COMPARATIVE ANALYSIS OF MINING SHARES ON THE LQ45 INDEX

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Abstract

This study aims to analyze the significance of differences in stocks' performance that are members of the LQ45, especially in the mining sector. Researchers use the method based on their classification in development research. From the level of sluggishness, this study includes experiments with quantitative data in the form of company performance ratios summarized by researchers from the official IDX website, including Return on Equity (ROE), non-asset returns (ROA), Gross Profit Margin (GPM), Operating Profit Margin (OPM), Nett Profit Margin (NPM), and Earning Before Tax (EBT). The researcher conducted a normality test on the data for four years and then performed a parametric difference test with the SPSS test tool and the One Way Anova analysis technique. This study indicates the research data is usually distributed with the average yield of superior stocks is PT. Bukit Asam, each variable calculation has an average height value with a standard deviation lower. The tests' results depending on entire ratio calculations, showed a difference significant between the stock to stock other. This shows the significance of the difference between one stock and another. One stock's advantage is proven to provide significant portfolio value for investors and other stakeholders.

Keywords: Analysis of Varians, Stock, Standard Deviation

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PRELIMINARY

Share ownership is an essential part of portfolio development. Investors aim to get stock returns. Therefore they must pay attention to the ups and downs of financial performance and macro factors that can affect stock returns (Sutriani, 2014). The development of an investment portfolio requires the right measurement tools to increase its portfolio. There is two methods of stock valuation, namely fundamental and technical analysis. The issue of Tesla (an electric car manufacturer) that has entered into a non-disclosure agreement (NDA) or a confidentiality agreement plans to build a factory in Indonesia has resulted in a surge in share prices in the mining sector.

Shares of stock nickel batteries that are components of electric cars increased in 6 issuers nickel. Among them were PT Aneka Tambang Tbk (ANTM), which shot 5.15% to Rp's level. 2,450 / unit, while the second position was fill by PT Pelat Timah Nusantara Tbk (NIKL), which jumped 4.37% to the level of Rp. 1,315 / unit. Another MIND ID subsidiary, PT Timah Tbk (TINS), also shot 3.71% to Rp.1,955 / unit, while PT Vale Indonesia Tbk (INCO) rose 1.28% to the level of Rp. 5,925 / unit. PT Trinitian Metals and Minerals Tbk (PURE) and PT Central Omega Resources Tbk (DKFT) also managed to appreciate 3.55% and 3.25%, respectively.

Especially at PT. With the issuer code INCO, which is included in LQ 45 shares, Vale Indonesia continues to receive the spotlight regarding the non-disclosure agreement (NDA) or a confidentiality agreement plans to build a factory in Indonesia has resulted in a surge in share prices in the mining sector.

However, does this certainly promise that the two companies' shares are profitable and increase their portfolios?

Keep in-depth analysis and forecasting with specific stock market trends shares that are promising. In order for investors to get a comprehensive assessment, the researcher tries to review the results of the analysis of the differences in stock shares that are members of LQ 45, especially in the mining sector. Researchers formulate several calculation variables for use in this study. Among them are Return on Assets. Return on assets considers investors because it is the ratio of the company's profitability that is rated. In the analysis of parts that do Sutriani (2014), Return on Asset gives effect 5% of the return stock. In addition to a return on assets, researchers also will discuss the risks in each
respective ratio of profitability. The risk of becoming a part that is not separate from their return (Rosyida & Mawardi, 2015).

However, risks can be calculated and can be reduced. Measuring risk on return provides various points of view. Researchers use traditional devotion to measuring risk. In various studies, the standard deviation is also used as a consideration for calculating stock performance; in Amelia & Sunarsi’s research (2020), Standard deviation is used in consideration of ROA, ROE, and Debt Equity Ratio. Then in other studies, the standard deviation is used to consider ROE, Dividend Payout Ratio, Price to Earnings Ratio (Carlo, 2014). To profit from this investment, some risks must be measured. According to puspitaningtyas (in Polakit, 2015), investors are assumed to be risk-averse individuals who always consider the trade-off between expected return and risk in their investment decisions. In the case of stocks that are members of the LQ 45 index, increasing prices continue from 2020 to 2021 January.

In the table, researcher summarizes LQ 45 stock position at the beginning of 2020 for 1021.49, the issue of a pandemic lowered the LQ 45 stock index for 624.76 in March 2020. However, it continued to increase in December 2020 at the level of 934.89 and continued to increase until January continues. Stable increase at 953.58. We can also see that the forecasting line will continue to increase in the table. The shares that are members of the LQ 45 index have superior company performance capabilities. However, if all these companies excel or no significant difference in their respective companies therein? Particularly in the mining sector, the LQ 45 stock index with six issuers, including Adaro, Antam, Vale Indonesia, Indotambang Magnificent, Indika Energi, and Bukit Asam.

This study aims to determine whether there is a significant difference between the stock shares incorporated in the LG45 and the mining sector. It is expected to not give insight to the stakeholders including, research institute, investors, issuers, regulators in determining stock portfolio and improve the results of the research of stock updates.
METHOD

Researchers use the method based on their classification in development research. From the level of sluggishness, this study includes experiments with quantitative data in the form of company performance ratios summarized by researchers from the official IDX website including Return non-equity (ROE), non-asset returns (ROA), Gross Profit Margin (GPM), Operating Profit Margin (OPM), and Nett Profit Margin (NPM). The researcher conducted a normality test on the data over four years and then performed a parametric difference test with the SPSS test tool and the One Way ANOVA analysis technique. Analysis variants to determine whether there is a difference between the value of each share (Robbani, 2019).

RESULT AND DISCUSSION

Result

The results of data collection and data tabulation researchers get four years of complete, valid data on five companies with the mining sector. From these data, the researchers tabulated as follows.

| Rasio  | Year | ADARO | ANTAM | VALE Indonesia | Indo Tambang Raya | Indika Energy | Bukit Asam |
|--------|------|-------|-------|----------------|------------------|---------------|------------|
| ROE    | 2015 | 4.50  | -7.87 | 2.75           | 7.56             | -9.24         | 21.93      |
|        | 2016 | 9.00  | 0.35  | 0.10           | 14.40            | -14.06        | 19.18      |
|        | 2017 | 13.11 | 0.74  | -0.84          | 26.37            | 28.85         | 32.95      |
|        | 2018 | 11.10 | 4.43  | 3.21           | 26.68            | 8.68          | 31.48      |
| ROA    | 2015 | 2.53  | -4.75 | 2.21           | 5.36             | -3.57         | 12.06      |
|        | 2016 | 5.22  | 0.22  | 0.09           | 10.80            | -5.72         | 10.90      |
|        | 2017 | 7.87  | 0.45  | -0.70          | 18.60            | 8.85          | 20.68      |
|        | 2018 | 6.76  | 2.63  | 2.75           | 17.94            | 2.67          | 21.19      |
| GPM    | 2015 | 20.24 | 1.85  | 14.99          | 22.04            | 8.05          | 30.14      |
|        | 2016 | 27.15 | 9.35  | 5.84           | 24.18            | 11.44         | 31.31      |
|        | 2017 | 35.03 | 12.99 | 1.04           | 29.92            | 11.19         | 43.69      |
|        | 2018 | 33.43 | 13.77 | 13.39          | 29.09            | 21.64         | 40.37      |
| OPM    | 2015 | 12.36 | -6.66 | 10.10          | 0                | 0             | 17.58      |
|        | 2016 | 23.28 | 0.09  | 2.45           | 0                | 0             | 18.00      |
|        | 2017 | 29.21 | 4.75  | -2.42          | 0                | 0             | 30.29      |
|        | 2018 | 24.64 | 7.34  | 10.92          | 0                | 0             | 29.68      |
| NPM    | 2015 | 5.63  | -13.68 | 6.39       | 3.97            | -7.00         | 14.83      |
|        | 2016 | 13.50 | 0.71  | 0.33           | 9.56             | -13.45        | 14.40      |
|        | 2017 | 16.46 | 1.08  | -2.43          | 14.96            | 29.27         | 23.35      |
|        | 2018 | 13.19 | 3.46  | 7.79           | 12.89            | 3.30          | 24.19      |

The table above shows the Data Return non-Equity (ROE), Return of non Assets (ROA), Gross Profit Margin (GPM), Operating Profit Margin (OPM), and Nett Profit Margin (NPM). In Suharli’s (2010) research, Return on Equity has a significant effect on the number of cash dividends. In return on Equity ratio, a significant increase occurred at PT. Indotambangraya and a significant decline occurred...
at ANTAM. Each company has a standard deviation value of which ADARO (3.6), ANTAM (5.1), Vale (1.3), Indotambang (9.4), Indika (19.5), Bukit Asam (6.8). Standard deviation is a reflection of risk. The higher the Return on Equity in the company, the higher the risk. In this case, INDIKA has the highest standard deviation, which means it has the highest Risk for Return on Equity. This can be seen in the table of SPSS processing results as follows.

![Return on Equity](source: Researcher (2020))  
**Figure 2. Deviation Standard**

Return onset remains owned by the Bukitasam with a value of 10.90 with the lowest value owned by Indika with a value of -5.72, as explained in the following diagram.

![Return on Asset Descriptive](source: Researcher (2020))  
**Figure 3. Return on Asset**
The data Return on Assets of each respective company's highest demonstrated owned by PT in the table. Bukit Asam with a mean of 16.20 and then followed Indotambang with a value of 12.17. The value of the mean smallest owned by Antam with a mean of 0.36 but has a standard deviation lower than 5.44 of a standard deviation Vale amounting to 6.54.

Furthermore, Gross Profit margin, each company has diverse fluctuations but with a standard deviation that tends to differ slightly, as illustrated in the graph below.

**Figure 4. Gross Profit Margin**

Gross Profit Margin is a profitability ratio that shows the percentage of excess gross profit on sales revenue. This ratio is used to measure how efficiently the company uses input factors to generate profits. The researcher summarizes the average net profit margin for four years in the table above. Viewed the point of view of 4-year averages, Bukit Asam has the highest average of 36.37 with a standard deviation of 6.68. This makes Bukit Asam superior because it has high profitability with reasonably low risk than Adaro, which only has an average Gross Profit Margin of 28.96 with a standard deviation of 6.73. Investors are increasing their investment portfolios with the more promising Bukit Asam share ownership.

In addition to Gross Profit Margin, Investors can also consider the valuation of a share on Operating Profit Margin. Operating profit margin is the ratio of profitability that shows how much profit generated one rupiah sale, after paying the cost of operations (before interest or taxes). The ratio is used to measure the company's ability to generate profit from the net company's sale.
Researchers found from the report on LQ 45 Indotambang, and Indika stocks do not have a value on Operating Profit Margin, which means that they have not had a profit margin for four years. Bukit acid has a value of average Operating Profit Margin of the highest of 23.88 to the lowest risk, which is described by the value of the standard deviation is small at 3.52 compared with Adaro, which has an average of 22, 37 and a standard deviation of 3.57. Explanation The following can be considered investor to choose hills acid as a portfolio of stocks due to generating a net profit margin to average highs for four years.

In addition to operating profit margin, investors can also consider choosing their investment portfolio with Net Profit Margin. Net Profit Margin is used to measure the percentage of net income in a company compared to its net sales. That measurement used to measure the management company’s efficiency and forecasting profits in the future.
The table above the PT Bukit Asam remains superior to the value of the average net profit margin of 19.19 and a plus standard deviation that is small compared to Antam, Adaro and Indika with each respective value of 7.81, 4.61, and 18.80. Average net profit margin k sequence to two followed by Adaro with average price 12.19. It is shown that Bukitasam still a portfolio of stocks with superior profitability. However, if among a portfolio of stocks that there is a difference significant. Because with a significant difference, it shows the meaning of a portfolio's value with one another. Which means excellence performance of the stock of specific different to stock other even though incorporated in the index are the same, namely the index stock LQ 45.

**Discussion**

To prove the case, researchers will conduct a series of analysis techniques to do a test for normality of data, then do a test different from the One-way ANOVA in SPSS and Interpret the value of ANOVA. In the normality test, investigators have been getting the test results were typical with the details as follows.

**Table 2. Normality Tests Result**

| Parameter | Statistic | Shapiro-Wilk df | Sig. |
|-----------|-----------|-----------------|------|
| ROE       |           |                 |      |
| 1.00      | .962      | 4               | .792 |
| 2.00      | .897      | 4               | .419 |
| 3.00      | .883      | 4               | .353 |
| 4.00      | .864      | 4               | .274 |
| 5.00      | .925      | 4               | .564 |
| 6.00      | .867      | 4               | .288 |
|           |           |                 |      |
| ROA       |           |                 |      |
| 1.00      | .959      | 4               | .775 |
| 2.00      | .894      | 4               | .403 |
| 3.00      | .903      | 4               | .447 |
| 4.00      | .890      | 4               | .385 |
| 5.00      | .942      | 4               | .666 |
| 6.00      | .802      | 4               | .106 |
Based on the table above, because the sample study less than 50 samples, the test of normality that is used is to test the normality of Shapiro -Wilk with a decision -making when the value of Sig> 0.05 then the normal and the result of calculation of SPSS above shows the data distributed normally. The researcher will then present the different test calculations results in the following table.

**Table 4. ANOVA**

|       | Sum of Squares | df | Mean Square | F    | Sig.  |
|-------|----------------|----|-------------|------|-------|
| ROE   | Between Groups | 2297.528 | 5   | 459.506 | 4.925 | .005 |
|       | Within Groups  | 1679.451 | 18  | 93.303  |       |      |
|       | Total          | 3976.978 | 23  |         |       |      |
| ROA   | Between Groups | 1000.245 | 5   | 200.049 | 9.181 | .000 |
|       | Within Groups  | 392.208  | 18  | 21.789  |       |      |
|       | Total          | 1392.454 | 23  |         |       |      |
| GPM   | Between Groups | 2681.006 | 5   | 536.201 | 15.180| .000 |
|       | Within Groups  | 635.826  | 18  | 35.324  |       |      |
|       | Total          | 3316.832 | 23  |         |       |      |
| OPM   | Between Groups | 2537.176 | 5   | 507.435 | 16.994| .000 |
|       | Within Groups  | 537.483  | 18  | 29.860  |       |      |
|       | Total          | 3074.659 | 23  |         |       |      |
| NPM   | Between Groups | 1196.524 | 5   | 239.305 | 2.811 | .048 |
|       | Within Groups  | 1532.142 | 18  | 85.119  |       |      |
|       | Total          | 2728.666 | 23  |         |       |      |

Source: Researcher (2020)

Based on the table above, the researcher decides with a hypothesis that if the Sig value > 0.05, there is no difference. However, if the Sig <0.05, then there is a significant difference. The ratios of profitability ratios show the value of Sig <0.05, which indicates a significant difference between stock to stock another, especially in mining, which is incorporated in the index LQ 45.
CONCLUSION

This research shows a difference between the stock to stock other than profitability. Based on the description of descriptive statistics at the beginning of the discussion, investors can determine the choice of PT Bukitasam is the best portfolio for mining. Besides that, the selection of stocks hills acid showed a significant difference, so investors get a significant difference in the profitability of stock shares other. Furthermore, the researchers expect no improvement of the research is on the determination of the ratio calculation that more complete the period that is more length.

BIBLIOGRAPHY

Amelia, R. W., & Sunarsi, D. (2020). Pengaruh Return on Asset Dan Return on Equity Terhadap Debt To Equity Ratio Pada PT. Kalbe Farma, Tbk. Ad-Deenar: Jurnal Ekonomi Dan Bisnis Islam, 4(01), 105. https://doi.org/10.30868/ad.v4i01.738

Carlo, M. A. (2014). Pengaruh Return on Equity, Dividend Payout Ratio, Dan Price To Earnings Ratio Pada Return Saham. E-Jurnal Akuntansi Universitas Udayana, 7(1), 151–164.

Polakitan, C. D. (2015). Analisis Komparasi Resiko Saham….. (Polakitan) 61. Jurnal Riset Bisnis Dan Manajemen, 3, 61–72.

Robbani, H. (2019). Analysis of Sharia Mutual Fund Efficiency with the Data Envelopment Analysis (DEA) Method. Literatus, 1(1), 25–30. https://doi.org/10.37010/lit.v1i1.6

Rosyida, A. G., & Mawardi, I. (2015). Perbandingan Tingkat Pengembalian (Return), Risiko dan Koefisien Variasi Pada Saham Syariah dan Saham Non Syariah di Bursa Efek Indonesia (BEI) Periode 2011-2013. Jurnal Ekonomi Syariah Teori Dan Terapan, 2(4), 288. https://doi.org/10.20473/vol2iss20154pp288-304

Suharli, M. (2010). Studi Empiris Mengenai Pengaruh Profitabilitas, Leverage, Dan Harga Saham Terhadap Jumlah Dividen Tunai (Studi pada Perusahaan yang Terdaftar di Bursa Efek Jakarta Periode 2002-2003). Jurnal Manajemen, Akuntansi & Sistem Informasi, 6(2), 243–256.

Sutriani, A. (2014). Pengaruh Profitabilitas, Leverage, Dan Likuiditas Terhadap Return Saham Dengan Nilai Tukar Sebagai Variabel Moderasi Pada Saham Lq-45. Journal of Business and Banking, 4(1), 67. https://doi.org/10.14414/jbb.v4i1.294