

Analysis of Islamic Stock Performance during the Covid-19 Pandemic in Indonesia

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Abstract: The COVID-19 pandemic spreading throughout the world has affected all aspects of life, including the capital market in Indonesia. This study analyzed the performance of Islamic stocks in Indonesia since COVID-19 was first confirmed in Wuhan, China from December 2019 to October 2021 using the Treynor Ratio, Sharpe Ratio, and Jansen Index with zakah-rate. In general, the results show that both ISSI, JII70, and JII30 have negative performance for the three tools. This means that the Covid-19 pandemic has had an impact on the declining performance of Islamic stocks in Indonesia.

Keywords: Covid-19, Islamic Stock Performance, Jansen Index, Sharpe Ratio, and Treynor Ratio.

Abbreviations: Indonesia Sharia Stock Index (ISSI), Jakarta Islamic Index (JII30), Jakarta Islamic Index 70 (JII70)

Introduction

The novel human coronavirus disease 2019 (COVID-19) was first reported in Wuhan, China. March 2020, The WHO Characteristic COVID-19 as a Pandemic. April 2020, found 1 million people were infected with Covid-19, and in September 2020, 1 million Covid 19 deaths in the world (<https://www.news-medical.net/health/History-of-COVID-19.aspx>).

Based on a map image from Johns Hopkins University (Figure 1), it was found that the countries most infected with COVID-19 were the United States (level 10), Russia, India, and some countries in Europe (level 9). While Indonesia is at level 4 and China is at level 2. In Indonesia, there have been 2 waves of new confirmed COVID-19 cases, the first wave peaked in early February 2021 and the second wave or the highest peaked around July 18, 2021 (Figure 2).

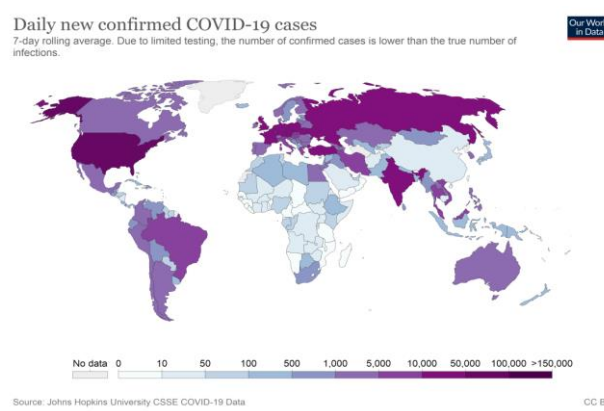


Figure 1. Map of daily new confirmed Covid-19 cases in the world.

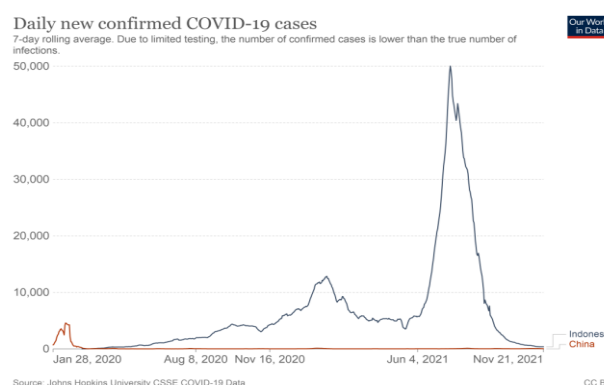


Figure 2. Daily new confirmed Covid-19 cases in Indonesia.

The COVID-19 pandemic spreading throughout the world has affected all aspects of life, including the capital market. February 19, 2020, marked the stock market peak before the outbreak of the COVID-19 pandemic triggered a freefall in share prices around the world. All stock market indexes in the world such as the United States Dow Jones, Japan's Nikkei, London's FTSE, Malaysia's KLSE,

and JKSE fell to their lowest point around the 2nd week of March 2020 and then slowly recovered. Like the Dow Jones and the Nikkei have passed the highest index before falling in January 2020. JKSE just passed it around November 2021. While the FTSE and KLSE have not returned to the previous point (Figure 3).

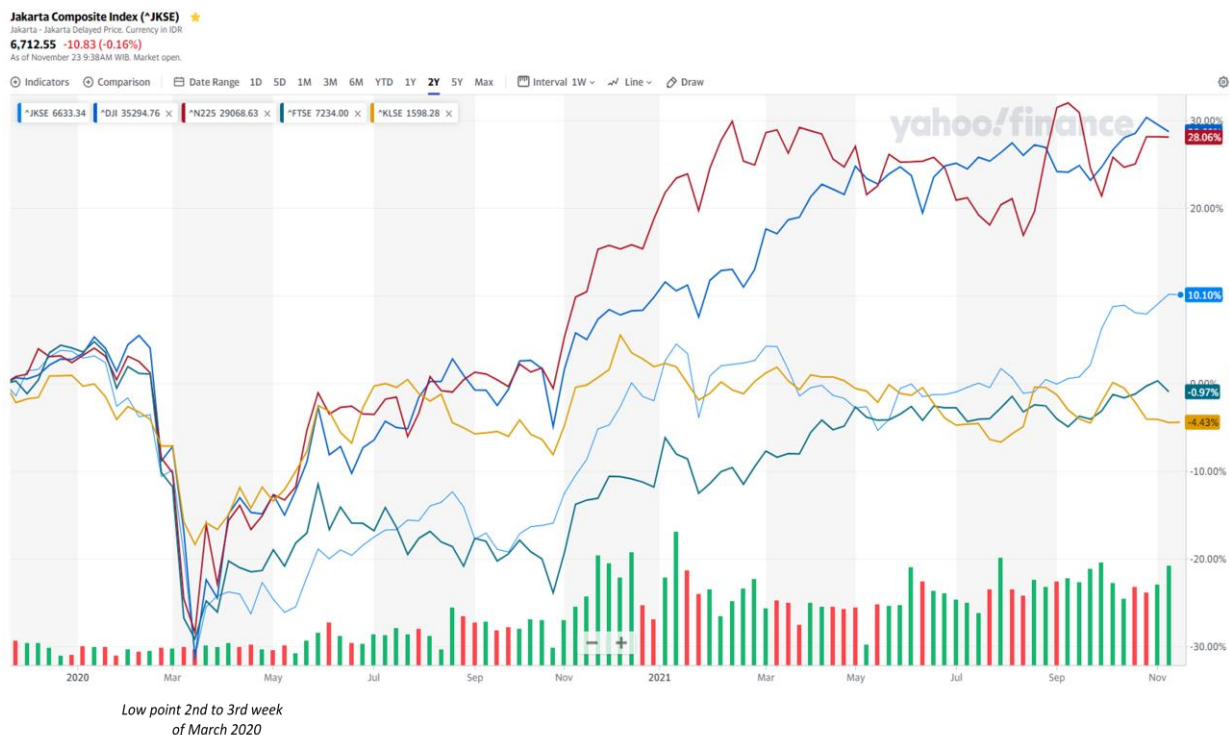


Figure 3. Stock price index chart in the world for December 2020 - November 2021.

Several studies related to the impact of Covid-19 on the capital market in Indonesia, especially Islamic stocks, have been carried out by several researchers with shorter periods, such as Amarah (2020) showed that the average abnormal returns (JII 70) are negative both before and after the announcement regarding the first patient of COVID-19 in Indonesia on March 2, 2020. Retnoningsih and Naufal (2021) findings that Covid-19 has a negative effect on stock price in all indexes, i.e., composite, Islamic, and all sectors (the worst in the financial sector) from January 1, 2020 - July 7, 2020. Nangsih and Rahmi (2021) findings that the effect of the covid pandemic on the sharia stock index recorded at JII for the period July 2019 - July 2020, it was found that the JII Index was under pressure compared to conditions before covid 19.

This study analyzed the performance of Islamic stocks in Indonesia with a longer period and a different approach, i.e since COVID-19 was first confirmed in Wuhan, China from December 2019 - October 2021 using the Treynor Ratio, Sharpe Ratio, and Jansen Index with zakah-rate approach (Qudratullah, 2020).

MATERIALs AND METHODS

The data used in this study are monthly data from December 2019 - October 2021 consisting of JKSE and, three sharia stock indices are used in Indonesia, namely the Indonesian Islamic Stock Index (ISSI), Jakarta Islamic Index 70 (JII70), and Jakarta Islamic Index (JII30). After the data are

collected, then proceed with data analysis as follows:

1. Calculate the return from JKSE and the three sharia stock indices using return geometry or log return (Qudratullah, 2013; Hidayatullah and Qudratullah, 2017, Saputro and Qudratullah, 2017, Muhlan and Qudratullah, 2021).

$$r_t = \frac{P_t - P_{t-1}}{P_{t-1}} = \frac{P_t}{P_{t-1}} - 1 \tag{1}$$

$$R_t = \ln\left(\frac{P_t}{P_{t-1}}\right) = \ln(P_t) - \ln P_{t-1} \tag{2}$$

where, r_t is the simple net return for period t , R_t is the geometric return for period t , P_t is the stock index at the end period t , P_{t-1} is the stock index at the end period $t-1$. From equations (1) and (2) can be obtained relation log return and simple net return, i.e.: $R_t = \ln(r_t + 1)$.

2. Calculate the mean return from JKSE. Then the mean return (expected return (Sharpe, 1985)), standard deviation return (the variability of returns on expected returns (Van Horne and Wachowics, Jr., 1992)), and beta values a risk measure of the systematic risk of a stock relative to market risk (Jogiyanto, 2007)) for the three sharia stock indices (ISSI, JII70, and JII) are also calculated:

$$E(R_t) = \bar{R}_t = \frac{\sum_{t=1}^T R_t}{T} \tag{3}$$

$$\sigma_t = \frac{\sum_{t=1}^T (R_t - \bar{R}_t)^2}{T} \tag{4}$$

$$\beta_t = \frac{Cov(R_t; R_m)}{Var(R_m)} \tag{5}$$

where, β_t is the beta stock, R_m is the market return, $Cov(R_t; R_m)$ is the covariance of stock return with market return, and $Var(R_m)$ is the variance of the market return.

3. Create the scatter plot of risk (standard deviation)-return (Qudratullah, 2012; Rifa'i et al, 2016)
4. Calculate stocks performance with Treynor Ratio, Sharpe Ratio, and Jansen Index with Zakah-Rate (\bar{Z}) (Qudratullah, 2020)

Treynor Ratio with zakah-rate:

$$TR = (\bar{R}_t - \bar{Z}) / \beta_t \tag{6}$$

Sharpe Ratio with zakah-rate:

$$SR = (\bar{R}_t - \bar{Z}) / \sigma_t \tag{7}$$

Jansen index with zakah-rate:

$$IJ = \bar{R}_t - (\bar{Z} + \beta_t(\bar{R}_m - \bar{Z})) \tag{8}$$

Results and Discussion

During covid-19 (December 2019 - October 29, 2021), JKSE gave positive returns, while the 3 sharia stock indices (ISSI, JII70, and JII30) gave negative returns. Meanwhile, ISSI has lower volatility than JKSE, while JII70 and JII30 have higher volatility (Table 1 and Figure 4). This shows that Covid-19 has more of an impact on large-capitalization and high liquidity Islamic stocks than vice versa.

Table 1. Return, Standard Deviation, and Beta of Indexes.

Index	Return	Standard Deviation (Risk)	Beta
JKSE	0,39%	6,05%	1,00
ISSI	0,11%	5,89%	0,99
JII70	-0,51%	6,99%	0,82
JII30	-0,71%	6,85%	0,81

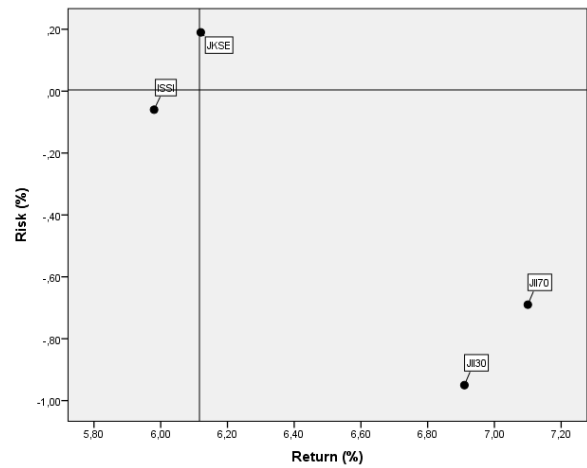


Figure 4. Scatter plot of risk (standard deviation)-return.

In general, the performance of Islamic stocks, both ISSI, JII70, and JII30 using the Traynor Ratio, Sharpe ratio, and Jansen Index since covid was first confirmed in December 2019 until October 2021 is negative. This result is in line with findings by Amarah (2020), Retnoningsih and Naufal (2021), and Nangsih and Rahmi (2021). The measurement results of the three performance tools are the same, this is in line with the findings of Qudratullah (2020). The negative performance values on the

three tools mean that the performance of Islamic stocks in Indonesia has not been able to match the

performance before COVID-19.

Table 2. Islamic stocks Performance in Indonesia

Islamic Stock Index	Treyrnor Ratio		Sharpe Ratio		Jansen Index	
	Value	Rank	Value	Rank	Value	Rank
ISSI	-0,27%	1	-4,51%	1	-0,25%	1
JII70	-1,11%	2	-12,66%	2	-0,88%	2
JII30	-1,44%	3	-16,79	3	-1,14%	3

Conclusions

Based on the description above, it is obtained that the performance of Islamic stocks, both ISSI, JII70, and JII30 using the Traynor Ratio, Sharpe ratio, and Jansen Index since covid was first confirmed in December 2019 until October 2021 is negative. This means that the Covid-19 pandemic has had an impact on the declining performance of Islamic stocks in Indonesia.

Limitation, this study measures the performance of Islamic stocks in general regardless of the business sector of the company. So that the next study can consider this so that it can be seen which business sectors are affected by covid 19.

Conflict of Interest: The authors declare that there are no conflicts of interest concerning the publication of this article.

References

- Amaroh S. 2020. Covid-19 Outbreak and Capital Market Reaction: An Evidence from The Jakarta Islamic Index 70. *SHARE Jurnal Ekonomi dan Keuangan Islam*. Vol. 9, No. 2, 2020; pp. 227-244 DOI: 10.22373/share.v9i2.7887
- Hidayatullah S, and Qudratullah MF. 2017. Analisis Risiko Investasi Saham Syariah dengan Model Value aT Risk-Asymmetric Power Autoregressive Conditional Heterocedasticity (VaR-APARCH). *Jurnal Fourier*, 6(1), 37-43. <https://doi.org/10.14421/fourier.2017.61.37-43>.
- Jogiyanto H. 2007. *Teori Portofolio dan Analisis Investasi*, Edisi kelima. BPEE, Yogyakarta.
- Mulhan MS, and Qudratullah MF. 2021. Pemodelan Return Saham Syariah di Indonesia menggunakan Model AGARCH dengan Distribusi Skewed Student-t. *Jurnal Fourier*, 10(1), 1-12. Retrieved from <https://fourier.or.id/index.php/FOURIER/article/view/142>.
- Nengsih I, and Mega Rahmi M. 2021. The Covid -19 Impact on the Capitalization of Indonesian Sharia Capital Market. *Management and Economics Journal* (5), 1, 175-186. DOI: <http://dx.doi.org/10.18860/mec-j.v5i2.12068>
- Qudratullah MF. 2012. Analisis Tipologi Saham Syariah Di Bursa Efek Indonesia Berdasarkan Nilai Return Dan Resiko (Value At Risk) Pasca Krisis Global 2008. *Jurnal Fourier*, 1(1), 17-26. <https://doi.org/10.14421/fourier.2012.11.17-26>.
- Qudratullah MF. 2013. Perbandingan Berbagai Model Conditionally Heteroscedastic Time Series Dalam Analisis Risiko Investasi Saham Syariah Dengan Metode Value At Risk. *Jurnal Fourier*, 2(1), 1-9. <https://doi.org/10.14421/fourier.2013.21.1-9>.
- Qudratullah MF. 2020. Zakah Rate In Islamic Stock Performance Models: Evidence From Indonesia. *IQTISHADIA*. Vol: 13 (1): 107-125. DOI:10.21043/iqtishadia.v13i1.6004.
- Retnoningsih S. and Naufa AM. 2021. The Covid-19, Policy And Capital Market: Empirical Evidence From Indonesia. *Jurnal Reviu Akuntansi Dan Keuangan*, 11(2), 412-429. DOI: 10.22219/jrak.v11i2.16855
- Rifa'i AF, Qudratullah MF, and Riyanto. 2016. Pengembangan Website JII-Analisa.Com sebagai Alat Analisis Tipologi Saham Syariah di Indonesia. *Integrated Lab Journal*, Vol. 4 (2): 153-166. <https://doi.org/10.14421/ilj.2016.%25x>
- Saputro TA, and Qudratullah MF. 2017. Optimasi Multi Objektif Pada Pemilihan Portofolio Saham Syariah Menggunakan Compromise Programming (CP) dan Nadir Compromise Programming (NCP). *Jurnal Fourier*, 6(2), 91-104. <https://doi.org/10.14421/fourier.2017.62.91-104>
- Sharp WF. 1985. *Investments*. 3rd edition. Englewood Cliffs, New Jersey: Prentice-Hall
- Van Horne J, and Wachowics Jr JM. 1992. *Fundamentals of Financial Management* eighth edition. Prentice-Hall International Edition.