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# The Performance of Islamic Stocks and Conventional Stocks During the COVID-19 Shock: Evidence from Indonesian Stock Market

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**ABSTRACT**

This study aims to analyze the performance of Islamic stocks and conventional stocks in Indonesia during the crisis period due to the COVID-19 pandemic. Islamic stocks and conventional stocks are divided based on sharia compliance qualifications by each stock. The sample used in this study is nine sharia stocks taken from the Jakarta Islamic Index (JII) and nine conventional stocks taken based on nine non-shariah compliance stocks included in the IDX30 Index during 31 August 2020 to 31 July. 2022. The analytical method used in this study is Ordinary Least Square (OLS) using panel data, then this study also uses an interaction variable between the three COVID-19 indicators and the sharia compliance variable which represents company compliance with Islamic principles. The estimation results show that daily confirmed cases of COVID-19 and stringency index have a significant negative effect on stock returns in Indonesia, while daily confirmed deaths due to COVID-19 has no effect on stock returns. Furthermore, the results of the interaction between the COVID-19 indicator measures and the sharia compliance variable show that Islamic stocks show greater performance in crises during the COVID-19 pandemic.

**Keywords:** islamic stock, conventional stock, performance, sharia compliance, Covid-19

## INTRODUCTION

The performance of Islamic stocks has received attention in recent years, especially during the COVID-19 shock period. Many studies have debated and compared the performance of Islamic stocks and conventional stocks. COVID-19 reduced stock market valuations and increased volatility in both Islamic and

conventional stock markets.[1] [2] Some studies show that Islamic stocks are more resilient to the COVID-19 pandemic compared to conventional stocks, but some studies show the opposite. Islamic stocks have relatively lower volatility in response to the COVID-19 shock.[3] In addition, several studies have shown that Islamic stocks have better performance, lower withdrawals, faster recovery[4] [5] still better[6] and have a lower negative effect on investment during the COVID-19 shock[7]. Another study shows that in periods of the global financial crisis, Islamic stocks are less risky[8], outperformed, and have higher average returns [9] than conventional stocks. During the period of the COVID-19 crisis, the risk in conventional stocks is significantly higher than Islamic stocks. [10] On the other hand, another study shows that Islamic stocks are more volatile than conventional stocks during the period of the global financial crisis.[11]

This study is based on recent literature that shows the stock market responds negatively to confirmed cases of COVID-19 and government social

[1] Mohsin Ali, Urooj Anwar, and Muhammad Haseeb, "The Impact of COVID-19 on Islamic and Conventional Stocks in Indonesia: A Wavelet-Based Study," *Buletin Ekonomi Moneter dan Perbankan* 24 (March 1, 2021): 15–32.

[2] Md Bokhtiar Hasan et al., "Impact of COVID-19 Pandemic on Stock Markets: Conventional vs. Islamic Indices Using Wavelet-Based Multi-Timescales Analysis," *North American Journal of Economics and Finance* 58 (November 1, 2021).

[3] Munusamy Dharani et al., "Does the Covid-19 Pandemic Affect Faith-Based Investments? Evidence from Global Sectoral Indices," *Research in International Business and Finance* 59 (January 1, 2022).

[4] Md Iftekhar Hasan Chowdhury, Faruk Balli, and Anne de Bruin, "Islamic Equity Markets versus Their Conventional Counterparts in the COVID-19 Age: Reaction, Resilience, and Recovery," *International Review of Finance* 22, no. 2 (June 1, 2022): 315–324.

[5] Falik shear and Badar Nadeem Ashraf, "The Performance of Islamic versus Conventional Stocks during the COVID-19 Shock: Evidence from Firm-Level Data," *Research in International Business and Finance* 60 (April 1, 2022).

[6] Afees A. Salisu and Muneer Shaik, "Islamic Stock Indices and COVID-19 Pandemic," *International Review of Economics and Finance* 80 (July 1, 2022): 282–293.

[7] Mohamed Sherif, "The Impact of Coronavirus (COVID-19) Outbreak on Faith-Based Investments: An Original Analysis," *Journal of Behavioral and Experimental Finance* 28 (December 1, 2020).

[8] Fredj Jawadi, Nabila Jawadi, and Abdoulkarim Idi Cheffou, "Wavelet Analysis of the Conventional and Islamic Stock Market Relationship Ten Years after the Global Financial Crisis," *Applied Economics Letters* 27, no. 6 (March 29, 2020): 466–472.

[9] Mehmet Asutay, Yumeng Wang, and Alija Avdukic, "Examining the Performance of Islamic and Conventional Stock Indices: A Comparative Analysis," *Asia-Pacific Financial Markets* 29, No. 2 (June 1, 2022): 327–355.

[10] Kashif Ali et al., "Did the Islamic Stock Index Provide Shelter for Investors during the COVID-19 Crisis? Evidence from an Emerging Stock Market," *Risks MDPI* 10, No. 6 (June 1, 2022).

[11] Aymen Ben Rejeb and Mongi Arfaoui, "Do Islamic Stock Indexes Outperform Conventional Stock Indexes? A State Space Modeling Approach," *European Journal of Management and Business Economics* 28, no. 3 (October 3, 2019): 301–322.

 

distancing policies.[12] [13] This negative stock m arket reaction varies depending on the underlying asset risk and the reaction of stock returns to COVID-19 as a function of five pre-2020 (pre-pandemic) firm characteristics.[14] First, firms with stronger financial conditions (more cash, more unused lines of credit, less debt, and less short-term debt) have better stock price reactions to COVID-19 than otherwise similar firms. Second, the decline in stock prices caused by the pandemic was greater in companies that were more exposed to the COVID-19 pandemic through their supply chains and customer locations. Third, firms with stronger Corporate Social Responsibility (CSR) activities before the pandemic have superior stock price performance in response to COVID-19. Fourth, firms with less entrenched executives perform better in response to COVID-19 cases. Fifth, family ownership of the firm, large firm, and government-owned companies have smaller stock price declines in response to the pandemic, and firms with greater hedge fund and other asset management company ownership have larger corresponding stock price declines.

Islamic stocks must fulfill the qualifications of sharia compliance, these qualifications include (1) excluding the interest-based and non-permissible businesses in Islam, (2) limits for the underlying business, the level of leverage, the interest payments, the investments in non-sharia compliant interest-based financial instruments and the income received from an interest-based and speculative source.[15] In Indonesia, not all companies listed on the Indonesia Stock Exchange implement sharia compliance. Based on their adherence to sharia compliance, there are two types of companies in Indonesia, Islamic stock (companies that implement sharia compliance) and conventional stock (companies that don't implement sharia compliance).

The first case of COVID-19 in Indonesia occurred in 2020. During the COVID-19 pandemic period, there was an economic shock including the stock market. The peak of daily confirmed cases of COVID-19 in Indonesia occurred at the end of February 2022 reaching 61.488 cases per day. This study examines the comparison between the response to the return of Islamic stocks and conventional stocks during the COVID-19 pandemic. This study uses daily data from Islamic stock and conventional stocks in Indonesian firms from 31 August

[12] Abdullah M. Al-Awadhi et al., "Death and Contagious Infectious Diseases: Impact of the COVID-19 Virus on Stock Market Returns," *Journal of Behavioral and Experimental Finance* 27 (September 1, 2020).

[13] Badar Nadeem Ashraf, "Stock Markets' Reaction to COVID-19: Cases or Fatalities?," *Research in International Business and Finance* 54 (December 1, 2020).

[14] Wenzhi Ding et al., "Corporate Immunity to the COVID-19 Pandemic," *Journal of Financial Economics* 141, No. 2 (August 1, 2021): 802–830.

[15] Shear and Ashraf, "The Performance of Islamic versus Conventional Stocks during the COVID-19 Shock: Evidence from Firm-Level Data", Research in International Business and Finance, (April 2022).

 

2020 to 31 July 2022 to analyze the performance of Islamic and conventional stocks in the COVID-19 shock.

Islamic stocks in this study are included in the Jakarta Islamic Index (JII) as an index that measures the price performance of 30 Islamic stocks that have the best financial performance and high transaction liquidity. While the conventional stocks used in this study are stocks on the Indonesia Stock Exchange 30 Index (IDX 30), which is an index that measures the price performance of 30 stocks that have high liquidity and large market capitalization. Furthermore, the variables interest Furthermore, the variables interest in this study are indicators of the COVID-19 pandemic in the form of daily confirmed deaths due to COVID-19, daily confirmed cases of COVID-19 and stringency index during the COVID-19 pandemic. The method used in this study is the regression method (Ordinary Least Square) using panel data, then this study also uses the interaction variable between COVID-19 indicators (daily confirmed deaths, daily confirmed cases, and stringency index) with the sharia compliance variable which represents firms compliance to sharia criteria.

This study aims to provide an overview to the public regarding the performance of Islamic stock and conventional stock in facing the crises, in this case, the crisis that occurred due to the COVID-19 pandemic. This study can also provide some contributions to the public in the form of additional literature that can provide a comparison of the performance of Islamic stock and conventional stock, literature in similar studies still has different results. For example, several studies conclude that Islamic stock performs better during a crisis.[16] [17] [18] Other studies provide results that Islamic stock and conventional stock have the same resilience in facing crises[19] [20] or in another study shows that Islamic stocks have higher volatility
during crisis periods when compared to conventional stocks. [21]

[16] Dawood Ashraf and Nazeeruddin Mohammad, "Matching Perception with the Reality-Performance of Islamic Equity Investments," *Pacific Basin Finance Journal* 28 (2014): 175–189.

[17] Muhammad Tahir and Salma Ibrahim, "The Performance of Shariah-Compliant Companies during and after the Recession Period – Evidence from Companies Listed on the FTSE All World Index", *Journal of Islamic Accounting and Business Research* 11, no. 3 (February 24, 2020): 573–587.

[18] Khamis Hamed Al-Yahyaee et al., "Do Islamic Stocks Outperform Conventional Stock Sectors during Normal and Crisis Periods? Extreme Co-Movements and Portfolio Management Analysis", *Pacific Basin Finance Journal* 62 (September 1, 2020).

[19] Osamah Al-Khazali, "Revisiting Fast Profit Investor Sentiment and Stock Returns during Ramadan," *International Review of Financial Analysis* 33 (2014): 158–170.

[20] Andrea Paltrinieri et al., "Islamic, Socially Responsible, and Conventional Market Comovements: Evidence from Stock Indices," *Thunderbird International Business Review* 61, no. 5 (September 1, 2019): 719–733.

[21] Ben Rejeb and Arfaoui, "Do Islamic Stock Indexes Outperform Conventional Stock Indexes? A State Space Modeling Approach", *European Journal of Management and Business Economics* (October 2019).

 

## METHODS

The empirical analysis in this study uses the total daily confirmed cases of COVID-19, daily confirmed deaths of COVID-19, and stringency index in Indonesia from 31 August 2020 to 31 July 2022 that were collected from Our World in Data (ourworldindata.org). The stocks return data (Islamic stocks and conventional stocks) are collected from Google Finance. Islamic stocks in this study are included in the Jakarta Islamic Index (JII), while the conventional stocks used in this study are stocks on the Indonesia Stock Exchange 30 Index (IDX30).

This study calculates daily stock returns by obtaining the index level change value over time. Stock return in this study is calculated using the following equation:

$$R_t = \frac{P_t - P_{t-1}}{P_{t-1}} \qquad (1)$$

where $R_t$ denotes the return value of stock market. The return value is essentially the difference between the adjustment closing price of stock market at time $t$ ($P_t$) and previous time $t-1$ ($P_{t-1}$) compare to previous time.

To analyze the Performance of Islamic and conventional stocks during the COVID-19 pandemic, this study uses stock returns from each firm as the dependent variable. Then, as an indicator of COVID-19 cases in Indonesia, we use daily confirmed cases of COVID-19, daily confirmed deaths of COVID-19, and stringency index in Indonesia.

The stringency index is an index that measures the government's response to the COVID-19 pandemic. The government took several policies such as travel restrictions and closing recreation areas, schools,

**Table I**
**Samples of Islamic Stocks and Conventional Stocks**

| No. | Stock Index | Stock Firm | Compliance Stock |
|---|---|---|---|
| **1** | ARTO | Bank Jago Tbk. | Conventional |
| **2** | ASII | Astra International Tbk. | Conventional |
| **3** | BBCA | Bank Central Asia Tbk. | Conventional |
| **4** | BBNI | Bank Negara Indonesia (Persero) Tbk. | Conventional |
| **5** | BBRI | Bank Rakyat Indonesia (Persero) Tbk. | Conventional |
| **6** | BMRI | Bank Mandiri (Persero) Tbk. | Conventional |
| **7** | BUKA | Bukalapak.com Tbk. | Conventional |
| **8** | TBIG | Tower Bersama Infrastructure Tbk. | Conventional |
| **9** | TOWR | Sarana Menara Nusantara Tbk. | Conventional |
| **10** | BRIS | Bank Syariah Indonesia Tbk. | Islamic |
| **11** | ERAA | Erajaya Swasembada Tbk. | Islamic |
| **12** | EXCL | XL Axiata Tbk. | Islamic |

| No. | Stock Index | Stock Firm | Compliance Stock |
|---|---|---|---|
| **13** | JPFA | Japfa Comfeed Indonesia Tbk. | Islamic |
| **14** | MIKA | Mitra Keluarga Karyasehat Tbk. | Islamic |
| **15** | MNCN | Media Nusantara Citra Tbk. | Islamic |
| **16** | SCMA | Surya Citra Media Tbk. | Islamic |
| **17** | TPIA | Chandra Asri Petrochemical Tbk. | Islamic |
| **18** | WIKA | Wijaya Karya (Persero) Tbk. | Islamic |

and other places. The stringency index is a composite based on nine response indicators rescaled to a value from 0 to 100 (100 = strictest) that was published by the Oxford COVID-19 Government Response Tracker (OxCGRT) in Our World Data. The nine indicators used to calculate the Government Stringency Index are school closures; workplace closures; cancellation of public events; restrictions on public gatherings; closures of public transport; stay-at-home requirements; public information campaigns; restrictions on internal movements; and international travel controls. [22]

Market capitalization is the daily total market value in billion rupiah of all outstanding shares of a firm which is calculated by multiplying adjustment close price by volume stocks. The sharia compliance is firm stocks that fulfill the criteria of sharia compliant in Indonesia. To control the reaction of the international stock market, this study uses share prices of Jakarta Islamic Index (JII), share prices of IDX30 stock index, The Chicago Board Options Exchange's Volatility Index (VIX Index) which represents the stock market volatility and investor sentiment, and Morgan Stanley Capital International (MSCI)

**Table II**
**Variable Descriptions**

| Variable Name | Variable Descriptions |
|---|---|
| Return | Stock return for each firm |
| Log Daily Cases | Logarithm value of daily confirmed cases of COVID-19 in Indonesia |
| Log Daily Deaths | Logarithm value of daily confirmed deaths of COVID-19 in Indonesia |
| Stringency Index | Stringency index in Indonesia that published in Our World Data |
| Market Capitalization | Daily total market value in billion rupiah of all outstanding shares of a firm. |
| Sharia Compliance | Dummy variable of firms with adherence to sharia compliance, 1 for sharia compliant companies and 0 for non-compliant conventional companies. |

[22] Hatice Gökçen Öcal Özkaya and Nazan Şak, "The Analysis of the Factors Affecting the Stringency Index during COVID-19 Pandemic," *Journal of Applied Microeconometrics* 2, no. 2 (December 29, 2022): 67–79.

 

| Variable Name | Variable Descriptions |
|---|---|
| JII | Share prices of Jakarta Islamic Index (JII) |
| IDX30 | Share prices of IDX30 stock index |
| VIX Index | Chicago Board Options Exchange's Volatility Index (VIX Index) |
| MSCI Index | Morgan Stanley Capital International Index |
| Sharia Compliance x Log New Deaths | Interaction variable of sharia compliance with daily confirmed cases of COVID-19 in Indonesia |
| Sharia Compliance x Log New Cases | Interaction variable of sharia compliance with daily confirmed deaths of COVID-19 in Indonesia |
| Sharia Compliance x Stringency Index | Interaction variable of sharia compliance with stringency index. |

which describes stock movements for issuers in developing countries, that published in Google Finance.

Motivating by the recent studies [23] [24] this study uses the following panel data regression model:

$$Return_{it} = \alpha_0 + \beta_1 Log\ Daily\ Cases_t + \beta_2 Stringency\ Index_t + \beta_3 Market\ Capital_{it} + \beta_4 Shariah\ Compliant_i + \beta_5 IDX30_t + \beta_6 JII_t + \beta_7 VIX_t + \beta_8 MSCI_t + e1_{it} \quad (2)$$

$$Return_{it} = \alpha_0 + \beta_1 Log\ Daily\ Deaths_t + \beta_2 Stringency\ Index_t + \beta_3 Market\ Capital_{it} + \beta_4 Shariah\ Compliant_i + \beta_5 IDX30_t + \beta_6 JII_t + \beta_7 VIX_t + \beta_8 MSCI_t + e1_{it} \quad (3)$$

To assess that sharia compliant stocks reacted differently to the COVID-19 pandemic and related government policy on COVID-19 pandemic, this study includes interaction terms between each measure of the COVID-19 pandemic and a dummy variable of sharia compliant. We expect significant interaction terms if sharia compliant firms reacted differently to the cases confirmed by COVID-19, deaths confirmed by COVID-19 and stringency index in Indonesia. The use of logarithmic daily confirmed cases and daily confirmed deaths of COVID-19 aims

[23] Ashraf, "Stock Markets' Reaction to COVID-19: Cases or Fatalities?", *Research in International Business and Finance*, Vol 54, (December 2020).

[24] Shear and Ashraf, "The Performance of Islamic versus Conventional Stocks during the COVID-19 Shock: Evidence from Firm-Level Data.", *Research in International Business and Finance*, Vol 60, (April 2022).

 

to avoid extreme data values, there are differences in extreme data values between daily confirmed cases and daily confirmed deaths of COVID-19 and stock return values. Log transformation stabilizes the variance and suppresses the impact of outliers or extreme values in the data.[25]

## RESULT AND DISCUSSION

### Summary Statistics

The summary statistics of all variables used in the analysis are presented in Table 3. The mean value of the returns stocks equals 0.01 showing that the average realized stock returns over the sample period is 1 percent. Returns have a standard deviation of 1,39, which suggests a wide variation in stock returns over the sample period. In the sample period, the average of daily confirmed cases of COVID-19 was around 6,556 cases per day with the lowest case is 0 cases per day and the highest case is 64,718 cases per day. However, the average of daily deaths confirmed by COVID-19 is around 79 deaths per day with the lowest death case is 0 cases and the highest death case is 64,718 cases.

The mean values of Islamic stocks are -0.006, however conventional stock's mean values are 0.014. Nevertheless, conventional stocks have more volatility than Islamic stocks, as the value between standard deviations 1.928 for conventional stocks and 0.396 for Islamic stocks. This summary of statistics suggests that Islamic stocks performed more negatively with less volatility than conventional stocks. The large volatility value of conventional stocks can also be seen based on the difference between the minimum and maximum values of these variables. Conventional stock has a maximum and minimum value of -12.750 and 14.000, while Islamic stock has a maximum and minimum value of -2.200 and 2.650.

### Correlation Analysis

Table 4 presents the pairwise pearson correlations between the main variables in this study. As shown, daily confirmed cases of COVID-19 and stringency index have a negative correlation with stock returns. The stringency index is an index that measures the government's response to the COVID-19 pandemic, the high number of COVID-19 infections and restrictions imposed by the

[25] Helmut Lütkepohl and Fang Xu, "The Role of the Log Transformation in Forecasting Economic Variables," *Empirical Economics* 42, no. 3 (June 2012): 619–638.

 

**Table 3. Descriptive Statistics**

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| Return | 3,816 | 0.006 | 1.392 | -12.750 | 14.000 |
| Return of Islamic Stocks | 1,908 | -0.003 | 0.396 | -2.100 | 2.650 |
| Return of Conventional Stocks | 1,908 | 0.014 | 1.928 | -12.750 | 14.000 |
| Daily Deaths | 3,816 | 79.127 | 140.801 | 0.000 | 1,254.000 |
| Daily Cases | 3,816 | 6,556.665 | 13,382.183 | 0.000 | 64,718.000 |
| Stringency Index | 3,816 | 55.299 | 13.388 | 29.690 | 73.660 |
| Market Capitalization | 3,816 | 191.462 | 283.089 | 0.000 | 5081.193 |
| Sharia Compliance | 3,816 | 0.500 | 0.500 | 0.000 | 1.000 |
| IDX30 | 3,816 | 551.948 | 34.116 | 475.000 | 633.000 |
| JII | 3,816 | 573.836 | 19.385 | 530.320 | 619.200 |
| VIX Index | 3,816 | 23.403 | 5.175 | 15.010 | 36.450 |
| MSCI Index | 3,816 | 535.329 | 88.575 | 379.080 | 675.15 |

**Table 4. Matrix of Correlations**

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) Return | 1.000 | | | | | | | | | |
| (2) Log Daily Deaths | 0.001 | 1.000 | | | | | | | | |
| (3) Log Daily Cases | -0.038 | 0.673 | 1.000 | | | | | | | |
| (4) Stringency Index | -0.048 | 0.459 | 0.085 | 1.000 | | | | | | |
| (5) Market Cap | 0.248 | 0.045 | 0.007 | -0.002 | 1.000 | | | | | |
| (6) Sharia Compliance | -0.214 | 0.000 | 0.000 | 0.000 | -0.536 | 1.000 | | | | |
| (7) IDX30 | -0.014 | -0.278 | -0.102 | -0.546 | 0.056 | 0.000 | 1.000 | | | |
| (8) JII | -0.015 | -0.277 | -0.184 | -0.513 | 0.049 | 0.000 | 0.624 | 1.000 | | |
| (9) VIX | 0.005 | -0.044 | 0.239 | -0.391 | 0.066 | 0.000 | 0.467 | 0.290 | 1.000 | |
| (10) MSCI | 0.019 | 0.294 | -0.113 | 0.578 | -0.038 | 0.000 | -0.552 | -0.522 | -0.545 | 1.000 |

government will change people's behavior, including in terms of investment, which will result in higher risks. [26] Meanwhile, another pandemic indicator variable (daily deaths confirmed of COVID-19) has a very weak positive relationship with stock returns. The daily death confirmed of COVID-19 is creating public panic, the reason is uncertainty about how long it will take to find a widely accepted method of treatment. However, not all cases of COVID-19 result in death. Deaths by COVID-19 are a response to cases of COVID-19 that have occurred. Therefore, it can be concluded that deaths from COVID-19 do not result in changes in people's behavior independently, this is accompanied by better handling of COVID-19, especially at the end of the pandemic. [27]

The market capitalization variable has a positive relationship with stock return, meanwhile dummy variable sharia compliance variable has a negative relationship with stock return. Based on the correlation shown in Table 4 it can be concluded that none of the correlation coefficients is too strong (i.e., 0.8 or higher) minimizing the chances of multicollinearity in our study. A variable has a strong correlation if it has a correlation number more than 0.8. [28]

**Result Analysis**

Table 5 presents the main regression results, the estimation models are classified based on the main variables of the COVID-19 pandemic case using logarithm value of daily confirmed deaths of COVID-19 in Indonesia and logarithm value of daily confirmed cases of COVID-19 in Indonesia, while the stringency index is included in each regression model.

Model 1 reports the baseline model with logarithm value of daily deaths confirmed death and stringency index as a measure of the COVID-19 pandemic, daily confirmed deaths of COVID-19 have no significant effect on stock returns, but the stringency index has a negative effect on stock returns. If the government response stringency Index on the COVID-19 pandemic rises, stock returns will decrease. Not all cases of COVID-19 end in death, especially when the condition of health care due to COVID-19 has improved. Deaths from COVID-19 are irrelevant as an indicator of changes in human behavior because the risk of death from COVID-19 pandemic is lower as health management improves, even though on the other hand cases of

[26] Shear and Ashraf, "The Performance of Islamic versus Conventional Stocks during the COVID-19 Shock: Evidence from Firm-Level Data." *Research in International Business and Finance*, Vol 60, (April 2022).

[27] Murat Guven et al., "The Effects of Daily Growth in COVID-19 Deaths, Cases, and Governments' Response Policies on Stock Markets of Emerging Economies," *Research in International Business and Finance* 61 (October 1, 2022).

[28] Samuel A. Lind, Douglas A., Marchal, William G., Wathen, *Statistical Techniques in Business & Economics*, 2012.

 

**Table 5**
**Regression Result**

| Variables | (1) Return | (2) Return |
|---|---|---|
| Log Daily Deaths | -0.009 | |
| | (0.008) | |
| Log Daily Cases | | -0.022*** |
| | | (0.005) |
| Stringency Index | -0.004** | -0.003** |
| | (0.002) | (0.002) |
| Market Capitalization | 0.001*** | 0.001*** |
| | (0.000) | (0.000) |
| Sharia Compliance | -0.240** | -0.241** |
| | (0.130) | (0.129) |
| IDX30 | 0.000 | 0.000 |
| | (0.001) | (0.001) |
| JII | -0.001 | -0.002 |
| | (0.002) | (0.002) |
| VIX | 0.010* | 0.010* |
| | (0.005) | (0.005) |
| MSCI | 0.001*** | 0.001*** |
| | (0.000) | (0.000) |
| Constant | -0.695 | -0.063 |
| | (0.742) | (0.732) |
| Observations | 3816 | 3816 |
| $R^2$ | 0.404 | 0.404 |

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

COVID-19 continue to occur. [29] This result is in line with a recent study which shows that the number of deaths has no effect on stock returns, investors in the stock market on average will respond to a COVID-19 case after 20 days after the infection. [30] With better handling of COVID-10 cases, the number of deaths becomes less relevant for use measuring investor response to the stock market. [31]

In contrast to the daily confirmed deaths by COVID-19, Model 2 shows that the daily confirmed cases of COVID-19 in Indonesia have a negative effect on stock returns. The increase in confirmed COVID-19 cases resulted in a decrease

[29] Ashraf, "Stock Markets' Reaction to COVID-19: Cases or Fatalities?" *Research in International Business and Finance*, Vol 54, (December 2020).

[30] Ashraf and Mohammad, "Matching Perception with the Reality-Performance of Islamic Equity Investments", *Pacific-Basin Finance Journal*, Vol 28, (June 2014).

[31] Guven et al., "The Effects of Daily Growth in COVID-19 Deaths, Cases, and Governments' Response Policies on Stock Markets of Emerging Economies." *Research in International Business and Finance* 61 (October 1, 2022).

 

in stock returns, in contrast to deaths from COVID-19 which is the result of confirmed cases and usually occur days after a person gets confirmation of COVID-19 infection, sophisticated investors assess the expected negative impact of COVID-19 from the start of the growth of confirmed cases. [32] The results are in line with recent studies which report that, in general, stock markets reacted negatively to COVID-19 cases. [33] [34] [35] [36] [37] The daily confirmed cases of COVID-19 create uncertainty in society, including in terms of the economy and investment, this situation also changes a person's economic habits and behavior which in turn also has an impact on investment in the stock market. [38]

Similar to Model 1, the stringency index which represents the government's response to the COVID-19 pandemic in Model 2 also has a negative and significant effect, implying that stock returns respond negatively to government response actions aimed at containing the COVID-19 pandemic. This result is in line with a recent study that reported the stock market reacted negatively to the COVID-19 case and the government's response actions. [39] [40] [41] [42] [43] [44]

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[32] Shear and Ashraf, "The Performance of Islamic versus Conventional Stocks during the COVID-19 Shock: Evidence from Firm-Level Data". *Research in International Business and Finance*, Vol 60, (April 2022).

[33] Al-Awadhi et al., "Death and Contagious Infectious Diseases: Impact of the COVID-19 Virus on Stock Market Returns." *Journal of Behavioral and Experimental Finance,* Vol 27, (September 2020)

[34] Ali, Anwar, and Haseeb, "The Impact of COVID-19 on Islamic and Conventional Stocks in Indonesia: A Wavelet-Based Study." *Buletin Ekonomi Moneter Dan Perbankan*, 24, (2021).

[35] Shear and Ashraf, "The Performance of Islamic versus Conventional Stocks during the COVID-19 Shock: Evidence from Firm-Level Data." *Research in International Business and Finance*, Vol 60, (April 2022).

[36] Sherif, "The Impact of Coronavirus (COVID-19) Outbreak on Faith-Based Investments: An Original Analysis". *Journal of Behavioral and Experimental Finance,* Vol 28, (December 2020).

[37] Dao Le Trang Anh and Christopher Gan, "The Impact of the COVID-19 Lockdown on Stock Market Performance: Evidence from Vietnam," *Journal of Economic Studies* 48, No. 4 (2020): 836–851.

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A high stringency index indicates poor conditions, which means the COVID-19 pandemic is in high condition. The high number of COVID-19 infections and restrictions imposed by the government will change people's behavior, including in terms of investment, which will result in higher risks.

Model 1 and 2 also show that other control variables such as market capitalization, dummy variable of sharia compliance, and the Morgan Stanley Capital International Index (MSCI) have a significant effect on stock returns. Market capitalization has a significant positive effect on stock returns, this shows that the greater the daily total market value of all outstanding shares of a firm, the greater the stock return. The shariah compliance dummy variable enters negative and significant, suggesting that on average shariah compliant companies have had lower returns as compared to the non-compliant counterparts (conventional firms). Statistically, the returns from conventional stocks are greater than the returns from sharia compliant stocks. Furthermore, MSCI has a significant positive effect on stock returns, If the shares of issuers in developing countries increase, the stock return will also increase. On the other hand, this study also provides results that share prices of the Jakarta Islamic Index (JII), share prices of the IDX30 stock index and the Chicago Board Options Exchange's Volatility Index (VIX Index) have no effect on company stock returns.

Table 6 presents the panel data regression results with an interaction term between each measure of the COVID-19 pandemic (daily cases, daily deaths, and stringency index in Indonesia) and shariah compliance. The interaction term between daily deaths variable with the dummy variable of shariah compliance (Model 1) has no significant effect, companies with shariah compliant characteristics have no different effect on the effect of daily deaths on stock returns. The interaction between the daily deaths variable and the shariah compliance variable is not significant because basically the daily deaths variable of COVID-19 does not have a significant effect on increasing or decreasing stock returns (Table 5). [45] [46]

In contrast to Model 1 (Table 6), the interaction term between daily cases variable with sharia compliance variable (Model 2) and the interaction between the stringency index variable and sharia

[45] Ashraf, "Stock Markets' Reaction to COVID-19: Cases or Fatalities?", *Research in International Business and Finance*, Vol 54, (December 2020).

[46] Guven et al., "The Effects of Daily Growth in COVID-19 Deaths, Cases, and Governments' Response Policies on Stock Markets of Emerging Economies."

 

**Table 6**
**Regression Result with An Interaction Term**

| Variables | (1) Return | (2) Return | (3) Return | (4) Return |
|---|---|---|---|---|
| Log Daily Deaths | -0.017 | | -0.015** | |
| | (0.009) | | (0.006) | |
| Log Daily Cases | | -0.025*** | | -0.012** |
| | | (0.007) | | (0.005) |
| Stringency Index | -0.004** | -0.003* | -0.005** | -0.004** |
| | (0.002) | (0.002) | (0.002) | (0.002) |
| Market Capitalization | 0.001*** | 0.001*** | 0.001*** | 0.001*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Sharia Compliance | -0.289** | -0.283** | 0.411*** | 0.408*** |
| | (0.140) | (0.123) | (0.101) | (0.100) |
| IDX30 | 0.000 | 0.000 | -0.001 | -0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) |
| JII | -0.001 | -0.002 | 0.001 | 0.001 |
| | (0.002) | (0.002) | (0.001) | (0.001) |
| VIX | 0.010* | 0.010* | 0.007** | 0.007** |
| | (0.005) | (0.005) | (0.003) | (0.003) |
| MSCI | 0.001*** | 0.001*** | 0.001*** | 0.001*** |
| | (0.000) | (0.000) | (0.000) | (0.000) |
| Sharia Compliance x Log New Deaths | 0.015 | | | |
| | (0.012) | | | |
| Sharia Compliance x Log New Cases | | 0.006** | | |
| | | (0.009) | | |
| Sharia Compliance x Stringency Index | | | 0.017*** | 0.017*** |
| | | | (0.000) | (0.000) |
| Constant | -0.669 | -0.042 | -1.451*** | -1.072** |
| | (0.749) | (0.732) | (0.496) | (0.473) |
| Observations | 3816 | 3816 | 3816 | 3816 |
| $R^2$ | 0.404 | 0.404 | 0.599 | 0.598 |

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

compliance variable (Model 3 and 4) has a positive and significant effect. The fact that the interaction term between daily cases of COVID-19 and sharia compliance (Model 3) has a significant, positive coefficient implies that the negative effect of daily cases of COVID-19 has a lower effect on firms with sharia compliant. The significance of that interaction variables supports previous results from this study which show that daily cases of COVID-19 have a negative significant effect on stock returns. The negative effect of daily confirmed cases of COVID-19 is lower when companies implement sharia compliance. Interaction between stringency index and sharia compliant (Model 4) has positive and significant

 

suggesting the negative effect of cases on returns weakens for sharia compliant companies. This is implying that the negative effect of government response measures on stock price returns is smaller on sharia compliant stocks. This result suggests that sharia compliant stocks have presented higher performance to the COVID-19 pandemic shock. Several previous recent studies also state that Islamic stocks have stronger performance when the economy is in a crisis period. [47] [48] [49]

Overall, our study suggests that Islamic stocks have shown greater performance to COVID-19 pandemic shock. Recent literature reports that the impact of COVID-19 on companies varies depending on the industry of companies sampled, but in this case, companies with sharia compliance have certain criteria so that they can be categorized as more resilient than companies that are not implementing sharia compliance. This criterion includes excluding interest-based and non-permitted businesses and limitations on the underlying business, interest payments, investments in non-sharia financial instruments and income received from interest-based and speculative sources that are conditional on a share being called an Islamic stock. [50]

Our study results are different from another study which found that Islamic stocks relatively fail to tend in the Islamic stock market during the financial crisis due to COVID-19 pandemic, [51] and Islamic stock indexes are more volatile than their conventional counterparts and are not totally immune to the global financial crisis. [52] One potential reason is that they use index level data, which concludes the Islamic stocks market index not the Islamic stocks on each firm.

## CONCLUSSION

In this study, we contributed to the development of literature and discussion related to the performance of companies with sharia compliance and non-sharia compliance conventional companies, especially in dealing with crises by the COVID-19 pandemic. Using the data from 18 companies with conventional and Islamic stocks in Indonesia, this study aims to see the

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performance of Islamic stocks and conventional stocks during the crisis period as a result of the COVID-19 pandemic.

The findings in this study are that the COVID-19 pandemic indicator in the form of daily confirmed cases of COVID-19 and stringency index has a significant negative effect on stock returns in Indonesia, while the COVID-19 indicator in the form of daily confirmed deaths due to COVID-19 has no effect on stock returns during the COVID-19 pandemic period. Furthermore, this study also provides results that the negative effects of daily confirmed cases of COVID-19 and stringency index are lower when companies implement sharia compliance. This shows that Islamic stocks from companies with sharia compliance have shown greater performance to the COVID-19 pandemic shock.

The limitation of this study is the fact that Indonesia is a country with the largest Muslim majority population in the world, so there is a tendency that the investment behavior of the Muslim population in Indonesia to be more interested in stocks from companies with sharia compliance. The recommendation for the continuation of this study is to select a sample of companies from various countries, including countries with Muslim religions as a minority.

**Author's Contribution**

Sri Runtiningsih, Frank Aligarh: Contribute to formulating research ideas, collecting data, processing data, and interpreting data.
Ahmad Syahrul Fauzi: Contributing to writing systematics, research methods.
Mohamad Rahmawan Arifin, Arif Nugroho: Contributing to analyzing interpretation results, the language proofread.

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**Declaration of Competing Interest**

The author declares that there is no conflict of interest.

**Ethical Approval**

Ethical approval No patient-identifying parts in this paper were used or known to the authors. Therefore, no ethical approval was requested.

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