengaruh Islamic Corporate Identity (ICI) terhadap Kinerja Bank Syariah di Indonesia. *Muqtasid: Jurnal Ekonomi Dan Perbankan Syariah*, 6(2), 125. [[link](#)]
37. Rosman, R., Haron, R., & Othman, N. B. M. (2019). The impact of zakĀt contribution on the financial performance of islamic banks in malaysia. *Al-Shajarah*, 2019 (Special Issue Islamic Banking and Finance 2019), 1–21. [[link](#)]

38. Sidik, I., & Reskino, R. (2016). Zakat and Islamic Corporate Social Responsibility: Does It Take Effect to the Performance of Shari'a Banking? *Shirkah: Journal of Economics and Business*, 1(2), 161. [[link](#)]
39. Zarrouk, H., Ben Jedidia, K., & Moualhi, M. (2016). Is Islamic Bank Profitability Driven by same Forces as Conventional Banks? *International Journal of Islamic and Middle Eastern Finance and Management*, 9(1), 46–66. [[link](#)]