

Research Article

Financial Performance Analysis and Stock Valuation of PT Kimia Farma Tbk

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Abstract: A prominent pharmaceutical company in Indonesia, Kimia Farma, faced a significant revenue decline compared to its industry counterparts in the aftermath of the pandemic. Given the pharmaceutical sector's pivotal role in driving innovation, economic growth, and public health, it becomes imperative to explore the company's financial health with the tight government regulatory and market dynamics influencing industry stability. The objective of this study is to determine the fair value of Kimia Farma's stock and to conduct a comprehensive analysis of its financial performance. The research delves into competitive rivalry within the pharmaceutical industry and examines both internal and external factors that influence impacting Kimia Farma. This research uses a mixed-methods approach combining qualitative and quantitative analyses. Utilising secondary data sourced from annual audited financial reports and publicly available information, the study leverages five years of historical financial statements from 2018 to 2022. Valuation of Kimia Farma's stock is conducted using both DCF and relative valuation methods. The findings indicate that the calculated value per share of KAEF is approximately Rp. 569, suggesting an overvaluation relative to prevailing market prices at the time of the study. Key independent variables influencing the valuation include Cost of Goods Sold (COGS), Selling, General and Administrative Expenses (SGA), and Weighted Average Cost of Capital (WACC). This study provides actionable insights and strategic recommendations aimed at enhancing Kimia Farma's operational and financial strategies. These insights are designed to assist stakeholders, particularly investors, in making well-informed decisions based on rigorous data analysis and comprehensive research findings. By addressing the identified challenges and leveraging opportunities, Kimia Farma can potentially strengthen its market position and improve overall financial performance in the dynamic pharmaceutical landscape of Indonesia.

Keywords: Discounted Cash Flow, Pharmaceutical, Valuation.

I. INTRODUCTION

Health is a fundamental component of the human existence. Health is crucial in determining individuals' quality of life and their productivity. The COVID-19 pandemic triggered significant shifts in people's concern for health-related issues. This development establishes an enduring basis for healthcare businesses, which plays an essential part in fostering the expansion of this industry.

The health business comprises a multifaceted ecosystem that involves diverse stakeholders and encompasses numerous primary fields of focus, including pharmaceuticals, hospitals, laboratories, clinics, and medical devices. Each of these industries has a vital role in developing products and services that support the health of society. Pharmacy is one of the critical sectors in the global economy that deals with various health issues that occur in the world. Pharmacy plays a crucial role in addressing a range of health issues, including the prevalence of COVID-19, by serving as a fundamental pillar for community-based illness treatment and prevention.

PT Kimia Farma Tbk (KAEF) is Indonesia's first pharmaceutical industrial company; it excels at producing and distributing a wide range of medical supplies. Herbal cures, over-the-counter medications, prescription medications, and a range of health and wellness goods are all part of its extensive product line. Additionally, Kimia Farma has increased its reach through subsidiary businesses that operate throughout Indonesia and offer comprehensive access to pharmaceutical services and goods to meet the healthcare needs of the Indonesian people. These businesses include Kimia Farma Apotek, Kimia Farma Diagnostika, and Kimia Farma Trading & Distribution. PT Kimia Farma Tbk has a centuries-long history and is still at the forefront of Indonesia's health, upholding a dedication to healthcare innovation, quality, and accessibility.

Kimia Farma made significant contributions to the production, distribution, and marketing of critical medications and medical devices needed by residents. Kimia Farma is not only one of the big pharmaceutical firms in Indonesia, but it also plays a vital role in maintaining public health and assisting the government in its efforts to deliver high-quality medical care. A unique fact about Kimia Farma is that it is a State-Owned Enterprise (BUMN) whose revenue and profits are used to affect the



welfare and health services of the Indonesian populace. However, in the past few years, Kimia Farma has faced challenging financial issues. Their record negative growth in the revenue and net income.

Based on this background, the objective of this study is to examine the financial performance and stock valuation of PT Kimia Farma by utilising its historical financial statements. The analysis approach for analysing financial performance involves ratio analysis. Moreover, the analysis method for the stock valuation uses absolute and relative valuation to meet the fair price of the stock. This research also examines the external condition using PESTEL and Porter's Five Forces analysis.

II. LITERATURE REVIEW

A) *Pharmaceutical Industry*

The pharmaceutical industry has an important role in the country; the demand for drugs has forced stakeholders to demand tighter oversight of pharmaceutical industry executives by regulators. The government is involved in this industry in Indonesia by making several companies into SOEs. The pharmaceutical industry is essential for Indonesia because of its diverse contributions. The pharmaceutical industry's substantial contribution to a country's GDP and economic stability underscores its importance. In tandem, financial reports provide transparency and accountability within this crucial sector, ensuring that stakeholders can assess its financial health and make informed decisions regarding investments and regulatory compliance. Financial statements are an essential component in a company's financial reporting. They provide a comprehensive and structured picture of a company's performance and financial position over a certain period. These reports usually consist of essential reports such as the income statement, balance sheet, cash flow statement, and accompanying notes. Financial reports are significant because they offer transparency and accountability to stakeholders, including investors, creditors, regulators, and the public (Atmaja & Davianti, 2022). The measure that is often used in analysing a company's financial performance is financial ratios. By using financial ratio analysis, companies can find out the current and future development of a company to see whether a company's financial performance is healthy (Priyanto et al., 2023). In analysing financial reports, to determine a company's performance, you can look at the level of liquidity, solvency, profitability, and stability (Setianingsih, 2022).

B) *Methodology*

The author expanded on the conceptual framework from previous chapters in this research project. In this chapter, the author explains the research process through research design, data collection methods, and data analysis.

Quantitative and qualitative methods will be employed in this study to address the research question posed in the first chapter. External factors will be evaluated by researchers utilising PESTEL analysis and Porter's Five Forces. An analysis of all external factors, including political, environmental, sociocultural, technological, economic, and legal, uses the PESTEL framework. Porter's Five Forces, on the other hand, helps managers figure out how to position their company to gain a competitive advantage by comparing its profit potential to other companies in the same field. In addition, researchers will conduct an internal analysis by examining the company's financial reports over the past five years. This analysis will encompass the following metrics: operating profit margin, return on assets, current ratio, quick ratio, inventory turnover, debt-to-equity ratio, net profit margin, return on equity, and return on assets. This research is also used to find the fair stock price using the stock valuation with the absolute valuation and relative valuation.

The researcher concludes by formulating a recommendation and drawing a conclusion from the accumulated data and information. All information is provided to assist both investors and businesses in making future decisions.

C) *Data Collection Method*

This research used secondary data from credible references. The following is a list of the secondary data sources used in this research.

1. Published KAEF data such as full-year audited financial reports, annual reports, and published information on the respective company website.
2. Previous research supported, such as credible journals and articles.
3. The last five years' historical data of the health company stock prices listed in the Indonesian Stock Exchange (IDX).
4. Other reliable sources to support making assumptions on the stock valuation process.

III. RESULTS AND DISCUSSION

A) *External Analysis*

External analysis is the process of assessing external elements that can affect organisational performance, such as economic, technological, political, and social aspects. The competitive landscape and market trends are also taken into consideration by external factors as well.

a. PESTEL Analysis

➤ Political

Kimia Farma, as a state-owned firm, has significant support from the government. However, Kimia Farma's revenue is significantly impacted by easily shifting in government regulations. The government implemented regulations during the pandemic on the distribution and use of the COVID-19 vaccine; however, these regulations were not strictly enforced afterwards, which influenced Kimia Farma's revenue, which sharply decreased because of the lack of vaccine sales. However, if the government still focuses on improving health through BPJS Kesehatan, Kimia Farma has a golden opportunity to increase its revenue. The implementation of BPJS Kesehatan, which uses generic drugs as its service, will increase the volume of demand and revenue for pharmaceutical companies.

➤ Economical

Industrial commodities that have a large contribution to the Gross Domestic Product (GDP) in Indonesia are still dominated by manufacturing, which consists of the oil and gas and non-oil and gas sectors. The chemical, pharmaceutical and traditional medicine industries are among the non-oil and gas sectors which have the second largest contribution of 1.68% to GDP (Prayogi & Wandebori, 2020). Thus, the pharmaceutical sector itself plays a significant part in Indonesia's economic growth.

Kimia Farma is currently facing obstacles in the form of a large manufacturing scale that is incompatible with its ability to source raw materials independently, putting it at risk of relying on imported raw materials. This puts Kimia Farma highly dependent on the rupiah currency rate. Unfavorable changes in exchange rates could negatively affect the company's earnings.

➤ Social

Social factors play an important role for PT Kimia Farma in understanding and meeting market needs. One of the main aspects is increasing awareness of the Indonesian people regarding the importance of health and medical care. The COVID-19 pandemic has increased public awareness of the importance of maintaining health. This can increase demand for medicines, vitamins and other health products.

Indonesia is currently experiencing demographic shifts, with a rise in the number of people in the productive age range of 15 to 64 (Badan Pusat Statistik, 2023). These changes are impacting the demand for health products like vitamins and supplements. In addition, companies should think about offering products and services that promote mental health due to changes in health lifestyles, such as increasing awareness of mental health. The considerations listed above need Kimia Farma's continued responsiveness to emerging societal trends and consumer behavior, ensuring that its products and services are relevant and match customer expectations.

➤ Technological

In the pharmaceutical industry, technological factors have an important role for companies to continue to innovate to achieve operational efficiency. In line with Siddiqui (2021), technological advancement is one of the factors that has a significant impact on the health industry. Currently, Kimia Farma has invested in R&D, one of which is in technology to develop new products and maximise the use of Customer Relationship Management (CRM) technology. Kimia Farma collaborates with Government Hospitals to create an online drug redemption application. This application integrated the electronic medical record features, doctor schedules, and electronic prescriptions with various payment options. Patients can consult via smartphone with a doctor and immediately receive an electronic prescription that is connected to the nearest Kimia Farma Pharmacy. This technology can help Kimia Farma to find out customer behavior and the right products to produce according to market needs. By maximising this technology could lead to increasing the company revenue through automatic digital marketing.

➤ Environmental

Environmental concerns are naturally strongly linked to the pharmaceutical industry, particularly in terms of research and development as well as production. Kimia Farma, as a state-owned company, certainly applies environmentally friendly business practices, such as managing hazardous and toxic waste in accordance with PP No. 85 of 1999. Besides, the company also uses natural resources efficiently to minimise the environmental footprint of its business operations. In the company's yearly report in 2022 states that Kimia Farma has assisted farmers in processing essential oils in managing essential oil waste. The company has created an "Olis Center (Atsiri Essential Waste Processing Center) Program" located in Blitar Regency, East Java. The business's dedication to sustainability earned Kimia Farma the TOP Sustainable Development Goals (SDGs) award in 2022.

➤ Legal

To preserve the integrity and client trust in the health industry, businesses operating in this sector should protect their data and comply with legal regulations (Siddiqui, 2021). Kimia Farma complies with various laws and regulations governing the production, distribution and marketing of medicines such as ensuring its products comply with quality and safety standards set by the Food and Drug Supervisory Agency (BPOM) in Indonesia. The company also applies the

principles of good corporate governance and carries out transparent and accountable corporate governance practices in accordance with applicable standards in Financial Services Authority Regulation No. 29/POJK.04/2016 concerning Annual Reports of Issuers or Public Companies. By complying with regulations and implementing good corporate governance, PT Kimia Farma Tbk shows its commitment to running its business ethically and in accordance with applicable regulations.

b. Porter's Five Forces

➤ Threat of New Entrants: Low

The pharmaceutical industry has high barriers to entry due to the need for large investments in R&D, production facilities, and compliance with stringent regulations. Complicated business permits and licenses to manufacture and sell medicines also make it difficult to enter this industry. Kimia Farma is a brand that is well established and known in the Indonesian market. Besides, Kimia Farma also has a large economic scale and extensive distribution network throughout Indonesia, which makes it difficult for new entrants to compete in terms of costs and prices.

➤ Bargaining Power of Suppliers: High

The bargaining power of suppliers is high because most of the raw materials for making medicines come from abroad. There are various pharmaceutical raw material suppliers available in several countries, but replacing or adding alternative suppliers will take a long time due to tight BPOM regulations, as well as facing expensive expenditures.

To face this challenge, Kimia Farma has its own raw material factory through PT Kimia Farma Sungwun Pharmacopia (KFSP). However, this supplier is still limited to only raw materials from South Korea while there are many other raw materials taken from other countries. This dependence on foreign suppliers has an impact on the fluctuating rupiah exchange rate, as stated in Operating Expenses.

➤ Bargaining Power of Buyers: Low

The bargaining power of buyers is low in the pharmaceutical industry because drug sales prices have been determined in the Regulation of the Minister of Health of the Republic of Indonesia Number 98 of 2015 concerning the Highest Retail Prices for Medicines. This regulation regulates the selling prices of drugs in Indonesia so that the prices of one drug and another drug will be similar and buyers will not easily switch to another product. Sales of medicines and medical equipment for hospitals are also open transparently in an e-catalogue which is supervised by the government.

➤ Threat of Substitute Products: Moderate

As a pharmaceutical business that sells generic medicines, ethical medicines, licensed medicines and narcotics, OTC medicines and cosmetics, medical devices and vaccines, the threat of substitute products in this industry is moderate. Substitute products that are competitors of Kimia Farma are traditional herbal medicine products that are also popular with Indonesian people, for example, products from PT. Sidomuncul. However, treatment in Indonesia still relies on generic and OTC drugs, especially for BPJS patients, with the number of participants being 82.89% of the Indonesian population (Lembaga Ketahanan Nasional RI, 2021), whose drug prescriptions are based on the National Formulary (ForNas) so the presence of substitute products does not really matter.

➤ Rivalry Among Existing Firms: High

Rivalry Among Existing Firms for Kimia Farma is high because many other pharmaceutical companies in Indonesia compete with Kimia Farma. The thing that investors highlight is the amount of net profit generated by the company. In the pharmaceutical industry, the company with the largest net profit in Q3 2023 is Kalbe Farma, with a net profit of IDR 556,628,983,000, Merck IDR 39,025,891,000, while Kimia Farma is far below them. Competition within existing firms can also be seen in the amount of market capital, which Kalbe Farma and Merck dominate.

B) Internal Analysis

The financial ratio analysis is used by the internal analysis to identify areas where the performance of the company may be improved and to obtain more knowledge of its strengths and weaknesses. This investigation will produce important insights that are considered when valuing the company. The purpose of Kimia Farma's financial ratio measurement is to assess the performance of the business. The effectiveness and efficiency of the business's financial management are also evaluated using this metric.

a. Liquidity Ratio

The liquidity ratio shows how well a business can pay its current liabilities. Maintaining liquidity is crucial since the business needs to be able to pay its bills.

Table 1: KAEF Historical Liquidity Ratio

Ratio	2018	2019	2020	2021	2022	AVERAGE
Current Ratio	1.34	0.99	0.90	1.04	1.06	1.07
Quick Ratio	0.90	0.61	0.54	0.59	0.66	0.66

According to Kimia Farma's historical liquidity ratio, the current ratio declined in 2019 prior to the pandemic, but it increased both during and after the pandemic (2020–2022). A high current ratio might be seen as an indication that the business typically has the financial capacity to pay off its liability before the due date. In the meantime, the Quick Ratio shows a decrease from 2018 to 2020, the period before and during the pandemic, and the following gain until 2022. It is possible to interpret the rising current ratio as an indication that the business can use its current assets to pay off its short-term liabilities. In general, Kimia Farma's liquidity ratio has increased, which indicates that the company is financially stable to pay the liabilities.

b. Activity Ratio

The activity ratio is calculated to measure how efficiently the company use its assets in operation.

Table 2: KAEF Historical Activity Ratio

Ratio	2018	2019	2020	2021	2022	AVERAGE
Total Asset Turnover	0.75	0.51	0.57	0.72	0.47	0.60
Inventory Turnover	2.40	2.07	2.59	3.14	1.89	2.42

Based on the historical report above, Kimia Farma shows that it has a strong performance in using its assets to generate sales. Even though its Total Asset Turnover decreased in 2019 and 2022, the company was able to increase it during the pandemic with a five-year average of 60%. Likewise, Inventory Turnover also experienced a decline in 2019 and 2022, but the company was able to increase it during the pandemic with a five-year average of 2,42%. This increasing Inventory Turnover shows that the company can carry out business operations efficiently.

c. Leverage Ratio

The Leverage ratio aims to tell the company's ability to fulfill its long-term obligations.

Table 3: KAEF Historical Leverage Ratio

Ratio	2018	2019	2020	2021	2022	AVERAGE
Debt to Asset Ratio	63.40%	59.61%	59.54%	59.28%	54.12%	59.19%
Debt to Equity Ratio	173.24%	147.58%	147.17%	145.58%	117.94%	146.30%

Based on the table above, Kimia Farma has a debt to debt-asset ratio that is smaller than before the pandemic, during the pandemic and after the pandemic. A smaller DAR can mean that the company has assets that are greater than its debts. On the other hand, Kimia Farma has a debt-to-equity ratio that is smaller than before the pandemic. A small DER can mean that the company uses more equity to finance its operations compared to debt, which indicates that the company does not depend on debt to run its business.

d. Profitability Ratio

The profitability ratio is a calculation to see the company's ability to generate profits from its operational performance. Kimia Farma's historical profitability ratios are as follows.

Table 4: KAEF Historical Profitability Ratio

Ratio	2018	2019	2020	2021	2022	AVERAGE
Gross Profit Margin	39.76%	37.27%	36.55%	34.19%	37.40%	37.03%
Net Profit Margin	6.33%	0.17%	0.20%	2.25%	-0.98%	1.59%
Operating Profit Margin	11.17%	5.34%	6.53%	7.67%	5.81%	7.30%

Kimia Farma has a Gross Profit Margin that has decreased before the pandemic until the pandemic (2018-2021) but has increased after the pandemic (2022). The decline in GPM during the pandemic was due to increasing operational expenses. However, the company can manage the operating expenses after the pandemic, resulting in an increase in GPM. Net Profit Margin also continued to decline until after the pandemic but has increased in 2021. Declining the NPM in 2022 can be caused by the decrease in revenue in that year.

Meanwhile, the Operating Profit Margin is fluctuated, even though the average for five years still acceptable. The decline in OPM was caused by the increasing difference in currency exchange. Overall, Kimia Farma experienced a significant decline in profitability at various levels, but the company can manage the business. However, there is a warning signal for Kimia Farma's financial health.

e. ROA & ROE Comparison

ROA and ROE calculations are used to measure a company's effectiveness in generating profits from its assets and capital. Kimia Farma's historical ROA and ROE calculations are as follows.

Table 5: KAEF Historical ROA & ROE

Ratio	2018	2019	2020	2021	2022	AVERAGE
Return on Asset	4.72%	0.09%	0.12%	1.63%	-0.54%	1.20%
Return on Equity	12.91%	0.21%	0.29%	4.01%	-1.18%	3.25%

Kimia Farma experienced a decline in ROA and ROE before the pandemic and then experienced a significant increase during the pandemic. However, Kimia Farma's ROA and ROE have decreased again after the pandemic. Fluctuations in Kimia Farma's ROA and ROE can be influenced by external conditions, such as unstable economic conditions and changes in government policies, which continue to change during the pandemic and the transition period. Kimia Farma, as a health company, has a very high sensitivity to economic conditions and government policies; thus, changes in these two factors greatly influence the company's financial performance.

Overall, based on financial ratios, Kimia Farma has good company performance. However, several ratios show warning signals. Therefore, it is needed to be careful in making some decisions.

C) Financial Projection

Kimia Farma's financial projection started by assuming by calculating the compounded annual growth rate in 2018 to 2022 for the income statement and Net Working Capital, while COGS, Operational Expense, Capital Expense, and Depreciation are calculated by proportional of sales. For the income statement, the revenue growth is calculated at about 2,58%. The other projection is calculated from the percent of sales such as COGS (62,967%), Interest Expense (4,816%), and Free cash flow projection as below.

Table 6: Financial FCFF Projection

Free Cash Flow	2023 F	2024 F	2025 F	2026 F	2027 F
Revenue	9,853,548,095	10,107,322,597	10,367,632,968	10,634,647,536	10,908,538,967
COGS	6,204,447,856	6,364,241,125	6,528,149,811	6,696,279,905	6,868,740,128
Gross Profit	3,649,100,239	3,743,081,471	3,839,483,156	3,938,367,631	4,039,798,838
Selling, General and Administrative	3,143,916,904	3,224,887,326	3,307,943,111	3,393,137,968	3,480,526,986
Foreign Exchange Difference	(834,734)	(612,064)	(448,792)	(329,074)	(241,292)
Others	344,597,132	470,036,661	641,138,426	874,524,298	1,192,866,808
Total Operating Expense	2,798,485,037	2,754,238,601	2,666,355,893	2,518,284,596	2,287,418,887
Earning Before Interest and Taxes (EBIT)	850,615,202	988,842,871	1,173,127,263	1,420,083,035	1,752,379,951
Interest Expense	474,594,199	486,817,198	499,354,995	512,215,699	525,407,626
EBT	376,021,003	502,025,673	673,772,268	907,867,336	1,226,972,326
Tax Rate	22%	22%	22%	22%	22%
EAT	293,296,382	391,580,025	525,542,369	708,136,522	957,038,414
Capital Expenditure	736,419,181	755,385,385	774,840,058	794,795,778	815,265,451
Depreciation & Amortisation Expense	292,240,629	299,767,178	307,487,572	315,406,801	323,529,987
Net Working Capital	366,936,403	286,129,006	223,117,161	173,981,897	135,667,290
Δ NWC	(103,628,694)	(80,807,396)	(63,011,846)	(49,135,263)	(38,314,607)
Free cash flow to the firm	(47,253,475)	16,769,215	121,201,729	277,882,808	503,617,557

D) Absolute Valuation

The author determines the present value (PV) of FCFF to determine the firm's value. A discounted rate utilising the FCFF risk is required for PV calculations. The Weighted Average Cost of Capital (WACC) is used to calculate the discounted rate. The authors compute the capital structure and estimate the share of debt and equity to determine the WACC. The result of the capital structure is debt at 45,92% and equity at 54,08%. Then, the author estimates the portion of debt and equity to determine the WACC. The author estimated the cost of equity and debt are 12,45% and 5,12%. The calculation of cost equity using the estimation of risk-free rate, leverage beta, and Implied Market Risk Premium as stated in the assumption above. Furthermore, the calculation of the cost of debt using the calculation of interest expense, total debt, and tax rate is as stated in the assumption above. Thus, the calculation of WACC is as follows.

Table 7: KAEF WACC Calculation

WACC	
Variable	Value
Cost of Equity (Ke)	12.45%
Cost of Debt (Kd)	5.12%
Capital Structure Debt	45.92%
Capital Structure Equity	54.08%
WACC	8.57%

WACC calculations in the health sector, especially pharmaceuticals, are around 6- 9%; this can be because the health sector is a conservative business. This is supported by previous research with the results of a WACC calculation of Kimia Farma is 8,348% and Kalbe Farma is 7,813% (Dalilah & Hendrawan, 2021) and a WACC calculation of Hospital ABC is 8.31% (Zayetri et al., 2023). Therefore, using current estimations, this company's terminal value is Rp 12,847,128,305.

Table 8: KAEF Absolute Valuation

Terminal Value	12,847,128,305
PV Terminal Value	8,516,385,181
PV for 5 Years	599,253,925
Sum of PV	9,115,639,106
Debt	7,928,739,079
Minority Interest	1,370,927,972
Cash	2,153,023,582
Non-Operating Asset	1,339,622,213
Value of Equity in Common Stock	3,308,617,850
Number of Shares Outstanding	5,554,000
Value per Share	596
Current share price	899

The value per share, as determined by the calculation, is Rp 596. As of August 1, 2023, the stock price of Kimia Farma is Rp 899. This indicates that the price of KAEF is overvalued.

E) Relative Valuation

Relative valuation is used to validate the results of absolute valuation. The author calculated the relative valuation by calculating the company's earnings per share and price-earning ratio. The calculation of relative valuation is as follows.

Table 9: KAEF Relative Valuation

Relative Valuation Model	2018	2019	2020	2021	2022	Average
Earning Per Share	74.88	(2.29)	3.18	54.42	(30.62)	19.91
Price Earning Ratio	96.34	2.86	3.68	52.19	-19.77	27.06
Valuation	539					
Current Share Price	899					

Based on relative valuation calculations, the optimal share price for KAEF is IDR 539. This calculation can support the absolute valuation calculation above which can be said that KAEF's share price is undervalued.

F) Sensitivity Analysis

The author conducted a sensitivity analysis utilising SensIt 140a, an Excel add-in designed for Windows, to evaluate the worst-case, baseline, and best-case scenarios for companies based on assumptions and equity value per share. The Tornado and Spider SensIt feature was employed to assess the impact of variations in each model input variable on the model's output. The sensitivity analysis is as follows.

Table 10: Sensitivity Analysis Assumption

Assumption	Value	Worst	Base	Best
WACC	8.57%	6.9%	8.6%	10.3%
Revenue Growth	2.58%	2.1%	2.6%	3.1%
COGS to Revenue	62.97%	50.4%	63.0%	75.6%
SGA to Revenue	31.91%	25.5%	31.9%	38.3%
Interest to Revenue	4.82%	3.9%	4.8%	5.8%
Capex to Revenue	7.47%	6.0%	7.5%	9.0%
Depreciation to Revenue	2.97%	2.4%	3.0%	3.6%

Terminal Growth	4.65%	3.7%	4.7%	5.6%
Revenue 2022	9,606,145,359	7,684,916,287	9,606,145,359	11,527,374,431

The author examines the SensIt Tornado and SensIt Spider charts below, with an equity value per share for KAEF determined at Rp. 596.

Then, the author uses sensitivity analysis as the Figure 1. The analysis of the tornado diagram shows the three most influential independent variables on intrinsic value. These variables are identified based on their absolute sensitivity values, calculated at a $\pm 20\%$ change (20% lower limit and 20% upper limit) and expressed as aggregate swings. Specifically, the cost of goods sold (COGS) to revenue exhibits the highest sensitivity, ranging from 75.56% to 50.37%. Selling, general, and administrative expenses (SGA) to revenue sensitivity follow at 38.29% to 25.53%. The third is the weighted average cost of capital (WACC) demonstrates a sensitivity of 10.28% to 6.86%.

Based on the results of the sensitivity analysis below, the variables that most influence Kimia Farma's intrinsic value are COGS to revenue, SGA to revenue and WACC. The marked sensitivity of COGS and SGA to revenue underscores the necessity for the company to enhance operational efficiency by optimising costs and reducing production expenses. This observation aligns with the author's earlier findings, which highlighted a 'warning signal' concerning inventory turnover and profitability ratios. In the pharmaceutical sector, production and operational costs are significantly influenced by external factors, including raw material prices, which are contingent upon the rupiah exchange rate and regulatory conditions, thereby contributing to high sensitivity. Additionally, the significant sensitivity of the WACC variable indicates the need to manage the company's capital structure effectively to lower capital costs and increase company value. A higher WACC leads to a lower present value of future cash flows, so the company must balance its debt and equity to optimise WACC.

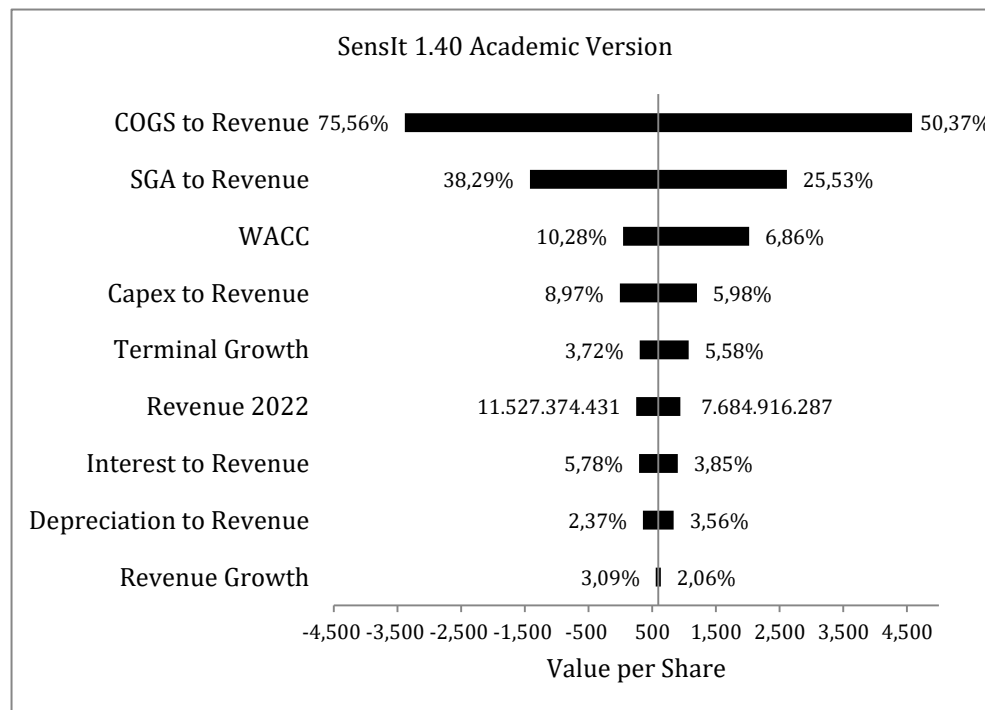


Fig. 1 SensIt Tornado Diagram

IV. CONCLUSION

Based on an analysis of external business conditions, Kimia Farma exhibits several strengths and weaknesses. By identifying and understanding its competitive advantages and market position, it is evident that Kimia Farma operates in an industry where the threat of new entrants and the bargaining power of buyers are low, the threat of substitute products is moderate, and both the bargaining power of suppliers and the rivalry among existing competitors are high. To sustain and enhance its market position, Kimia Farma must continuously innovate, ensure high product quality, and strengthen relationships with suppliers and consumers. Additionally, developing strategies that are adaptive and responsive to market changes and consumer trends will be crucial for the company's long-term success.

Furthermore, additional external factors impacting the business are identified through PESTEL analysis. As a SOE, Kimia Farma encounters both advantages and challenges stemming from political factors. Governmental support, including financial assistance and favorable policies such as COVID-19 vaccine distribution, has a significant impact on Kimia Farma's revenue. Although, policies like the non-mandatory of COVID-19 vaccines have contributed to revenue fluctuations. Economically, the company heavily relies on imported raw materials, necessitating careful management of exchange rate fluctuations to control costs effectively. Socially, Kimia Farma must adapt to evolving conditions, exemplified by fluctuating demand for vaccines during and after the COVID-19 pandemic. The company must forecast future social trends to make informed investment choices. Technologically, Kimia Farma prioritises R&D and innovation, leveraging technologies like digital pharmacies to enhance operations. Environmentally, regulatory compliance is vital for mitigating the environmental impact of its chemical-based products. Legally, adherence to health-related product regulations is crucial given Kimia Farma's SOE status, and the company consistently maintains compliance with these legal standards.

Internally, based on an analysis of company performance using financial ratios, Kimia Farma currently demonstrates good operational metrics. This is evidenced by improvements in liquidity, activity, and leverage ratios following the pandemic. Despite a 'warning signal' in Kimia Farma's Profitability Ratio, the company has historically shown resilience during economic crises, including global health challenges. However, the valuation analysis shows insight that investors need to consider: the fair value for KAEF is Rp 596. Nevertheless, as of August 1, 2023, KAEF's share price was Rp 899, indicating an overvaluation of 1.5 times. Sensitivity analysis reveals that COGS, SGA, and WACC are the primary factors influencing intrinsic value.

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