Macroeconomic Determinants of Jakarta Islamic Index

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Abstract
Jakarta Islamic Index is used as a benchmark to measure the performance of an investment in Islamic compliance stocks. The performance of this index determines investor’s confidence to develop an investment in sharia equity. This study aims to analyse the influence of macroeconomic indicators consisting of country risk, sharia bank certificates, inflation, exchange rate, and oil prices to Jakarta Islamic Index. The research uses quantitative approach with multiple regression analysis in EViews to help reach the goal. Empirical results show that, independent variables consisting of composite risk, sharia bank certificate, inflation, exchange rate, and oil price simultaneously influence the Jakarta Islamic Index with a significance rate and coefficient determination of 47.55%. Inflation shows no significant and major role in determining Jakarta Islamic Index, while country risk, sharia bank certificate, exchange rate, and oil price influence significantly the dependent variable.

Keywords: JII, Islamic Index, Country Risk, Sharia Bank Certificates, Inflation, Exchange rate, oil price.

1. Introduction

Capital market is a source of financing for companies and financial institutions in addition to its role as a media for investment activities. The capital market acts as a liaison between investors and companies or government institutions through the long term transaction of financial instruments such as bonds, stocks, and others. Husnan further defines a capital market as a place that brings together long-term financial instruments commonly traded, in the form of debt or capital, whether issued by the government, public authorities, or private companies (Nor Hadi, 2015).

According to Ardana (2016), the last decade showed several economic crises that shocked the world such as the subprime mortgage crisis that occurred in the United States in 2008 and the debt crisis that occurred in Europe in 2010. The crisis shaken
the banking system and financial sector, not only in the United States but it extends to the Europe and Asia. Research conducted by Wardana et al. (2011) shows that even though the sharia capital market is affected by changes in market prices caused by financial crisis in the United States, the impacts of the crisis are more perceived by the conventional capital markets. The sharia capital market proved to have a better ability to adapt to changes from external crisis disruptions. Thus, it concluded that Sharia capital market has more resistance to crisis than the conventional ones.

Indonesia as one of the largest Muslim countries in the world represents a vast and prospect market for developing sharia financial industry. Further, sharia investment in capital market has a role to increase the market share of Islamic finance industry in Indonesia.

One of the measuring instruments of performance for Sharia capital market in Indonesia is the Jakarta Islamic Index (JII), which was developed in July 2000. The development of sharia capital market is advancing with the establishment of Indonesia Sharia Shares Index (ISSI) in May 2011. Unlike JII, ISSI is a Shariah stock index, which consists of all sharia shares that were previously registered in IHSG, jointly with other non-sharia shares. The ISSI is incorporated based on List of Sharia Securities (Daftar Efek Syariah/DES) issued by Otoritas Jasa Keuangan (OJK).

One of the most favoured sectors of sharia investment is to invest in stocks belonging to the Jakarta Islamic Index (JII). The issuer listed in JII conducts its business activities that are not contrary to the principles of sharia. Shares listed in the JII consist of 30 most liquid stocks selected from Islamic compliance shares. The selection of stock to be listed in JII is conducted by Bapepam-LK, in cooperation with Dewan Sharia Nasional (DSN). The method of selection is explained in Bapepam-LK regulation number II.K1 regarding criteria and issuance of list of Islamic securities.

Based on analysis conducted by Indonesia Stock Exchange and Bapepam-LK, Islamic stocks showed to be developing every year. This can be seen from the capitalization data of Sharia shares below:

The stock price index is an indicator that shows the movement of stock prices. Index serves as an indicator of market trends, meaning that the index movement describes market conditions at a time, whether the market is active or lethargic. The data above shows an increasing capitalization of syariah stock market from year to year, despite a decline in 2015. The result indicates the high awareness and public interest to invest in Islamic stocks. In addition, for the year 2017, Indonesia Stock Exchange (IDX) received an award for The Best Supporting Institution for Islamic Finance from the Global Islamic Finance Award (GIFA). This award gives evidence for Indonesia to
Table 1: Sharia Capital Market Shares on JIII Index 2013-2017 in Billion Indonesian Rupiah (source: http://www.ojk.go.id).

<table>
<thead>
<tr>
<th>Tahun</th>
<th>Jakarta Islamic Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1,414,983,18</td>
</tr>
<tr>
<td>2012</td>
<td>1,671,004,23</td>
</tr>
<tr>
<td>2013</td>
<td>1,672,099,91</td>
</tr>
<tr>
<td>2014</td>
<td>1,944,531,70</td>
</tr>
<tr>
<td>2015</td>
<td>1,737,290,98</td>
</tr>
<tr>
<td>2016</td>
<td>2,041,070,80</td>
</tr>
</tbody>
</table>

show that the Indonesian Sharia Capital Market is able to compete internationally. The following achievements are inseparable from the role of Indonesia Stock Exchange (IDX) which consistently encourages Indonesia’s sharia capital market industry to advance and develop with world-level credibility, as it is stated in the vision and mission of the company (http://yuknabungsaham.idx.co.id).

Syahrir (1995) believe that many important factors can influence the development of sharia index that are represented as some macroeconomic and monetary variables. The objective of the study is to investigate the influence of independent macroeconomic variables to the performance of Jakarta Islamic Index (JII). In particular, the study aims to evaluate each variable of macroeconomic and its degree of influences which consist of country risks, sharia bank certificates, inflation, currency exchange rate and oil price.

2. Theoretical Framework and Literature Review

Studies conducted to examine the impact of macroeconomic factors on stock indices have been a popular discussion on financial literatures and discourses. Risk plays an important role in determining the performance of investment. It is one of the components to be evaluated in order to forecast the expected return, generally used for the calculation of discount rate. A common method to estimate the exposed risk of an asset is by finding the standard deviation of historical returns (Jordan, Miller Jr., and Dolvin, 2012). Risk is a subject of consideration for the rationality of investors, as risk-averse investors usually evade investing in risky investments while risk-taker will choose those investments with higher uncertainties. Country risk is considered as one of macroeconomic variable worth pointing out over the discussion of investment in stock markets. Hoti and McAleer (2003) defined the country risk as the ability of a nation to pay back its international debts and obligations. Madura (2010) explained further that
country risk is influenced by economic, financial and social conditions that expected to have a consequence over the investments made in a specific country. The evaluation of county risk is necessary for the decision process, especially in terms of international business. It helps managers to maximize prospective cash flows and minimize potential loss. Managers of multinational companies will decide to invest new business or expand current business to foreign countries based on the valuations of risk associated with certain countries. Rational managers avoid conducting businesses in a country with increasing or extreme risk.

Madura (2010: 478-480) divides the country risk into political and financial risk. Factor of political risk are explained as following. First, consumer tendency to obtain or purchase certain products in a country. More preference of foreign goods will reduce the production of the same goods locally. Second, regulation and law enforcement of a country can affect the potential income generates by the company. Third, stability of a country is a major concern; terrorism and conflict make the business cycle more volatile. Employees and company’s asset will be exposed to threats. Fourth, corruption and bribery make businesses become inefficient. Business process become slower and more complicated. Finally, the worst form of political risk is that government seize business without any compensation. Alongside with political risks, financial risks consider the economic condition of the country. Demands for products, service, and commodities depend strongly on the economy of the country. Factors such as economic growth, inflation, interest rate are examples of macroeconomic variables used in the evaluation of business. Therefore, the uncertainties in these factors will affect negatively to the investment made in the country. Many studies have been conducted to examine the impact of country risk to stocks’ markets and performance. Research conducted by Amihud and Wohl (2004:644) revealed, increasing likelihood to initiate and terminate war affected the volatility of stock price, oil price and exchange rate. Vortelinos and Saha (2016:225) discovered that country risk and political threats clarify the high volatility and discontinuity in international stock and foreign currency exchange markets. Another study conducted by Trabelsi Mnif (2017:206) conclude that uncertainty in political environment generates insecure financial markets and make stock market cycles more pronounced. Revolution against the government of Tunisia increased the volatility of stock market, leading to abnormality of the trend from its original path.

According to Suciningtias and Khoiroh (2015), in the framework of implementing monetary control, Bank Indonesia, central bank of Indonesia, shall use monetary instruments consisting of (a) Minimum Reserve Requirements (b) discount rate (c) open market operations. In Open Market Operations, Bank Indonesia conducts transactions on the
sale and purchase of securities including Certificates of Bank Indonesia Sharia (SBIS). According to the Fatwa of the National Sharia Council No: 63 / DSN-MUI / XII / 2007, that Bank Indonesia Sharia Certificates (SBIS) are securities denominated in Rupiah currency and issued by Bank Indonesia for short term debt contract based on sharia principles. In the issuance of an instrument of Bank Indonesia Syariah Certificate (SBIS), Bank Indonesia use *ju’alah* scheme contract. According to the Fatwa of the National Sharia Council No: 62 / DSN-MUI / XII / 2007, *ju’alah* is a promise or commitment to provide certain rewards for the achievement of determined job. To encourage Islamic financial bodies in allocation funds for SBIS, the rate of return of SBIS is adjusted to the discount rate determined by Bank Indonesia. Therefore, no profit gap to compare with the conventional bond. The increase of motivation for investing in money market will decrease the interest to invest in the capital market. Therefore, the SBIS affect the stock market in a negative way. However, the study ended with the result that the Sharia Bank Certificates (SBIS) insignificantly influence the Indonesian Sharia Issuer Index (ISSI).

Changes in the rate of return of Bank Indonesia Sharia Certificates (SBIS) are incapable to explain the movement of ISSI. In addition, result from the study conducted by Syarif and Asandimitra (2015) discovered the relationship of macroeconomic variables to IHSG and stated that SBI rate, the rate of return for conventional bond, played no significant role in determining the IHSG.

Another macroeconomic factor that plays important role in determining the stock price is inflation rate. It is simply defined by Hubbard, O’Brien, Eid, and El Anshasy (2011) as the percentage increase in the price level from one year to the next. High rate of inflation causes money to lose its value and create difficulties for investment purposes. Rachmawati and Laila (2015) explains, increasing rate of inflation give a warning signal for investors in the capital market. Increased inflation makes price of raw materials more expensive, increasing the price of goods produced. Higher price will decrease the sale of the products, resulting a negative financial performance of the company, hence, the stock price fall. It is in accordance with a study by Suciningtias and Khoiro (2015) that was conducted to examine the impact of macroeconomic variables on Indonesia Sharia Stock Index (ISSI). The study discovered that inflation influenced negatively to the dependent variable with significant role. It is in accordance with study by Rusbariand et al. (2012) that states inflation has significant and negative effects on Jakarta Islamic Index. However, the significant influences are not found in studies conducted by Asmara and Suarjaya (2018) and Syarif and Asandimitra (2015) which found no significant contribution of inflation to the performance of IHSG. However, Tiwari et al. (2015) conducted a study and found that stock returns and inflation to be in
the phase or positively related. Further, Antonakakis, Gupta and Tiwari (2017) found the correlations of inflation and stocks returns are significantly positive in the 1840s, 1860s, 1930s and 2011, and significantly negative otherwise, over the period of 1791-2015.

Mishkin (2008:231) states that demand for securities is influenced by many macro-economic factors, including foreign exchange rate. The increase of currency exchange rate impact companies in different ways. For companies with dollar denominated debt, appreciation of dollar will greatly affect as the burden to pay debts becomes larger. Further, companies with main activity on export will be affected positively from the rise of dollar exchange rate. Changes in the exchange rate will also affect the pricing of imported goods or services so that it will directly affect the profitability of the company.

The results of previous research indicate that the IDR exchange rate against the USD has a negative effect. Bahmani-oskooee and Saha (2016) believe that changes in exchange rate have asymmetric effects on stock prices. Further, Blau (2017) assumed that exchange rate volatility is associated with greater kurtosis, and more negative skewness of stocks returns (Blau, 2017). The negative influence of exchange rate to stock index is also found in studies conducted by Suciningtias and Khoiroh (2015), Areli et al. (2018), Rachmawati and Laila (2015), and Syarif and Asandimitra (2015). Moreover, the result of study conducted by Gong and Dai (2017) discovered, an increase in interest rate will induce herding and this phenomenon is mainly manifested in down markets of stock exchange.

The price of crude oil is an important factor as the fuel that drives the economy. The volatility of oil price is a concern for many countries across the world. Petroleum supplies are considered as the main input for industrial and production processes. The vital use of oil including running machinery, generate electricity and energy that helps transporting products from the factory to final costumer (Nizar, 2012). Roubaud and Arouri (2018) found that oil plays an active role in the transmission of price shocks to both the stock markets. Huang et al. (2011) believe that both oil price increase and decrease have significant effects on the stock returns. According to study by Rusbarianti et al. (2012), the fluctuation price of crude oil is an important suggestion that affects the state of capital market. The increase in crude oil prices will not directly affect the export and import sectors of the country. For oil-exporting countries, the rise in crude oil prices is a gain. Strong prices of oil made investments in various sectors of oil and energy commodities generate profits, while the opposite is true. Accordingly, there is a positive relation between the oil price and the Jakarta Islamic Index. The study concluded with positive influence of oil price to the dependent variable at 10 percent significant level. This result is in line with the study conducted by Syarif and Asandimitra (2015) that
discovered a positive significant impact of oil price to the IHSG. However, an opposed result come from the study conducted by Raza et al. (2016) which stated that oil prices and its volatilities have a negative impact on stock markets of all emerging economies in both the short and long run.

3. Methodology and Data Collection

This study uses a quantitative approach. The study will analyse collected data and expressed the result in the form of explanation of numbers. Purposive sampling technique is applied for the study; it is a sample-determination technique with certain consideration (Sugiyono, 2015). The data used in this study consist of the dependent variable that is the Jakarta Islamic Index (JII) and independent macroeconomic factors consisting of country risk, Indonesian bank certificate, inflation, exchange rate, and oil price. The data used in the study is secondary data, derived from official sources with monthly frequency starting from January 2011 to March period 2016. Multiple linear regression method is the analysis method applied to the study with the intention of putting more emphasis to find out how far the influence of some independent variables to the dependent variable, using a statistical software of EViews 9.

4. Analyses and Findings

The analyses start with classical assumption test, the result of the test as follows:

4.1. Autocorrelation

The result of the Durbin Watson test shows that the Durbin Watson value is 0.5382 for sample size = 63 and a = 5% and five independent variables (k) consisting country risk, inflation, oil price, SBIS, exchange rate. The result obtained dl = 1.42665 and du = 1.7671. This conclusion conclude that the regression model is free autocorrelation issue.

4.2. Normality

Result of normality test by using Jarque-Berra test equal to 0.566012. Since the result probability is higher than 0.05, it can be concluded that the data is normally distributed
4.3. Multicollinearity

Multicollinearity test using Variance Inflation Factors showed that all variables are smaller than 10. Then it can be concluded that there is no multicollinearity issue on the regression model.

4.4. Multiple regression

The results of data processing using EViews as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>T-statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country_risk</td>
<td>22.31817</td>
<td>7.862043</td>
<td>2.838724</td>
<td>0.0063</td>
</tr>
<tr>
<td>Inflation</td>
<td>-3.353210</td>
<td>5.017375</td>
<td>-0.668320</td>
<td>0.5066</td>
</tr>
<tr>
<td>Oil_price</td>
<td>1.300709</td>
<td>0.446659</td>
<td>2.912084</td>
<td>0.0051</td>
</tr>
<tr>
<td>Sbis</td>
<td>-17.35052</td>
<td>7.362060</td>
<td>-2.356749</td>
<td>0.0219</td>
</tr>
<tr>
<td>Exchg_rate</td>
<td>0.052564</td>
<td>0.009163</td>
<td>5.736718</td>
<td>0.0000</td>
</tr>
<tr>
<td>C</td>
<td>-1428.258</td>
<td>595.7509</td>
<td>-2.397408</td>
<td>0.0198</td>
</tr>
</tbody>
</table>

Based on the results of data processing, the regression equation can be described as follows:

\[ Y = -1428.258 + 22.31817X_1 + -3.353210X_2 + 1.300709X_3 + -17.35052X_4 + 0.052564X_5 \]

Where:

\( Y \) = Share price of JII

\( C \) = Constanta

\( X_1 \) = Country risk

\( X_2 \) = Inflation

\( X_3 \) = Oil Price

\( X_4 \) = SBIS

\( X_5 \) = Exchange Rate

The equation above would be described as follows, the value of -1428.258 is a constant value (a) which indicates that if there is no country risk, inflation, oil price, SBIS and the exchange rate, Jakarta Islamic index will be equal to -1428.258. Country risk coefficient of 22.31817 explains that every 1-unit increase for risk will increase the value of the Jakarta Islamic index by 188.4983. The inflation coefficient value of -3.353210 explains that every 1-point increase for inflation it will reduce the value of the Jakarta
Islamic index by -3.353210. The coefficient of oil price is 1.300709, explaining that every unit increase for oil prices will increase the value of the Jakarta Islamic Index by 1.300709. SBIS coefficient value of -17.35052 explains that every digit increase for SBIS will decrease the value of the Jakarta Islamic Index by -17.35052. Exchange rate coefficient of 0.052564 explains that every increase of 1 point from the oil price will increase the value of the Jakarta Islamic index by 0.052564.

5. Discussion

5.1. The influence of risk on JII

Country risk is considered to be one of the most appropriate macroeconomic variables to be discussed in the discussion of investment in the stock market. The result of the regression test shows that country risk significantly influences the Jakarta Islamic index. This indicates that risk is the subject of consideration of investor’s rationality in investing. Investors will avoid investing in sound investment with higher uncertainty. The results of this study are supported by the findings made by Amihud and Wohl (2004: 644) revealing, increasing political uncertainty such as the possibility to start and end the war affect the volatility of stock prices, oil prices and exchange rates. Vortelinos and Saha (2016: 225) found that state risks and political threats clarify high volatility and discontinuities in the stock market and international foreign exchange. Another study conducted by Trabelsi Mnif (2017: 206) concluded that uncertainty in the political environment produces insecure financial markets and makes the stock market cycle more prominent.

5.2. The influence of inflation on JII

Inflation is one of the most important macroeconomic variables in the real sector and financial sector. The findings shows, inflation has no significant effect. Tandelin (2010) the relative increase in inflation will bring negative signals to the capital market. Increased inflations lead to an increase in prices in general. This causes the real consumption of the community to decrease because the value of money held by the community is reduced. Weakening purchasing power causes companies to be less able to sell their products, thereby reducing the company’s profitability. Mishkin (2008) mentioned that the demand for securities is influenced by interest rates, wealth, inflation rate and exchange rate. The result of the research shows that inflation did not play a
significant role in determining Jakarta Islamic index. This can be interpreted that during the period of observation the inflation rate does not affect the decision of investors in investing shares. Investors assess other factors that can affect stocks such as interest rates, oil prices and exchange rates against the dollar before putting the decision to invest. These insignificant finding of inflation opposed the study conducted by Tiwari (2015), Antonakais et al (2017) who found inflation affect the stock returns significantly with positive direction.

5.3. The influence of oil price on JII

The results of regression test show that world oil prices affect the Jakarta Islamic index. Fluctuations in world oil prices have a big impact on the economy and capital markets. For companies engaged in the mining sector or the oil commodity sector, the increase in world oil security will have an impact on increasing corporate revenues. This would attract investors to invest in the financial sector and purchase the shares. As a result, company’s stock price will be more expensive and affect directly the performance of stock index. These results support the findings of Roubaud and Arouri (2018) and Huang et al. (2011) who found that world oil plays an active role and has a significant effect on stock returns.

5.4. The influence of SBIS on JII

Regression test results show that SBIS has a significant negative effect on the Jakarta Islamic index. When the returns obtained by Islamic banks for investing in SBIS is high, the profit gained by the depositors will increase. The high return in SBIS will attract investors to invest in Sharia banks rather than putting their investment at Sharia capital markets. As soon as investor interest declines to invest in Sharia capital market, it will trigger the decline of sharia stock index. This is supported the findings proposed by Beik & Fatmawati (2014) which stated that the SBIS affect significantly the Jakarta Islamic Index with negative coefficient. These results point out that in the eyes of investors, SBIS acts as an alternative investment and substitution for investing in the JII or Sharia capital market, thus an increase in one instrument will cause a decrease in other instruments.
5.5. The influence of exchange rate on JII

The result of regression test shows that the exchange rate significantly influences the Jakarta Islamic index. The depreciation of IDR exchange rate to the USD will have different impacts on companies, especially in the category of import or export companies. For imported companies, the depreciation of the Indonesian Rupiah will be detrimental to the company, as it will incur greater costs. Thus if the currency depreciates, the price of foreign goods will be more expensive and imports will weaken. The weakening of imports will affect the company's performance so that the profitability of the company will decline. As the company's performance is expected to decreases, the stock price will cause Jakarta Islamic index to decline. As the model shows a positive coefficient, the following result is in line with the findings of Nugraha’s (2007), Asmy et.al (2010) that showed positive relationship between the two variables. However, this result opposed the theory and findings of studies conducted by Ibrahim and Yusuf (2001), Menike (2006), Yusof and Majid (2009), Kuyomu and Victor (2011), Hussin et al (2012), Bekhet and Mugalb (2012), and Majid et al (2012) which discovered that the exchange rate and stock prices have a significant and negative relationship. Based on the theory, it can be determined that most of companies listed in JII are companies with more export activities, rather than importing ones.

6. Conclusions

The test result using multiple regression shows independent variable consisting of risk, inflation, SBIS, oil price and exchange rate simultaneously affect Jakarta Islamic Index with significance rate. Partially, composite risk, oil prices, SBIS and exchange rates have a significant effect on the Jakarta Islamic Index, while the inflation show no significant effect on the Jakarta Islamic Index.

Acknowledgements

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References


Appendix

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