



## **The Analysis of Abnormal Stock Returns in LQ-45 Index During Covid-19 Pandemic**

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**Abstract.** This research aimed: (1) to identify the average distinction of abnormal stock-return in LQ-45 during Covid-19 Pandemic around January-May 2020 in Indonesia, and (2) to identify the highest average abnormal stock-return during Covid-19 Pandemic around January-May 2020. The research sample used LQ-45 Share through purposive sampling method. Abnormal return denotes to the indicator used to measure the market reaction due to the particular event. Kolmogorov Smirnov and Kruskal Wallis test are used to assess the normality data and examine whether there was average distinction of abnormal stock-return in LQ-45 during Covid-19 Pandemic around January-May 2020 in Indonesia. The research finding represents that there is an average distinction of abnormal stock-return in LQ-45 during Covid-19 Pandemic in Indonesia. The most significant distinction shown on March 2020 which the average abnormal return value is 71.93, decreasing from February 2020 in average value of 102.43. Based on the data analysis, it is identified 17 companies with positive abnormal return whose highest average abnormal return during the pandemic around January-May 2020 is Barito Pacific Tbk (BRPT) company in value of 0.11399140.

**Keywords:** *Stock, Abnormal Return, Index LQ-45, Covid-19 Pandemic*

### **1. Introduction**

The capital market based on place of meeting between demand and supply of financial instruments for the long term, generally more than 1 (one) year [1]. There are many factors influenced capital market conditions, namely (1) availability of securities, (2) demand for securities, (3) legal and regulatory issues, (4) the existence of institutions that regulate and supervise capital market activities and various institutions that allow transactions to be carried out, efficiently, (5) the political and economic conditions of a country [2]. The Covid-19 pandemic has an impact on global economic stability. Many companies do financial analysis early to avoid bankruptcy [3]. If there are several problems in investing stocks, it is necessary to have a budget that will provide flexibility for companies to manage finances and allow companies to collaborate [4].

In addition, this pandemic situation will certainly have an impact on investors, particularly stock investors. Not only are a few stock investors considering cut loss in order to save their stock investment portfolios that are being hit by fire. With the Covid-19 Pandemic spreading around the world, the extreme declining of world commodity prices is the main reason for the investors released several stock portfolios in Indonesia. In fact, the rapid spread of the virus has a profound impact, except the global



economy which continues to show volatility, even tending to decline. The uncertainty over the time period for this pandemic to rest also caused capital market movements in almost all countries to experience deep correction [5], [6]. Based on data obtained from bloomberg.com on May 29, 2020, stock indexes around the world that experienced a decline include the NYSE Composite Index (America) which fell -4.69%, FTSE 100 (UK) -13.45%, Hang Seng (Hong Kong) -15.67%, Shanghai Se Composite (China) -2.44%, All Ordinaries Index (Australia) -9.7% to IHSG (Indonesia) -24.34%.

The movement of Stock Composite Index (IHSG) is an important guide for analyzing the overall performance of stocks of the companies traded on the Indonesia Stock Exchange (IDX). The IHSG illustrates Indonesia's economic conditions as macro level. The significance decline in the IHSG occurred in January to May as a result of economic conditions that were responded negatively by capital market players as a result of the spread of the Covid-19 pandemic virus. Early January 2020 the IHSG closed at 6,283.58, and then at the end of January 2020 the IHSG fell by 343.53 points (-5.5%). The following month, namely the end of February 2020, the IHSG was corrected again by 487.85 points (-8.9%), the peak at the end of March 2020, the IHSG was corrected by 913.77 (-16.8%) from the closing price of the end of February. At the end of April 2020, the IHSG increased slightly in 5.62 points (1.2%), and at the end of May the IHSG also increased in 37.21 points (0.8%). The significance drop in the IHSG also resulted in the LQ-45 Index for being eroded. LQ-45 stocks are the 45 most active stocks traded which have a high level of liquidity and the highest market capitalization [7].

This current phenomenon and information greatly affect the level of sensitivity of the capital market to stock prices that have an impact on stock returns which will be obtained [8]. Some information published in the capital market affects abnormal returns, including the reaction of the capital market to rising fuel prices. The results of the research shows that there is a significant difference between abnormal returns on events before and after the fuel price hike [9]. Based on these gaps and conditions, researchers are interested in conducting research related to abnormal stock-returns during the Covid-19 pandemic on LQ-45 index which aimed to know the impact of Covid-19 pandemic event on stock prices.

## 2. Research Method

### 2.1 Type of Data

The quantitative data used in this research are monthly closing stock price data, dividends during January-May 2020.

### 2.2 Data Resources

Secondary data was used in this study. The secondary data was obtained in a ready-made form, which has been collected, processed and published by other parties.

### 2.3 Method of Data Collection

The documentation method was used in this research, namely the methodology of collecting data or documentation.

### 2.4 Population and Sample

The population of this study were stocks that included in the LQ-45 index for the period January - May 2020. The sampling technique used in this study was taken by purposive sampling method.

### 2.5 Data Analysis Technique

The methodology of data analysis usually used in event studies are as follows [10]:

- Collected the sample
- Determined the research time
- Recorded the monthly stock price that are included in the LQ-45 index category at the time of the event period
- Recorded the closure of the Composite Stock Price Index during the event period.

- Calculated the actual return

The formula to calculate the actual return is as follows [7]:

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1} + D_t}{P_{i,t-1}}$$

- Calculated the market return

The market return which is represented by the Composite Stock Price Index (IHSG) can be calculated by using the formula as follows [7]:

$$R_{mt} = \frac{IHSG_t - IHSG_{t-1}}{IHSG_{t-1}}$$

- Determined the expected return

The expected return of this research was determined using market adjusted model. The formula can be seen as follows:

$$E [R_{i,t}] = R_{mt}$$

- Calculated the abnormal return

The formula that used to calculate abnormal return of stock price is as follows:

$$RTNi,t = R_{i,t} - E [R_{i,t}]$$

- Tested the hypothesis

Kruskal Wallis test was used to test the hypothesis. If the p value  $\geq \alpha$  (0.05), it means there is no difference. Meanwhile, if the p (value)  $\leq \alpha$  (0.05), it means that there are differences.

- Determined the ranking of the average Abnormal Return

### 3. Finding and Discussion

#### 3.1 Determining the abnormal return stock of LQ-45 Index Category

The Covid-19 pandemic in early 2020 caused the stock market to decline rapidly. The decline of the stock market that occurred was due to the many restrictions in various sectors, such as the restriction of flights by many countries, made the ISHG slumped [10]. The calculation of abnormal stock-return was done on 42 companies around January-March 2020. During the pandemic Covid-19 on January-March 2020, there were 17 companies with positive abnormal stock-return that showed getting more profit between actual return and expected return. Meanwhile, 25 companies got negative abnormal return during the pandemic Covid-19 or their profits were lower than actual return and expected return. The ranking of the average abnormal stocks-return that involved on LQ-45 can be seen in table 1:

**Table 1.** The Ranking of the Average Abnormal Stocks Return of LQ-45

No	Nama Perusahaan	Bulan					Rata-Rata AR
		Januari	Februari	Maret	April	Mei	
1	Barito Pacific Tbk	-0.05454	-0.16317	-0.09638	0.9609	-0.07685	0.113991402
2	HM Sampoerna Tbk	0.049879	-0.09188	0.01169	0.087204	0.214671	0.054313185
3	Gudang Garam Tbk	0.100126	-0.00357	-0.02654	0.06309	0.06827	0.04027629
4	Unilever Indonesia Tbk	-0.0155	-0.05947	0.229853	0.102279	-0.07133	0.037165811
5	Charoen Pokphand Indonesia Tbk	0.066078	-0.06081	0.034248	-0.10793	0.247546	0.035826581
6	Kalbe Farma Tbk	-0.05885	-0.06364	0.373866	-0.05837	-0.02409	0.0337814
7	XL Axiata Tbk	-0.04138	-0.02428	-0.05957	0.231733	0.012452	0.023790128
8	Semen Indonesia (Persero) Tbk	0.03418	-0.04139	-0.10449	0.003523	0.224815	0.023327176
9	Bank BTPN Syariah Tbk	0.11567	-0.0645	-0.2649	-0.0092	0.30889	0.017192082
10	Jasa Marga (Persero) Tbk	-0.05644	0.099435	-0.28968	0.201057	0.119095	0.014692901

11	Erajaya Swasembada Tbk Telekomunikasi	-0.07648	0.100912	-0.25526	0.308493	-0.01186	0.013162774
12	Indonesia (Persero) Tbk	0.026539	0.000465	0.073026	0.068495	-0.10789	0.012126957
13	Vale Indonesia Tbk	-0.0724	-0.14264	0.049214	0.150715	0.073823	0.011742365
14	Bank Central Asia Tbk	0.088249	0.023387	0.047166	-0.10198	-0.00255	0.010853311
15	Surya Citra Media Tbk	0.094383	-0.14018	-0.14045	0.096384	0.128474	0.007721685
16	Indah Kiat Pulp & Paper Tbk	-0.06008	-0.08462	-0.11953	0.34494	-0.06194	0.003752327
17	Adaro Energy Tbk	-0.12593	0.024901	0.024725	-0.10981	0.187763	0.000330152
18	Indo Tambangraya Megah Tbk	-0.05987	0.206422	-0.1156	-0.15021	0.117111	-0.000429725
19	Astra International Tbk	-0.02169	-0.04788	-0.12654	-0.05192	0.231072	-0.003390871
20	Tambang Batubara Bukit Asam (Persero) Tbk	-0.10502	0.095618	0.140796	-0.17901	0.029444	-0.003634826
21	Indofood Sukses Makmur Tbk	0.074851	-0.01466	0.162716	-0.07333	-0.18257	-0.006599163
22	United Tractors Tbk	-0.05231	-0.05337	0.185654	-0.0746	-0.0447	-0.007865247
23	Pakuwon Jati Tbk	-0.03305	0.101275	-0.25129	0.188173	-0.05022	-0.009020821
24	Indofood Sukses Makmur Tbk.	0.035863	-0.08729	0.144505	-0.01154	-0.12666	-0.0090244
25	Ciputra Development Tbk	-0.07216	0.13791	-0.36258	0.188377	0.047157	-0.012258213
26	Bank Rakyat Indonesia (Persero) Tbk	0.096399	-4.9E-05	-0.10831	-0.12386	0.069935	-0.013177373
27	Aneka Tambang Tbk	-0.08323	-0.11356	-0.04256	0.103492	0.0493	-0.017310761
28	Wijaya Karya (Persero) Tbk	-0.00968	0.074107	-0.38708	0.098624	0.134216	-0.017964427
29	Indocement Tunggul Prakarsa Tbk	-0.05599	-0.01204	0	-0.10147	0.030737	-0.027752999
30	AKR Corporindo Tbk	-0.09661	-0.11735	-0.08714	0.17609	-0.02872	-0.03074612
31	Bank Mandiri (Persero) Tbk	0.032669	0.049524	-0.18507	-0.07981	0.000962	-0.036344312
32	Japfa Comfeed Indonesia Tbk	0.03187	0.015377	-0.15385	-0.01278	-0.08481	-0.040839233
33	PP (Persero) Tbk	-0.08819	-0.04477	-0.37599	0.179082	0.0742	-0.051131634
34	Sri Rejeki Isman Tbk	-0.09262	-0.00887	-0.10742	0.071245	-0.1259	-0.052711169
35	Bank Negara Indonesia (Persero) Tbk	-0.01707	0.060125	-0.2862	0.038697	-0.06955	-0.05480015
36	Media Nusantara Citra Tbk	0.033133	-0.10978	-0.12814	-0.02805	-0.07893	-0.062352614
37	Bumi Serpong Damai Tbk	-0.06738	-0.0211	-0.16242	0.013139	-0.10718	-0.068986114
38	Waskita Karya (Persero) Tbk	-0.12805	-0.12527	-0.33601	0.2109	0.000375	-0.075611789
39	Matahari Department Store Tbk	-0.23174	0.150071	-0.40726	-0.12524	0.180635	-0.086706278
40	Perusahaan Gas Negara (Persero) Tbk	-0.14698	-0.16519	-0.22424	0.068594	0.002009	-0.093162566
41	Pabrik Kertas Tjiwi Kimia Tbk	-0.0421	-0.25862	-0.16742	0.214033	-0.21389	-0.093598608

42	Bank Indonesia Tbk	Tabungan (Persero)	-0.06732	-0.00878	-0.3382	0.008715	-0.14407	-0.109929743
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Based on the analysis data in the table 1, it indicated that the highest average of abnormal return on January 2020 is attained by Bank BTPN Syariah Tbk (BTPS) Company with the value of 0.11567. On February 2020, the highest abnormal return was 0.206422 from Indo Tambangraya Megah Tbk (ITMG) Company. Then, the highest abnormal return on March 2020 was achieved by Kalbe Farma Tbk (KLBF) of 0.373866. On April 2020, the highest abnormal return was Barito Pacific Tbk (BRPT) in the value of 0.9609. The last, the highest abnormal return on May 2020 was Bank BTPN Syariah Tbk (BTPS) with the value of 0.30889. Therefore, it could be concluded that the highest average abnormal stock-return during pandemic Covid-19 from January- March 2020 was attained by Barito Pacific Tbk (BRPT) Company in the value of 0.113991402.

### 3.2 The Result Analysis of Distinction Testing

The study of distinction test was firstly investigated with normality test using Kolmogorov Smirnov test. The result of normality test shows that the data were distributed abnormally. Therefore, it needed an alternative test of distinction testing using Kruskal Wallis test. The data of abnormal return analyzed in this study that was the data from interval type data/ratio. The Kruskal Wallis test of the abnormal stocks return of LQ-45 showed the results in table 2 below:

**Table 2.** The Result Analysis Stock of LQ-45

	Bulan	N	Mean Rank
Abnormal Return	Januari	42	100.86
	Februari	42	102.43
	Maret	42	71.93
	April	42	131.12
	Mei	42	121.17
	Total	210	
P value		0.0001	

Based on the table 2, it showed that there are distinction average of abnormal return stocks in the LQ-45 during the pandemic Covid-19 in Indonesia. The highest average of abnormal return at the 42 companies is 131.12, on April 2020. Meanwhile, the most significant distinction could be seen on March 2020, in which the average abnormal return of LQ-45 during pandemic Covid-19 with the lowest average of 71.93. It has been decreased from February 2020 with the average about 102.43. The result of Kruskal Wallis test showed that the p value = 0.0001 < 0.05 which means H0 was rejected. It could be concluded that there is the distinction average of abnormal return of LQ-45 stocks during the pandemic Covid-19 in Indonesia.

### 4. Conclusions

Based on the analysis result and discussion, it could be concluded that there is average distinction of abnormal return stocks that are involved in LQ-45 during the pandemic Covid-19 in Indonesia. The significant distinction of the average abnormal return stock in LQ-45 could be seen on March 2020 which has the lowest average was about 71.93. It decreased from February 2020 with the average was 102.43. Based on the analysis data, it showed that 17 companies had positive abnormal return in which the highest average abnormal return stocks during the pandemic situation around January – Mei 2020 is attained by Barito Pacific Tbk (BPRT) with the average value of 0.113991402. In the second position, there is HM Sampoerna Tbk (HSMP) company with the value 0.054313185. The third is Gudang Garam Tbk (GGRM) in value of 0.004027629 and the lowest average abnormal return is achieved by Bank



Tabungan Indonesia (Persero) Tbk (BBTN) with the value -0.109929743. The reason why investors invested their fund in BPRT stock that is because Covid-19 pandemic has been made the slump of world economic. It also made the decreasing of world oil prices. The decrease of world oil prices gives the profit to the issuers who are engaged in the petrochemical sector because they can decrease the production cost.

## 5. Acknowledgment

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