

# Relationship in commercial and social activities of Islamic banks: lessons from Indonesia

*by* Budi Sukardi

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## Relationship in commercial and social activities of Islamic banks: lessons from Indonesia

### ABSTRACT

**Purpose** — The empirical exploration reveals the relationship between commercial activities and social activities in Islamic banking. Commercial activities are based on the performance of Islamic banking which is reflected in its business activities regarding financial's ratio, while social activities are based on the distribution of zakat funds and benevolence funds.

**Method** — This study used a Panel Vector Error Correction Model (PVAR) model equipped with the use of <sup>7</sup>Impulse Response Function (I.R.F), Variance Decomposition (V.D.C) analysis, and Granger Causality. The sample used is eight Islamic banks in Indonesia, where this research sample is equivalent to 72.72% of the total population of Islamic banking in Indonesia with an observation period of 2010-2020. Data collection refers to the annual <sup>5</sup> financial report. Commercial activities are based on Islamic banking financial ratios which are proxied through Return on Assets (ROA), Financing to Deposit Ratio (FDR), and Non-Performing Loans (NPF) while social activities are based on the amount of zakat fund distribution (ZKT) and benevolence fund distribution (DKB).

**Result** — The results show that Islamic banking social activities are influenced by commercial activities, while Islamic banking commercial activities are not influenced by Islamic banking social activities. In other words, there is a one-way relationship between commercial activities and Islamic banking social activities.

**Recommendation** — First, this study measures commercial activity based on Islamic banking financial ratios, to further expand the commercial activity proxy with other variables on the activity of each contract performed by Islamic banking. Second, this study only explores Islamic banking in Indonesia. <sup>10</sup> is necessary to observe Islamic banking in other countries. Third, social activities are only measured from the <sup>4</sup> distribution of zakat funds and the distribution of benevolence funds and do not include Islamic banking CSR. Fourth, further research can further expand the study by observing the impact of commercial activities and social activities of Islamic banking on the economy in society. Islamic banking social activities in Indonesia depend on the achievement of commercial activities, meaning that the position of Islamic banking social activities is not seen as the main activity.

**Originality** — This study attempts to reveal <sup>7</sup> the relationship between commercial activities 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:** Sharia 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. 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, the social impact provided by Islamic banks is considered still 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; Wajdi 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 of conventional banking is only oriented toward the maximisation of profits (Wajdi Dusuki, 2008).

The perception that Islamic banks' concern <sup>25</sup> 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 (Gudarzi 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).

## LITERATURE REVIEW

### Sharia Banking Commercial Activities

In being a business entity (*tamwil*), Islamic banking is no different from conventional banking. Both Islamic and conventional banking carry out intermediation activities, namely <sup>18</sup>lecting and distributing public funds (Abduh & Azmi Omar, 2012). The fundamental difference between Islamic banking and conventional banking lies in the compliance of Islamic banking with Islamic legal regulations. Islamic banking uses a system based on buying and selling, leasing, and profit-sharing as a substitute for the usury system used by conventional banking. In product development, Islamic banking must ensure that the products offered are congruent with the rules of sharia law through fatwa decisions from Ulama. In addition, there is a Sharia Supervisory Board (DPS) at the institutional level and at the national level, which is included in the organisational structure of sharia banking (Ascarya & Suharto, 2021).

There is no prohibition on Islamic banking to do business to profit (Gudarzi Farahani & Dastan, 2013). Based on the corridor of Islamic law, Islamic banking is allowed to channel financing and investment if there is no interest in the distribution. As a business institution, Islamic banking activities in obtaining income and profits must not come from usury activities, investment in the forbidden sector (*haram*), speculation (*maysir*) and uncertainty (*gharar*) (Jawadi et al., 2016). In Islam, the circulation of wealth must rotate so that assets can still be productive and earn income.

Intermediation activities carried out by asset-based Islamic banking are accompanied by risk-sharing, while intermediation activities in conventional banking tend to be dominated by the distribution of debt-based funds, which can be seen in the transfer of risk (Zarrouk et al., 2016). Conceptually, as expressed by Beck et al. (2013), Islamic banking operations are different from traditional banking concepts. Thus, risk sharing is one of the main distinguishing characteristics of partnership-based sharia products where Islamic banks and their customers are equally exposed to business and financial risks (including the risk of default), while conventional banking transfers business risks to customers regularly exposed to credit risk (Grira & Labidi, 2021).

According to Al-Jarhi (2017), in the concept of Islamic finance, obtaining returns from capital is the result of a willingness to participate in productive businesses by taking risks. Islam encourages the circulation of capital by stipulating zakah on idle assets and prohibiting profit by imposing interest on the provision of capital. With this concept, it can guarantee the circulation of capital in the real economic sector of the community so that Islamic banking as an intermediary institution can contribute to socio-economic development because it has a close relationship with the real sector in its operations. Furthermore, according to Jawadi et al. (2016), in Islamic economic principles, money is seen not as a productive asset but as an instrument of exchange, and individuals are not the owners of their wealth.

In general, in conducting the principle of banking intermediation as an institution that distributes financing, Islamic banking financing products can be grouped into sales-based products, rental-based products, and partnership-based products. Sales-based products are those contained in murabahah, salam, and istisna contracts. As a business institution, the return obtained by Islamic banking from sales-based products is the difference between the selling price, which is higher than the purchase price (spread). Lease-based products, such as those contained in ijarah contracts, where the return obtained by Islamic banking comes from the payment of rental services. Partnership-based products such as those contained in mudharabah and musyarakah contracts. In addition, product combinations incorporate contracts, such as ijarah muntahiya bi-tamlik, a combination of ijarah and murabahah and musyarakah mutanaqisah, which is a combination of musyarakah and murabahah.

### **Islamic Banking Social Activities**

In Islam, an integrated unit between the individual and society (Hassan & Salma Binti Abdul Latiff, 2009). Altruistic behaviour is part of Islamic teachings because it is related to social solidarity. Between elements of the Muslim community is a unity where one another is one body and mutually supports one another (Bayinah et al., 2021). Menurut Ascarya & Suharto (2021), there is no dichotomy between commercial and social activities in Islamic teachings. In the muamalah field, it is not permissible in Islam to have a dichotomy between profit-taking and provision of social assistance as contained in the verse of the Qur'an, which states, "In their property, there are certain rights for those who ask for help and for those who are not given the opportunity" (Al-Qur'an, 70: 24-25; 51: 19). Therefore, it is essential for Islamic banking as a sharia business entity to prioritise and promote homo-Islamic behaviour and not as one who runs its entity as a homo-economy (Nor, 2016).

Islamic banking is an entity bound by Islamic ethical values and principles, so the alignment of ethical objectives and sharia and social rules should be upheld rather than the motive of

maximising profits (Wajdi Dusuki, 2008). Justice and brotherhood as a strong commitment guided by Islam require business entities to be involved in several community needs (Hassan & Salma Binti Abdul Latiff, 2009). Although as a business entity where profitability<sup>22</sup> part of the priority interests, this is not the only element in evaluating the performance of Islamic banking.

The existence of Islamic banking is in the context of serving the community's interests, both from the point of view of material and social objectives (Al-Omar & Haq, 1996). Doing business by maximising profits is justified by Islam as long as profits do not violate the limits of compliance with sharia rules and Islamic business ethics (Haniffa & Hudaib, 2007). Thus, in carrying out its social activities, Islamic banking carries out social services through benevolence funds (qardhul hasan), zakat, and other social funds under Islamic principles (Kholidah, 2018).

### **Zakah Fund and Benevolent Fund in Islamic Banking**

Islam emphasises social justice, so Islamic Banking bears greater social responsibility than Conventional Banking. One of the social contributions inherent in Islamic Banking is managing zakat, alms, and qardhul hasan funds (Haniffa & Hudaib, 2007). In Indonesia, laws and regulations mandate Islamic banking to carry out social activities through the Sharia Banking Law, wherein clause four explains that Islamic banking has the task of managing social funds by collecting and distributing Islamic social funds in the form of zakah funds, alms, infaq, and waqf and getting involved in distributing benevolent funds (Kholidah, 2018). So, Islamic banking must manage zakah, infaq, sadaqah and waqf funds, and qardhul hasan, which includes income that is not following Islamic law (Mais et al., 2019), so that it can be collected and distributed according to its designation.

As part of the pillars of Islam, which ranks third, zakah as one of the Islamic social financial instruments, is obligatory almsgiving in the amount of 2.5 per cent of income per year with predetermined recipient criteria classified into eight groups (Saad et al., 2017), as explained in Al-Qur'an, 9: 60. In addition, Al-Qur'an, 3: 180 and 9: 35, explains that Allah SWT gives a warning to people who are reluctant to spend the wealth that has been given by Allah SWT both to themselves and the rights of others with the promise of punishment on the Day of Resurrection (Aydin, 2015). Therefore, the payment of zakah by a Muslim can be interpreted as a command from Allah SWT to help each other.

Several benefits will be obtained by issuing zakah. Zakah is an instrument for cleaning and purifying property as contained in the Qur'an, 9: 103. In addition, Al-Qur'an, 5: 12 explains that by paying zakat, Allah SWT will forgive his sins. This is, of course, reinforced that the worship of prayer and the payment of zakah is a series of worship that must be carried out and cannot be separated as described in the Qur'an, 2: 43. From an economic perspective, zakah instruments are seen as a means of income redistribution that encourages economic growth and development and reduces income inequality (Farouk et al., 2018).

As a sharia business entity, Islamic banking must pay zakah without exception (Ismail & Khir, 2010). In Indonesia, the issuance of zakah conducted by Islamic banking is a manifestation of the responsibility of Islamic banks in the social sector as accommodated in Law Number 23 of 2011 concerning Zakah Management, where zakah payments can be made by business

entities and then paid to the Amil Agency National Zakah (BAZNAS) or Amil Zakah Institution (LAZ).

In addition to managing zakah funds, Islamic banking also manages virtue funds. The source of sharia banking virtue funds, as recorded in the Sharia Banking financial statements, comes from income that is not in accordance with sharia compliance (Anam, 2017), imposition of fines for late payment of sharia financing facilities (Puneri et al., 2020), and infaq and alms funds. The income that is not in accordance with sharia compliance is one of the risks of Islamic banking related to compliance risk (Ashraf & Lahsasna, 2017).

These benevolent funds are treated by Islamic banking as qardhul hasan funds (Mais et al., 2019). Qardhul Hasan is a loan that is given without being charged interest so that the amount of return is according to the required capital at the end of the period (Izadyar & Ragnath, 2014). Not charging interest is a sign of an element of intention to do good and a sense of generosity as a form of virtue (Mohseni-Cheraghlo, 2015).

Qardhul Hasan is an important instrument for Islamic banking in order to provide financing in the form of loans by segmenting low-income groups (Zauro et al., 2016) so that with Qardhul Hasan of micro-businesses and entrepreneurs who want to open micro-businesses can apply for lighter financing than applying for financing to conventional banks (Aydin, 2015). Willingness to give a Qardhul Hasan loan will get a reply from Allah SWT, as promised a double return (Muneer & Khan, 2019).

**Table 1. Previous Studies**

Author's	Method	Result
Jati <i>et al.</i> (2020)	Panel data regression	Profitability and leverage do not affect Islamic banking social performance reporting, while sharia liquidity and compliance affect dependent variables.
Widiastuty (2019)	Panel data regression	The size of the bank has a positive effect on the expenditure Zakah of Islamic banks. Capital risk and inflation do not negatively affect the expenditure Zakah of Islamic banks.
Rosman <i>et al.</i> (2019)	Panel data regression	The contribution of zakah has a significant positive effect on the financial performance of Islamic banks, namely business profit.
Kholidah (2018)	Multiple linear regression	Zakah has a significant positive effect on net income. Mudharabah-Musyarakah and Qardh financing had no significant effect on net income at Islamic commercial banks. Mudharabah and Musyarakah, Qardh and Zakah financing simultaneously significantly influence net income in Islamic banking.
Masulah <i>et al.</i> (2016)	Multiple linear regression	Financial performance based on profitability ratio (ROE), liquidity ratio, and solvency ratio (DER) significantly affects Islamic banks' ability to pay zakah.
Sidik & Reskino (2016)	Logistic regression	Zakah Islamic banking has a positive effect on the company's reputation and performance. On the other hand, ICSR has a positive and significant effect on the company's reputation but has no significant effect on the company's performance.
Laela & Hasmarita (2016)	Panel data regression	The profitability ratio (ROA) and (ROE) significantly affect zakah expenditure. The profitability ratio (ROA) significantly affects zakah expenditure, while

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the profitability ratio (ROE) has no significant effect.

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There have not been many studies 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.

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.

There have been limited studies concerned; 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 Islamic banking 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. The Practical Implication concerns that Islamic banking social activities in Indonesia depend on the achievement of commercial activities, meaning that the position of Islamic banking social activities is not seen as the main activity.

## RESEARCH METHODS

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, which is eight Islamic commercial banks including financial statements from 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. Sampling presented 72.72% of the 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:

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

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

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

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

(6)



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

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 results at the level obtained results in the following Table 2.

Variable(s)	Statistic	Probability	Stationarity
ROA	65.8218	0.0000*	Stationer
FDR	28.0578	0.0311*	Stationer

NPF	29.5274	0.0206*	Stationer
ZKT	71.5984	0.0000*	Stationer
DKB	65.8218	0.0000*	Stationer

Source: authors' compilation (2022)

Each variable is based on the level's stationary root test unit results. As explained above, the cointegration test is not conducted and does not use the Vector Error Correction Model Panel. Here is the optimum lag length based on the determination of the Akaike Information Criterion (AIC):

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Table 3. 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 3 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:

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Table 4. 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 4 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 5. 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					

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 table above, the first level obtained results in the PVAR model using an optimum lag. Namely, the PVAR ROA equation model as a dependent variable, a commercial activity from the profitability aspect of Islamic banking, obtained the result that none of the variables significantly affects ROA. It is indicated that the profitability of Islamic banking is not affected by social activities. This finding is different from the study results, where zakah has a significant effect 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 that the FDR of Islamic banking is only influenced by itself with the relationship formed is positive. 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 Islamic banking liquidity. Profitability and liquidity risk have a positive relationship to the distribution of Islamic banking zakah. The increase influences the distribution of Islamic banking zakah in profitability and liquidity risk.

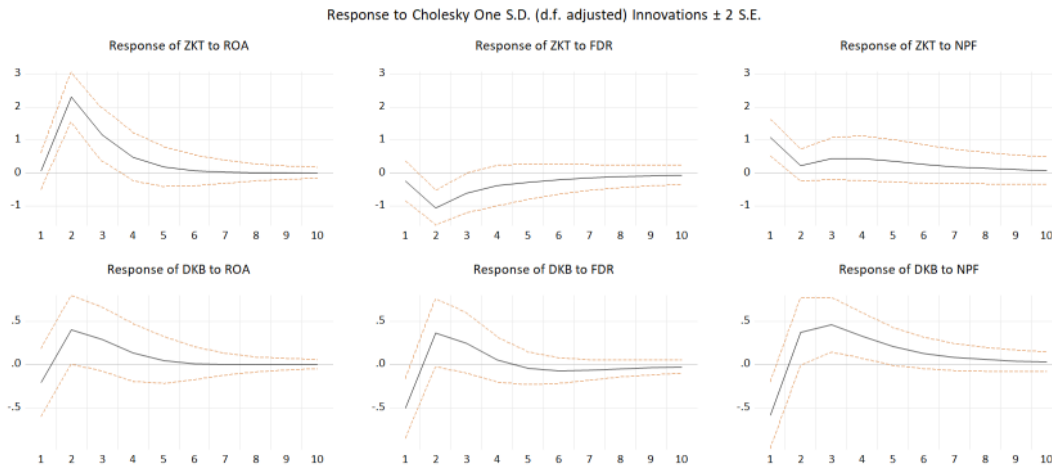
Intermediation of Islamic banking through the distribution of Islamic banking financing has a negative relationship that indicates that the distribution of Islamic banking zakah in the current period will decrease if there is an increase in the distribution of financing carried out by Islamic banking in the previous period. This finding is in line with the study of Laela & Hasmarita (2016), where profitability significantly affects the expenditure of Islamic banking zakah. In addition, this study is also in line with the results of research where FDR has a significant effect on the distribution of Islamic banking zakah. On the other hand, this study is different from the research of Romadhani & Wahyudi (2015). ROA and NPF have no significant effect on the distribution of Islamic banking 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 banking's 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.

**Graphic 1. Commercial Activity Shocks and Social Activity Response**

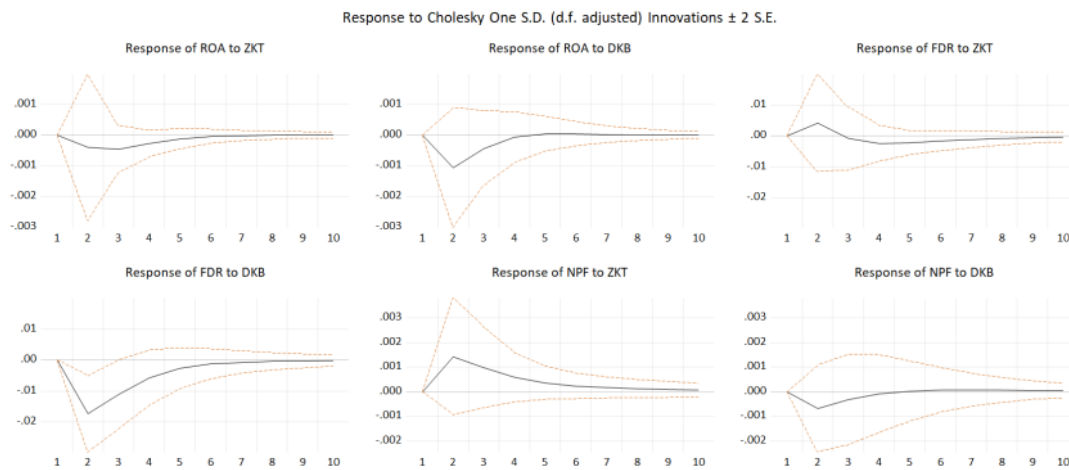


Source: authors' compilation (2022)

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 banking 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 banking 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 **6** liquidity risk, the distribution of Islamic banking 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 liqu**6**ity 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.

**Graphic 2. Social Activity Shocks and Commercial Activity Response**



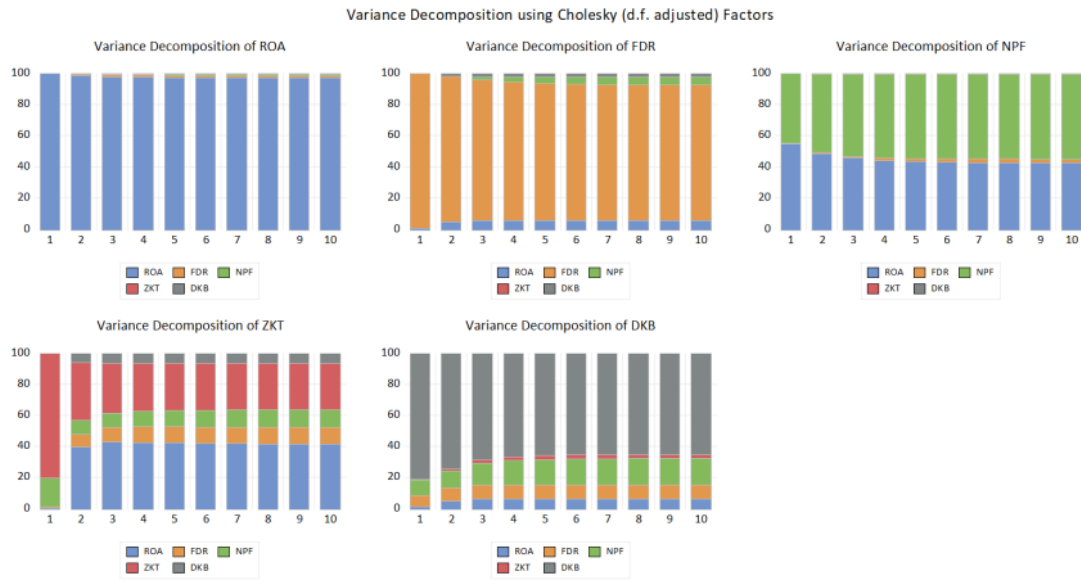
Source: authors' compilation (2022)

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, but 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 Graphic 3.

**Graphic 3. Variance Decomposition**



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. When there is a correction in ZKT, both 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 6 as follows:

**Table 6. Output Model Granger Causality**

<b>4</b>	<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

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*DKB does not Granger Cause NPF*

0.13644

0.8727

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Source: authors' compilation (2022)

Based on Table 6, 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 result in changes in the distribution of Islamic banking welfare funds. Causality relationships that are formed can be stated that changes in commercial activities result in social activities but do not apply otherwise.

## CONCLUSION

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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 transactions influence social transactions but do not apply otherwise. 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.

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 *rahmatan lil'alam*.

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