

COMPARATIVE ANALYSIS OF RISK AND RETURN ON INDONESIAN ISLAMIC STOCK INDEX IN DIFFERENT ECONOMIC CONDITIONS

Deni Pandu Nugraha^{1*}

¹*Universitas Islam Negeri Syarif Hidayatullah Jakarta, Indonesia*

**Corresponding author: denipandu.nugroho@uinjkt.ac.id*

ABSTRACT

This study aims to analyze the differences in risk and rate of return on Islamic stocks during the economic crisis, when the economy is stable, and during the pandemic-covid. The sample used is the Indonesian Islamic stock index JII30 from 2018-2020. The data analysis used was a different test (T-test). The test variable uses stock returns and risk as proxied by Value at Risk (VaR). The results indicate there is no significant difference in the return and risk of stock index JII30 between economic crisis conditions and when economic conditions are stable. However, there is a significant difference between the JII30 stock index when the economy is stable and during the pandemic-covid, also there were significant differences in return and risk in the JII30 Index between the economic crisis (2018) and the pandemic's economic conditions (2020).

Keywords: value at risk; Islamic stocks index; return; covid; crisis.

INTRODUCTION

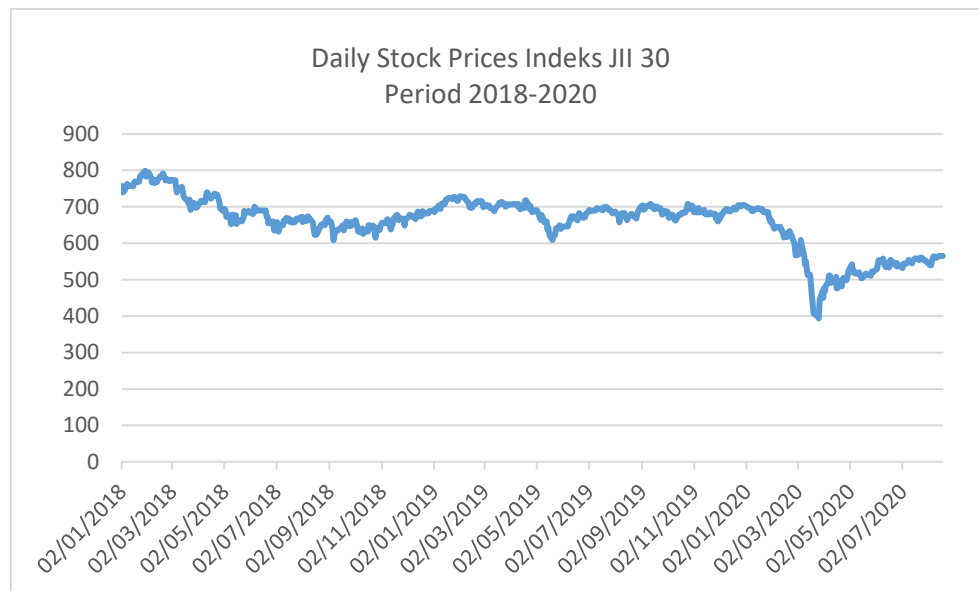
Along with the increasing financial literacy of society, there will be a behavior change, from saving to investing (Lusardi, 2019). Investment instruments in Indonesia also vary. One investment that is starting to be of interest to the public is investing in the capital market. There are also various types of investment products in the capital market, including stocks, bonds, and mutual funds.

As an investment instrument, stocks offer a higher rate of return than other investment instruments. (Ronald et al., 2019; Abad et al., 2014). However, the high rate of return offered is in line with the fluctuation of a stock price movement. This fluctuation then becomes one of the risks that must be taken into account if investors want to invest. An investor who does not have sufficient knowledge can quickly lose money if the price of the instrument he is buying falls deep enough. Thus, the investor needs to study the desired rate of return and the level of risk tolerated.

To measure the return of a stock investment instrument¹, an investor can reduce the selling price by the price when someone buys and dividing it by the purchase price. Meanwhile, to

calculate risk, one way can be done to find the value of an investment instrument's value at risk (VaR). VaR is defined as a threshold value. The probability that the mark-to-market or fair value accounting losses on the portfolio over a given time horizon will exceed this threshold value (assuming stock market and no portfolio trading) is the given probability level. Furthermore, in its most general form, Value at Risk (VaR) measures the potential loss in value of a risky asset or portfolio over a specified period for a given confidence interval (Doeswijk, et al., 2020; Nurutsaniyah, et al., 2019).

Recently the world has experienced a pandemic. This pandemic originated from a swift contagious disease, namely Corona Virus Disease-19 (COVID19), an acute respiratory disease caused by the SARS-CoV2 Virus, which was first discovered in the city of Wuhan, China at the end of 2019, before finally spreading almost throughout the country and caused many casualties. As a disaster prevention and mitigation measure, many countries have implemented the Lockdown policy, so that production flows are hampered, so that in the end, the global economic conditions experienced a drastic slowdown. (Ozili, 2020).



Source: eikon data stream

Figure 1. Index Stock Prices JII30

Figure 1 shows the daily stock price movement of the JII30 Index in the period 2018 to 2020. The JII30 Index was corrected, this is when the first positive case of COVID-19 was found in Indonesia, and the government began implementing Large-Scale Social Restrictions (PSBB).

This similarity can be interpreted as that the reaction of the Indonesian stock market, both conventional and sharia, is the same to the COVID-19 pandemic, namely they began to disburse their funds on the capital market and maintain their cash position, which then caused the two indices to have corrected quite sharply.

The global economic condition that has experienced this slowdown has not only occurred after the COVID-19 pandemic has spread. Several global economic crises have impacted Indonesia over the last 20 years, such as the Asian monetary crisis in 1998, the 2008 American Subprime Mortgage Crisis, and the Crisis. The Turkish lira in 2018. The Turkish lira's value against the United States (US) dollar fell in freefall at 6.88 as of August 13, 2018. The Turkish lira crisis is an economic crisis that occurs due to Turkey's dependence on foreign debt, calls for low-interest rates, the US decision to raise import tariffs by 100 percent against Turkey, until the diplomatic row with Uncle Sam's country. Because Turkey is a G20 country, whose economic activities are interconnected, resulting in turmoil in the global economy, one of which is Indonesia, which is shown by the decline in the JCI by 10.83 percent (Akçay and Gungen, 2019).

The market, including the stock market in Indonesia, responded to this economic condition, which experienced a significant slowdown. Therefore, this research examines the differences in rate-of-returns and risks on Islamic stocks represented by the JII30 index, when economic crisis, economy is stable, and during the pandemic.

Saparila and Worokinasih (2018) researched performance comparisons between portfolios that compared returns and risks in the Indonesian Islamic capital market. Suryawati and Nidhal (2016) have also examined the comparison of the VaR value on the Islamic capital market in developing countries, namely Indonesia, where they compare indices because there is no comparison regarding economic conditions against the Islamic capital market.

LITERATURE REVIEW

This research will compare the risk and return of Islamic stocks in three different economic conditions, namely during the crisis (2018), when the economy is stable (2019), and during the Covid-19 pandemic (2020). The variables used in this study are stock returns and Value at Risk (VaR). Research related to the comparison of return and VaR values has been carried out in several previous countries. For example, Majercakova et al. (2017) examined the

comparison of the return value and VaR of Sukuk on Islamic capital markets, such as the United Arab Emirates and Malaysia. Meanwhile, Hogenboom et al. (2015) examined the comparison of the return value and VaR of Sukuk on the Dutch capital market. Hoepner et al. (2011) conducted a study related to comparing mutual fund performance and investment styles in 20 different countries.

This research has also been conducted in Montenegro in the Balkans by Smolović et al. (2015), who compared the VaR value of capital markets in developing countries, namely Montenegro. Also, Riedle (2018) examines the VaR related to estimating the fall in the German capital market. Lal (2013) examines the comparison of VaR values between portfolios in the Indian capital market. Ho, et al. (2014) conducted research related to world capital markets' performance by comparing the performance of conventional and Islamic indices. Iorgulescu (2009) conducted a study comparing the VaR value of three portfolios in the Bucharest Stock Exchange in Romania. Rejeb et al. (2012) examined VaR values' comparison using the variance-covariance, Historical, Bootstrapping, and Monte Carlo models on the Tunisian money market. Derbali (2020) conducted a study comparing the VaR value between the major stock indices in the world published by S&P, such as the S&P 500 Sharia Index and the S&P 500 Environment and Socially Responsible Index. Merdad et al. (2010) compared conventional and sharia mutual funds' performance in the Saudi Arabian capital market. Meanwhile, Raphie and Krauessl (2011) embarrassed the comparison of stock performance in developing countries' capital markets. Saad et al. (2010) conducted a comparison of mutual fund performance in Malaysia's mutual fund companies.

Bhuiyan et al. (2020) conducted research related to comparing Sukuk and bonds in the world using the Value at Risk (VaR) approach. In Indonesia itself, this research has been conducted several times by Rodoni and Setiawan (2016), where the research shows no difference in yield at maturity between bonds and Sukuk. Muthoharoh and Sutapa (2014) compared returns and risks between Islamic and conventional capital markets in Indonesia. Khaddafi and Ferdiansyah (2017) examined the return and risk on the LQ45 index and the JII index in the Indonesian capital market. Then it can be hypothesized as follows:

H1: There is a difference VaR and Return JII30 2018 (Economic Crisis Period) and JII30 Year 2019 (Stable Period)

H2: There is a difference VaR and Return JII30 Year 2019 (Stable Period) and JII30 Year 2020 (Pandemic-Covid Period)

H3: There is a difference VaR and Return JII30 2018 (Economic Crisis Period) and JII30 Year 2020 (Pandemic-Covid Period)

METHODS

Data used in this research is quantitative time-series data, which comes from secondary data, namely, data that already exists and does not need to be collected by the researcher. The population in this study is the JII30 Stock Index obtained from the eikon data stream. The sampling technique is purposive sampling, namely determining the sample based on the criteria determined by the researcher. This study's research sample is Sharia Stock, which is used as the JII30 Index from 2018 to 2020.

This research compares the results of the t-test difference between risk and returns on Islamic stocks projected through the JII30 index in the 2018-2020 period. The previously collected data will be analyzed in stages by analyzing the risk and return of Islamic stocks as measured using VaR and stock returns. The next stage is a normality test to determine whether the data is normally distributed or not. If the data is normally distributed, the test is carried out using the Independent sample T-test analysis, while if the data is not normal, the test using the Mann-Whitney test analysis. For the level of significance used in this study, the confidence level is 5%.

RESULTS

Comparative Test Results for Stock Index JII 2018 (Economic Crisis Period) and JII30 Year 2019 (Stable Period).

Table 1. Normality Test

	Kolmogorov-Smirnov ^a			Shapiro Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
VaR_2018	0.095	27	0.200*	0.969	27	0.573
Return_2018	0.113	27	0.200*	0.923	27	0.046
VaR_2019	0.136	27	0.200*	0.949	27	0.204
Return_2019	0.264	27	0.000	0.617	27	0.000

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: data result 2020

The first step in differential testing is to ensure that the data is normally distributed. From table 1, it can be seen that the significant value for the Value at Risk (VaR) data for JII30 shares in 2018 is 0.200, the Value at Risk (VaR) for JII30 stocks in 2019 is 0.200, the return data for JII30 stocks in 2018 is 0.200, and the return for stocks. JII30 for 2019 is 0.000. This means that the normality test for the comparative test of JII30 during the economic crisis and JII30 when the economy is stable is not normal because the return value for JII30 shares in 2019 is smaller than 0.05.

Table 2. Homogeneity Return Test

Return			
Levene Statistic	df1	df2	Sig.
0.301	1	52	0.585

Source: data result 2020

From table 2, it can be seen that the significant value for the stock return data for JII30 during the economic crisis and JII30 when the economy is stable is 0.585. This means testing homogeneity of the Return data for the comparative test of JII30 in 2018 and JII30 in 2019. It is homogeneous because the sig value is > 0.05.

Table 3. Homogeneity VAR Test

VaR			
Levene Statistic	df1	df2	Sig.
36.653	1	52	0.000

Source: data result 2020

The table 3 shows that the sig value for the Value at Risk (VaR) data for JII30 shares in 2018 and JII30 in 2019 is 0.000. This means that in testing the homogeneity of the Value at Risk (VaR) data for the comparative test of JII30 during the economic crisis and JII30 when the economy is stable is not homogeneous because the sig value is < 0.05. Because the data is not normal, and the homogeneity test results of the return data are not homogeneous, the difference test cannot be done using the Independent T-test method but using the Mann Whitney Test.

Table 4. Mann Whitney Return Test

Return	
Mann-Whitney U	288.000
Wilcoxon W	666.000
Z	-1.323
Asymp. Sig. (2-tailed)	0.186

a. Grouping Variable: Periode

Source: data result 2020

Because the return data is not homogeneous, the Mann Whitney test is used. From table 4, it can be seen that the Sig (2-tailed) value is $0.186 > 0.05$. Stock return data shows a significant value that is greater than the significance level of $\alpha = 5\%$ (0.05). This means no significant difference between the Jakarta Islamic Index return during the economic crisis and the Jakarta Islamic Index return when the economy is stable.

Table 5. Mann Whitney VaR Test

VaR	
Mann-Whitney U	264.000
Wilcoxon W	642.000
Z	-1.739
Asymp. Sig. (2-tailed)	0.082

a. Grouping Variable: Periode

Source: data result 2020

The table 5 shows that the Sig (2-tailed) value is $0.082 > 0.05$. Stock risk data shows a significant value more than the significance level of $\alpha = 5\%$ (0.05). This means that there is no significant difference between the Jakarta Islamic Index stock's risk during the economic crisis and the Jakarta Islamic Index stock when the economy is stable, meanwhile the results shows significance level of $\alpha = 10\%$.

Comparative Test Results for VaR and Return JII30 Year 2019 (Stable Period) and JII30 Year 2020 (Pandemic-Covid Period)

Table 6. Normality Test

	Tests of Normality					
	Kolmogorov-Smirnov^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
VaR_2019	0.136	27	0.200*	0.949	27	0.204

UMKT

Return_2019	0.264	27	0.000	0.617	27	0.000
VaR_2020	0.111	27	0.200*	0.970	27	0.591
Return_2020	0.114	27	0.200*	0.977	27	0.798

*. This is a lower bound of the true significance.

Source: data result 2020

Table 6, it can be seen that the sig value for the Value at Risk (VaR) data for JII30 shares in 2019 is 0.200, the Value at Risk (VaR) for JII30 stocks in 2020 is 0.200, the return data for JII30 stocks in 2019 is 0.000, and the return for stocks JII30 for 2020 is 0.200. This means that in testing the normality for the comparative test of JII30 in 2019 and JII30 in 2020 is abnormal because the stock returns of JII30 in 2019 have a significance value below 0.05, it is necessary to use a different method of testing.

Table 7. Homogeneity Return Test

Return			
Levene Statistic	df1	df2	Sig.
2.570	1	55	0.115

Source: data result 2020

Table 7 shows sig value for the return data is 0.115. This means that in testing the homogeneity of the return data for the comparative test of JII30 when the economy is stable (2019) and JII30, when the pandemic-covid (2020) occurs, it is homogeneous because the sig value is > 0.05.

Table 8. Homogeneity VaR Test

VaR			
Levene Statistic	df1	df2	Sig.
4.236	1	55	0.044

Source: data result 2020

From table 8, it can be seen that the sig value for the Value at Risk (VaR) data is 0.044. This means that in testing the homogeneity of the Value at Risk (VaR) data for the comparative test of JII30 when the economy is stable (2019) and JII30 when the pandemic-covid (2020) occurs is not homogeneous because the sig value is below 0.05.

Table 9. Mann Whitney Return Test

Return	
Mann-Whitney U	151.000
Wilcoxon W	616.000
Z	-4.059
Asymp. Sig. (2-tailed)	0.000
a. Grouping Variable: Periode	

Source: data result 2020

Table 9 shows that the Sig (2-tailed) value is 0.000 <0.05. Stock return data shows a significant value that is lower than the significance level of $\alpha = 5\%$ (0.05). This means a significant difference between JII30 stock returns when the economy is stable (2019) and JII30 when the pandemic-covid (2020) occurs.

Table 10. Mann Whitney VaR Test

VaR	
Mann-Whitney U	0.000
Wilcoxon W	465.000
Z	-6.473
Asymp. Sig. (2-tailed)	0.000
a. Grouping Variable: Periode	

Source: data result 2020

From table 10, it can be seen that the Sig (2-tailed) value is 0.000 <0.05. Stock risk data shows a significant value that is lower than the significance level of $\alpha = 5\%$ (0.05). This means a significant difference between the risk of JII30 shares when the economy is stable (2019) and JII30 when the pandemic-covid (2020) occurs.

Comparative Test Results VaR and Return JII30 Year 2018 (Economic Crisis Period) and JII30 Year 2020 (Pandemic-Covid Period)

Table 11. Normality Test

	Tests of Normality					
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
VaR_2018	0.095	27	0.200*	0.969	27	0.573
Return_2018	0.113	27	0.200*	0.923	27	0.046
VaR_2028	0.114	27	0.200*	0.977	27	0.798
Return_2028	0.111	27	0.200*	0.970	27	0.591

*. This is a lower bound of the true significance.

Source: data result 2020

From the table 11, it can be shown that the sig value for the Value at Risk (VaR) data for JII30 shares in 2018 is 0.200, the Value at Risk (VaR) for JII30 shares in 2020 is 0.200, the return data for JII30 stocks in 2018 is 0.200, and the return for stocks JII30 for 2020 is 0.200. This means that the normality test for the comparative test of the JII30 Stock Index during the economic crisis (2018) and JII30 when the Covid-19 pandemic (2020) was normal because the significance value was > 0.05 .

Table 12. Homogeneity Return Test

Return			
Levene Statistic	df1	df2	Sig.
4.692	1	55	0.035

Source: data result 2020

Table 12, the sig value for the return data for the JII30 Stock Index in 2018 and JII30 in 2020 is 0.035. This means that in testing the homogeneity of the return data for the comparative test of JII30 during the economic crisis (2018) and JII30 when the Covid-19 pandemic (2020) was not homogeneous because the sig value was < 0.05 .

Table 13. Homogeneity VaR Test

VaR			
Levene Statistic	df1	df2	Sig.
4.452	1	55	.039

Source: data result 2020

The table 13 shows that the sig value for the Value at Risk (VaR) data for LQ45 and JII30 stocks is 0.039. This means that in testing the homogeneity of the Value at Risk (VaR) data for the comparative test of the JII30 Stock Index during the economic crisis (2018) and JII30 when the Covid-19 pandemic (2020) was not homogeneous because the sig value was < 0.05 .

Table 14. Mann Whitney Return Test

Return	
Mann-Whitney U	249.000
Wilcoxon W	714.000
Z	-2.493
Asymp. Sig. (2-tailed)	0.013
a. Grouping Variable: Periode	

Source: data result 2020

From the table 14, it can be seen that the Sig (2-tailed) value is 0.013 <0.05. Stock returns data shows a significant value smaller than the significance level of $\alpha = 5\%$ (0.05). This means a significant difference between the risk of the Jakarta Islamic Index shares during the economic crisis (2018) and the Jakarta Islamic Index shares during the Covid-19 pandemic (2020).

Table 10. Mann Whitney VaR Test

VaR	
Mann-Whitney U	4.000
Wilcoxon W	469.000
Z	-6.409
Asymp. Sig. (2-tailed)	0.000
a. Grouping Variable: Periode	

Source: data result 2020

The table 15 shows that the Sig (2-tailed) value is 0.000 <0.05. Stock risk data shows a significant value smaller than the significance level of $\alpha = 5\%$ (0.05). This means a significant difference between the risk of the Jakarta Islamic Index during the economic crisis (2018) and the Jakarta Islamic Index during the pandemic (2020).

DISCUSSION

After conducting the data processing and testing statistically, it obtained various findings; one of the findings can be seen in the first hypothesis, which shows that the first hypothesis there is no difference between VaR and Returns JII30 during the economic crisis and during the stable period; the second hypothesis, there is a significant difference in VaR and JII30 returns in the stable period with the pandemic-Covid period; the third hypothesis is that there is a difference between Var and JII30 returns in the crisis period with the pandemic-Covid period, these findings explain that the pandemic-Covid period has a more significant impact Compared to the Islamic Stock Market compared to the previous crisis, the pandemic-covid caused investors to react sensitively to the information provided by the market so that investors were

cautious in making investment decisions. The clear difference from the effects of this pandemic is reinforced by Indonesia's economic situation, which is experiencing an economic slowdown and has entered into an economic recession. In restoring the current economic condition, the government has issued policies that strengthen people's purchasing power with social assistance during a pandemic period, both in goods and in money. Investors in a pandemic see opportunities in the technology sector to see a shift from investment commodities to technology investment.

CONCLUSION

This research was conducted to determine whether there is a difference between return and risk generated by the Jakarta Islamic Index 30 with three different conditions. The three conditions were the currency crisis in 2018, when economic conditions were stable, namely in 2019, and during the SARS-CoV virus pandemic, which caused the COVID-19 disease. From the test results, several things were found. Namely, there were significant differences in return and risk in the JII30 Index between the economic crisis (2018) and the pandemic's economic conditions (2020). This could happen because the majority of investors maintained their cash position and portfolio value during the pandemic. It takes place by not increasing or even reducing their position in the stock market, which causes it to become more volatile, so investors are advised to hedge their portfolios' value by not increasing their exposure to the stock market during the pandemic. The same thing was also found when comparing the rate-of-return and risk performance of the JII30 index during the crisis (2018) and pandemic-covid period (2020). Meanwhile, related to the second results, there is no difference between rate-of-return and risk of index stocks during the economic crisis (2018) and economically stable (2019).

REFERENCES

- Abad, P., Benito, S., & López, C. (2014). A comprehensive review of Value at Risk methodologies. *Spanish Review of Financial Economics*, 12(1), 15–32. <https://doi.org/10.1016/j.srfe.2013.06.001>
- Akcay, Ü., & Güngen, A. (2019). *The Making of Turkey's 2018-2019 Economic Crisis*. https://www.researchgate.net/publication/333951275_The_Making_of_Turkey%27s_2018-2019_Economic_Crisis
- Bhuiyan, R. A., Puspa, M., Saiti, B., & Ghani, G. M. (2020). Comparative analysis between global sukuk and bond indices: value-at-risk approach. *Journal of Islamic Accounting*

- and Business Research, 11(6), 1245-1256. <https://doi.org/10.1108/JIABR-02-2018-0019>
- Daniela Majercakova, *et.al.* (2017). Comparative Analysis of Islamic Bonds and Conventional Bonds in the Chosen Countries. *7th Economics and Finance Conference*. DOI: [10.20472/EFC.2017.007.012](https://doi.org/10.20472/EFC.2017.007.012)
- Derbali, A. (2020). Comparative Risk Analysis by VaR: An Empirical Application to Ethical Market Indices. *Risk and Financial Management Journal* . Vol. 2 No. 2. DOI: <https://doi.org/10.30560/rfm.v2n2p19>
- Doeswijk, R., Lam, T., & Swinkels, L. (2020). Historical returns of the market portfolio. *Review of Asset Pricing Studies*. <https://doi.org/10.1093/rapstu/raz010>
- Hery. (2018). *Analisis Laporan Keuangan :Integrated and Comprehensive Edition*. Cetakan Kriga. PT. Gramedia: Jakarta.
- Ho, C. S. F., Abd Rahman, N. A., Yusuf, N. H. M., & Zamzamin, Z. (2014). Performance of global Islamic versus conventional share indices: International evidence. *Pacific-Basin Finance Journal*, 28, 110–121. <https://doi.org/https://doi.org/10.1016/j.pacfin.2013.09.002>
- Hoepner, A. G. F., Rammal, H. G., & Rezec, M. (2011). Islamic mutual funds' financial performance and international investment style: evidence from 20 countries. *The European Journal of Finance*, 17(9–10), 829–850. <https://doi.org/10.1080/1351847X.2010.538521>
- Iorgulescu F. (2009). Value at Risk: A Comparative Analysis. *Advances in Economic and Financial Research - DOFIN Working Paper Series 25*, Bucharest University of Economics, Center for Advanced Research in Finance and Banking - CARFIB.. <https://ideas.repec.org/p/cab/wpae/fr/25.html>
- Jorion, Phillipe. (2007). Value at Risk – The New Benchmark for Managing Financial Risk. *Financial Markets and Portofolio Management*. Vol.21, issue 3. DOI: 10.1007/s11408-007-0057-3.
- Lusardi, A. (2019). Financial literacy and the need for financial education: evidence and implications. *Swiss J Economics Statistics* 155, 1. <https://doi.org/10.1186/s41937-019-0027-5>
- Merdad, H., Hassan, M. K., & Alhenawi, Y. (2010). Islamic Versus Conventional Mutual Funds Performance in Saudi Arabia: A Case Study. *Journal of King Abdulaziz University: Islamic Economics*, 26(2), 161-198. https://www.kau.edu.sa/Files/121/Researches/58939_29217.pdf
- Nurutsaniyah, D., Widiharih, T., & Maruddani, D. A. I. (2019). VALUE AT RISK PADA PORTOFOLIO SAHAM DENGAN COPULA ALI-MIKHAIL-HAQ. *Jurnal Gaussian*. <https://doi.org/10.14710/j.gauss.v8i4.2675>
- Ozili, P., & Arun, T. (2020). Spillover of COVID-19: impact on the Global Economy. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3562570>
- Raphie, H., & Kraeussl, R. (2011). Risk and return characteristics of Islamic equity funds. *Emerging Markets Review*, 12(2), 189-203. <https://doi.org/10.1016/j.ememar.2011.02.002>
- Rejeb, A. B., Salha, O. B., dan Rejeb, J. B. (2012). Value at Risk Analisisi for The Tunisian Currency Market: A Comparative Study. *Journal of Economics and Financial Issues*. Vol 2, No. 2. <https://www.econjournals.com/index.php/ijefi/article/view/126>

- Rodoni, A., & Setiawan, A. (2016). Risk and Return: Bonds and Sukuk in Indonesia. *Al-Iqtishad: Journal of Islamic Economics*, 8(2), 255–270. <https://doi.org/10.15408/aiq.v8i2.3159>
- Ronald Doeswijk, Trevin Lam, Laurens Swinkels. (2019). Historical Returns of the Market Portfolio, *The Review of Asset Pricing Studies*, <https://doi.org/10.1093/rapstu/raz010>
- Saad, N. M., Majid, M. S. A., Kassim, S., Hamid, Z., & Yusof, R. M. (2010). A comparative analysis of the performance of conventional and Islamic unit trust companies in Malaysia. *International Journal of Managerial Finance*, 6(1), 24–47. <https://doi.org/10.1108/17439131011015779>
- Sudarmanto. (2013). *Kinerja dan Pengembangan Kompetensi SDM*. Yogyakarta : Alfabeta.
- Suryawati, B. M., dan Nidhal L. U. (2016). Value at Risk as a Measurement of Market Risk in Emerging Sharia Market: A Comparative Study Between Indexes in Indonesia Stock Exchange. *KNE Social Science. The 1st International Conference on South East Asia Studies (ICSEAS 2016)*. Hal. 94-108. DOI: [10.18502/kss.v3i5.2327](https://doi.org/10.18502/kss.v3i5.2327)
- www.ojk.go.id
- www.eikon.thomsonreuters.com
- www.idx.co.id