

## Paper Acceptance Letter

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Regards,



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# Economic Turmoil in Islamic Banking Investment

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**Abstract.** Investment financing is one of the operational activities of Islamic banking to encourage the real sector. This study aims to analyze the effect of economic turmoil on investment financing, analyze the response to investment financing, and analyze each variable's contribution in explaining the diversity of investment financing. This study uses monthly time series data from 2009 to 2020 using the Vector Error Correction Model (VECM) analysis. The results show that the exchange rate, inflation, and interest rates significantly affect Islamic banking investment financing in the long term. The response to investment financing is the fastest to achieve stability when it responds to shocks to the composite stock price index. The most significant contribution to explaining diversity in investment financing comes from inflation. Islamic banking can increase the proportion of funding for investment. Increased investment financing can make customers have a larger business scale to encourage economic growth.

**Keywords:** investment, Vector Error Correction Model, exchange rates, inflation, interest rates  
JEL Classification: E22, G11, G24

**Abstrak.** Pembiayaan investasi merupakan salah satu kegiatan operasional perbankan syariah untuk mendorong sektor riil. Penelitian ini bertujuan untuk menganalisis pengaruh gejolak ekonomi terhadap pembiayaan investasi, menganalisis respon pembiayaan investasi, dan menganalisis kontribusi setiap variabel dalam menjelaskan keberagaman pembiayaan investasi. Penelitian ini menggunakan data time series bulanan dari tahun 2009 hingga 2020 dengan menggunakan analisis Vector Error Correction Model (VECM). Hasil menunjukkan nilai tukar, inflasi, dan suku bunga berpengaruh signifikan terhadap pembiayaan investasi perbankan syariah dalam jangka panjang. Respon pembiayaan investasi paling cepat mencapai stabilitas saat merespon guncangan indeks harga saham gabungan. Kontribusi paling signifikan dalam menjelaskan keragaman pembiayaan investasi berasal dari inflasi. Perbankan syariah dapat meningkatkan proporsi pendanaan untuk investasi. Peningkatan pembiayaan investasi dapat membuat nasabah memiliki skala usaha yang lebih besar untuk mendorong pertumbuhan ekonomi.

**Kata kunci:** investasi, Vector Error Correction Model, nilai tukar, inflasi, tingkat suku bunga

## **Introduction**

Banking has an important role in the framework of a country's economic development (Aluko & Ajayi, 2018; Djalilov & Piesse, 2019). This role is related to the bank's function as an intermediary institution that absorbs funds from the public and distributes them to people in need (Trimulato, 2019; Werner, 2016). Economic growth correlates with financial instruments provided by the banking sector (Aali-Bujari, Venegas-Martínez, & Pérez-Lechuga, 2017; Duican & Pop, 2015). To achieve economic growth at the desired level, the operational activities carried out by banks must encourage the business world (Donaldson & Walsh, 2015; Kodongo & Ojah, 2016; Kudrin & Gurvich, 2015).

The presence of Islamic banks is not only to provide an alternative to non-usury banking for the community but also to develop the real sector (Christanti, Wulandari, Narmaditya, & Utomo, 2017; Sofhian, 2015). This is in line with the explanation regarding Islamic banks, which are financial institutions that function to facilitate economic mechanisms in the actual industry through business activities based on sharia principles (Setyowati, Abubakar, & Rodliah, 2017). Sharia banking operational activities to encourage the business world to provide financing (Salman & Nawaz, 2018).

Based on the use and business category, Islamic banking financing is differentiated into investment financing, namely funding for the procurement of production facilities or equipment—working capital financing, namely financing for the supply of raw materials or traded goods. Consumptive financing namely intended funding for the purchase of an item that is used for individual interests.

One form of sharia banking operational activity is providing investment financing *ri* (Trisanty, 2018). Increased investment in the real sector will also encourage and boost economic growth (Nwakoby & Bernard, 2016). Investment financing is useful for people who are doing business to increase their production, for example, raw material supplies, finished material supplies, daily operational costs, and others so that they can run their business normally and smoothly (Fowowe, 2017; Liu, Zhang, Batista, & Rong, 2019; Mazzucato & Semieniuk, 2018).

The increase in investment obtained from Islamic banking will increase its production capacity and then have an impact on improving business expansion, which will create new jobs (Shawtari, Saiti, Abdul Razak, & Ariff, 2015; Tawfiqi & Hamdan, 2018; Wahyudi & Sani, 2014). Another effect is the creation of new jobs that will reduce unemployment (Pohlan, 2019). The growing number of workers will increase per capita income, improve people's purchasing power, and increase national income (Kavya & Shijin, 2020; Leimbach, Krieglner, Roming, & Schwanitz, 2017; Rothenberg et al., 2016).

Research related to economic shocks has been carried out by Pradhan and Bagchi (2013) on economic growth in India, Kuo (2016) on stock prices, Avdoulas, Bekiros, and Boubaker (2016) on capital markets in Europe, Chen, He, and Rudkin (2017) in real estate industry in China, BenSaïda, Litimi, and Abdallah (2018) on the money market, Ibrahim and Ebrahim (2018) on the Islamic capital market, Apergis, Cooray, Khraief, and Apergis, (2019) on the price of gold, Chun, Cho, and Kim (2019) on the amount of oil, and Giordano, Marinucci, and Silvestrini (2019) on the industry housing in Italy.

From the existing research, no one has examined the relation to economic shocks to investment. Therefore, this research was conducted to fill in the gaps in the study that was already done. This research aims to analyze the effect of economic turmoil on

Islamic banking investment financing, analyze the response of Islamic banking investment financing to the financial crisis, and analyze the contribution of each variable in explaining the diversity of Islamic banking investment financing. This research contributes first to provide input and consideration in making decisions related to Islamic banking investment financing. Second, this research can give knowledge about the role of Islamic banking in financing investment. Third, this research can be used as a reference for conducting further research.

## Methods

This study's type of data is secondary data in the form of time series data with monthly frequencies from January 2009 to March 2020. The research data comes from various publications at Bank Indonesia, the Financial Services Authority, the Central Bureau of Statistics, and the Indonesian Stock Exchange. The methods of analysis and data processing used in this research are descriptive and quantitative. A descriptive approach is used to describe the data to be used and to facilitate interpretation. The quantitative method is used to analyze the factors affecting the investment financing of Islamic banking using time series analysis. These factors include investment financing (INV), exchange rate (EXC), inflation (INFL), interest rates (RATE), Islamic stock index (JII), and the Composite Stock Price Index (IHSG).

The time-series data model is an econometric model built on existing economic theory. The estimation of this model can provide information to test existing hypotheses. However, often economic theory has not been able to determine the right specifications for the model because the current economic phenomena are too complicated. Vector Autoregressive (VAR) can be used to overcome this in time series data. The analysis tool used in this research is the Vector Autoregression (VAR) method if the data used is stationary, and there is no cointegration.

In contrast, if the data used is stable and there is cointegration, the Vector Error Correction Model (VECM) method is used. Therefore, before conducting an analysis using the VAR / VECM method, several tests are required, including the stationarity test, optimum lag test, stability test, and cointegration test, VECM estimation, Impulse Response Function (IRF), and Forecasting Error Variance Decomposition (FEVD). The VECM model to be analyzed is a model of Islamic banking investment financing. Where  $c$  is constant,  $\alpha$  coefficient,  $t$  time, and  $n$  lag length.

$$INV_t = c + \alpha_1 EXC_{t-n} + \alpha_2 INFL_{t-n} + \alpha_3 RATE_{t-n} + \alpha_4 JII_{t-n} + \alpha_5 IHSG_{t-n} + \varepsilon_t$$

Vector Error Correction Model (VECM) is a method that functions as an approach to estimate the long-term and short-term relationships of one time-series data against other time-series data, see a shock, and analyze the variability of variables in influencing other variables. The long-term relationship can be analyzed through the cointegration equation on the VECM test results.

## Results and Discussion

The stationarity test is essential when estimating models for time series data. This test is carried out to avoid spurious regression, which causes the estimation results to be incorrect because of the unit root in the variables used. The stationarity test of this research uses the Augmented-Dickey-Fuller (ADF) test and the Phillips Perron (PP) test

with a critical value of 5 percent. The first stationarity test was carried out at the level. If at the level, it is known that there is a unit root in the data, then a stationarity test is carried out for the first difference. The stationarity test for the first difference was carried out by lowering the level data. The data stationarity test results (Table 1) show that all variables are stationary at the data level, except for the exchange rate variable. However, when the data were in the first difference, all variables were stationary.

Table 1. The results of the data stationarity test

Variable	Augmented Dickey-Fuller Test		Phillips-Perron Test	
	Level	Difference	Level	Difference
EXC	0.8368	0.0128	0.8044	0.0000
INV	0.0014	0.0385	0.0091	0.0000
INFL	0.0020	0.0000	0.0014	0.0000
RATE	0.0229	0.0000	0.0180	0.0000
JII	0.0001	0.0000	0.0002	0.0000
IHSG	0.0000	0.0000	0.0001	0.0000

### Optimal Lag Test

The optimal lag test is an important step that must be done in using the VAR model. The optimal lag is intended to show how long a variable reacts to other variables and to eliminate autocorrelation problems in a VECM system. This test (Table 2) is available in several types of information, including Akaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan-Quinn Criterion (HQ). The optimal lag test results for investment financing show that the Akaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan-Quinn Criterion (HQ) criteria are at lag 1. In this study, the optimum lag criterion used is the Schwarz Criterion (SC), which is at lag 1.

Table 2. Optimal lag test results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	1149.356	NA	4.57e-16	-18.29370	-18.15794	-18.23854
1	2023.885	1651.111	6.82e-22*	-31.71016*	-30.75985*	-31.32410*
2	2046.629	40.75675	8.47e-22	-31.49806	-29.73320	-30.78109
3	2080.307	57.11772*	8.87e-22	-31.46091	-28.88149	-30.41303
4	2098.957	29.84078	1.19e-21	-31.18332	-27.78934	-29.80452
5	2120.809	32.86473	1.54e-21	-30.95694	-26.74841	-29.24724
6	2153.183	45.58253	1.71e-21	-30.89893	-25.87584	-28.85831
7	2189.222	47.28307	1.83e-21	-30.89955	-25.06191	-28.52802
8	2213.759	29.83713	2.40e-21	-30.71614	-24.06395	-28.01371
9	2239.550	28.88603	3.19e-21	-30.55280	-23.08605	-27.51945
10	2277.479	38.83974	3.63e-21	-30.58367	-22.30237	-27.21941

\*indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

### Stability Test

The stability test is needed to obtain valid Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD) results. The modulus value of the

investment financing model in this study is in the range of 0.690604-0.991763. Based on the results of the stability test of the VAR model (Table 3), it can be concluded that the VAR system is stable because all its roots are in a unit circle or have a modulus value of less than one, the VAR model is considered stable so that the resulting Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD) are considered valid.

Table 3. Stability test results

Root	Modulus
0.991763	0.991763
0.989163	0.989163
0.864383 - 0.073770i	0.867525
0.864383 + 0.073770i	0.867525
0.811159	0.811159
0.690604	0.690604

No root lies outside the unit circle.  
VAR satisfies the stability condition.

### Cointegration Test

The cointegration test is intended to determine the presence or absence of non-stationary variables at the cointegration level. Cointegration testing in this study uses the Johansen cointegration test. Long-term information is obtained by determining the cointegration rank first. This is intended to determine the number of equations that can explain the entire existing system. The cointegration testing criteria in this study were based on the trace statistic value. Suppose the trace statistic value is higher than the critical value of five percent. In that case, the alternative hypothesis states the amount of cointegration is accepted so that the number of co-integrated equations in the system can be seen—the Johansen cointegration test results on investment financing. There are two cointegration relationships, namely when the trace statistic value is higher than the critical value. These results indicate a long-term relationship between variables in the model so that the VAR model can be combined with the Error Correction Model into a Vector Error Correction Model (Table 4).

Table 4. The results of the cointegration Johansen Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.354771	169.7958	117.7082	0.0000
At most 1 *	0.328951	115.4652	88.80380	0.0002
At most 2 *	0.195614	65.99998	63.87610	0.0328
At most 3	0.129467	39.00820	42.91525	0.1165
At most 4	0.118486	21.81560	25.87211	0.1474
At most 5	0.048598	6.177468	12.51798	0.4381

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

\*denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

The exchange rate in the long term has a negative and significant effect on Islamic banking investment financing. This means that an increase in the exchange rate will reduce Islamic banking investment financing. The condition when the Rupiah exchange

rate weakens can be used to boost exports as much as possible. Export-oriented business people enjoy increased exports due to low exchange rates (Aluko & Ajayi, 2018). The products they market in the global market are cheaper for products from other countries to increase sales volume (Jussani, Vasconcellos, Wright, & Grisi, 2018). Besides, if the rupiah exchange rate depreciates, the production of goods or services produced by that country will become more expensive. As a result, the demand for products or services will decrease and lead to substitutions that suppress demand. When demand decreases, producers will reduce supply and have a new balance. Reduction in supply is carried out by reducing production, which causes the economy to experience a slowdown (Kudrin & Gurvich, 2015). The need for funds for working capital and investment is reduced, which in the end is that Islamic banks experience difficulties in channeling financing (Tohirin & Husaini, 2019).

In the long run, interest rates have a positive and significant effect on Islamic banking investment financing. This means that the higher the Bank Indonesia interest rate, the higher the investment financing for Islamic banking. The Bank Indonesia interest rate is the reference interest rate for conventional banks because there is no Islamic bank reference regulation for the profit-sharing price. When interest rates rise, it will increase lending rates (Matemilola, Bany-ariffin, & Etudaiye, 2015). The quite aggressive interest rate hike has created a negative sentiment for conventional banks because high-interest rates can erode the bank's net interest margin. However, on the other hand, this condition provides fresh air for Islamic banking (Nasution & Ahmed, 2015). This is because Islamic banks do not depend on reference interest, but rather determine profit sharing based on customer portfolios. Investment financing is long-term financing, so customers prefer sharia banking that uses a profit-sharing rate of funding and has been established at the beginning of the financing agreement so that it is fixed and not floating (Sapuan, 2016; Trisanty, 2018). Increasing the level of financing profit sharing will increase the volume of financing on investment.

Table 5. VECM estimation results

Variable	Short Term	
	Coefficient	[t-statistic]
CointEq1	-0.000255	[-0.05298]
D(INV(-1))	-0.093844	[-1.02211]
D(EXC(-1))	-0.087774	[-1.58831]
D(INFL(-1))	0.181596	[0.79247]
D(RATE(-1))	0.227127	[0.43943]
D(JII(-1))	-0.074999	[-0.52786]
D(IHSG(-1))	0.093589	[0.61726]
C	0.019320	[6.94394]
Long Term		
EXC(-1)	-2.540463	[-2.39877]*
INFL(-1)	-20.49312	[-4.19129]*
RATE(-1)	25.44722	[2.53998]*
JII(-1)	-0.731490	[-0.45692]
IHSG(-1)	1.835033	[1.10180]

\*significant at 5%

Long-term inflation has a significant negative effect on Islamic banking investment financing. This means that the higher the inflation, the lower the Islamic

banking investment financing. The negative relationship between inflation and investment financing is following the theory because when the inflation rate increases, the price of goods will increase which results in the input value of producers to swell, exacerbated by decreasing public purchasing power so that the ability of customers to carry out obligations in financing will reduce (Aysan, Disli, & Ozturk, 2018; Coibion, Gorodnichenko, Kumar, & Pedemonte, 2020; Joshi & Rahman, 2015). Islamic banking will limit the amount of money in circulation, among others, by restricting investment financing (Alam, Akbar, Shahriar, & Elahi, 2017; Wahyudi & Sani, 2014). Inflation can be understood as an increase in the price of goods and services in a sustainable manner from year to year (Bahloul, Mroua, & Naifar, 2017). In the economic concept, the inflation rate has an essential role because it can be used as a reference for estimating the real value of the investment (Naifar, 2016). Besides, the inflation rate is also often used as a reference for calculating and predicting the amount of return required to maintain the investment standard of Islamic banking (Hossain, 2016; Sasmal, 2015).

### **Impulse Response Function (IRF)**

Impulse response function (IRF) analysis is used to see the response of a variable in the event of a shock to an endogenous variable caused by another endogenous variable within one standard deviation. This study uses thirty months to see the response and stability period of Islamic banking investment financing to shocks that occur.

Shocks from the exchange rate (EXC) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. In the following month, Islamic banking investment financing began to react negatively to shocks from the exchange rate of -0.0027 percent. The shock caused a decrease in Islamic banking investment financing by 0.0027 percent, continued to be responded negatively until the end of the observation, and began to stabilize in the 18th month of -0.00181 percent. These results indicate that exchange rate shocks during 30 months caused a decline in Islamic banking investment financing by an average of 0.00182 percent.

The increase in bank interest rates was responded negatively because of concerns over the company's financial liquidity. This is, of course, related to the costs incurred and the possible systemic impact. The use of imported raw materials used by companies in managing investments provided by Islamic banking is one of the causes of the negative response by Islamic banking (Setiawan, 2018). When the price of raw materials increases due to the depreciation of the rupiah, it will reduce the use of imported raw materials so that the investment capitalization value decreases. The high exchange rate movement will raise expectations of business actors, especially those engaged in export-import (Lin, Shi, & Ye, 2018). The uncertainty of the exchange rate will create anxiety among business actors regarding their business losses (Hossain, 2016).



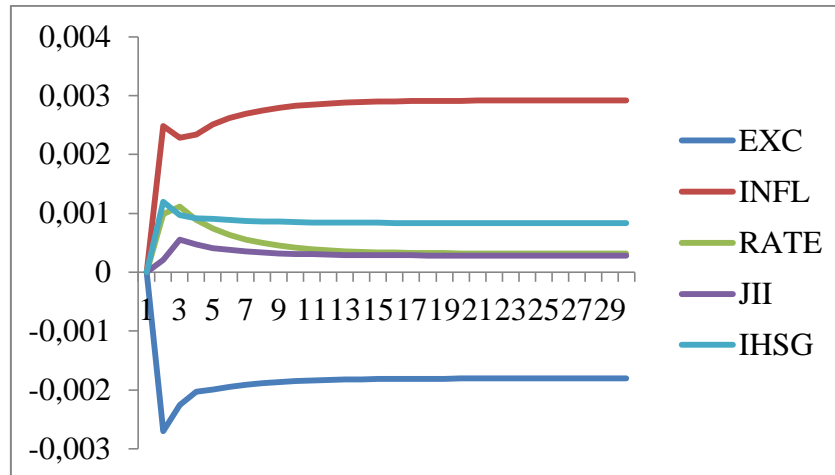


Figure 1. Impulse response function for investment financing

Shocks from inflation (INFL) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. The following month, Islamic banking investment financing began to react positively to shocks from inflation of 0.00248 percent. This shock caused an increase in Islamic banking investment financing by 0.00248 percent, continued to be responded positively until the end of the observation, and began to stabilize in the 19th month of 0.002912 percent. These results indicate that during the 30 months, the inflation shock caused an increase in Islamic banking investment financing by an average of 0.0027 percent. Inflation is often a threat to the economy. The high rate of inflation can even lead to the collapse of a country's economy (Siami-Namini & Hudson, 2019). The impact of inflation on the economy, in general, tends to be negative (Bahloul et al., 2017). Not only does it decrease the value of money, but it also affects saving and even investment (Godil, Sarwat, Sharif, & Jermisittiparsert, 2020). The hope of getting high returns, inflation risks eroding the return on investment in Islamic banking. Inflation does not always have a negative effect (Trad, Trabelsi, & Goux, 2017). There are also positives. The positive effects of inflation are felt by those who are debtors and entrepreneurs. For debtors, inflation makes money returned has a lower value than when borrowed. Meanwhile, for entrepreneurs, the existence of inflation allows them to obtain higher income than the production costs incurred (Hossain, 2016). Although it has a positive effect, in general, and in a broader scope, the negative impact of inflation tends to be more, even potentially endangering the stability of Islamic banking investment financing (Mertzanis, 2016).

Shocks of interest rates (RATE) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. In the following month, Islamic banking investment financing began to react positively to shocks from the interest rate of 0.000991 percent. The shock caused an increase in Islamic banking investment financing by 0.000991 percent, continued to be responded positively until the end of the observation, and began to stabilize in the 21st month by 0.000319 percent. These results indicate that during 30 months, interest rate shocks led to an increase in Islamic banking investment financing by an average of 0.0004299 percent. The shocks that occur affect the behavior of Islamic banks in channeling their investment financing (Hamza & Saadaoui, 2018). Islamic banking tends to increase its investment financing. When viewed from the characteristics of Islamic banking, which

implements a profit-sharing scheme, of course, the shock is not very visible (Abdullah, 2017). However, Islamic banking cannot be separated from interest rate risk (Louhichi & Boujelbene, 2016). This is because the market reached by Islamic banking is not only customers with high loyalty, but also those with low commitment to Islamic banking (Salman & Nawaz, 2018). When the profit-sharing rate for Islamic banking is lower than the interest rate, customers will transfer their funds from Islamic banks to conventional banks (Kabir, Worthington, & Gupta, 2015). This resulted in a reduction in investment financing carried out by Islamic banking.

Shocks from the Islamic stock index (JII) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. In the following month, Islamic banking investment financing began to react positively to shocks from the Islamic stock index of 0.000205 percent. This shock caused an increase in Islamic banking investment financing by 0.000205 percent, continued to be responded positively until the end of the observation, and began to stabilize in the 19th month of 0.000284 percent. These results indicate that during 30 months, the sharia stock index shocks caused an increase in Islamic banking investment financing by an average of 0.0003021 percent. Shocks from the composite stock price index (IHSG) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. In the following month, Islamic banking investment financing began to react positively to the shock of the composite stock price index of 0.001196 percent. This shock caused an increase in Islamic banking investment financing by 0.001196 percent, continued to be responded positively until the end of the observation, and began to stabilize on the 15th month of 0.000839 percent. These results indicate that during 30 months, the interest rate shock caused an increase in Islamic banking investment financing by an average of 0.0008356 percent. The composite stock price index is an indicator that shows the movement of shares as a whole in a period (Naifar, 2016). This index functions as an indicator of market trends, meaning that the index's progress describes market conditions at a time whether the market is active or sluggish (Godil et al., 2020). When the value of the composite stock price index increases to a higher level, it indicates that it is active (Li, 2016). This condition is used by Islamic banking to increase the distribution of investment financing to productive sectors so that it will increase the value of investment capitalization in that sector (Bayraktar, 2014).

### **Forecast Error Variance Decomposition (FEVD)**

Forecast Error Variance Decomposition (FEVD) analysis in this study aims to explain each variable's contribution in explaining the diversity of Islamic banking investment levels. In this study, a period of 30 months was used. The FEVD results show that the most significant contribution in explaining the diversity of levels of Islamic banking investment financing comes from inflation. This indicates that inflation has the most significant contribution in causing investment financing compared to other variables. Besides, there are indications that inflation directly affects the level of Islamic banking investment financing. To a small extent, inflation also has a detrimental effect on assets. Inflation has the same impact on all types of assets, both liquid, and non-liquid. However, liquid assets tend to be more vulnerable to inflation.

If the inflation rate is high, it can cause the value of liquid assets owned by individuals and businesses to decrease, likewise, with investment. Liquid investments include stocks, bonds, and mutual funds (Cai, Zeng, Lee, & Ozkan, 2016). This investment is also influenced by inflation. It's just that these types of investments have

sufficient resistance to the onslaught of inflation because they generate returns in the form of higher profit sharing. That is one of the main reasons investors put their money in stocks, bonds, and mutual funds. Investors try to keep their savings safe from the effects of inflation. So that investment is not adversely affected by inflation, the profit-sharing rate must follow and even exceed inflation so that investors can get real returns. However, for investments with low-profit sharing, it is challenging to avoid inflation. Indeed, this does not happen in all-stock issuing companies. Therefore, Islamic banking must be observant and intelligent in reading and analyzing the company's performance that will be chosen to invest.

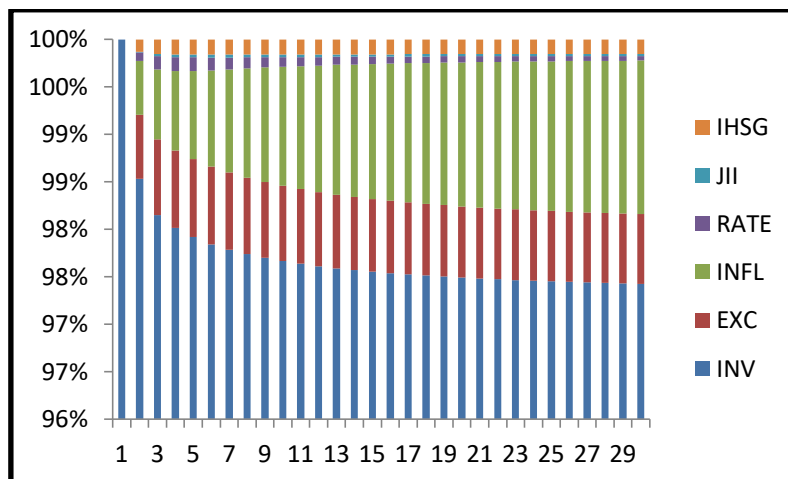


Figure 2. Forecast error variance decomposition of investment

## Conclusion

This study's results indicate that none of them has an influence on investment financing in the short term. However, in the long run, the exchange rate, inflation, and interest rates have a significant impact on Islamic banking investment financing. The response of Islamic banking investment financing to shocks that arise is the fastest to reach stability when responding to shocks to the composite stock price index, exchange rates, inflation, Islamic stock index, and finally, interest rates. The variables that contribute the most to shaping the diversity of Islamic banking investment financing are inflation, exchange rates, composite stock price index, interest rate, and Islamic stock index.

This research result implies that Islamic banking should always pay attention to the movements of the exchange rate, inflation, and interest rates in determining investment financing policies and maintaining financial stability by prioritizing potential sectoral investments. Besides, Islamic banking needs to increase its role in collecting funds from the public and simplifying the procedure for submitting

investment financing for consumers. The government is also expected to be careful in setting interest rates, maintain exchange rate stability and inflation, and maintain stock market conditions.

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# Economic Turmoil in Islamic Banking Investment

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**Abstract.** Investment financing is one of the operational activities of Islamic banking to encourage the real sector. This study aims to analyze the effect of economic turmoil on investment financing, analyze the response to investment financing, and analyze each variable's contribution in explaining the diversity of investment financing. This study uses monthly time series data from 2009 to 2020 using the Vector Error Correction Model (VECM) analysis. The results show that the exchange rate, inflation, and interest rates significantly affect Islamic banking investment financing in the long term. The response to investment financing is the fastest to achieve stability when it responds to shocks to the composite stock price index. The most significant contribution to explaining diversity in investment financing comes from inflation. Islamic banking can increase the proportion of funding for investment. Increased investment financing can make customers have a larger business scale to encourage economic growth.

**Keywords:** investment, Vector Error Correction Model, exchange rates, inflation, interest rates  
JEL Classification: E22, G11, G24

**Abstrak.** Pembiayaan investasi merupakan salah satu kegiatan operasional perbankan syariah untuk mendorong sektor riil. Penelitian ini bertujuan untuk menganalisis pengaruh gejolak ekonomi terhadap pembiayaan investasi, menganalisis respon pembiayaan investasi, dan menganalisis kontribusi setiap variabel dalam menjelaskan keberagaman pembiayaan investasi. Penelitian ini menggunakan data time series bulanan dari tahun 2009 hingga 2020 dengan menggunakan analisis Vector Error Correction Model (VECM). Hasil menunjukkan nilai tukar, inflasi, dan suku bunga berpengaruh signifikan terhadap pembiayaan investasi perbankan syariah dalam jangka panjang. Respon pembiayaan investasi paling cepat mencapai stabilitas saat merespon guncangan indeks harga saham gabungan. Kontribusi paling signifikan dalam menjelaskan keragaman pembiayaan investasi berasal dari inflasi. Perbankan syariah dapat meningkatkan proporsi pendanaan untuk investasi. Peningkatan pembiayaan investasi dapat membuat nasabah memiliki skala usaha yang lebih besar untuk mendorong pertumbuhan ekonomi.

**Kata kunci:** investasi, Vector Error Correction Model, nilai tukar, inflasi, tingkat suku bunga



## **Introduction**

Banking has an important role in the framework of a country's economic development (Aluko & Ajayi, 2018; Djalilov & Piesse, 2019). This role is related to the bank's function as an intermediary institution that absorbs funds from the public and distributes them to people in need (Trimulato, 2019; Werner, 2016). Economic growth correlates with financial instruments provided by the banking sector (Aali-Bujari, Venegas-Martínez, & Pérez-Lechuga, 2017; Duican & Pop, 2015). To achieve economic growth at the desired level, the operational activities carried out by banks must encourage the business world (Donaldson & Walsh, 2015; Kodongo & Ojah, 2016; Kudrin & Gurvich, 2015).

The presence of Islamic banks is not only to provide an alternative to non-usury banking for the community but also to develop the real sector (Christanti, Wulandari, Narmaditya, & Utomo, 2017; Sofhian, 2015). This is in line with the explanation regarding Islamic banks, which are financial institutions that function to facilitate economic mechanisms in the actual industry through business activities based on sharia principles (Setyowati, Abubakar, & Rodliah, 2017). Sharia banking operational activities to encourage the business world to provide financing (Salman & Nawaz, 2018).

Based on the use and business category, Islamic banking financing is differentiated into investment financing, namely funding for the procurement of production facilities or equipment—working capital financing, namely financing for the supply of raw materials or traded goods. Consumptive financing namely intended funding for the purchase of an item that is used for individual interests.

One form of sharia banking operational activity is providing investment financing *ri* (Trisanty, 2018). Increased investment in the real sector will also encourage and boost economic growth (Nwakoby & Bernard, 2016). Investment financing is useful for people who are doing business to increase their production, for example, raw material supplies, finished material supplies, daily operational costs, and others so that they can run their business normally and smoothly (Fowowe, 2017; Liu, Zhang, Batista, & Rong, 2019; Mazzucato & Semieniuk, 2018).

The increase in investment obtained from Islamic banking will increase its production capacity and then have an impact on improving business expansion, which will create new jobs (Shawtari, Saiti, Abdul Razak, & Ariff, 2015; Tawfiqi & Hamdan, 2018; Wahyudi & Sani, 2014). Another effect is the creation of new jobs that will reduce unemployment (Pohlan, 2019). The growing number of workers will increase per capita income, improve people's purchasing power, and increase national income (Kavya & Shijin, 2020; Leimbach, Krieglner, Roming, & Schwanitz, 2017; Rothenberg et al., 2016).

Research related to economic shocks has been carried out by Pradhan and Bagchi (2013) on economic growth in India, Kuo (2016) on stock prices, Avdoulas, Bekiros, and Boubaker (2016) on capital markets in Europe, Chen, He, and Rudkin (2017) in real estate industry in China, BenSaïda, Litimi, and Abdallah (2018) on the money market, Ibrahim and Ebrahim (2018) on the Islamic capital market, Apergis, Cooray, Khraief, and Apergis, (2019) on the price of gold, Chun, Cho, and Kim (2019) on the amount of oil, and Giordano, Marinucci, and Silvestrini (2019) on the industry housing in Italy.

From the existing research, no one has examined the relation to economic shocks to investment. Therefore, this research was conducted to fill in the gaps in the study that was already done. This research aims to analyze the effect of economic turmoil on

Islamic banking investment financing, analyze the response of Islamic banking investment financing to the financial crisis, and analyze the contribution of each variable in explaining the diversity of Islamic banking investment financing. This research contributes first to provide input and consideration in making decisions related to Islamic banking investment financing. Second, this research can give knowledge about the role of Islamic banking in financing investment. Third, this research can be used as a reference for conducting further research.

## Methods

This study's type of data is secondary data in the form of time series data with monthly frequencies from January 2009 to March 2020. The research data comes from various publications at Bank Indonesia, the Financial Services Authority, the Central Bureau of Statistics, and the Indonesian Stock Exchange. The methods of analysis and data processing used in this research are descriptive and quantitative. A descriptive approach is used to describe the data to be used and to facilitate interpretation. The quantitative method is used to analyze the factors affecting the investment financing of Islamic banking using time series analysis. These factors include investment financing (INV), exchange rate (EXC), inflation (INFL), interest rates (RATE), Islamic stock index (JII), and the Composite Stock Price Index (IHSG).

The time-series data model is an econometric model built on existing economic theory. The estimation of this model can provide information to test existing hypotheses. However, often economic theory has not been able to determine the right specifications for the model because the current economic phenomena are too complicated. Vector Autoregressive (VAR) can be used to overcome this in time series data. The analysis tool used in this research is the Vector Autoregression (VAR) method if the data used is stationary, and there is no cointegration.

In contrast, if the data used is stable and there is cointegration, the Vector Error Correction Model (VECM) method is used. Therefore, before conducting an analysis using the VAR / VECM method, several tests are required, including the stationarity test, optimum lag test, stability test, and cointegration test, VECM estimation, Impulse Response Function (IRF), and Forecasting Error Variance Decomposition (FEVD). The VECM model to be analyzed is a model of Islamic banking investment financing. Where  $c$  is constant,  $\alpha$  coefficient,  $t$  time, and  $n$  lag length.

$$INV_t = c + \alpha_1 EXC_{t-n} + \alpha_2 INFL_{t-n} + \alpha_3 RATE_{t-n} + \alpha_4 JII_{t-n} + \alpha_5 IHSG_{t-n} + \varepsilon_t$$

Vector Error Correction Model (VECM) is a method that functions as an approach to estimate the long-term and short-term relationships of one time-series data against other time-series data, see a shock, and analyze the variability of variables in influencing other variables. The long-term relationship can be analyzed through the cointegration equation on the VECM test results.

## Results and Discussion

The stationarity test is essential when estimating models for time series data. This test is carried out to avoid spurious regression, which causes the estimation results to be incorrect because of the unit root in the variables used. The stationarity test of this research uses the Augmented-Dickey-Fuller (ADF) test and the Phillips Perron (PP) test

with a critical value of 5 percent. The first stationarity test was carried out at the level. If at the level, it is known that there is a unit root in the data, then a stationarity test is carried out for the first difference. The stationarity test for the first difference was carried out by lowering the level data. The data stationarity test results (Table 1) show that all variables are stationary at the data level, except for the exchange rate variable. However, when the data were in the first difference, all variables were stationary.

Table 1. The results of the data stationarity test

Variable	Augmented Dickey-Fuller Test		Phillips-Perron Test	
	Level	Difference	Level	Difference
EXC	0.8368	0.0128	0.8044	0.0000
INV	0.0014	0.0385	0.0091	0.0000
INFL	0.0020	0.0000	0.0014	0.0000
RATE	0.0229	0.0000	0.0180	0.0000
JII	0.0001	0.0000	0.0002	0.0000
IHSG	0.0000	0.0000	0.0001	0.0000

### Optimal Lag Test

The optimal lag test is an important step that must be done in using the VAR model. The optimal lag is intended to show how long a variable reacts to other variables and to eliminate autocorrelation problems in a VECM system. This test (Table 2) is available in several types of information, including Akaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan-Quinn Criterion (HQ). The optimal lag test results for investment financing show that the Akaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan-Quinn Criterion (HQ) criteria are at lag 1. In this study, the optimum lag criterion used is the Schwarz Criterion (SC), which is at lag 1.

Table 2. Optimal lag test results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	1149.356	NA	4.57e-16	-18.29370	-18.15794	-18.23854
1	2023.885	1651.111	6.82e-22*	-31.71016*	-30.75985*	-31.32410*
2	2046.629	40.75675	8.47e-22	-31.49806	-29.73320	-30.78109
3	2080.307	57.11772*	8.87e-22	-31.46091	-28.88149	-30.41303
4	2098.957	29.84078	1.19e-21	-31.18332	-27.78934	-29.80452
5	2120.809	32.86473	1.54e-21	-30.95694	-26.74841	-29.24724
6	2153.183	45.58253	1.71e-21	-30.89893	-25.87584	-28.85831
7	2189.222	47.28307	1.83e-21	-30.89955	-25.06191	-28.52802
8	2213.759	29.83713	2.40e-21	-30.71614	-24.06395	-28.01371
9	2239.550	28.88603	3.19e-21	-30.55280	-23.08605	-27.51945
10	2277.479	38.83974	3.63e-21	-30.58367	-22.30237	-27.21941

\*indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

### Stability Test

The stability test is needed to obtain valid Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD) results. The modulus value of the

investment financing model in this study is in the range of 0.690604-0.991763. Based on the results of the stability test of the VAR model (Table 3), it can be concluded that the VAR system is stable because all its roots are in a unit circle or have a modulus value of less than one, the VAR model is considered stable so that the resulting Impulse Response Function (IRF) and Forecast Error Variance Decomposition (FEVD) are considered valid.

Table 3. Stability test results

Root	Modulus
0.991763	0.991763
0.989163	0.989163
0.864383 - 0.073770i	0.867525
0.864383 + 0.073770i	0.867525
0.811159	0.811159
0.690604	0.690604

No root lies outside the unit circle.

VAR satisfies the stability condition.

### Cointegration Test

The cointegration test is intended to determine the presence or absence of non-stationary variables at the cointegration level. Cointegration testing in this study uses the Johansen cointegration test. Long-term information is obtained by determining the cointegration rank first. This is intended to determine the number of equations that can explain the entire existing system. The cointegration testing criteria in this study were based on the trace statistic value. Suppose the trace statistic value is higher than the critical value of five percent. In that case, the alternative hypothesis states the amount of cointegration is accepted so that the number of co-integrated equations in the system can be seen—the Johansen cointegration test results on investment financing. There are two cointegration relationships, namely when the trace statistic value is higher than the critical value. These results indicate a long-term relationship between variables in the model so that the VAR model can be combined with the Error Correction Model into a Vector Error Correction Model (Table 4).

Table 4. The results of the cointegration Johansen Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.354771	169.7958	117.7082	0.0000
At most 1 *	0.328951	115.4652	88.80380	0.0002
At most 2 *	0.195614	65.99998	63.87610	0.0328
At most 3	0.129467	39.00820	42.91525	0.1165
At most 4	0.118486	21.81560	25.87211	0.1474
At most 5	0.048598	6.177468	12.51798	0.4381

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

\*denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

The exchange rate in the long term has a negative and significant effect on Islamic banking investment financing. This means that an increase in the exchange rate will reduce Islamic banking investment financing. The condition when the Rupiah exchange

rate weakens can be used to boost exports as much as possible. Export-oriented business people enjoy increased exports due to low exchange rates (Aluko & Ajayi, 2018). The products they market in the global market are cheaper for products from other countries to increase sales volume (Jussani, Vasconcellos, Wright, & Grisi, 2018). Besides, if the rupiah exchange rate depreciates, the production of goods or services produced by that country will become more expensive. As a result, the demand for products or services will decrease and lead to substitutions that suppress demand. When demand decreases, producers will reduce supply and have a new balance. Reduction in supply is carried out by reducing production, which causes the economy to experience a slowdown (Kudrin & Gurvich, 2015). The need for funds for working capital and investment is reduced, which in the end is that Islamic banks experience difficulties in channeling financing (Tohirin & Husaini, 2019).

In the long run, interest rates have a positive and significant effect on Islamic banking investment financing. This means that the higher the Bank Indonesia interest rate, the higher the investment financing for Islamic banking. The Bank Indonesia interest rate is the reference interest rate for conventional banks because there is no Islamic bank reference regulation for the profit-sharing price. When interest rates rise, it will increase lending rates (Matemilola, Bany-ariffin, & Etudaiye, 2015). The quite aggressive interest rate hike has created a negative sentiment for conventional banks because high-interest rates can erode the bank's net interest margin. However, on the other hand, this condition provides fresh air for Islamic banking (Nasution & Ahmed, 2015). This is because Islamic banks do not depend on reference interest, but rather determine profit sharing based on customer portfolios. Investment financing is long-term financing, so customers prefer sharia banking that uses a profit-sharing rate of funding and has been established at the beginning of the financing agreement so that it is fixed and not floating (Sapuan, 2016; Trisanty, 2018). Increasing the level of financing profit sharing will increase the volume of financing on investment.

Table 5. VECM estimation results

Variable	Short Term	
	Coefficient	[t-statistic]
CointEq1	-0.000255	[-0.05298]
D(INV(-1))	-0.093844	[-1.02211]
D(EXC(-1))	-0.087774	[-1.58831]
D(INFL(-1))	0.181596	[0.79247]
D(RATE(-1))	0.227127	[0.43943]
D(JII(-1))	-0.074999	[-0.52786]
D(IHSG(-1))	0.093589	[0.61726]
C	0.019320	[6.94394]
Long Term		
EXC(-1)	-2.540463	[-2.39877]*
INFL(-1)	-20.49312	[-4.19129]*
RATE(-1)	25.44722	[2.53998]*
JII(-1)	-0.731490	[-0.45692]
IHSG(-1)	1.835033	[1.10180]

\*significant at 5%

Long-term inflation has a significant negative effect on Islamic banking investment financing. This means that the higher the inflation, the lower the Islamic

banking investment financing. The negative relationship between inflation and investment financing is following the theory because when the inflation rate increases, the price of goods will increase which results in the input value of producers to swell, exacerbated by decreasing public purchasing power so that the ability of customers to carry out obligations in financing will reduce (Aysan, Disli, & Ozturk, 2018; Coibion, Gorodnichenko, Kumar, & Pedemonte, 2020; Joshi & Rahman, 2015). Islamic banking will limit the amount of money in circulation, among others, by restricting investment financing (Alam, Akbar, Shahriar, & Elahi, 2017; Wahyudi & Sani, 2014). Inflation can be understood as an increase in the price of goods and services in a sustainable manner from year to year (Bahloul, Mroua, & Naifar, 2017). In the economic concept, the inflation rate has an essential role because it can be used as a reference for estimating the real value of the investment (Naifar, 2016). Besides, the inflation rate is also often used as a reference for calculating and predicting the amount of return required to maintain the investment standard of Islamic banking (Hossain, 2016; Sasmal, 2015).

### **Impulse Response Function (IRF)**

Impulse response function (IRF) analysis is used to see the response of a variable in the event of a shock to an endogenous variable caused by another endogenous variable within one standard deviation. This study uses thirty months to see the response and stability period of Islamic banking investment financing to shocks that occur.

Shocks from the exchange rate (EXC) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. In the following month, Islamic banking investment financing began to react negatively to shocks from the exchange rate of -0.0027 percent. The shock caused a decrease in Islamic banking investment financing by 0.0027 percent, continued to be responded negatively until the end of the observation, and began to stabilize in the 18th month of -0.00181 percent. These results indicate that exchange rate shocks during 30 months caused a decline in Islamic banking investment financing by an average of 0.00182 percent.

The increase in bank interest rates was responded negatively because of concerns over the company's financial liquidity. This is, of course, related to the costs incurred and the possible systemic impact. The use of imported raw materials used by companies in managing investments provided by Islamic banking is one of the causes of the negative response by Islamic banking (Setiawan, 2018). When the price of raw materials increases due to the depreciation of the rupiah, it will reduce the use of imported raw materials so that the investment capitalization value decreases. The high exchange rate movement will raise expectations of business actors, especially those engaged in export-import (Lin, Shi, & Ye, 2018). The uncertainty of the exchange rate will create anxiety among business actors regarding their business losses (Hossain, 2016).

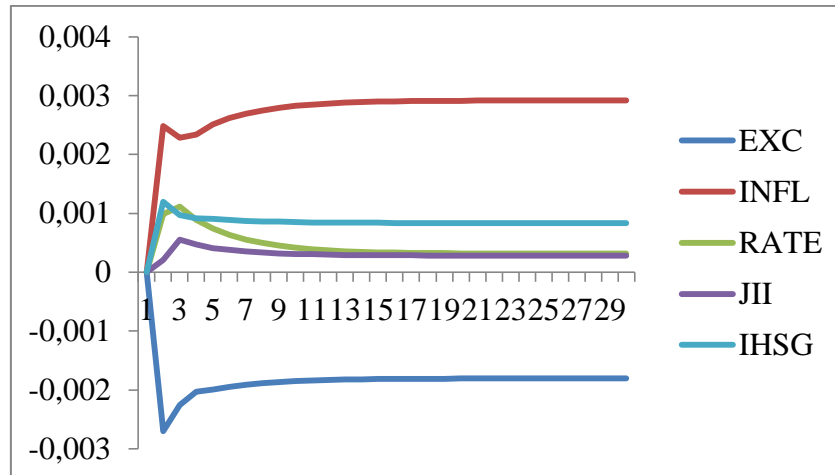


Figure 1. Impulse response function for investment financing

Shocks from inflation (INFL) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. The following month, Islamic banking investment financing began to react positively to shocks from inflation of 0.00248 percent. This shock caused an increase in Islamic banking investment financing by 0.00248 percent, continued to be responded positively until the end of the observation, and began to stabilize in the 19th month of 0.002912 percent. These results indicate that during the 30 months, the inflation shock caused an increase in Islamic banking investment financing by an average of 0.0027 percent. Inflation is often a threat to the economy. The high rate of inflation can even lead to the collapse of a country's economy (Siami-Namini & Hudson, 2019). The impact of inflation on the economy, in general, tends to be negative (Bahloul et al., 2017). Not only does it decrease the value of money, but it also affects saving and even investment (Godil, Sarwat, Sharif, & Jermisittiparsert, 2020). The hope of getting high returns, inflation risks eroding the return on investment in Islamic banking. Inflation does not always have a negative effect (Trad, Trabelsi, & Goux, 2017). There are also positives. The positive effects of inflation are felt by those who are debtors and entrepreneurs. For debtors, inflation makes money returned has a lower value than when borrowed. Meanwhile, for entrepreneurs, the existence of inflation allows them to obtain higher income than the production costs incurred (Hossain, 2016). Although it has a positive effect, in general, and in a broader scope, the negative impact of inflation tends to be more, even potentially endangering the stability of Islamic banking investment financing (Mertzanis, 2016).

Shocks of interest rates (RATE) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. In the following month, Islamic banking investment financing began to react positively to shocks from the interest rate of 0.000991 percent. The shock caused an increase in Islamic banking investment financing by 0.000991 percent, continued to be responded positively until the end of the observation, and began to stabilize in the 21st month by 0.000319 percent. These results indicate that during 30 months, interest rate shocks led to an increase in Islamic banking investment financing by an average of 0.0004299 percent. The shocks that occur affect the behavior of Islamic banks in channeling their investment financing (Hamza & Saadaoui, 2018). Islamic banking tends to increase its investment financing. When viewed from the characteristics of Islamic banking, which

implements a profit-sharing scheme, of course, the shock is not very visible (Abdullah, 2017). However, Islamic banking cannot be separated from interest rate risk (Louhichi & Boujelbene, 2016). This is because the market reached by Islamic banking is not only customers with high loyalty, but also those with low commitment to Islamic banking (Salman & Nawaz, 2018). When the profit-sharing rate for Islamic banking is lower than the interest rate, customers will transfer their funds from Islamic banks to conventional banks (Kabir, Worthington, & Gupta, 2015). This resulted in a reduction in investment financing carried out by Islamic banking.

Shocks from the Islamic stock index (JII) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. In the following month, Islamic banking investment financing began to react positively to shocks from the Islamic stock index of 0.000205 percent. This shock caused an increase in Islamic banking investment financing by 0.000205 percent, continued to be responded positively until the end of the observation, and began to stabilize in the 19th month of 0.000284 percent. These results indicate that during 30 months, the sharia stock index shocks caused an increase in Islamic banking investment financing by an average of 0.0003021 percent. Shocks from the composite stock price index (IHSG) of one standard deviation in the first month have not been responded to by Islamic banking investment financing. In the following month, Islamic banking investment financing began to react positively to the shock of the composite stock price index of 0.001196 percent. This shock caused an increase in Islamic banking investment financing by 0.001196 percent, continued to be responded positively until the end of the observation, and began to stabilize on the 15th month of 0.000839 percent. These results indicate that during 30 months, the interest rate shock caused an increase in Islamic banking investment financing by an average of 0.0008356 percent. The composite stock price index is an indicator that shows the movement of shares as a whole in a period (Naifar, 2016). This index functions as an indicator of market trends, meaning that the index's progress describes market conditions at a time whether the market is active or sluggish (Godil et al., 2020). When the value of the composite stock price index increases to a higher level, it indicates that it is active (Li, 2016). This condition is used by Islamic banking to increase the distribution of investment financing to productive sectors so that it will increase the value of investment capitalization in that sector (Bayraktar, 2014).

### **Forecast Error Variance Decomposition (FEVD)**

Forecast Error Variance Decomposition (FEVD) analysis in this study aims to explain each variable's contribution in explaining the diversity of Islamic banking investment levels. In this study, a period of 30 months was used. The FEVD results show that the most significant contribution in explaining the diversity of levels of Islamic banking investment financing comes from inflation. This indicates that inflation has the most significant contribution in causing investment financing compared to other variables. Besides, there are indications that inflation directly affects the level of Islamic banking investment financing. To a small extent, inflation also has a detrimental effect on assets. Inflation has the same impact on all types of assets, both liquid, and non-liquid. However, liquid assets tend to be more vulnerable to inflation.

If the inflation rate is high, it can cause the value of liquid assets owned by individuals and businesses to decrease, likewise, with investment. Liquid investments include stocks, bonds, and mutual funds (Cai, Zeng, Lee, & Ozkan, 2016). This investment is also influenced by inflation. It's just that these types of investments have



sufficient resistance to the onslaught of inflation because they generate returns in the form of higher profit sharing. That is one of the main reasons investors put their money in stocks, bonds, and mutual funds. Investors try to keep their savings safe from the effects of inflation. So that investment is not adversely affected by inflation, the profit-sharing rate must follow and even exceed inflation so that investors can get real returns. However, for investments with low-profit sharing, it is challenging to avoid inflation. Indeed, this does not happen in all-stock issuing companies. Therefore, Islamic banking must be observant and intelligent in reading and analyzing the company's performance that will be chosen to invest.

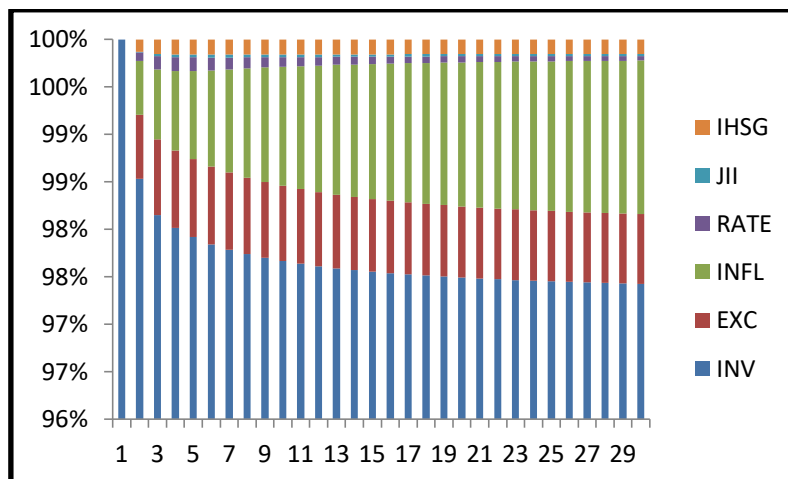


Figure 2. Forecast error variance decomposition of investment

## Conclusion

This study's results indicate that none of them has an influence on investment financing in the short term. However, in the long run, the exchange rate, inflation, and interest rates have a significant impact on Islamic banking investment financing. The response of Islamic banking investment financing to shocks that arise is the fastest to reach stability when responding to shocks to the composite stock price index, exchange rates, inflation, Islamic stock index, and finally, interest rates. The variables that contribute the most to shaping the diversity of Islamic banking investment financing are inflation, exchange rates, composite stock price index, interest rate, and Islamic stock index.

This research result implies that Islamic banking should always pay attention to the movements of the exchange rate, inflation, and interest rates in determining investment financing policies and maintaining financial stability by prioritizing potential sectoral investments. Besides, Islamic banking needs to increase its role in collecting funds from the public and simplifying the procedure for submitting

investment financing for consumers. The government is also expected to be careful in setting interest rates, maintain exchange rate stability and inflation, and maintain stock market conditions.

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