THE DISTRIBUTION OF PROFITS AND LOSSES, AS WELL AS MONETARY POLICY, IN ISLAMIC BANKS INDONESIA

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ABSTRACT

Profit and loss distribution in Islamic banking financing is based on the principles of fairness and risk sharing between banks and customers. Islamic banking activities channel financing are an effort to move the economic sector. This study intends to examine the short- and long-term link between monetary policy and Mudharabah contract finance, as well as the shocks caused by changes in monetary policy and the contribution of each variable during shocks. The research makes use of a vector error correction model, which is applied to monthly data spanning the years 2004 to 2022. The sample population for the study is comprised of a number of Islamic commercial banks and business units. The findings of the research on interest rates have an effect on financing through Mudharabah contracts in both the short and long terms, but solely on inflation in the long term. However, the exchange rate does not affect the short or long term. Islamic banks must implement a portfolio of Mudharabah contracts and prepare reserve funds when a shock occurs. In Mudharabah contracts, financing Mudharabah is affected by interest rates, both short-term and long-term, but only long-term financing is affected by inflation. The most important change is the change in interest rates. If a change in a financial indicator causes a shock, Islamic banks need to set up reserve funds so they can handle it. To make Islamic banking more competitive, the government needs to keep taking it as seriously as setting interest rates.

INTRODUCTION

The basic responsibility of Islamic banking is to first amass financial resources from the general populace and then to disperse those resources among the populace. The dissemination of funds through Sharia-compliant banking is an effort made to propel the economic sector forward. In countries with an open economic system, the monetary policy aims to foster a macroeconomic environment that will indirectly influence finance distribution. Countries with banking systems study the monetary policy transmission process using a variety of methodologies (Çatık & Martin, 2012; Pacicco et al., 2019).

Furthermore, much research has shown how monetary policy affects macroeconomic indices like economic growth and inflation rates (Caporale et al., 2020). Typically, monetary policy differs between phases of economic boom and economic recession (Dendramis et al., 2018; Mora, 2015). The central bank's response during an economic recession has a more significant impact than during economic expansion (Bilgin et al., 2020; Cieslak & Schrimpf, 2019). Since Islamic banks forbid interest rates and funding for productive firms, there is little proof of the economic impact of countries having dual banking systems (Šeho et al., 2020).

Speculative finance is prohibited in Islamic banks because it can lead to price increases that are detrimental to the actual economy, economic efficiency, and social fairness, as well as being contrary to sharia law (Caporale et al., 2018). A panel-VAR model for credit and deposits on lending channels in Turkish banks, considering that credit and deposits react differently to varying interest rates (Aysan et al., 2018). On the other hand, the response of monetary authorities is not the same throughout periods of economic expansion and contraction.

According to the Vector Autoregression (VAR) model findings, conventional bank credit in Malaysia is more susceptible to shifts in interest rates than Islamic bank credit, which results in conventional banking becoming more unstable (Kassim et al., 2009). Most earlier studies on dual banking systems employed standard VAR methodologies and neglected new advances in the macroeconomic literature demonstrating asymmetric policymaker reactions to shocks (Aysan et al., 2017; Sukmana & Kassim, 2010).

Ibrahim & Sukmana (2011) , for example, evaluate the dynamic connection between Islamic finance and key macroeconomic and financial factors in Malaysia, and this is only one of several studies that explore Islamic financing. Adela (2018) investigated the impact of using the Musyarakah rate of return as a substitute for interest rates on economic activity and monetary policy in an Islamic economic framework. Masrizal & Trianto (2022) conducted research to determine the effects of PLS financing as well as non-PLS financing on the real estate market in Indonesia. Ibrahim et al. (2021) investigated the dynamic relationship between profit and loss sharing and various banking-specific and macroeconomic variables, as well as religiosity in Indonesia. Mubarok et al. (2020)

performed an investigation into the impact that shifts in macroeconomic variables have on Islamic bank funding through the use of Musharaka contracts.

In Indonesia, profit-sharing-based financing instruments consist of two contract schemes, namely Mudharabah and Musharaka. The capital in the Mudharabah contract can only originate from one party; however, in the other contract, capital can come from multiple parties. In contrast, the Musharaka contract's capital originates from two or more parties. Contract-based finance is an alternative to traditional bank borrowing based on the interest rate. This capital financing prioritizes the joint allocation of rewards and risks based on the performance of the investment.

This study focuses on the distribution of funding in a profit-sharing contract scheme utilizing a Mudharabah contract. A monetary transmission will indirectly affect the finance provided by a profit-sharing contract during the distribution process. The profit-sharing contract then responds to monetary policy transmission shocks. This paper offers a relevant econometric framework for studying monetary policy transmission to the literature on Islamic financing. In particular, this is the first time we have studied in the context of a nonlinear model the potential response of profit-sharing contracts to shocks in monetary policy transmission.

The differences from previous research are first, the use of financing data using MMudharabah contracts in Islamic banking in Indonesia. Most previous studies tend to focus on Murabahah contracts or other contracts, while this study focuses on financing with MMudharabah contracts, which is a form of profit and loss sharing financing that is more complex and requires more bank involvement in its management. Second, this study also considers external factors such as interest rates, exchange rates, and inflation, which have an impact on the research results. Thirdly, vector error correction model (VECM) analysis is employed in this study because it permits the evaluation of both short- and long-term model errors. In addition, VECM also allows to evaluate the interaction between the variables simultaneously, thus providing more accurate results in analyzing the dynamic relationship between the variables.

LITERATURE REVIEW

The banking industry is vital to a nation's economic growth. This sector is still susceptible to macroeconomic uncertainty, which increases credit and bank financing risks. Instability in the banking industry can also contribute to systemic hazards, which can put the overall financial system's stability at risk. Within the framework of Islamic banking, profit and loss sharing (PLS) financing schemes are seen as an exceptional characteristic that sets it apart from traditional banking. PLS financing, which is based on profit and loss

sharing between the bank and the borrower, helps to reduce the risk exposure that the bank is subject to. Yet, there has only been a limited adoption of PLS financing, and there is a pressing need to analyze the effect that it has had on the banking sector as well as the economy as a whole. In addition, monetary policy plays a significant part in the process of preserving financial stability. For of this, it is essential to investigate the ways in which such policies influence Islamic financial institutions, particularly in the context of PLS financing. So, the goal of this research is to examine how monetary policy affects the profit and loss profiles of Islamic banks in Indonesia.

Islamic financing and Malaysia's macroeconomic and financial factors were studied by Ibrahim & Sukmana (2011) Based on the findings, we know that interest rates are a major causal factor between Islamic financing and stock market returns, but neither real output nor real stock market returns are major causal factors between Islamic financing and Islamic financing. This may suggest that Islamic financing in Malaysia is resistant to changes in the stock market or in real economic activity, but nevertheless susceptible to changes in interest rates and other monetary variables. The research also shows that Islamic banks in a dual banking system are vulnerable to market swings.

Adela (2018) investigated the impact of using the Musyarakah rate of return as a substitute for interest rates on economic activity and monetary policy in an Islamic economic framework. The findings suggest that replacing the concept of interest rate with the Musyarakah rate of return can help central banks control monetary policy, encourage efficient resource allocation, and impact the money market. Masrizal & Trianto (2022) conducted research to determine the effects of PLS financing as well as non-PLS financing on the real estate market in Indonesia. The findings showed that PLS financing has a positive contribution to Indonesia's economic growth, and has a greater impact on growth than non-PLS financing, both in the short and long run.

Ibrahim et al. (2021) investigated the dynamic relationship between profit and loss sharing (PLS) financing and various banking-specific and macroeconomic variables, as well as religiosity in Indonesia. The research findings suggest that PLS financing is immune to changes in interest rates, making it a viable alternative to the monetary channel in Indonesia's dual banking system. However, this immunity also highlights the need to improve bankers' skills in managing moral hazard and asymmetric information risks.

Cross-border purchases in the United Kingdom from 1987 to 2008 were researched by Boateng et al. (2014), who looked at the impact of macroeconomic conditions on these transactions. They employ the autoregressive/vector error correction model with seven variables (VAR/ VECM). Money supply, GDP, stock price, real effective exchange rate, and other home country macroeconomic factors explain UK cross-border purchase outflows. Nevertheless, inflation and interest rates will make it harder for people in the United Kingdom to buy things from other countries. These findings support the notion that

domestic macroeconomic conditions might produce benefits for the expansion of cross-border acquisitions in the United Kingdom.

Clark & Kassimatis (2015) study macroeconomic variables' explanatory and predictive potential that lead to government credit spreads. This study focuses on many macroeconomic elements associated with a market value to reflect investors' predictions for future economic performance. A nation seeking to reduce its financing costs should finance activities in its currency. Alternatively, employ a currency connected with economic rewards if this is impossible.

Lin et al. (2016) examined the variables Crisis, Industrial Production Index (IPI), Bank Indonesia Certificates (SBI), Inflation, Exchange Rates, Money Supply, and crises in conventional banks' credit and Islamic bank financing using panel data. During a financial crisis, only two variables (the exchange rate and the money supply) have a substantial impact on the risk of funding in Islamic banks. Conventional banks, on the other hand, consider all risk indicators, including IPI, when determining a customer's ability to pay.

Minetti & Peng (2018) use the Keynesian Dynamic Stochastic General Equilibrium (DSGE) model to evaluate the influence of the macroprudential lending policy of the People's Bank of China. The findings indicate that countercyclical credit policies are essential for stabilizing the real economy. Moreover, macroprudential credit policies can considerably improve the economy and the entrepreneurial sector.

Nazemi & Fabozzi (2018) conducted research to investigate the correlation between the recovery rate of corporate bonds issued in the United States and the macroeconomic variables that are utilized to gauge credit risk. Mora (2015) shows that macroeconomic factors and their influence at the industrial level are essential. In addition to revealing how economic shocks are with industrial downturns, these results provide a methodology for examining aggregate risk in recovery and macroeconomics—at least Absolute Depreciation and Selection Operator-based Macroeconomic Variables (LASSO).

Hamza & Saadaoui (2018) study how the debt financing channels of Islamic banks work to send money around the economy. The goal is to see if these routes are operating and how Islamic banks react to interest rate fluctuations. The study examines how profit-sharing investment accounts (PSIA) may affect debt financing channels. This funding stream is more stable for Islamic banks than standard bank deposits. Islamic banks' debt assets are dependent on growth, capital, asset liquidity, and PSIA. Besides asset liquidity and bank size, PSIA's growth rate lowers the negative impact of interest rates on debt financing growth, underscoring the importance of deposits in monetary transmission.

El Alaoui et al. (2019) use the wavelet technique to discuss the function of money in the Malaysian economy based on a macroeconomic model. His research explores how the financial crisis affects stocks, industrial output, currency rates, interest rates, Malaysia's

money supply, and inflation. Several significant connections have been found between Malaysian Monetary Policy and the primary monetary aggregates, i.e., the amount of money, the interest rate, and the exchange rate, which account for part of the lead-lag and these essential variables.

RESEARCH METHODS

This study receives monthly contributions of data from the Central Statistical Agency (BPS), the Financial Services Authority (OJK), the Bank of Indonesia (BI), and the Pacific Exchange Rate Service. This study material is presented as a list of monthly dates, beginning in 2004 and continuing through 2022. The research sample is comprised of Islamic Commercial Banks (BUS) and Sharia Business Units (UUS), in addition to financing through a Mudharabah contract (MUD), the Rupiah exchange rate per US Dollar (EXCR), inflation (IFLS), and interest rate (SKBG).

Using Vector Autoregressive (VAR), researchers can find answers to their questions. Using the VAR model to examine how monetary policy affects profit-sharing financing in Indonesia has several intriguing aspects. A nonlinear reaction to monetary policy shocks is possible because of the possibility that their impact will be dependent on economic conditions. Structural shocks affect the threshold variable over time, making it an endogenous variable. On non-stationary data (VAR data), the impulse response function depends on how big and what kind of signal it is. Long-term forecasting models, such as the Vector Error Correction Model (VECM), are often built by coupling a VAR model with an error correction model via first-difference differencing.

A series of tests were conducted to ensure the validity of the VAR and VECM analysis: data stationarity, stability, optimal lag, cointegration test, definition of the general model of VECM, study of the Impulse Response Function (IRF), and Variance Decomposition (VD). Where yt is a vector of size (n.1) with n variables in a VAR model, A0 is an intercept vector of size (n.1), Ai is a coefficient/parameter matrix of size (n.n) for each i = 1,2,..., p, and e_t is an error vector of size (n.1) (n.1).

$$y_t = A_0 + A_1 y_{t-1} + A_2 y_{t-2} + \dots + A_p y_{t-p} + e_t$$

Shrestha & Bhatta (2018) suggested a methodological framework that can help in choosing an appropriate method to analyze time series data. This methodological framework consists of several steps, namely identifying the specific properties of time series data, selecting an appropriate analysis method based on those properties, and validating the analysis results with appropriate statistical tests.

RESULT AND ANALYSIS

Stationary Test

Data from time series almost always include unit roots, which might make the data non-stationary at the level where they are measured. The results of using data with unit roots are typically reliable, however these findings cannot explain the true circumstance. Because of this, it is essential to carry out a stationary test on every variable.

Table 1. Unit Root Test Results

Indicator	Augmented Dickey-Fuller		Phillips-Perron	
	Level	Difference	Level	Difference
MUD	0.0000*	0.0000*	0.0000*	0.0000*
EXCR	0.5433	0.0017*	0.5470	0.0000*
IFLS	0.2400	0.0000*	0.2090	0.0000*
SKBG	0.3364	0.0000*	0.1635	0.0000*

*significant at 5%

Results show that data for EXCR, IFLS, and SKBK are not stationary at the level, but they are stationary at the difference, whereas data for MUD are stationary at both the level and the difference, according to these tests. Because of this, the data are not stationary at the level, and a degree of integration test, which requires stationary data to some extent for accuracy, cannot be performed.

Cointegration Test

The objective of the cointegration test is to establish whether or not the non-stationary variables are in fact cointegrated. Cointegration refers to a situation in which the linear combination of two or more non-stationary variables will result in the production of stationary variables. Nevertheless, when examined alone, it is not stationary; nevertheless, when viewed as part of a linear combination, it will be stationary.

Table 2. Cointegration Test Results

Hypothesized	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.447368	347.8776	63.87610	0.0000
At most 1 *	0.369313	220.3689	42.91525	0.0000
At most 2 *	0.350125	121.2657	25.87211	0.0000
At most, 3 *	0.124579	28.60587	12.51798	0.0001

*Cointegration

This test is important because it can determine the effect of all of the many variables that were considered in this investigation on the connection over time. The findings of the Johansen Cointegration Test indicate that there is cointegration between the major proxy for the MUD variable and the MUD variable itself. Therefore, in order to answer the research objectives, this study employs the VECM approach.

Optimal Lag Test

Perform an optimal lag test in order to establish the ideal amount of lag when assessing variables before moving on to the next stage, which is the VAR structural analysis stage. This test is required. The likelihood ratio (LR), final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC), and Hannan-Quinn criterion were used in the testing to determine the optimal lag length (HQ).

Table 3. The Best Optimal Lag for the Model

Lag	LogL	LR	FPE	AIC	SC	HQ
0	413.1841	NA	2.34e-07	-3.915637	-3.851669	-3.889774
1	963.7507	1074.790	1.41e-09*	-9.031107*	-8.711267*	-8.901794*
2	969.0506	10.14340	1.56e-09	-8.928714	-8.353001	-8.695950
3	974.5786	10.36834	1.72e-09	-8.828504	-7.996918	-8.492289
4	978.9293	7.993560	1.93e-09	-8.717027	-7.629569	-8.277361
5	984.0244	9.166265	2.14e-09	-8.612674	-7.269343	-8.069557
6	993.0937	15.96891	2.29e-09	-8.546351	-6.947148	-7.899784
7	1004.874	20.29094	2.39e-09	-8.505968	-6.650893	-7.755951
8	1023.071	30.64749*	2.35e-09	-8.526992	-6.416044	-7.673523

*Lag alternative

The value of the Schwarz Information Criterion (SC) that is the least significant or the minimum is used to determine the ideal amount of lag. If just one candidate interval meets the information criterion, then that interval will be chosen as the optimal interval length, and the estimation process will move on to the next step. Lag 1 was chosen as the optimal option since it had the minimum SC among the other options.

Short-Term and Long-Term Integration Relationship

Short-term and long-term integration relationships are terms used in econometrics and time series analysis to explain the relationship between two or more variables over distinct time frames. In short-term integration, the link between two variables is studied during a little time span, often within a single time period or few consecutive time periods.

This form of study is beneficial for determining how two variables may interact in the short term.

Table 4. Short-Term and Long-Term Test Results

Indikator	Coefficient	Standard Error	t-statistic
Short-term			
CointEq1	-0.014636	(0.00308)	[-4.75765]*
EXCR	-0.009282	(0.08284)	[-0.11205]
IFLS	-0.029186	(0.01810)	[-1.61258]
SKBG	0.078022	(0.02561)	[3.04702]*
C	0.010138	(0.00315)	[3.22190]*
Long-term			
EXCR	-1.921728	(1.76859)	[-1.08659]
IFLS	-1.394322	(0.49510)	[-2.81622]*
SKBG	3.973535	(1.06449)	[3.73282]*
C	13.93597		

*significant 5%

Long-term integration, on the other hand, examines the link between two variables over a longer time frame. This form of study is beneficial for understanding how two variables may influence each other in the long run and how their relationship may vary over time. To comprehend the dynamics between variables in a time series analysis, both short- and long-term integration relationships are essential. By evaluating both types of correlations, this research can acquire a more thorough understanding of how factors interact with one another throughout varying time periods and how these relationships may evolve over time.

Exchange Rate

The results found that the exchange rate (EXCR) does not affect Islamic banking financing using Mudharabah contracts in the short and long term. Islamic banking financing using Mudharabah contracts is not affected by the exchange rate. This can be explained by several reasons related to the principle of profit sharing, business risk, and fixed contracts in Mudharabah contracts.

Basically, the profit-sharing principle is the basis of financing with Mudharabah contracts. The investor provides funds as capital, while the fund manager is responsible for the management of the funds and gets a share of the profits generated from the funded business activities. Therefore, the rupiah exchange rate does not affect Islamic

banking financing with Mudharabah contracts because the profit-sharing principle is not related to currency exchange rates.

In addition, business risk is an important factor in Mudharabah contracts. Fund managers are responsible for business risks and there is no guarantee of return of principal. Business risks include fluctuations in currency exchange rates, but this does not affect the profit-sharing principle. If the business is successful, the profit is shared according to the agreement between the investor and the fund manager. However, if the business is unsuccessful, the investor incurs a loss and there is no guarantee of the return of the principal (Magud & Vesperoni, 2015; Zeev, 2019).

The contract remains the basis of the agreement between the investor and fund manager in the Mudharabah contract. This contract does not change even if the currency exchange rate fluctuates. Thus, the rupiah exchange rate does not affect Islamic banking financing with Mudharabah contracts. Finally, Islamic banking has a policy to balance its financing portfolio with foreign and local currencies. In this way, Islamic banking can minimize exchange rate risk in financing with Mudharabah contracts.

Inflation

According to the findings, an increase in the rate of inflation will result in a decrease of 1.394322 percent in the amount of financing that is carried out by Islamic banking through the use of Mudharabah contracts over the long run. In the short term, the IFLS variable that indicates the inflation rate does not have an impact on financing through the Mudharabah contract; however, it does have an impact over the long run.

Inflation does not affect Islamic banking financing using Mudharabah contracts in the short term because in a Mudharabah contract, the profit obtained is shared between the bank and the borrower based on the initial agreement. In a Mudharabah contract, the bank acts as mudharib (capital manager) and the customer acts as sahibul mal (capital owner). Therefore, if inflation occurs in the short term, the profit earned by the bank remains the same as agreed, so inflation does not affect bank profits in the short term.

However, inflation can affect Islamic banking financing with Mudharabah contracts in the long run. This is because inflation can reduce the value of money over time (Priskila & Nurhasanah, 2021; Trad et al., 2017). This can have an impact on the real value of profits earned by banks, which will then have an impact on Islamic banking financing with Mudharabah contracts in the long term (Rashid et al., 2017; Zarrouk et al., 2016).

Interest Rates

When it comes to short-term and long-term financing utilizing a Mudharabah contract, the SKBG variable that indicates the interest rate is a significant factor. According to the findings, an increase in interest rates will result in an increase of 0.078022 percent

in the short term and 3.973535 percent in the long term in the amount of financing carried out by Islamic banking utilizing Mudharabah contracts.

Notwithstanding the fact that Islamic banks do not charge interest, market interest rates continue to have a short- and long-term impact on the funding provided by Islamic banking institutions through the usage of Mudharabah contracts. This is because Islamic banks often conduct transactions with conventional banks that use interest rates as the basis for calculating costs (Asbeig & Kassim, 2015; Mushtaq & Siddiqui, 2017). Therefore, fluctuations in interest rates will affect the operational costs of Islamic banks in carrying out these transactions.

In addition, interest rates can also affect the level of profit expected by investors in a Mudharabah contract. If interest rates rise, then investors tend to choose to invest their capital in investment instruments that provide higher returns, such as deposits. Conversely, if interest rates fall, investors tend to prefer to invest in Mudharabah contracts. Interest rates also affect customer behavior in choosing the type of financing. In the short term, interest rates can affect Islamic banking financing using Mudharabah contracts because customers tend to choose types of financing with lower interest rates, such as murabahahah or ijarah financing. However, in the long run, customers tend to prefer Mudharabah contracts because of higher profits compared to types of financing that use interest rates.

Finally, changes in interest rates can also affect market demand for Mudharabah contract financing products. When interest rates rise, market demand for Mudharabah contract financing products tends to decline because customers prefer to place their funds in investment instruments with higher interest rates. Conversely, when interest rates fall, market demand for Mudharabah contract financing products may increase because customers tend to look for investment instruments with higher profit potential.

Impulse Response Function

The increase in the currency rate was met with favorable financing from Islamic banks for the next sixty months. Exchange rate variations can influence the computation of profit sharing and profit earned by Islamic banks in Mudharabah contracts, which can have an effect on the situation when there is a shock to the exchange rate. The amount of profit that investors and Islamic banks can make may be impacted as a result of this. Alterations in the value of one currency compared to another can have a negative impact on an investor's capacity to repay debts, which can result in an increased credit risk.

Islamic banking competes not just with comparable banks but also with conventional banking. The situation of the exchange rate is continually moving, and many traded commodities are frequently affected by this volatility, such as when the depreciation of

imported goods causes the debtor's purchase to be more expensive. Therefore, as the exchange rate falls, rational buyers will take more time to identify cheaper sources of funding (Hossain, 2016).
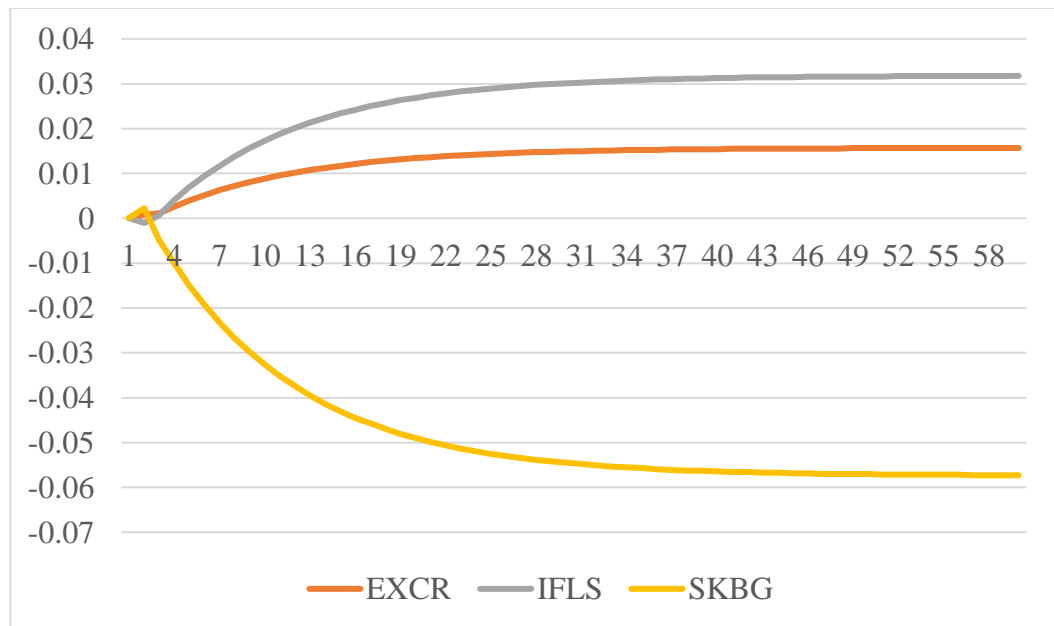

Figure 1. Shows the results of the Impulse Response Function.

Initially, Islamic banking funding reacted negatively to inflationary changes, and subsequently favourably during the subsequent sixty months. Inflation is indicative of economic stability. When inflation rises, consumers tend to invest less. This scenario will impact the fall in real terms of banking assets since the funds raised have reduced, impacting the capacity of banking operations to distribute finance (Trad et al., 2017).

When seen from the perspective of the debtor, inflation is advantageous because the value of money is reduced when paying back creditors in comparison to when borrowing money. On the other hand, creditors and other individuals who lend money will suffer losses due to the fact that the value of the money they are reimbursed will be less than what it was when it was borrowed. In order for the central bank to effectively reduce the impact of inflationary pressures, it is necessary for them to increase the benchmark interest rate.

Over the long term, inflation may have an impact on Islamic banking financing that is conducted through Mudharabah contracts. Because rising inflation can have the effect of lowering the amount of goods and services that one dollar can buy, the amount of money that investors get back at the conclusion of their investment period may be worth less. This may have an impact on the amount of profit that investors in a Mudharabah contract had anticipated earning.

Islamic banking finance has not responded to interest rate fluctuations and has only responded favourably in the second month and negatively for the next 60 months. Islamic banking is an alternative to traditional banking, and a rise in interest rates will result in the migration of credit-seeking clients from conventional banks to Islamic banking. When interest rates rise, borrowers will seek alternative sources of funding from Islamic banks and vice versa.

Both in the short and long term, changes in interest rates have the potential to impact Islamic banking funding done through Mudharabah contracts. Due to the fact that a rise in interest rates might result in an increase in both the cost of capital and the credit risk, investors and Islamic financial institutions are required to pay a higher rate of interest on funds that they have borrowed. In the meanwhile, a reduction in interest rates might boost market demand, which in turn can raise earnings for investors and Islamic financial institutions.

Forecast Error Variance Decomposition

Forecast Error Variance Decomposition (FEVD) or variance decomposition analysis aims to analyze the role of fluctuations in each variable due to shocks in other variables. The simulation depicted in Figure 2 indicates that syariah financing had a 100 percent impact on the macroeconomy in the first period.

In the second observation period, monetary variable shocks began to contribute. However, the percentage that affected it was negligible because monetary conditions had a delayed effect on other factors. In comparison to other monetary variables, interest rate shocks contributed the most to this period's growth at 0.12% and continued to climb until the end of the observation. The other variables, however, had no effect.

In the second period, the interest rate (BIR) contributed 0.12%, followed by the influence of inflation (0.026%) and the exchange rate (0.017%). The influence of the MUD shock on itself diminishes with time, but the monetary variable increases despite its very tiny contribution. Variations in interest rates have the potential to influence customers' desire for various types of financing. When interest rates go up, the cost of financing goes up as well, which can have the effect of reducing the amount of consumers who want to use credit in the first place.

On the other hand, a decline in interest rates will result in a decrease in the cost of financing, which would, in turn, lead to an increase in client demand for financing. This is owing to the fact that client decisions about the acquisition of finance are impacted by a number of factors, one of which is interest rates. Moreover, changes in exchange rates have the potential to influence customers' demand for various forms of finance.

Customers who engage in export activities may have a greater need for financial assistance if there is a rise in the value of the native currency relative to other currencies.
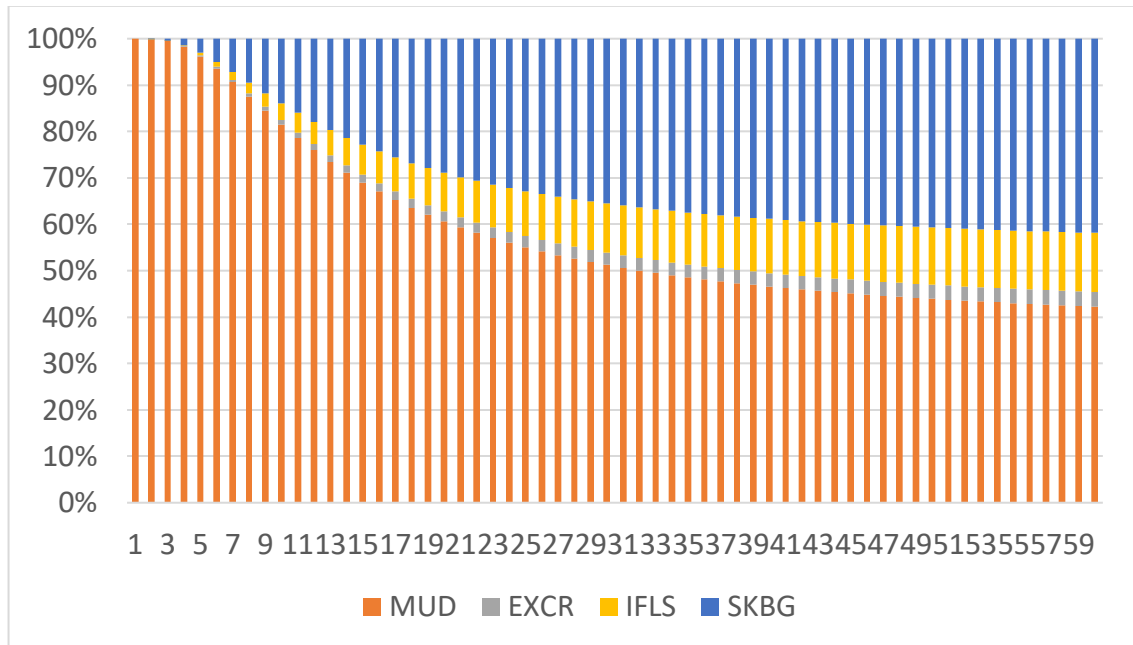

Figure 2. Results from the Forecast Error and Variance Decomposition Test

In the opposite direction, if the currency rate weakens, this can result in a reduction in the demand for funding from clients that engage in export activities. Inflation is another factor that can influence customers' desire for financial products and services. If the rate of inflation is high, then the cost of financing may increase, which may result in a decrease in the demand for financing from clients. On the other hand, if there is a low rate of inflation, it is possible that the cost of financing will be lower, which may result in a rise in the demand for financing from clients.

CONCLUSION

This study comes to the conclusion, based on the conversation that has been initiated, that interest rates have an effect on financing utilizing Mudharabah contracts both in the short term and in the long term, however inflation only has an effect on the long term. On the other hand, the exchange rate has no impact either on the short term or the long term. The exchange rate and inflation both responded favourably to the shocks, while the Mudharabah contract finance showed a negative response. The most significant innovation in explaining the variety of Mudharabah contract finance is the change in interest rates, which is followed by the change in inflation and then the change in exchange rates.

The scope of this study was restricted to the employment of only a representative sample of Islamic commercial banks and Islamic business units. In addition, Mudharabah contracts, exchange rates, interest rates, and inflation rates are employed as variables in this analysis. Because of this, the implication that needs to be drawn from the conclusions that have been gained is that Islamic banking needs to pay attention to interest rates and inflation, both of which empirically effect financing by making use of Mudharabah contracts through financing portfolios. In the event that there is a shock caused by monetary indicators, Islamic banks need to set up reserve funds in order for Islamic banking to be able to survive these shocks. In order to make Islamic banking more competitive, the governing authorities must maintain the same level of serious attention that they have been giving the policy of interest rate setting.

The practical implication of the study is that banks and financial institutions that use Mudharabah contracts need to pay attention to factors that affect financing rates, especially interest rates and inflation. In managing their portfolios, they should consider the influence of these factors and take appropriate actions to minimize risks. In addition, the use of the VECM model to analyze the relationship between economic variables can assist banks in making more informed and accurate decisions. This can improve their financial performance and help in maintaining the stability of the financial system as a whole.

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REFERENCES

Adela, H. (2018). The Impact of Musharakah Financing on the Monetary Policy in the Islamic Economy. *Review of Economics and Political Science*, *3*(3–4), 139–152. https://doi.org/10.1108/REPS-10-2018-014

Asbeig, H. I., & Kassim, S. H. (2015). Monetary Transmission During Low Interest Rate Environment in a Dual Banking System: Evidence from Malaysia. *Macroeconomics and Finance in Emerging Market Economies*, *8*(3), 275–285. https://doi.org/10.1080/17520843.2015.1060248

Aysan, A. F., Disli, M., Duygun, M., & Ozturk, H. (2017). Religiosity versus Rationality: Depositor Behavior in Islamic and Conventional Banks. *Journal of Comparative*

Economics, *46*(1), 1–19. https://doi.org/10.1016/j.jce.2017.03.001

Aysan, A. F., Disli, M., & Ozturk, H. (2018). Bank Lending Channel in a Dual Banking System: Why are Islamic Banks so Responsive? *World Economy*, *41*(3), 674–698. https://doi.org/10.1111/twec.12507

Bilgin, M. H., Danisman, G. O., Demir, E., & Tarazi, A. (2020). Bank Credit in Uncertain Times: Islamic vs. Conventional Banks. *Finance Research Letters*, *39*, 1–14. https://doi.org/10.1016/j.frl.2020.101563

Boateng, A., Hua, X., Uddin, M., & Du, M. (2014). Home Country Macroeconomic factors on outward Cross-Border Mergers and Acquisitions: Evidence from the UK. *Research in International Business and Finance*, *30*(1), 202–216. https://doi.org/10.1016/j.ribaf.2013.08.001

Caporale, G. M., Çatık, A. N., Helmi, M. H., Menla Ali, F., & Tajik, M. (2020). The Bank Lending Channel in the Malaysian Islamic and Conventional Banking System. *Global Finance Journal*, *45*, 1–26. https://doi.org/10.1016/j.gfj.2019.100478

Caporale, G. M., Helmi, M. H., Çatık, A. N., Ali, F. M., & Akdeniz, C. (2018). Monetary Policy Rules in Emerging Countries : Is there an Augmented Nonlinear Taylor rule? *Economic Modelling*, *72*, 306–319. https://doi.org/10.1016/j.econmod.2018.02.006

Çatık, A. N., & Martin, C. (2012). Macroeconomic Transitions and the Transmission Mechanism: Evidence from Turkey. *Economic Modelling*, *29*(4), 1440–1449.

Cieslak, A., & Schrimpf, A. (2019). Non-monetary News in Central Bank Communication. *Journal of International Economics*, *118*, 293–315. https://doi.org/10.1016/j.jinteco.2019.01.012

Clark, E., & Kassimatis, K. (2015). Macroeconomic Effects on Emerging-markets Sovereign Credit Spreads. *Journal of Financial Stability*, *20*, 1–13. https://doi.org/10.1016/j.jfs.2015.06.002

Dendramis, Y., Tzavalis, E., & Adraktas, G. (2018). Credit Risk Modelling under Recessionary and Financially Distressed Conditions. *Journal of Banking and Finance*, *91*, 160–175. https://doi.org/10.1016/j.jbankfin.2017.03.020

El Alaoui, A. O., Jusoh, H. Bin, Yussof, S. A., & Hanifa, M. H. (2019). Evaluation of Monetary Policy: Evidence of the Role of Money from Malaysia. *Quarterly Review of Economics and Finance*, *74*, 119–128. https://doi.org/10.1016/j.qref.2019.04.005

Hamza, H., & Saadaoui, Z. (2018). Monetary Transmission Through the Debt Financing Channel of Islamic Banks: Does PSIA Play a Role? *Research in International Business and Finance*, *45*(3), 557–570. https://doi.org/10.1016/j.ribaf.2017.09.004

Hossain, A. A. (2016). Inflationary Shocks and Real Output Growth in Nine Muslim-majority Countries: Implications for Islamic Banking and Finance. *Journal of Asian Economics*, *45*, 56–73. https://doi.org/10.1016/j.asieco.2016.06.004

Ibrahim, M. H., & Sukmana, R. (2011). Dynamics of Islamic Financing in Malaysia: Causality and Innovation Accounting. *Journal of Asia-Pacific Business*, *12*(1), 4–19. https://doi.org/10.1080/10599231.2011.539446

Ibrahim, Z., Effendi, N., Budiono, & Kurniawan, B. (2021). Determinants of Profit and Loss Sharing Financing in Indonesia. *Journal of Islamic Marketing*, *13*(9), 1918–1939.

Kassim, S. H., Shabri, M., Majid, A., & Yusof, R. M. (2009). Impact of Monetary Policy Shocks on the Conventional and Islamic Banks in a Dual Banking System: Evidence from

Malaysia. *Journal of Economic Cooperation and Development*, *30*(1), 41–58.

Lin, H., Farhani, N. H., & Koo, M. (2016). The Impact of Macroeconomic Factors on Credit Risk in Conventional Banks and Islamic Banks : Evidence from Indonesia. *International Journal of Financial Research*, *7*(4), 105–116. https://doi.org/10.5430/ijfr.v7n4p105

Magud, N. E., & Vesperoni, E. R. (2015). Exchange Rate Flexibility and Credit During Capital Inflow Reversals: Purgatory . . . Not Paradise. *Journal of International Money and Finance*, *55*, 88–110. https://doi.org/10.1016/j.jimonfin.2015.02.010

Masrizal, & Trianto, B. (2022). The Role of PLS Financing on Economic Growth: Indonesian Case. *Journal of Islamic Monetary Economics and Finance*, *8*(1), 49–64. https://doi.org/10.21098/jimf.v8i1.1378

Minetti, R., & Peng, T. (2018). Credit Policies, Macroeconomic Stability and Welfare: The Case of China. *Journal of Comparative Economics*, *46*(1), 35–52. https://doi.org/10.1016/j.jce.2016.11.005

Mora, N. (2015). Creditor recovery: The macroeconomic dependence of industry equilibrium. *Journal of Financial Stability*, *18*, 172–186. https://doi.org/10.1016/j.jfs.2015.04.004

Mubarok, F., Hamid, A., & Al Arif, M. N. R. (2020). Macroeconomics Fluctuations and its Impact on Musharaka Financing. *Journal of Finance and Banking*, *24*(2), 164–174.

Mushtaq, S., & Siddiqui, D. A. (2017). Effect of Interest Rate on Bank Deposits : Evidences from Islamic and non-Islamic Economies. *Future Business Journal*, *3*(1), 1–8. https://doi.org/10.1016/j.fbj.2017.01.002

Nazemi, A., & Fabozzi, F. J. (2018). Macroeconomic Variable Selection for Creditor Recovery Rates. *Journal of Banking and Finance*, *89*, 14–25. https://doi.org/10.1016/j.jbankfin.2018.01.006

Pacicco, F., Vena, L., & Venegoni, A. (2019). Market Reactions to ECB Policy Innovations: A Cross-country Analysis. *Journal of International Money and Finance*, *91*, 126–137. https://doi.org/10.1016/j.jimonfin.2018.11.006

Priskila, I. Della, & Nurhasanah, N. (2021). Analysis of the Effect of Inflation, BI Rate, and Exchange on Profitability of Sharia Banks in Indonesia (Period 2014-2020). *Jurnal Ekonomi Dan Perbankan Syariah*, *9*(2), 46–64. https://doi.org/10.46899/jeps.v9i2.283

Rashid, A., Yousaf, S., & Khaleequzzaman, M. (2017). Does Islamic Banking Really Strengthen Financial Stability? Empirical Evidence from Pakistan. *International Journal of Islamic and Middle Eastern Finance and Management*, *10*(2), 130–148. https://doi.org/10.1108/IMEFM-11-2015-0137

Šeho, M., Bacha, O. I., & Smolo, E. (2020). The Effects of Interest Rate on Islamic Bank Financing Instruments: Cross-country Evidence from Dual-banking Systems. *Pacific-Basin Finance Journal*, *62*, 1–27. https://doi.org/10.1016/J.PACFIN.2020.101292

Shrestha, M. B., & Bhatta, G. R. (2018). Selecting Appropriate Methodological Framework for Time Series Data Analysis. *Journal of Finance and Data Science*, *4*(2), 71–89. https://doi.org/10.1016/j.jfds.2017.11.001

Sukmana, R., & Kassim, S. H. (2010). Roles of the Islamic Banks in the Monetary

Transmission Process in Malaysia. *International Journal of Islamic and Middle Eastern Finance*, *3*(1), 7–19. https://doi.org/10.1108/17538391011033834

Trad, N., Trabelsi, M. A., & Goux, J. F. (2017). Risk and Profitability of Islamic Banks: A Religious Deception or an Alternative Solution? *European Research on Management and Business Economics*, *23*(1), 40–45. https://doi.org/10.1016/j.iedeen.2016.09.001

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. https://doi.org/10.1108/IMEFM-12-2014-0120

Zeev, N. Ben. (2019). Global Credit Supply Shocks and Exchange Rate Regimes. *Journal of International Economics*, *116*, 1–32. https://doi.org/10.1016/j.jinteco.2018.10.002