FINANCIAL HIGHLIGHTS COMPARISON OF THE PHARMACEUTICAL INDUSTRY BEFORE AND DURING THE PANDEMIC PERIOD: 2018-2021 ANALYSIS

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ABSTRACT

Amid the COVID-19 pandemic, the pharma sector became a priority sector for the government's efforts towards achieving the Making Indonesia 4.0 program. This priority was driven by the increased demand for supplements, vitamins, and medications to boost immune systems. In contrast to various sectors that witnessed reduced demand amid the coronavirus disease 2019 pandemic, the pharma sector experienced a notable surge. This situation provides a compelling opportunity to evaluate the financial highlights of these pharma companies. The primary aim of this examination is to ascertain whether there exist any disparities in the financial highlights of pharmaceutical firms between the pre-pandemic era and the pandemic period (spanning from 2018 to 2021). This study involved a sample of 10 pharmaceutical companies, comprising both state-owned entities (BUMN) and private corporations, all of which were indexed on the Indonesia Stock Exchange. The assessment method employed in this research was the non-parametric Mann - Whitney test, selected through the non-normal distribution of available data. The research findings, when considered, indicate that the Current Ratio-CR, Net Profit Margin-NPM, Debt to Asset Ratio-DAR, and Debt to Equity Ratio-DER demonstrated no significant distinctions between the pre-pandemic interval (2018-2019) and the period amid the COVID-19 pandemic (2020-2021).

Keywords: Financial Highlights; COVID-19; Pharmaceutical Industry

ABSTRAK

INTRODUCTION

The external conditions of a company are sometimes highly unpredictable and, not only that, but they are also difficult to manage and supervise. Consequently, the impact of these conditions can result in significant losses for the company. The commencement of the outbreak of COVID-19 in early 2020 signaled the start of difficulties for entrepreneurs in sustaining a stable financial performance. The deteriorating financial conditions in certain industries undoubtedly have a substantial impact on Indonesia's overall economic growth. However, it cannot be denied that the pandemic did not worsen the financial performance of all industries in Indonesia, as certain industries experienced increased demand during the pandemic. Some industries also did not experience significant declines, although they did not see an increase in demand during the pandemic.

The pharmaceutical sector stands as a burgeoning and prospering industry in Indonesia, owing much of its growth to the rising participation of Indonesian citizens in the government's National Health Insurance (JKN - Jaminan Kesehatan Nasional) program, which is overseen by the BPJS (Social Security Administration Agency) Health (Adlia & Wahyuni, 2018). The pharmaceutical industry has also experienced increased demand during the COVID-19 pandemic, particularly for medications, vitamins, and supplements, making it expected to contribute to the current economic growth in Indonesia.

Aside from efficient management, the organization needs to examine their financial status to determine their ability to address financial challenges and make timely, knowledge-able result. Examining a company's financial statements is among the most essential aspects of assessing its growth, and these statements can also serve as a tool for evaluating its historical, current, and future objectives (Yuniawati et al., 2023). The measurement of increasing or decreasing demand for a company can be done through financial performance analysis. Various financial ratios can be used as indicators to compare the financial highlights before and during the pandemic period.
Financial highlight (Fahmi, 2018) serves as an analytical tool to determine how well a company adheres to appropriate and correct financial implementation rules. A company's strong financial performance results from adhering to relevant regulations and effectively implementing them. Measurement of financial performance is usually carried out over a specific period through funding and fund allocation perspectives, using indicators such as profitability, liquidity, and solvency.

Considering the information provided, it becomes compelling to initiate a research project. The research is conducted to analyze the financial highlight of pharma firms listed on the IDX. The comparison will be based on the financial data extracted from two-distinct time frames: the pre-pandemic era spanning from 2018 to 2019 and the pandemic period covering 2020 to 2021. The performance metrics under examination on the research encompass the current ratio, net profit margin, debt to asset ratio, and debt to equity ratio.

The financial highlight serves as a critical benchmark employed by investors for evaluating potential investment opportunities. Similarly, for companies to attract investors easily and quickly, they utilize financial performance as a magnet. (Winarno, 2017) In evaluating financial performance and company performance, financial assessment is carried out using ratios that bridge between two financial data points (Lontoh et al., 2017). It is also revealed that financial performance is a formal effort that can measure a company's success in generating profits, enabling the company to appraise forecast, increase potential, and development possibilities based on its available resources.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

A financial highlight is a pivotal aspect in the management and operation of organizations, spanning across various sectors, including business, government, and non-profit entities. It plays a crucial role not only in reflecting financial stability, but also in directly influencing an organization ability to achieve its strategic objectives. With the ever-evolving complexities of the global economy, a profound understanding of the factors impacting financial performance has become increasingly essential.

In this literature review, we delve into numerous studies and research works related to financial performance. Our primary focus lies in comprehending the determinants of financial performance, the tools and methods employed for its
measurement, and the ramifications it holds for diverse organizational forms. Financial performance encompasses a range of dimensions such as profitability, liquidity, leverage, operational efficiency, and growth, all of which provide critical insights into the financial health and long-term sustainability of an entity.

Throughout the course of this literature review, we explore various concepts, theories, and empirical findings established by prior researchers. We seek to acquire a clearer comprehension of the intricacies and diversity of financial performance within different contexts. Consequently, this literature review aims to provide a solid foundation for a comprehensive understanding of financial performance and its relevance on the contemporary landscape of business and management.

**Liquidity Ratio**

(Hikmah et al., 2023) The liquidity ratio is a measure designed to assess the company's capacity to settle near-term obligations or debts, indicating its ability to fulfill responsibilities due within a specified timeframe. (Kasmir, 2017) States that liquidity is employed as a metric for evaluating financial performance, primarily utilizing ratios like the current ratio. The current ratio, in particular, is employed to gauge a firm's capability to fulfill their imminent near-term financial obligations.

Formula:

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

It is contended that liquidity ratios serve as indicators of a company's proficiency in meeting and discharging its short-term obligations, effectively measuring the company's capacity and intent in evaluating its capability to repay short-term debts (Hery, 2017).

**Profitability Ratio**

Shifting the focus to profitability ratios, these metrics are utilized to appraise an entity's aptitude for generating profits, considering both its assets and equity. Profitability ratios are essential and primary ratios in financial statements because profit-oriented companies aim to generate profits from their operations. Likewise, for investors, profitability ratios are the first consideration in their investment decisions, as higher profits indicate better operational conditions of the company. Profitability ratios can also indicate growth, stagnation, or operational decline of a company (Wahyuni et al., 2019).
Unlike other ratios that require knowledge to interpret, profitability ratios are easier to understand. By examining robust profitability ratios within a company's financial records, individuals lacking specialized knowledge can readily assess the firm's strong financial highlight and growth potential. The profitability ratio offers a metric to assess the efficiency of a bank's management, as reflected by the profits derived from sales and/or investment income (Aji & Asmarawati, 2023).

The net profit margin (NPM) rate is one of the metrics employed to assess profitability. This ratio quantifies the entity's profitability concerning its revenue, encompassing all expenses, including taxes. A heightened NPM ratio serves as an indicator of the company's favorable operational health.

Formula:

\[
Net\ Profit\ Margin = \frac{Net\ Income}{Net\ Sales}
\]

Solvency Ratio

The solvency ratio, conversely, serves to gauge a firm's capability to meet their long-term financial obligations. (Hanafi & Halim, 2014) Posit that the solvency ratio is a tool employed to appraise the firm's capability to fulfill all its requirement, spanning both short-term and long-term commitments, while also evaluating the company's efficiency in utilizing its resources, such as receivables, capital, and asset management.

Several financial ratios can be utilized to assess a company's solvency, including the following:

1. The Debt to Asset Ratio

This ratio serves as a useful metric for companies to evaluate the correlation between overall debt and total assets. It reflects the degree to which a company's assets are supported by debt and the potential influence of debt on asset management. A high debt-to-asset ratio indicates that a substantial portion of the company's assets is funded by debt, leading to an elevated risk in meeting its financial commitments.

Formula:

\[
Debt\ to\ Asset = \frac{Total\ Liabilities}{Total\ Assets}
\]

2. The Debt to Equity Ratio

The debt to equity ratio serves as a solvency metric that enables companies to evaluate their financial standing by comparing their total debt, encompassing current
liabilities, to their equity. A heightened debt to equity ratio signifies a substantial level of financial obligations, including debt that necessitates repayment within specific timeframes.

Formula:

\[
\text{Debt to Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Total Equity}}
\]

(Shintia, 2017) Discussed the various benefits and purposes of solvency ratios for companies. The benefits of solvency or leverage ratios for companies are as follows:

1. It assesses the company's capacity to meet obligations owed to external parties.
2. It evaluates the company's ability to honor fixed commitments, such as loan installment payments, inclusive of interest.
3. It appraises the alignment between particular assets, like fixed assets, and the company's capital.
4. It gauges the amount to which the firm's assets are financed through liability.
5. It evaluates whether the company's debt has an impact on its asset management.
6. It assesses the proportion of each unit of currency representing equity and used as collateral for long-term debt.
7. It measures the size of upcoming loan repayments in relation to the multiplication of equity.

A comparative study of financial ratios was conducted on food and beverage firms registered on the IDX. The objective of this study potential disparities in company operations utilizing the activity ratio benchmark. The analysis employs descriptive statistics and normality tests. The paired sample t-test and Wilcoxon signed-rank test are utilized to assess mean differences. The findings indicate variations in inventory turnover before and during the pandemic. Notably, changes in financial activity are observed in accounts receivable turnover and accounts payable turnover (Limbong & Malau, 2022).

A research study titled "Differences in the Performance of Banking Firms Pre and During the COVID-19 Pandemic" was conducted by (Adelanam Soko & Fitria Harjanti, 2022). This research compared variations in the price-to-earnings ratio (PER) and ROA - return on equity pre and during the COVID-19 pandemic among firms listed on the IDX - Indonesia Stock Exchange during the 2019-2020 period. The research findings revealed disparities in the banking industry registered on the Indonesia Impact
Stock Exchange (BEI) concerning the PER and ROA for the 2019-2020 period, encompassing periods both before and during the COVID-19 pandemic. While the ROA displayed a decline, the market exhibited a resilient response, evident in the increased average PER. This suggests that Indonesian banks were still capable of managing their resources, resulting in a positive market response during the outbreak of COVID-19. Therefore, banks were able to work consistently by following the government's benchmark interest rate policy, which could encourage financial efficiency and stability in the banking market.

A descriptive analysis was carried out, focusing on the financial highlight of several transportation firms both pre and during the coronavirus disease 2019 pandemic (Lumenta et al., 2021). The study, titled "Financial Performance of Transportation," yielded the following outcomes:

1. Assa (PT Adi Sarana Armada Tbk) and Batavia Rent (PT Batavia Prosperindo Trans Tbk) exhibited poor NPM growth, both before and during the pandemic. However, the growth of ROA and ROE was more favorable before the pandemic in comparison to the period during the pandemic.

2. ESL (PT Eka Sari Lorena Transport Tbk) and White Horse Group (PT Weha Transport Indonesia Tbk) displayed superior NPM, ROA, and ROE growth before the pandemic in contrast to the period during the pandemic.

Additionally, PT. Eka Sari Lorena Transport Tbk showed better NPM growth before the pandemic compared to during the pandemic, although the growth of ROA and ROE was not satisfactory in both periods.

(Susdarwono, 2021) It is crucial to have a comprehensive research plan that addresses research questions and anticipates potential challenges throughout the exploratory method. This planning is essential because the investigation framework functions as a strategic approach for acquiring the necessary data for hypothesis testing and answering research inquiries, while also serving as a tool to manage variables that may influence the study's outcomes.

**Hypotheses:**

H₀: There is no statistically significant difference in the current ratio of pharmaceutical industry between the pre-COVID-19 and during the COVID-19 periods.
H1: There is a statistically significant difference in the current ratio of pharmaceutical industry between the pre-COVID-19 and during the COVID-19 periods.

H0: There is no statistically significant difference in the net profit margin of pharmaceutical industry between the pre-COVID-19 and during the COVID-19 periods.

H2: There is a statistically significant difference in the net profit margin of pharmaceutical industry between the pre-COVID-19 and during the COVID-19 periods.

H0: There is no statistically significant difference in the debt to asset ratio of pharmaceutical industry between the pre-COVID-19 and during the COVID-19 periods.

H3: There is a statistically significant difference in the debt to asset ratio of pharmaceutical industry between the pre-COVID-19 and during the COVID-19 periods.

H0: There is no statistically significant difference in the debt to equity ratio of pharmaceutical industry between the pre-COVID-19 and during the COVID-19 periods.

H4: There is a statistically significant difference in the debt to equity ratio of pharmaceutical industry between the pre-COVID-19 and during the COVID-19 periods.

**RESEARCH METHOD**

In this study, the research approach employed is non-parametric analysis, specifically utilizing the Mann-Whitney test, facilitated by JASP 0.16.4 software. (Dehaene et al., 2021). The Mann-Whitney test is employed as an extension of the Wilcoxon-Mann-Whitney test for comparing two groups when the outcome variable remains unobservable.

The research sample utilized comprises ten pharmaceutical companies that are publicly listed on the BEI - Indonesia Stock Exchange, specifically PYFA - PT Pyridam Farma Tbk, MERK - PT Merck Tbk, KLBF - PT Kalbe Farma Tbk, INAF - PT Indofarma Tbk, TPSC - PT Tempo Scan Pacific Tbk, DLVA - PT Darya-Varia Laboratoria Tbk, PEHA - PT Phapros Tbk, SIDO - PT Industri Jamu dan Farmasi Sido...
Muncul Tbk (SIDO), KAEF – PT Kimia Farma (Persero) Tbk, and SOHO - PT Soho Global Health Tbk.

The data source employed in this study is secondary data, which was obtained from the annual financial reports accessible on the respective websites of these ten pharmaceutical companies for the years spanning from 2018 to 2021.

RESULT AND DISCUSSION

In the field of statistical analysis, the Mann-Whitney U test, often referred to as the Wilcoxon rank-sum test, serves as a robust tool for researchers when the necessity arises to compare two independent groups in situations where conventional parametric assumptions may not apply. This test plays a pivotal role in investigations where informasi distribution is non-normal or sample sizes are limited, offering a reliable means to ascertain whether statistically significant differences exist between these groups. In the following sections, we delve into its application in our study, aiming to shed light on the significance of its utilization and the insights it can provide in our specific research context.

The Normality Test

In this study, the Mann-Whitney test was utilized, taking into account a prior normality test conducted on the independent t-test. The results indicated that the p-values for CR, NPM, DAR, and DER were all below 0.05. This indicates that the available data exhibits a non-normal distribution, as shown in Table 1, Test of Normality (Shapiro-Wilk) above (Dai et al., 2022). When the distribution deviates from normality, researchers typically favor the Mann-Whitney test over other parametric tests, such as the two-sample t-test. This section encompasses the description of the subject/object/sample/research respondents, data analysis outcomes, examination instruments (if applicable), hypotheses (if any), responses to research questions, discoveries, and their interpretations. Whenever feasible, this section may also include graphical representations for each research variable. Additionally, it presents descriptive statistics such as Mean, Standard Deviation, Maximum, and Minimum values along with their explanations. Finally, this section provides a comprehensive discussion of the research hypotheses and their outcomes.

The Independent Samples T-Test

Table 2 displays the results of the independent samples t-test, which shows that
the Hodges-Lehman Estimates for CR, NPM, DAR, and DER are -0.093, -0.940, 0.020, and 0.071, respectively. These values are <0.02, suggesting that the extent of disparities in financial performance between the pre-COVID-19 and COVID-19 periods is exceedingly minor.

Similarly, the Rank-Biserial Correlations for CR, NPM, DAR, and DER are -0.005, -0.090, 0.010, and 0.022, respectively. These values are <0.1, suggesting that the impact of financial highlights between the pre-COVID-19 and COVID-19 periods is minimal. The p-values presented in Table 2 for the independent samples t-test yield the subsequent findings:

1. The p-value for the current ratio is 0.989, exceeding the 0.05 threshold, signifying no significant distinction in the current ratio of pharmaceutical companies between the pre-COVID-19 and during the COVID-19 periods. Thus, H₁ is rejected, while H₀ is accepted.

2. The p-value for the net profit margin is 0.640, surpassing the 0.05 threshold, indicating no substantial difference in the net profit margin of pharmaceutical companies between the pre-COVID-19 and during the COVID-19 periods. Consequently, H₂ is rejected, while H₀ is accepted.

3. The p-value for the debt to asset ratio is 0.968, exceeding the 0.05 threshold, implying no notable difference in the debt to asset ratio of pharmaceutical companies between the pre-COVID-19 and during the COVID-19 periods. Thus, H₃ is rejected, while H₀ is accepted.

4. The p-value for the debt to equity ratio is 0.914, surpassing the 0.05 threshold, suggesting no significant difference in the debt to equity ratio of pharmaceutical companies between the pre-COVID-19 and during the COVID-19 periods. Consequently, H₄ is rejected, while H₀ is accepted.

**The Current Ratio Analysis**

Based on the analysis of hypotheses using the Mann-Whitney test, there is no discernible disparity in the current ratio variable among the pharmaceutical companies included in the sample, which are listed on the BEI, between the pre-COVID-19 and the COVID-19 pandemic periods. Although there is a slight reduction indicated by the rank-biserial correlation of -0.005, which is less than 0.1. The minor decrease in the current ratio compared to other industries that experienced significant declines is due to the
pharmaceutical industry experiencing increased demand during the COVID-19 pandemic. It signifies that these companies continued to appropriate their near-term financial obligations. The average current ratio for the pharmaceutical industry in this sample remained above 1x, indicating a substantial level of liquidity even during the COVID-19 pandemic.

**The Net Profit Margin Analysis**

Moving on to the analysis of the Net Profit Margin, the p-value of 0.640, surpassing the significance level of 0.05, suggests there is no significant difference between the pre-COVID-19 and during the COVID-19 periods in the pharmaceutical industry. While there was a minor decrease during the COVID-19 period, the decline was relatively modest, as evidenced by a rank-biserial correlation of -0.090, which is less than 0.1. The lack of difference is due to increased sales of supplements, vitamins, and other pharmaceutical products during the pandemic. People in Indonesia sought to maintain their body's stamina to avoid contracting the dangerous virus. Those who were already infected with COVID-19 sought various medications to recover and be free from the virus. The increased demand led to an increase in sales in 2020, at the beginning of the pandemic, for over 50% of the sampled companies. However, it's noteworthy that as people's immune systems improved and vaccinations became more accessible, 60% of the pharmaceutical companies in the sample witnessed a reduction in sales, subsequently leading to a decline in net profit margin.

**The Debt to Asset Ratio Analysis**

Regarding the analysis of the Debt to Asset Ratio variable, a marginal distinction was observed between the pre-COVID-19 and COVID-19 periods in the pharmaceutical industry. The average debt to asset ratio for the sampled pharmaceutical companies was less than 50%, indicating that most of their assets were self-financed.

**The Debt to Equity Ratio Analysis**

The debt to equity ratio variable, with a p-value of 0.914, suggests that there is no significant distinction between the pre-COVID-19 and during the COVID-19 periods within the pharmaceutical industry. An uptick in the debt to equity ratio was observed in companies that encountered a reduction in sales during the COVID-19 period, leading to an augmentation in their debt burden. Notably, 30% of the pharmaceutical companies in the sample exhibited a debt to equity ratio exceeding 100%, signifying a higher level of
debt in comparison to their equity.

CONCLUSION

Based on the Mann-Whitney U test conducted in this study, it can be deduced that there is no noteworthy discrepancy in the financial performance metrics, including current ratio, net profit margin, debt to asset ratio, and debt to equity ratio, between the periods before and during the COVID-19 outbreak.

While no significant disparities were identified in 2021, it's noteworthy that the pharmaceutical companies in the sample did encounter a decline in net profit margin. Furthermore, a subset of these companies witnessed an escalation in their debt ratios, specifically DAR and DER, indicating an increase in their debt levels during the COVID-19 pandemic.

In sum, the pharma industry continues to play a dependable role in bolstering Indonesia's economic growth. Future research endeavors may benefit from an enlarged sample size and the inclusion of additional variables beyond the current ratio, net profit margin, debt to asset ratio, and debt to equity ratio to provide a more comprehensive comprehension of the circumstances surrounding companies in the pharmaceutical sector before and during the COVID-19 pandemic.

REFERENCES


TABLE, PICTURE AND GRAPHIC

Pharmaceutical companies listed on the Indonesia Stock Exchange (IDX)

Financial performance before the covid 19 pandemic

1. Liquidity ratio: Current Ratio
2. Profitability ratio: Net Profit Margin
3. Solvability Ratio: Debt to Asset Ratio, Debt to Equity ratio

Financial performance during the covid 19 pandemic

1. Liquidity ratio: Current Ratio
2. Profitability ratio: Net Profit Margin
3. Solvability Ratio: Debt to Asset Ratio, Debt to Equity ratio

Mann-Whitney U Test

Figure 1. Research Model
Source: processing research data, 2023

Tabel 1. Test of Normality (Shapiro-Wilk)

<table>
<thead>
<tr>
<th></th>
<th>W</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>0.782</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>NPM</td>
<td>0.793</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>DAR</td>
<td>0.530</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>DER</td>
<td>0.725</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

Note. Significant results suggest a deviation from normality.
Source: Data analysis results using JASP software, 2023

Tabel 2. Independent Samples T-Test

<table>
<thead>
<tr>
<th></th>
<th>W</th>
<th>df</th>
<th>P</th>
<th>Hodges-Lehmann Estimate</th>
<th>Rank-Biserial Correlation</th>
<th>SE Rank-Biserial Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CR</td>
<td>199.000</td>
<td>0.989</td>
<td>-0.093</td>
<td>-0.005</td>
<td>0.183</td>
<td></td>
</tr>
<tr>
<td>NPM</td>
<td>182.000</td>
<td>0.640</td>
<td>-0.940</td>
<td>-0.090</td>
<td>0.183</td>
<td></td>
</tr>
<tr>
<td>DAR</td>
<td>202.000</td>
<td>0.968</td>
<td>0.020</td>
<td>0.010</td>
<td>0.183</td>
<td></td>
</tr>
<tr>
<td>DER</td>
<td>204.500</td>
<td>0.914</td>
<td>0.071</td>
<td>0.022</td>
<td>0.183</td>
<td></td>
</tr>
</tbody>
</table>

Note. For the Mann-Whitney test, effect size is given by the rank biserial correlation.
Source: Data analysis results using JASP software, 2023