Jurnal Inovasi Ekonomi
Vol. 07 No. 03 December 2022 Page 197-206
P-ISSN: 2477-4804 E-ISSN: 2686-3804 http://ejournal.umm.ac.id/index.php/jiko

A linkage of monetary policy and conventional-Islamic stocks: Indonesia evidence

Nora Ria Retnasih[1]

Management Department, Faculty of Economics, UIN Maulana Malik Ibrahim Malang, Indonesia[1]

Received: 17-06-2022 | Revision: 27-08-2022 | Accepted: 16=09-2022
DOI: https://doi.org/10.22219/jiko.v7i04.21506

Abstract

This research aims to analyze the relationship between monetary economic variables, consisting of money supply, inflation, exchange rates, and BI rate toward the sharia stock value (JII) and conventional stock index values (LQ45) over a short and long period. Moreover, predicting each index's value in the future is another objective of this research. The methods used in this quantitative research are Vector Error Correction Model (VECM). The data analyzed in this research is monthly data from January 2019 to December 2021. The long-term VECM test results show that inflation, exchange rate, and BI rate significantly affect both stock indexes. Meanwhile, the result of the short-term test, the money supply affects the JII index, and inflation affects both indexes. The results of the IRF test show that the response of LQ45 and JII is minimal on monetary variable shocks with a stable value in the long term. The results of the FEVD test show that the variation in the LQ45 is affected by monetary variables in a small percentage, while the effect on the JII is relatively high.

Keywords: Money supply; inflation; exchange rate; interest rate; LQ45; JII

[1] noraria@uin-malang.ac.id

Introduction

The capital market has a significant role in helping the economic recovery and financial problems for companies to rise amid global shocks after the pandemic. The capital market functions as an intermediary institution to bridge between parties who have excess funds (investors) and parties who need funds (companies) through the sale and purchase of securities. Currently, Indonesia has two types of capital markets: conventional and sharia. The Islamic capital market is increasing and has become a choice for Indonesian investors, who are predominantly Muslim.

Hersugondo et al. (2020) explained that the conventional capital market is an organized financial system for trading stocks, obligations, and other securities by ignoring "halal-haram" as long as the company is a legal entity according to applicable regulations. The transaction system also uses the concept of interest that contains usury and is speculative and manipulative. Investors can buy or sell stocks directly by using the services of a broker that allows speculators to adjust the price. However, the Islamic capital market is the opposite of the conventional system. All securities trading transaction processes are carried out by Islamic law. Trading activities are regulated and supervised by the National Sharia Council of the Indonesian Ulema Council (Dewan Syariah Nasional Majelis Ulama Indonesia-DSN MUI) directly so that they are carried out with conservative principles without speculation and manipulation.

This research refers to several other studies conducted by Boonyanam (2014); Widyastuti et al. (2017); Yahya (2020); Ramli et al. (2021); dan Qing and Kusairi (2019), which emphasize the analysis and prediction of monetary variables, namely the money supply, inflation, exchange rates, and interest rates in influencing the value of Indonesian composite stocks by making comparisons between conventional and sharia stocks from January 2019 to December 2021. The combination of traditional stocks can be seen in the LQ45 Index. This Index measures the performance of 45 stocks with high liquidity and large market capitalization and is supported by good company fundamentals. Meanwhile, the combined sharia stocks can be seen from the Jakarta Islamic Index (JII). This Index measures the performance of 30 stocks with sound financial performance and high transaction liquidity. This stock value movement is used as one of the foundations before investing. Comparing Islamic and conventional stocks will help investors to determine potential investments based on monetary stability at a particular time.

The pandemic influences the stock market, which tends to decrease since society needs to fulfill primer necessary than investing. Although the stock value of both indexes decreased compared to before the pandemic, the trend shows that stocks still fluctuate all the time, and there are certain moments

when stocks increase; this contrasts with the trend of the economy, which continues to be unstable during the pandemic. This research is essential to prove whether stock values are affected by monetary shocks due to the Covid-19 pandemic.

Method

This research connects Indonesia's monetary variables, namely the money supply (MS), inflation (INF), exchange rates (ER), and BI rate, with stock values. The value of the analyzed stocks is divided into two groups of joint stock, namely LQ45 stocks, which represent the conventional system, and JII, which represent the sharia system. The period for each variable starts from January 2019 to December 2021. The data analysis method is Vector Autoregressive (VAR) or Vector Error Correction Model (VECM).

$$\Delta Y_t = \alpha_0 + \sum_{j=1}^{n} \alpha_1 \Delta Y_{t-1} + \sum_{j=1}^{n} \alpha_2 \Delta X1_{t-1} + \sum_{j=1}^{n} \alpha_3 \Delta X2_{t-1} + \sum_{j=1}^{n} \alpha_4 \Delta X3_{t-1} + \sum_{j=1}^{n} \alpha_5 \Delta X4_{t-1} + \varepsilon_t \quad (1)$$

Where α_0 is the constant, $\alpha_{1\text{-}4}$ coefficient, t represents time. VAR tests are selected when the data is stationary at the level and have no long-term relationship with the co-integration test. The best lag length for the VAR model is when the AIC shows the lowest value. Meanwhile, the VECM test is used when the data is stationary at 1 or 2 degrees and has a long-term relationship with the co-integration test.

Empirical Result

The VECM was chosen because both conventional and sharia models showed saturation at the first degree, and there was a co-integration relationship. In VECM estimates, if t-statistics are more significant than the value of the t-table, then there can be a long-term or short-term relationship between variables. In more detail, short-term or long-term relationships can be interpreted as causal relationships between variables, both positive and negative.

Table 1. Long-term VECM Test

No.	Variables	Coefficient	t-statistic	t-table
	Conventional Stock Indexes (LQ45)			
1	Money Supply	-0.659327	[-1.12856]	1.69552
2	Exchange Rate	-6.159848	[-12.6066]	1.69552
3	Inflation	-0.158822	[-4.24043]	1.69552
4	BI Rate	-0.172538	[-2.86696]	1.69552
	Sharia Stock Indexes (JII)			
1	Money Supply	-0.008118	[-1.16728]	1.69552
2	Exchange Rate	-4.956496	[-8.72738]	1.69552
3	Inflation	-0.172324	[-3.48013]	1.69552
4	BI Rate	-0.252827	[-2.65559]	1.69552

In the long term, variable exchange rates, inflation, and BI rates negatively affect the LQ45 and JII stock indices. It can be seen in Table 1 above that the t-statistic values of the three variables are more significant than the t-table, namely 12.6066, 4.24043, and 2.86696 for LQ45 stocks, and 8.72738, 3.48013, and 2.65559 for JII stocks. Variable money supply has no significant effect on the two composite stock indices. This long-term influence is in line with the research of Yahya (2020), Ramli et al. (2021), and Utomo et al. (2019).

Table 2. Short-term VECM test

No.	Variables	Coefficient	t-statistic	t-table
Conventional Stock Indexes (LQ45)				
1	Money Supply	-0.038310	[-0.03897]	1.69552
2	Exchange Rate	-0.010134	[-0.01303]	1.69552
3	Inflation	-0.039321	[-1.77486]	1.69552
4	BI Rate	-0.124548	[-1.11887]	1.69552
Sharia Stock Indexes (JII)				
1	Money Supply	-2.412209	[-2.04007]	1.69552
2	Exchange Rate	-0.002186	[-0.00343]	1.69552
3	Inflation	-0.066643	[-2.00775]	1.69552
4	BI Rate	-0.103265	[-0.89999]	1.69552

In the short-term variable, inflation significantly negatively affects both stock indices. It can be seen in Table 2 above the t-statistical value is greater than the t-table is 1.77486 for the LQ45 index and 2.00775 for the JII index. Meanwhile, the variable money supply only significantly affects the JII index with a t-statistic value of 2.04007. Other variables have no significant effect on both stock indices.

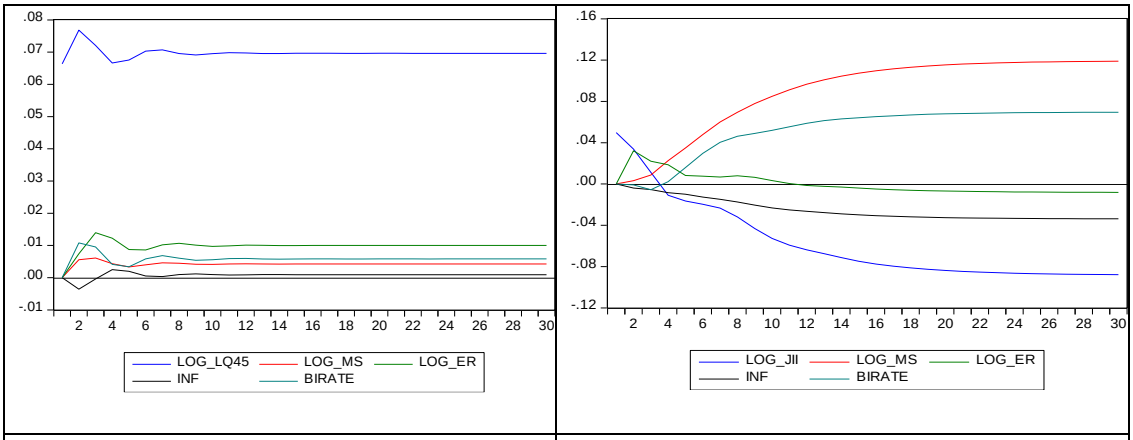
The money supply affects the JII index the research Gursida (2018), Widyastuti et al. (2017), Yahya (2020), Qing and Kusairi (2019). But the direction of the relationship between the two variables is not following previous research. In this research, the MS variable had a significant adverse effect on the value of the JII index, where the more money supplied, the value of the stock would decrease. According to Sihombing and Santosa (2014), there is a possibility that people will choose to invest in something that can be disbursed quickly and at little risk, such as valuables that are easy to cash back. Because in a certain period, people will prefer to meet their needs first, investing in stocks with a considerable risk is not so liked by the community.

Inflation has a significant negative effect on both stock indices. This research follows Yahya (2020) and Utomo et al. (2019). An excessive inflation rate will reduce the company's net profit due to inflation that continues to increase, so the cost of production will increase. Rising prices will reduce the

company's sales and profits. From the company's internals, this shows poor performance, so investors will reduce the demand for stocks in the company, which will eventually affect the value of its composite stocks.

Impulse Response Function (IRF) Test

Figure 1. shows that the shock that occurred in the monetary variable was responded to by changes in the LQ45 stock value both in the short and long term. The movement of stock values fluctuates in the short term both positively and negatively, but in the long term, the stock value responds to shocks with a more stable positive value. In the short term, the response of LQ45 stock is 0.005 basis point to the shocks of the MS variable and tends to decrease to 0.004 in the 30th period of observation. Furthermore, the response of the LQ45 stock to the shock of the ER variable in the second period was 0.007 basis points and increased to 0.01 in the 7th period, and was stable at 0.009 point basis until the 30th period of observation. The INF variable responded negatively by LQ45 in the short term with a value of -0.003, increased by 0.001 in the 9th period, and then stabilized at a 0.0009 basis point in the long term. Finally, the BI rate variable was responded to by the LQ45 stock value of 0.01 in the short term, then decreased and stable at 0.005 up to the 30th period of observation.



a. LQ45 Index IRF Test Results **b.** JII Index IRF Test Results

Figure 1. IRF Test Results

Furthermore, in Figure 2, the shock that occurred in the monetary variable was responded to by changes in the value of JII's stock index, both in the short and long term. The MS variable shock was answered by 0.003 basis points in the second period and increased by 0.11 in the 30th period of observation. The ER variable responded positively in the short term by 0.03 basis points, but in the long term, the response turned negative by -0.008 basis points. Shocks on the INF variable responded negatively throughout the observation period; in the second period, the value was -0.003 basis points, and

in the 30th period, it was -0.033 point basis points. Finally, shocks to the BI rate variable responded negatively by -0.0009 basis points in the short term and turned positive in the long term by 0.069 basis points. Overall, the LQ45 and JII indexes responded to monetary shocks with small values below one basis point and tended to be stable in the long term.

Forecast Error Variance Decomposition (FEVD) Test

The FEDV test provides an idea of how a variable affects the formation of values from other variables over a research period. This influence is dynamic, so it constantly fluctuates in harmony with changes in variable conditions that affect it. The results of the FEDV test are as follows.

Table 3. LQ45 Index FEVD test results

Period	S.E.	LOG_LQ45	LOG_MS	LOG_ER	INF	BIRATE
1	0.066341	100.0000	0.000000	0.000000	0.000000	0.000000
2	0.102543	97.95069	0.294865	0.522987	0.119686	1.111768
3	0.126613	96.63955	0.426550	1.559853	0.079483	1.294567
4	0.143746	96.46628	0.421574	1.933971	0.091304	1.086876
5	0.159156	96.71121	0.387131	1.879688	0.090108	0.931867
6	0.174347	96.84999	0.375523	1.810762	0.075987	0.887739
7	0.188592	96.82527	0.380006	1.838727	0.065310	0.890682
8	0.201446	96.79561	0.382054	1.891321	0.059529	0.871482
9	0.213329	96.81420	0.378486	1.909802	0.056218	0.841294
10	0.224691	96.84365	0.375013	1.908518	0.052574	0.820247

Table 3 explains how much each variable contributes to the change in the value of the LQ45 index. Throughout the observation period, variations in the LQ45 index are more determined by changes in the variables. In the first period, the contribution was 100 percent and continued to decline until the 10th period by 96 percent. Variable MS contributed little to the LQ45 index starting in the second period at 0.29 percent and increasing until the 10th period reached 0.37 percent. The ER variable contributed 0.52 percent in the 2nd period and fluctuated to 1.9 percent in the 10th. The INF variable has a contribution that continues to decline in the 2nd period by 0.11 percent and down to 0.05 percent at the end of the observation period. Finally, the BI rate variable also has a contribution that continues to decline throughout the period, with an initial value of 1.11 percent to 0.8 percent. Overall the amount of monetary variable contribution is relatively small in value in the formation of the LQ45 index value, which is less than 2 percent throughout the period; this indicates that internal factors have more effect on the value of the LQ45 index than external ones. So, suppose you want to choose an investment instrument in LQ45 stocks.

Investors should use the company's fundamental analysis because the value is stable to external factors such as shocks in monetary economic variables.

Table 4. JII Index FEVD test results

Period	S.E.	LOG_JII	LOG_MS	LOG_ER	INF	BIRATE
1	0.049802	100.0000	0.000000	0.000000	0.000000	0.000000
2	0.068436	77.27696	0.211402	22.15754	0.333806	0.020294
3	0.073704	68.94516	1.541910	28.10409	0.816872	0.591974
4	0.080534	59.57393	9.158514	28.89908	1.793455	0.575013
5	0.091602	49.27976	21.55885	23.13762	2.548233	3.475534
6	0.110319	37.15529	33.72200	16.42055	3.062269	9.639894
7	0.134985	27.80102	42.34815	11.21928	3.265656	15.36589
8	0.163014	22.91142	47.21640	7.932649	3.375670	18.56386
9	0.193289	21.27617	49.82034	5.754327	3.526996	19.62217
10	0.224950	21.18762	51.04686	4.271281	3.662937	19.83130

Furthermore, Table 4 shows how much contribution of monetary variables to changes in the value of the JII index. Throughout the observation period, variations in the JII index are more determined by changes in the variables. Its contribution was 100 percent in the first period and declined significantly until the 10th period by 21 percent. Variable MS contributed little to the JII index at the beginning of the period by 0.2 percent but continued to increase to 51 percent at the end. The ER variable contributed quite a lot at the beginning of the period by 22.1 percent but continued to decline to 4.2 percent in the 10th period. Variable INF contributed 0.3 percent and increased to 3.6 percent in the 10th period.

Finally, the BI rate variable also contributed 0.02 percent at the beginning of the period and increased significantly to 19.8 percent. In contrast to the LQ45 index, which is more influenced by internal factors, JII variables are more influenced by external variables that contribute up to 79 percent during the observation period. Based on this test, investors can use monetary economic variable considerations in their investment decisions on JII stock.

Conclusions

This research examines the relationship between monetary economic factors and stock market performance in Indonesia by comparing the conventional (LQ45) and Sharia (JII) indexes listed on the Indonesia Stock Exchange. Research findings state that in the long term, the exchange rate, BI rate, and inflation hurt the performance of the two stock indices. However, only two variables have a significant effect in the short time: the money supply on the JII index and inflation on the two stock indices. The response of the LQ45 index tends to be small and more stable on monetary variable shocks than the JII

index. Likewise, in the variation, the JII index is more influenced by economic variables than LQ45.

The results of this research can be a reference for other researchers, companies, and investors. For companies listed on the LQ45 index, it is better to strengthen their fundamentals so that the value remains stable or does not decrease in the next period. Companies listed on the JII index should be more careful of shocks to monetary variables because external factors than company fundamentals influence the magnitude of the stock value in the future. For investors, in addition to considering the halal-haram law contained in Islamic stock instruments, it is also better to view the monetary economic stability that occurs in Indonesia. Finally, for the government, the government should always be vigilant and maintain domestic financial and economic stability through policies in the capital market sector. It means that the government is obliged to be able to control monetary economic variables so that it can support the improvement of the economy, which will ultimately affect the financial performance of companies included in its stock index.

References

Boonyanam, N. (2014). Relationship of Stock Price and Monetary Variables of Asian Small Open Emerging Economy: Evidence from Thailand. *International Journal of Financial Research*, *5*(1). https://doi.org/10.5430/ijfr.v5n1p52

Gursida, H. (2018). The Influence Of Inflation Rate, Interest Rate, And Money Supply On Share Price LQ45. *Sinergi*, *8*(1), 21. https://doi.org/https://doi.org/10.25139/sng.v8i1.667

Hersugondo, H., Sadiyah, C., Handriani, E., Subagyo, H., & Astuti, S. D. (2020). An Analysis of Sharia and Conventional Shares' System at Indonesia Stock Exchange. *Perisai : Islamic Banking and Finance Journal*, *4*(1), 1. https://doi.org/10.21070/perisai.v4i1.228

Hidayat, L. R., Setyadi, D., & Azis, M. (2018). Pengaruh Inflasi dan Suku Bunga dan Nilai Tukar Rupiah serta Jumlah Uang Beredar terhadap Return Saham. *Forum Ekonomi*, *19*(2), 148. https://doi.org/10.29264/jfor.v19i2.2121

Mawardi, I., Widiastuti, T., & Sucia Sukmaningrum, P. (2019). The Impact of Macroeconomic on Islamic Stock Prices: Evidence from Indonesia. *KnE Social Sciences*, *3*(13), 499. https://doi.org/10.18502/kss.v3i13.4226

Mubarok, F., Al Arif, M. N. R., & Mufraini, M. A. (2020). The Stability of the Indonesian Sharia Stock Index to Economic Shocks. *Iqtishadia*, *13*(2), 138. https://doi.org/10.21043/iqtishadia.v13i2.7748

Prieto, A. B. T., & Lee, Y. (2019). Determinants of stock market performance: var and vecm designs in Korea and Japan. *Global Business and Finance Review*, *24*(4), 24–44. https://doi.org/10.17549/gbfr.2019.24.4.24

Qing, Y. K., & Kusairi, S. (2019). The Effect of Money Supply, Exchange Rate, and Interest Spread toward the Performance of Stock Market in Malaysia. *Widyakala Journal*, *6*(2), 142. https://doi.org/10.36262/widyakala.v6i2.217

Ramli, M. R., Masbar, R., Majid, M. S. A., & Djalil, M. A. (2021). The Analysis Effect of Macroeconomic Variables on Shariah and Conventional Market Share at Indonesia. *Palarch's Journal of Archeology of Egypt/Egyptology*, *18*(1), 3450–3466. https://www.archives.palarch.nl/index.php/jae/article/view/5366

Raraga, F., & Muharam, H. (2014). VAR Analysis on Mutual Relationship between Stock Price Index and Exchange Rate and the Role of World Oil Price and World Gold Price. *SSRN Electronic Journal*, *April*. https://doi.org/10.2139/ssrn.2470184

Sihombing, E., & Santosa, B. (2014). Determinasi Indeks Harga Saham Gabungan Di Bursa Efek Indonesia. *Media Ekonomi*, *22*(3), 261–276. https://doi.org/10.25105/me.v22i3.3200

Suhadak, & Dwi Suciany, A. (2020). Brief technical note: The influence of exchange rates on inflation, interest rates and the composite stock price index: Indonesia 2015 - 2018. *Australasian Accounting, Business and Finance Journal*, *14*(1 Special Issue), 105–120. https://doi.org/10.14453/aabfj.v14i1.11

Suharyanto, S., & Zaki, A. (2021). the Effect of Inflation, Interest Rate, and Exchange Rate on Stock Returns in Food & Beverages Companies. *Jurnal Aplikasi Manajemen*, *19*(3), 616–622. https://doi.org/10.21776/ub.jam.2021.019.03.14

Suryadi, S., ENDRI, E., & YASID, M. (2021). Risk and Return of Islamic and Conventional Indices on the Indonesia Stock Exchange. *Journal of Asian Finance, Economics and Business*, *8*(3), 23–30. https://doi.org/10.13106/jafeb.2021.vol8.no3.0023

Utomo, S. H., Wulandari, D., Narmaditya, B. S., Handayati, P., & Ishak, S. (2019). Macroeconomic factors and LQ45 stock price index: Evidence from Indonesia. *Investment Management and Financial Innovations*, *16*(3), 251–259. https://doi.org/10.21511/imfi.16(3).2019.23

Widyastuti, M., Dewantoro, A. D., & Panjaitan, T. W. S. (2017). Impact Analysis of Total Money Supply, Stock Trading Volume, Inflation, Interest Rate and Rupiah Exchange Rate on JCI in Indonesia Stock Exchange. *International Journal of Innovative Research and Development*, *6*(8), 186–194. https://doi.org/10.24940/ijird/2017/v6/i8/aug17092

Yahya, T. (2020). The effect of macro variables on the Jakarta Islamic Index. *Asian Journal of Islamic Management (AJIM)*, *2*(1), 36–45. https://doi.org/10.20885/ajim.vol2.iss1.art4