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TREYNOR, SHARPE, AND JENSEN RATIO OF HEALTH SECTOR COMPANIES ON THE INDONESIA STOCK EXCHANGE BEFORE AND DURING COVID-19 PANDEMIC PERIOD

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Abstract

This research aims to compare the return and risk in investment at the stock portfolio of Health Sector Companies in period before the COVID-19 pandemic and during the COVID-19 pandemic in Indonesia. This research conducted using quantitative method with descriptive approach with secondary data with samples of the stock of Health Sector Companies listed in the Indonesia Stock Exchange ("IDX") which then formulated into a stock portfolio. The research period used is the period March 2019-Feb 2020 for before COVID19 pandemic, and the period March 2020 - Feb 2021 for during the COVID19 pandemic. The stock portfolio return and risk measurement is measured by Sharpe, Treynor, and Jensen Ratio which then will be statistically tested to see if there are significant differences of ratios between the two conditions.

Keywords: *Treynor Ratio; Sharpe Ratio; Jensen Ratio; Health Sector; Jakarta Stock Exchange; Pandemic Covid-19*

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Introduction

Coronavirus Disease (COVID-19) pandemic caused by coronavirus was first discovered and published by the Government of Indonesia on March 02, 2020 (WHO Indonesia Situation Report 1, 2020). Since then, economic conditions in Indonesia have slowed down due to the COVID-19 pandemic. The Health Sector Companies performance as the vanguard in dealing with the COVID-19 pandemic also has impacted, both financial performance and service quality performance. According to research conducted by (Riyanto, 2020), the COVID-19 pandemic has impacted on the termination of pharmaceutical sales employees (layoffs) by pharmaceutical companies at 49.1%. The performance of health sector companies, especially pharmaceuticals, also experienced the impact of the COVID-19 pandemic (Youlanda, 2021).

Coronavirus Pandemic Disease 2019 (hereinafter referred to: Covid-19) has gone global and every affected country is experiencing a health crisis, not least in Indonesia. Efforts of every Government in the world have been made to prevent the spread of

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Covid-19 by various ways and policies, regulations and technical implementation. The government and every citizen try as optimally as possible to carry out attitudes and actions of social distance (keep social distance, meetings), the use of quality mask coverings and noses, how to wash hands properly, and appeals and orders to stay at home only. This has been done by every country since the Covid-19 pandemic has increased (Silitonga, 2020).

Coronaviruses are a large family of viruses that are transmitted zoonotically (between animals and humans) and can cause mild to severe symptoms. Previously, there were at least two types of coronavirus known to cause disease in humans, namely Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV) (RI, 2020).

Quoted from wikipedia.org Coronavirus 2019 (Covid-19) (Cheng et al., 2020) is an infectious disease caused by acute respiratory syndrome coronavirus 2 (Sars-CoV-2). The disease was first discovered in December 2019 in Wuhan, the capital of China's Hubei province, and has since spread globally, resulting in the 2019-2020 coronavirus pandemic. The World Health Organization (WHO) declared the 2019-2020 coronavirus outbreak an International Public Health Emergency (PHEIC) on January 30, 2020, and a pandemic on March 11, 2020. The outbreak of this disease is so shaking the world community, considering that almost 200 countries in the world are infected with this virus including Indonesia. Various efforts to prevent the spread of the Covid-19 virus are also carried out by governments in countries around the world to break the chain of spread of the Covid-19 virus, called lockdown and social distancing (Supriatna, 2020).

According to (Welley, Oroh, & Walangitan, 2021) in their research found that there was a significant difference in the share price of SOE Pharmaceuticals after the announcement of the development of the COVID-19 vaccine.

The pharmaceutical industry is a research-based industry. One of the things that cannot be avoided is the emergence of sharp competition between pharmaceutical companies. Because pharmaceutical companies in Indonesia are required to be able to compete by doing innovation, promotion and a good marketing system, as well as optimal product quality (Susanto, 2012). According to (Mittal & Sharma, 2021) found that COVID19 outbreaks significantly affects the stock performance of health sector in India. In order to see if this effects on Indonesia Stock Exchange, we conclude aresearch to see if there are effects on COVID19 pandemic to Health Sector Companies in Indonesia.

Capital market is a market for various long-term financial instruments that can be traded, both bonds (bonds), equity (stocks), mutual funds, derivative instruments and other instruments. Capital markets are a means of funding for companies and other institutions (e.g. the government), and as a means for investment activities. Thus, the capital market facilitates various facilities and infrastructure of buying and selling activities and other related activities (Budialim, 2013).

According to (Mahayani & Suarjaya, 2019) said in investing in the capital market, investors will expect the highest return with a certain level of risk. Return can be in the

form of yield and capital gain (loss), while the yield is indicated by the number of dividends obtained. Capital gain (loss) is the increase (decrease) in the price of a securities that gives profit (loss) to investors (Tandelilin, 2017).

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Thus, in investing in stocks, there is a certain level of risk in each return generated. In this case, we sought to see if there were significant differences in return and risk in investing in health sector companies shares before the COVID-19 pandemic ("Pre - COVID 19") and during the COVID-19 pandemic ("During COVID 19").

Research Methods

This research was conducted using quantitative method. The type of data used in this study is secondary data. The data from this study cannot be influenced by the Author, so the data used in this study is data with minimal interference. The study setting used is non-contrived, which is done in the environment experienced where the occurrence occurs normally (Merriam & Grenier, 2019).

The research period used for the Pre-COVID19 is between March 1, 2019-February 28, 2020, while for During COVID19 is March 1, 2020 - February 28, 2021. The selection of research data samples was conducted using non-probability sampling method with judgement sampling techniques of the entire company shares listed on IDX and then sampling again to adjust the data that already listed in research period timeframe, and 16 companies in health sector were selected that match those criteriaThe (Wardle et al., 2021). List of The Companies is as follows:

Table 1
List of Stocks of Health Sector Companies used as Data Sample

NO	TICKER	COMPANY NAME	BUSINESS LINE
1	DVLA	Darya-Varia Laboratoria Tbk.	Pharmaceutical
2	HEAL	Medikaloka Hermina Tbk.	Hospital
3	INAF	Indofarma (Persero) Tbk.	Pharmaceutical
4	KAEF	Kimia Farma (Persero) Tbk.	Pharmaceutical
5	KLBF	Kalbe Farma Tbk.	Pharmaceutical
6	MERK	Merck Tbk.	Pharmaceutical
7	MIKA	Mitra Keluarga Karyasehat Tbk.	Hospital
8	PEHA	Phapros Tbk.	Pharmaceutical
9	PRDA	Prodia Widyahusada Tbk.	Health Facility
10	PRIM	Royal Prima Tbk.	Hospital
11	PYFA	Pyridam Farma Tbk.	Pharmaceutical
12	SAME	Sarana Meditama Metropolitan Tbk.	Hospital

NO	TICKER	COMPANY NAME	BUSINESS LINE
13	SIDO	Industri Jamu dan Farmasi Sido Muncul Tbk.	Pharmaceutical
14	SILO	Siloam International Hospitals Tbk.	Hospital
15	SRAJ	Sejahteraraya Anugrahjaya Tbk.	Hospital
16	TSPC	Tempo Scan Pacific Tbk.	Pharmaceutical

From stock data sample list above, we then create a stock portfolio containing all these 16 health sector companies with weighting assumption at an equal weight for the 16 stocks (6,25% each stock). The generated portfolio then will be used as the basis for calculating Treynor, Sharpe, and Jensen Ratio in Pre-COVID19 and During COVID19. After the stock portfolio is formed, then we calculate the return, standard deviation, and beta of stock portfolio for Pre-COVID19 and During COVID19 with the data result displayed as monthly data (there are 24 sets of data for Pre-COVID19 and During COVID19). After we obtain the return, standard deviation, and beta of stock portfolio for the calculation of Treynor, Sharpe, and Jensen Ratio each month for Pre-COVID19 and During COVID19, we then continue by calculating the ratios for Pre-COVID19 and During COVID19, and then from the results we conducted T-Test to find out if there is a significant difference between Sharpe, Jensen, and Treynor Ratio for Pre-COVID19 and During COVID19.

Results and Discussions

From the sample data that have been collected, the average share closing price of Health Sector Companies is declining by 5.55% from Pre-COVID19 to During COVID 19 with the following details:

Table 2
Closing Price of Health Sector Companies Stocks for Pre-Covid19 and During Covid 19

No	Ticker	Avg Closing Price		Delta (Δ)
		Pre-Covid19	During Covid 19	
1	DVLA	2.221	2.370	149
2	HEAL	3.444	3.216	-228
3	INAF	2.231	2.482	251
4	KAEF	2.593	2.587	-6
5	KLBF	1.523	1.453	-69
6	MERK	3.335	2.829	-506
7	MIKA	2.310	2.425	115
8	PEHA	1.559	1.377	-182
9	PRDA	3.788	3.164	-624
10	PRIM	400	262	-138
11	PYFA	185	722	537
12	SAME	417	171	-246
13	SIDO	561	697	136
14	SILO	5.828	5.171	-657

No	Ticker	Avg Closing Price		Delta (Δ)
		Pre-Covid19	During Covid 19	
15	SRAJ	247	150	-97
16	TSPC	1.542	1.322	-220

The descriptive statistics of closing price of the sample data for Pre-COVID19 and During COVID19 are as follows:

Table 3
Descriptive Statistic of Closing Price of Health Sector Companies Stocks for Pre-Covid 19

NO	TICKER	N	MEAN	STDEV	VAR	MIN	MAX
1	DVLA	257	2.221	79	6.212	2.020	2.500
2	HEAL	257	3.444	160	25.533	3.000	3.910
3	INAF	257	2.231	1.467	2.151.238	344	5.600
4	KAEF	257	2.593	906	821.320	580	3.760
5	KLBF	257	1.523	99	9.749	1.220	1.690
6	MERK	257	3.335	616	379.791	1.925	4.160
7	MIKA	257	2.310	323	104.342	1.840	2.930
8	PEHA	257	1.559	478	228.046	900	2.650
9	PRDA	257	3.788	569	323.982	2.700	5.025
10	PRIM	257	400	71	4.982	270	498
11	PYFA	257	185	12	135	155	206
12	SAME	257	417	137	18.841	160	575
13	SIDO	257	561	59	3.532	460	653
14	SILO	257	5.828	1.344	1.807.371	3.230	7.700
15	SRAJ	257	247	31	961	190	324
16	TSPC	257	1.542	144	20.848	1.240	1.825

Table 4
Descriptive Statistic of Closing Price of Health Sector Companies Stocks for During COVID 19

NO	TICKER	N	MEAN	STDEV	VAR	MIN	MAX
1	DVLA	239	2.370	200	39.821	1.955	3.040
2	HEAL	239	3.216	519	269.409	1.900	4.110
3	INAF	239	2.482	1.361	1.852.077	480	6.975
4	KAEF	239	2.587	1.336	1.784.779	600	6.975
5	KLBF	239	1.453	160	25.595	865	1.760
6	MERK	239	2.829	601	361.462	1.255	4.050
7	MIKA	239	2.425	318	101.150	1.685	3.200
8	PEHA	239	1.377	362	131.159	700	2.640
9	PRDA	239	3.164	244	59.388	2.350	3.640
10	PRIM	239	262	34	1.133	199	370
11	PYFA	239	722	326	106.152	152	1.480
12	SAME	239	171	98	9.685	64	418
13	SIDO	239	697	89	7.898	470	845
14	SILO	239	5.171	464	215.752	4.260	6.475

NO	TICKER	N	MEAN	STDEV	VAR	MIN	MAX
15	SRAJ	239	150	25	605	122	226
16	TSPC	239	1.322	155	24.003	960	2.050

a. Stock Portfolio Results

From the sample data, we then create a stock portfolio with weighting assumption at an equal weight for the 16 stocks, so the return the portfolio can be seen as follows:

Table 5
The Stock Portfolio Return of Health Sector Companies

No	Ticker	Average R_s*		Weight	Average R_p**	
		PRE-COVID19	DURING COVID19		PRE-COVID19	DURING COVID19
1	DVLA	0,0003	0,0008	6,25%	0,0000	0,0000
2	HEAL	-0,0003	0,0016	6,25%	0,0000	0,0001
3	INAF	-0,0073	0,0100	6,25%	-0,0005	0,0006
4	KAEF	-0,0058	0,0092	6,25%	-0,0004	0,0006
5	KLBF	-0,0008	0,0013	6,25%	0,0000	0,0001
6	MERK	-0,0027	0,0025	6,25%	-0,0002	0,0002
7	MIKA	0,0012	0,0015	6,25%	0,0001	0,0001
8	PEHA	-0,0029	0,0033	6,25%	-0,0002	0,0002
9	PRDA	0,0012	0,0000	6,25%	0,0001	0,0000
10	PRIM	-0,0009	-0,0007	6,25%	-0,0001	0,0000
11	PYFA	0,0007	0,0090	6,25%	0,0000	0,0006
12	SAME	-0,0043	0,0042	6,25%	-0,0003	0,0003
13	SIDO	0,0008	0,0015	6,25%	0,0000	0,0001
14	SILO	0,0027	-0,0003	6,25%	0,0002	0,0000
15	SRAJ	0,0015	0,0005	6,25%	0,0001	0,0000
16	TSPC	-0,0014	0,0012	6,25%	-0,0001	0,0001
Total		**-0,0180**	**0,0455**	**100%**	**-0,0011**	**0,0028**

***RS : Stock Return**
****RP : Portfolio Return**

From the table above, the average return of stock portfolio for Pre-COVID19 is -0,0011 and During COVID19 is 0,0028. This indicates that in Pre-COVID19, the return of the stock portfolio produced is much lower and even tends to be negative when compared to During COVID19.

b. Risk-free Rate

Risk-free Rate (RF) data used in this study is derived from the average daily historical rate of IndONIA data in accordance with the research period used as follows:

Table 6
Risk-free Rate IndONIA for Pre-COVID19 and During COVID19

NO		PERIOD	AVERAGE MONTHLY RATE	TOTAL AVERAGE R_F
1	PRE-COVID19	Mar-19	4,53%	**4,16%**
2		Apr-19	4,34%	
3		May-19	4,57%	
4		Jun-19	3,51%	
5		Jul-19	4,90%	
6		Aug-19	4,51%	
7		Sep-19	4,40%	
8		Oct-19	4,29%	
9		Nov-19	3,90%	
10		Dec-19	3,71%	
11		Jan-20	3,92%	
12		Feb-20	3,80%	
13		Mar-20	3,63%	
14	DURING COVID19	Apr-20	3,77%	**2,78%**
15		May-20	2,66%	
16		Jun-20	3,40%	
17		Jul-20	2,97%	
18		Aug-20	2,29%	
19		Sep-20	2,79%	
20		Oct-20	2,31%	
21		Nov-20	2,69%	
22		Dec-20	2,14%	
23		Jan-21	2,34%	
24		Feb-21	2,34%	

The total average RF for Pre-COVID19 is 4,16%, while for During COVID19 is 2,78%. The decreasing rate is due to the macroeconomic policy of Bank Indonesia to lower interest rates to boost the economy growth.

c. Return Market

As for the Return Market (RM) data used in this study is coming from the average return of Jakarta Composite Index (JCI) with a period that is equated to the research period, so that the data is obtained as follows:

Table 7
Return Market (RM) for Pre-COVID19 and During COVID19

NO		PERIOD	AVERAGE MONTHLY R_M	TOTAL AVERAGE R_M
1	PRE-COV	Mar-19	-0,0002	**-0,0007**
2		Apr-19	-0,0001	
3		May-19	-0,0016	

NO	PERIOD	AVERAGE MONTHLY R_M	TOTAL AVERAGE R_M
4	Jun-19	0,0012	
5	Jul-19	0,0002	
6	Aug-19	-0,0004	
7	Sep-19	-0,0012	
8	Oct-19	0,0004	
9	Nov-19	-0,0017	
10	Dec-19	0,0025	
11	Jan-20	-0,0026	
12	Feb-20	-0,0042	
13	Mar-20	-0,0071	
14	Apr-20	0,0020	
15	May-20	0,0005	
16	Jun-20	0,0016	
17	Jul-20	0,0022	
18	Aug-20	0,0010	
19	Sep-20	-0,0032	**0,0008**
20	Oct-20	0,0027	
21	Nov-20	0,0044	
22	Dec-20	0,0034	
23	Jan-21	-0,0009	
24	Feb-21	0,0033	

DURING COVID19

The total average RM for the Pre-COVID19 is -0,0007 and for During COVID19 is 0,0008. This indicates that the market return (JCI) for During COVID19 is higher than Pre-COVID19.

d. Standard Deviation

Standard deviation of stock portfolio formed from Health Sector Companies is calculated using stock portfolio return data so that the following data is obtained:

Table 8
Standard Deviation of Stock Portfolio of Health Sector Companies for Pre-COVID19 and During COVID19

NO	PERIOD	STDEV	TOTAL AVERAGE STDEV
1	Mar-19	0,0055	
2	Apr-19	0,0054	
3	May-19	0,0078	
4	Jun-19	0,0075	
5	Jul-19	0,0074	**0,0096**
6	Aug-19	0,0081	
7	Sep-19	0,0074	
8	Oct-19	0,0062	
9	Nov-19	0,0124	

PRE-COVID19

NO	PERIOD	STDEV	TOTAL AVERAGE STDEV
10	Dec-19	0,0199	
11	Jan-20	0,0127	
12	Feb-20	0,0150	
13	Mar-20	0,0373	
14	Apr-20	0,0145	
15	May-20	0,0109	
16	Jun-20	0,0132	
17	Jul-20	0,0248	
18	Aug-20	0,0209	**0,0191**
19	Sep-20	0,0227	
20	Oct-20	0,0116	
21	Nov-20	0,0083	
22	Dec-20	0,0235	
23	Jan-21	0,0306	
24	Feb-21	0,0115	

DURING COVID19

The total average standard deviation for Pre-COVID19 is 0,0096 and for During COVID19 is 0,0191. This illustrates that the volatility of portfolio return for During COVID19 is greater when compared to Pre-COVID19 judging by the increasing standard deviation number, this may also indicate a greater level of risk.

e. Beta

Beta of the stock portfolio used to calculate the ratios in this study is obtained from calculating the variance and covariance of the return of the stock portfolio so that the Beta Portfolio obtained is as follows:

Table 9
Beta Portfolio of Health Sector Companies for Pre-COVID19 and During COVID19

NO	PERIOD		R_P	R_M	VAR	COVAR	BETA
1		Mar-19	0,0013	-0,0002	0,0000	0,0000	1,15
2		Apr-19	-0,0005	-0,0001	0,0000	0,0000	-12,00
3		May-19	0,0005	-0,0016	0,0001	0,0000	1,60
4		Jun-19	-0,0006	0,0012	0,0001	0,0000	7,07
5		Jul-19	0,0012	0,0002	0,0001	0,0000	17,75
6		Aug-19	-0,0002	-0,0004	0,0001	0,0000	1,48
7		Sep-19	-0,0019	-0,0012	0,0001	0,0000	1,94
8		Oct-19	-0,0009	0,0004	0,0000	0,0000	3,65
9		Nov-19	-0,0046	-0,0017	0,0002	0,0001	3,04
10		Dec-19	0,0022	0,0025	0,0004	0,0000	13,01
11		Jan-20	-0,0041	-0,0026	0,0002	0,0000	5,62
12		Feb-20	-0,0062	-0,0042	0,0002	0,0001	3,00
13		Mar-20	0,0033	-0,0071	0,0014	0,0013	1,03

PRE-COVID19

NO	PERIOD	R_P	R_M	VAR	COVAR	BETA
14	Apr-20	0,0027	0,0020	0,0002	0,0002	1,28
15	May-20	0,0027	0,0005	0,0001	0,0001	2,32
16	Jun-20	0,0022	0,0016	0,0002	0,0001	1,88
17	Jul-20	0,0092	0,0022	0,0006	0,0000	24,78
18	Aug-20	0,0031	0,0010	0,0004	0,0001	3,12
19	Sep-20	-0,0006	-0,0032	0,0005	0,0003	1,78
20	Oct-20	0,0033	0,0027	0,0001	0,0001	2,05
21	Nov-20	0,0020	0,0044	0,0001	0,0001	0,83
22	Dec-20	0,0062	0,0034	0,0006	0,0002	3,50
23	Jan-21	-0,0028	-0,0009	0,0009	0,0003	3,62
24	Feb-21	0,0026	0,0033	0,0001	0,0001	2,43

Overall, Portfolio Beta for Pre-COVID19 is lower when compared to During COVID19. This may indicate that the systematic risk of the portfolio has increased in During COVID19.

f. Sharpe, Treynor, and Jensen Ratio Calculation

After we managed to get the results of stock portfolio return, risk-free rate assumption, stock portfolio standard deviation, and stock portfolio beta, now we can calculte the Sharpe, Treynor, and Jensen Ratio from the stock portfolio as follows:

Table 8
Sharpe, Treynor, dan Jensen Ratio from the Health Sector Companies for Pre-COVID19 and During COVID19

NO		PERIOD	SHARPE (S_P)	TREYNOR (T_P)	JENSEN (J_P)
1	PRE-COVID19	Mar-19	-8,05	-0,04	0,01
2		Apr-19	-8,12	0,00	-0,57
3		May-19	-5,82	-0,03	0,03
4		Jun-19	-4,76	-0,01	0,20
5		Jul-19	-6,46	0,00	0,82
6		Aug-19	-5,59	-0,03	0,02
7		Sep-19	-6,19	-0,02	0,04
8		Oct-19	-7,01	-0,01	0,11
9		Nov-19	-3,53	-0,01	0,08
10		Dec-19	-1,75	0,00	0,42
11		Jan-20	-3,40	-0,01	0,19
12		Feb-20	-2,94	-0,01	0,08
13	DURING COVID19	Mar-20	-0,88	-0,03	0,06
14		Apr-20	-2,42	-0,03	0,05
15		May-20	-2,21	-0,01	0,06
16		Jun-20	-2,41	-0,02	0,06
17		Jul-20	-0,83	0,00	0,69
18		Aug-20	-0,95	-0,01	0,07

NO	PERIOD	SHARPE (S_P)	TREYNOR (T_P)	JENSEN (J_P)
19	Sep-20	-1,25	-0,02	0,06
20	Oct-20	-1,71	-0,01	0,04
21	Nov-20	-3,01	-0,03	0,02
22	Dec-20	-0,64	0,00	0,07
23	Jan-21	-0,85	-0,01	0,09
24	Feb-21	-1,82	-0,01	0,05

Sharpe Ratio for Pre-COVID19 and During COVID19 on average has increased significantly, indicating that the risk-adjusted return from the health sector companies stock portfolio has increased during COVID19 despite the negative figures due to the greater risk-free rate when compared to the return of the stock portfolio.

Treynor Ratio for Pre-COVID19 and During COVID19 on average didn't increase or decrease significantly, indicating that the systemic risk-adjusted return from the health sector companies stock portfolio is relatively stable despite COVID19 pandemic. With negative Treynor Ratio results, because of greater risk-free rate when compared to the resulting portfolio return.

Jensen Ratio for Pre-COVID19 and During COVID19 on average didn't increase or decrease significantly, indicating that the excess return to market obtained from the health sector companies stock portfolio is relatively stable despite COVID19 pandemic. With positive Jensen Ratio results, because of higher stock portfolio return for During COVID19.

g. Statistical Test Results

From the results of the ratios calculation that has been done, we can then process the statistical test of simple statistical comparison test by using T-Test to find out if the ratios data from Pre-COVID19 and During COVID19 have significant differences or not.

The T-Test is conducted by using T-Test calculation formula in Microsoft Excel with the confidence level of 95% (two-tailed). The T-Test results for the ratios data are as follows:

Tabel 9
T-Test Results of Sharpe, Treynor, dan Jensen Ratio for Pre-COVID19 and During COVID19

Ratio	P-Value	Description
S_P	0,000038	P-Value is lower than 0.05, it means that this is statistically different (not same). There are significant differences in Sharpe Ratio for Pre-COVID19 and During COVID19
T_P	0,910410	P-Value is higher than 0.05, it means that this is statistically not different (same). There are no significant differences in Treynor Ratio for Pre-COVID19 and During COVID19

Ratio	P-Value	Description
J_P	0,911554	P-Value is higher than 0.05, it means that this is statistically not different (same). There are no significant differences in Jensen Ratio for Pre-COVID19 and During COVID19

Based on the T-Test results, it can be derived that there is a significant difference between Sharpe Ratio from the stock portfolio of Health Sector Companies of Pre-COVID19 and During COVID19, judging by the P-Value figure produced is 0,000038 which is below 0,05. The main factor that caused significant difference from Sharpe Ratio is the increasing standard deviation from the return of the stock portfolio generated for During COVID19. This indicates that there is a great degree of uncertainty at During COVID19 on the stock portfolio of Health Sector Companies, which is also indicated there is greater risk.

As for the Treynor Ratio and Jensen Ratio of the Health Sector Companies stock portfolio there is no significant difference between Pre-COVID19 and During COVID19, judging by the P-Value figure produced is 0,910410 for Treynor Ratio and 0,911554 for Jensen Ratio which is above 0,05.

Conclusion

The COVID19 pandemic that hit Indonesia and around the world has different impacts on every aspect. One of them is the aspect of the economy that makes economic activities become restrained due to reduced business activities. The Health Sector Companies which is considered as one of the vanguards in handling this pandemic is also affected by this pandemic, both financial performance and service quality performance.

The average closing price of the stocks of the Health Sector Companies that were the object of this research for During COVID19 is decreased when compared to Pre-COVID19. This condition makes investment activities, especially in the Health Sector, less attractive for investors.

Based on the results of this study, it can be derived that the Sharpe Ratio of the Health Sector Companies stock portfolio tends to be increasing at During COVID19 when compared to Pre-COVID19. This indicates that the risk-adjusted return from the Health Sector Company's stock portfolio increased during the COVID19 pandemic.

While the Treynor Ratio and Jensen Ratio of the Health Sector Companies stock portfolio show quite stable moves in a certain range at During COVID19, this indicates that the systematic risk-adjusted return and excess return to market obtained from the Health Sector Companies stock portfolio is relatively stable at During COVID19.

This is also followed by the T-Test results for Sharpe, Treynor, and Jensen Ratio data for Pre-COVID19 and During COVID19 which resulted in P-Value of 0,000038 for Sharpe Ratio, 0,910410 for Treynor Ratio, and 0,911554 for Jensen Ratio. Based on these figures, the T-Test results from Sharpe Ratio indicate a significant difference between Pre-COVID19 and During COVID19. As for the T-Test results of Treynor

Ratio and Jensen Ratio indicates there is no significant difference between Pre-COVID19 and During COVID19. Therefore, the return from investment in the Health Sector Companies stock portfolio tends to not increase significantly During COVID19, but the risk from investment in the Health Sector Companies stock portofolio tends to have higher risks due to higher volatility in stock price.

In this study, we only conducted tests on the stock portfolio of Health Sector Companies on the Indonesia Stock Exchange, assuming the weight of shares in the portfolio used equally / balanced then obtained the Sharpe, Treynor, and Jensen Ratio which is then conducted statistical testing with the method of T-Test to find out if there are significant differences.

However, this research can be further developed by deepening the method of stock portfolio formation used, so that not only using equal weighting assumptions, but it can be developed with optimal portfolio formation methods such as the Markowitz Model (Single Index Model), Black Scholes Model, and other methods to know the exact composition of stocks in the portfolio to produce the most optimum performance ratio.

Another development for this research is to deepen the Sub-Sectors in the Health Sector, such as Pharmaceuticals, Hospitals, and/or other Health Facilities. This will certainly produce more accurate results on the sub-sectors business that affected by the COVID19 pandemic, so that the cause of the declining can be found.

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