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COMPARISON OF FINANCIAL PERFORMANCE BEFORE AND AFTER MERGER: AN EMPIRICAL STUDY OF PT CAP AND PT STYRINDO MONO INDONESIA

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Abstract

This study analyzes the financial performance of PT Chandra Asri Petrochemical Tbk (CAP) before and after its merger with PT Styrindo Mono Indonesia (SMI), effective January 1, 2021. The merger aimed to improve integration, efficiency, production capacity, and strengthen the company's capital structure amid rising global competition. A quantitative descriptive comparative method was used, based on secondary data from CAP's financial and sustainability reports for 2018–2022. The analysis compares two years before the merger (2018–2019) and two years after (2021–2022), with 2020 as a transition year. Eight financial ratios were examined—NPM, GPM, TATO, FATO, CR, CAR, DR, and DER—to assess profitability, efficiency, liquidity, and solvency. Grounded in efficiency and synergy theories, mergers are expected to create value through cost reduction, asset optimization, and productivity gains, although benefits often take time to materialize. The results show mixed impacts. Profitability (NPM and GPM) fluctuated sharply, with the strongest performance in 2018, followed by declines due to rising raw material costs and market pressures. Efficiency also weakened, as shown by the drop in TATO from 0.80 (2018) to 0.48 (2022), indicating suboptimal asset utilization post-merger. In contrast, liquidity improved significantly: CR rose from 2.05 to 3.75, and CAR from 0.57 to 2.31, though excessively high liquidity may suggest idle funds. Solvency remained stable, with DR at 41–49% and DER below 1, reflecting a healthy capital structure. Overall, the CAP–SMI merger strengthened liquidity and solvency but has not yet produced consistent improvements in profitability or operational efficiency. Achieving long-term synergies will require better cost control, asset utilization, and production efficiency. Future studies should extend the observation period and consider external factors such as global oil prices and policy changes.

Keywords: merger, financial performance, efficiency, liquidity, profitability, solvency, PT Chandra Asri Petrochemical.

Introduction

Increasingly fierce competition in the global business environment is forcing companies to adapt by implementing growth strategies that increase efficiency, competitiveness, and overall value. One common strategy is mergers, where two

companies combine into a single economic unit to create synergies and strengthen their market position (Moin, 2010; Wadhwa & Syamala, 2015). Through mergers, businesses can increase economies of scale, expand distribution networks, and better utilize resources to improve operational and financial efficiency (Ismail & Abdul Rahim, 2010).

In the petrochemical industry, mergers play a key role in strengthening the national supply chain and increasing competitiveness against global price fluctuations. A clear example is the merger between TPIA Tbk (CAP) and PT Styrindo Mono Indonesia (SMI), which officially took effect on January 1, 2021 (TPIA Tbk, 2021). The purpose of this merger is to create a more integrated and efficient petrochemical company from upstream to downstream, increase production capacity, and strengthen the company's capital structure (Soltius, 2021). According to reports from Medcom.id (Miftahudin, 2020) and Kontan.co.id (Suryahadi, 2020), this step is part of CAP's restructuring strategy to address industry changes and strengthen its position as one of the largest petrochemical producers in Indonesia.

However, the effectiveness of the merger in improving financial performance still needs to be tested using real-world data. Therefore, this study aims to compare the financial performance of TPIA Tbk before and after the merger with PT Styrindo Mono Indonesia during the 2018–2022 period. The findings of this study are expected to provide empirical evidence on the extent to which the merger can improve financial efficiency and support the long-term performance of companies in the petrochemical sector.

Theoretical Framework

A merger is a corporate growth strategy aimed at creating synergy between two business entities, resulting in increased efficiency, production capacity, and improved financial performance. According to Moin (2010), a merger is the process of combining two or more companies, in which only one company remains legally intact, while the other companies merge into a new entity. The primary goal of a merger is to create synergy, meaning the combined company is worth more than the sum of its parts. This concept emphasizes that combining resources, assets, and capabilities can result in cost efficiencies, increased productivity, and improved risk diversification.

Theoretically, mergers are based on efficiency theory, which states that companies merge to achieve operational and financial efficiency through cost reduction, asset optimization, and increased profit-generating capacity (Wadhwa & Syamala, 2015). This also aligns with the view of Ismail and Abdul Rahim (2010), who stated that mergers can increase productivity and profitability if the integration process is effective. Efficiency is achieved when the merged company can manage its assets and liabilities more effectively than before the merger. In a financial context, Teece (2018) explains that mergers are closely related to a company's dynamic ability to adapt to changes in the business environment. Through mergers, companies gain access to new technology, human resources, and markets, which can strengthen their strategic position. However, the benefits of mergers are not always immediately apparent. Integration of systems, organizational culture, and financial policies takes time to

achieve a new equilibrium. Therefore, evaluating the impact of a merger is usually done by comparing pre- and post-merger financial performance, using financial ratios that indicate efficiency, profitability, liquidity, and solvency.

According to Hery (2015), financial ratio analysis is an effective tool for assessing a company's financial performance. Profitability ratios are used to measure a company's ability to generate profits, such as Net Profit Margin (NPM) and Gross Profit Margin (GPM). Liquidity ratios indicate a company's ability to meet short-term obligations, which are generally measured by the Current Ratio (CR) and Cash Ratio (CAR). Activity ratios measure how efficiently a company uses its assets, such as Total Asset Turnover (TATO) and Fixed Asset Turnover (FATO). Solvency ratios, such as the Debt-to-Equity Ratio (DR) and the Debt-to-Equity Ratio (DER), indicate how much of a company's funding comes from debt compared to equity. These four groups of ratios provide a comprehensive picture of a company's financial health and how effectively it manages its resources before and after a merger.

Previous research supports the importance of comparative financial performance analysis in assessing merger success. Suryaningrum et al. (2023) found that merger success is significantly influenced by management's ability to manage asset integration and working capital. Meanwhile, Ray and Warusawitharana (2007) explained that merger benefits can be maximized if companies can create value from the combined assets and achieve operational cost savings. However, Flannery et al. (2022) emphasized that increased debt following a merger often leads to a decline in short-term solvency ratios, although the positive impact may only be apparent in the medium term once synergies are realized.

In the case of TPIA Tbk (CAP) and PT Styrindo Mono Indonesia (SMI), the merger, effective January 1, 2021, aims to create a more vertically integrated petrochemical company, from raw materials to finished products (TPIA Tbk, 2021). This integration is expected to reduce production costs, increase energy efficiency, and strengthen the competitiveness of the national petrochemical industry. Based on the efficiency and synergy theory, the CAP-SMI merger has the potential to improve financial performance if the company can optimize its assets and working capital post-merger. Therefore, this research framework assumes that the merger will impact changes in the company's financial ratios. If synergy and efficiency are achieved, improvements in profitability, liquidity, and activity efficiency ratios are expected, as well as a better capital structure. Conversely, if the integration is not optimal, a temporary decline in profitability and solvency ratios may occur. Therefore, analyzing financial performance before and after the merger is important to evaluate the effectiveness of the merger strategy for the sustainability of TPIA Tbk's financial performance.

Method

This study uses a quantitative approach with a comparative descriptive method to analyze the financial performance of PT Chandra Asri Petrochemical Tbk (TPIA) before and after the merger with PT Styrindo Mono Indonesia (SMI) during the 2018–2022 period. This method was chosen because it can objectively explain changes in financial condition through measurable financial ratio analysis. The data used is

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secondary data obtained from PT Chandra Asri's annual financial reports and sustainability reports published on the Indonesia Stock Exchange (IDX) and the company's official website (TPIA Tbk, 2021). The observation period covers two years before the merger (2018–2019) and two years after the merger (2021–2022), with 2020 used as a transition period for the integration process.
The data analysis method used is financial ratio analysis, divided into four major groups: profitability ratios, activity ratios, liquidity ratios, and solvency ratios.
Profitability ratios are used to evaluate a company's ability to generate profits from its operations (Hery, 2015).
The indicators used are:

Net Profit Margin (NPM) = Net Profit / Net Sales.

Gross Profit Margin (GPM) = Gross Profit / Net Sales.

This ratio reflects a company's ability to manage costs and generate profit from sales.
Activity ratios measure how efficiently a company uses its assets to generate revenue (Ismail & Abdul Rahim, 2010), with the following indicators:

Total Asset Turnover (TATO) = Net Sales / Total Assets.

Fixed Asset Turnover (FATO) = Net Sales / Fixed Assets.

Liquidity ratios are used to assess a company's ability to meet its short-term obligations (Hery, 2015):

Current Ratio (CR) = Current Assets / Current Liabilities.

Cash Ratio (CAR) = Cash and Cash Equivalents / Current Liabilities.

Solvency ratios indicate a company's ability to meet its long-term obligations (Martono & Harjito, 2005):

Debt Ratio (DR) = Total Liabilities / Total Assets.

Debt to Equity Ratio (DER) = Total Liabilities / Equity.

These eight ratios are compared between pre- and post-merger periods to identify significant changes in financial performance.
Improvements in profitability, liquidity, and activity ratios indicate the success of the integration in improving efficiency and profitability, while increases in solvency ratios without increased profits may signal higher long-term financial risk. Therefore, this method provides a comprehensive empirical understanding of the effectiveness of the CAP-SMI merger on the financial performance of petrochemical companies in Indonesia.
Results

Financial Statement Analysis

1. Profitability Ratio

   The profitability ratio is a ratio used to measure a company's ability to generate profits from its normal business activities (Hery, SE, M.si., CRP., RSA 2015).

   Net Profit Margin

$$Net\ Provit\ Margin\ (NPM) = \frac{Profit}{Net\ Income} \times 100\%$$

Year	Calculation	Results

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2018	$2.632.623/36.858.246 \times 100\%$	7,14%
2019	$317.959/26.123.168 \times 100\%$	1,22%
2020	$724.024/25.443.585 \times 100\%$	2,84%
2021	$2.171.486/36.862.857 \times 100\%$	5,90%
2022	$-2.229.836/35.590.910 \times 100\%$	-6,26%

Gross Profit Margin

$$Gross\ Provit\ Margin\ (GPM) = \frac{(Net\ Sales\ - CoGS)}{Net\ Sales} \times 100\%$$

Year	Calculation	Results
2018	$5.659.275/36.858.246 \times 100\%$	15,35%
2019	$2.375.422/26.123.168 \times 100\%$	9,10%
2020	$2.324.303/25.443.585 \times 100\%$	9,13%
2021	$4.931.729/36.862.857 \times 100\%$	13,37%
2022	$-163.493/35.590.910 \times 100\%$	0,46%

Profitability ratios indicate a company's ability to generate profits from its operational activities. Net Profit Margin (NPM) and Gross Profit Margin (GPM) values tended to fluctuate between 2018 and 2022. In 2018, the company achieved its highest profitability with an NPM of 7.14% and a GPM of 15.36%, reflecting a desire to balance costs and revenue. However, there was a significant decline in 2019 and 2020 due to rising raw material costs and market pricing pressures. Profitability rebounded in 2021 but declined again to negative in 2022 due to losses. Overall, the company's profitability declined towards the end of the period, highlighting the need to improve cost efficiency and sales strategies.

2. Activity Ratio
   The activity ratio is a ratio used to measure the effectiveness of a company in using its assets, including to measure the level of efficiency of the company in utilizing existing resources (Hery, SE, M.si., CPR., RSA 2015). Total Assets Turnover

$$Total\ Aset\ TurnOver\ (TATO) = \frac{Sales}{Total\ Assets}$$

Year	Calculation	Results
2018	$36.858.246/45.992.551 \times 100\%$	0,80 kali
2019	$26.123.168/47.903.486 \times 100\%$	0,55 kali
2020	$25.443.585/50.597.056 \times 100\%$	0,50 kali
2021	$36.862.857/71.330.857 \times 100\%$	0,52 kali
2022	$35.590.910/73.580.164 \times 100\%$	0,48 kali

Fixed Assets Turnover

$$Aset\ TurnOver\ Ratio\ (FATO) = \frac{Net\ Sales}{Avarage\ Assets}$$

Year	Calculation	Results

2018	$36.858.246/\ 25.028.478 \times 100\%$	1,47 kali
2019	$26.123.168/23.950.000 \times 100\%$	1,09 kali
2020	$25.443.585/28.904.611 \times 100\%$	0,88 kali
2021	$36.862.857/28.937.157 \times 100\%$	1,27 kali
2022	$35.590.910/30.420.925 \times 100\%$	1,17 kali

Activity ratios measure how well a company uses its assets to generate revenue. Total Asset Turnover (TATO) and Fixed Asset Turnover (FATO) have been declining for years. In 2018, TATO was 0.80, indicating that the company was using its assets fairly efficiently. However, in 2022, TATO dropped to 0.48, meaning that each rupiah of assets generated only 0.48 rupiah in sales. FATO has also been declining, although it improved slightly in 2021 following the merger, indicating better utilization of fixed assets for production. Overall, the company still needs to improve its asset efficiency.

Liquidity Ratio

The Liquidity Ratio is an indicator of a company's ability to pay or settle its financial obligations when they fall due by using available current assets (Drs. Martono, SU & Drs. D. Agus Harjito, M.si 2005).

Current Ratio

$$Current\ Ratio\ (CR) = \frac{Total\ Current\ Assets}{Current\ Liabilities}$$

Year	Calculation	Results
2018	$20.227.783/9.873.913 \times 100\%$	2,05 kali
2019	$19.305.333/10.882.250 \times 100\%$	1,77 kali
2020	$21.167.702/12.173.718 \times 100\%$	1,74 kali
2021	$41.809.857/13.311.414 \times 100\%$	3,14 kali
2022	$34.052.896/9.069.896 \times 100\%$	3,75 kali

Cash Ratio

$$Cast\ Ratio\ (CaR) = \frac{(Cash + Cash\ Equivalent)}{Current\ Liabilities}$$

Year	Calculation	Results
2018	$5.645.435/9.873.913 \times 100\%$	0,57 kali
2019	$9.166.480/10.882.250 \times 100\%$	0,84 kali
2020	$12.956.872/12.173.718 \times 100\%$	1,06 kali
2021	$22.570.400/13.311.414 \times 100\%$	1,70 kali
2022	$20.954.821/9.069.896 \times 100\%$	2,31 kali

Liquidity ratios demonstrate a company's ability to meet its short-term obligations. The Current Ratio (CR) increased from 2.05 times (2018) to 3.75 times (2022), indicating excellent liquidity. The Cash Ratio (CAR) also increased significantly from 0.57 times to 2.31 times. The increase in these two

ratios reflects effective cash and current asset management, placing the company in a secure position to meet short-term obligations. However, excessively high ratios can also indicate excess cash that is not being utilized productively.

Solvency Ratio

The solvency ratio is a ratio used to measure the extent to which a company's assets are financed by debt (Hery, SE, M.si., CRP., RSA 2015)

Debt Ratio

$$Debt\ Ratio\ (DR) = \frac{Total\ Debt}{Total\ Assets}$$

Year	Calculation	Results
2018	$20.339.261/45.992.551 \times 100\%$	44,22%
2019	$23.501.099/47.903.486 \times 100\%$	49,04%
2020	$25.071.703/50.597.056 \times 100\%$	49.49%
2021	$29.507.071/71.330.857 \times 100\%$	41,40%
2022	$31.653.209/73.580.164 \times 100\%$	43.02%

Debt to Equity Ratio

$$Dept\ To\ Equity\ Ratio\ (DER) = \frac{Total\ Debt}{Equity}$$

Year	Calculation	Results
2018	$20.339.261/25.653.290 \times 100\%$	0,79 kali
2019	$23.501.099/24.402.388 \times 100\%$	0,96 kali
2020	$25.071.703/25.525.353 \times 100\%$	0,98 kali
2021	$29.507.071/41.823.786 \times 100\%$	0,71 kali
2022	$31.653.209/41.926.955 \times 100\%$	0,75 kali

The solvency ratio measures the extent to which a company's assets are financed through debt. The Debt-to-Equity Ratio (DR) ranges from 41% to 49%, indicating a relatively stable capital structure with moderate reliance on debt. Meanwhile, the Debt-to-Equity Ratio (DER) remains below 1, indicating a healthy and low-risk financial structure. Post-merger, both ratios improved, indicating the company's stronger ability to maintain a balance between debt and equity In presenting the results, tables and figures must be numbered consecutively according to their appearance in the text. The title of each table should be placed above the table and centered. Conversely, the title of each figure should be written below the figure and centered. All tables and figures must be referenced in the text to ensure consistency between the description and the data presented.

Discussion

Research findings indicate significant differences in several aspects of TPIATbk's financial performance before and after the merger with PT Styrindo Mono Indonesia. Overall, the merger had a positive impact on the company's liquidity and short-term financial stability, but did not result in consistent improvements in profitability and operational efficiency.

In terms of profitability, Net Profit Margin (NPM) and Gross Profit Margin (GPM) showed significant fluctuations between 2018 and 2022. In 2018, the company recorded its best performance with an NPM of 7.14% and a GPM of 15.36%. However, in 2019 and 2020, profitability declined due to higher raw material costs and lower product prices in the global market. Following the merger in 2021, profitability improved slightly with an NPM of 5.90%, but declined again in 2022, resulting in a net loss. These findings align with the findings of Moin (2010) and Flannery et al. (2022), who stated that the financial benefits of mergers are often not immediately felt because it takes a long time to achieve stability in the integration of systems, human resources, and operational policies.

From an activity perspective, Total Asset Turnover (TATO) and Fixed Asset Turnover (FATO) show a downward trend over the years. This indicates that the increase in assets after the merger was not matched by an increase in revenue. TATO fell from 0.80 in 2018 to 0.48 in 2022, indicating a decline in asset effectiveness. However, the increase in FATO in 2021 indicates early signs of improved fixed asset efficiency after the merger. These results support the view of Ismail & Abdul Rahim (2010), who believe that the success of mergers in improving operational efficiency depends on asset optimization and production capacity management.

Regarding liquidity, the analysis shows a significant increase in the Current Ratio (CR) and Cash Ratio (CAR). The CR increased from 2.05 times in 2018 to 3.75 times in 2022, and the CaR increased from 0.57 times to 2.31 times during the same period. This indicates the company's stronger ability to meet short-term obligations, indicating better cash management and working capital efficiency after the merger. However, very high liquidity may also indicate that cash is not being used effectively for productive activities. This aligns with the theory of Wadhwa & Syamala (2015), which emphasizes the importance of balancing liquidity and productivity to achieve long-term financial efficiency.

The debt-to-asset ratio (DAR) was found to be in the range of 41–49% during the study period. The debt-to-equity ratio (DER) ranged from 0.71 to 0.98. These results indicate that the company maintained a moderate level of debt dependence and a conservative capital structure. After the merger, the DER decreased to 0.71 times in 2021, indicating that the company has adopted a more conservative approach to debt financing, which has strengthened its financial position amidst industry fluctuations. These results support Teece's (2018) theory and the findings of Suryaningrum et al. (2023), which suggest that an effective merger can improve a company's capital structure and enhance long-term financial stability. Overall, the merger between CAP and SMI yielded mixed results. In terms of liquidity and capital structure, the merger improved the company's financial stability. However, in terms of profitability and asset

efficiency, the results still revealed challenges that require improvement. This suggests that the financial and operational synergies following the merger have not yet been fully realized, and the company is still in the adjustment phase to achieve a balance between asset expansion, production efficiency, and profitability..

Conclusion

Research results show significant changes in the financial performance of PT Chandra Asri Petrochemical Tbk (TPIA) before and after the merger with PT Styrindo Mono Indonesia (SMI). Overall, the merger had a positive impact on the company's liquidity and short-term financial stability, but did not significantly improve profitability and operational efficiency.

In terms of profitability, Net Profit Margin (NPM) and Gross Profit Margin (GPM) fluctuated between 2018 and 2022. The best performance occurred in 2018, with an NPM of 7.14% and a GPM of 15.36%. However, profitability declined in 2019 and 2020 due to rising raw material costs and declining global prices. After the merger in 2021, NPM increased to 5.90%, but declined again in 2022. This finding aligns with the findings of Moin (2010) and Flannery et al. (2022), who stated that the benefits of a merger typically only become apparent in the medium term after the integration process stabilizes.

Activity ratios such as Total Asset Turnover (TATO) and Fixed Asset Turnover (FATO) indicate a decline in asset utilization efficiency. TATO decreased from 0.80 in 2018 to 0.48 in 2022, indicating that asset growth was not matched by revenue growth. However, FATO increased in 2021, indicating early signs of improved efficiency. This supports the view of Ismail and Abdul Rahim (2010), who believe that operational efficiency depends on asset management after a merger.

On the liquidity side, the Current Ratio (CR) and Cash Ratio (CAR) improved significantly. The CR increased from 2.05x to 3.75x, and the CAR from 0.57x to 2.31x. This indicates improved cash management, although excess liquidity can indicate ineffective cash utilization (Wadhwa & Syamala, 2015). Solvency ratios remained relatively stable, with the Debt-to-Equity Ratio (DER) decreasing from 0.98 to 0.71 in 2021, indicating a more conservative financing policy. This finding supports the theory of Teece (2018) and Suryaningrum et al. (2023), which states that mergers can strengthen capital structures and long-term stability. Overall, the merger between CAP and SMI strengthens liquidity and capital structures, but improving profitability and operational efficiency still requires time and further adjustments.

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