

Financial Performance Analysis And Stock Valuation of PT Kimia Farma Tbk.

Wiranti, Oktofa Yudha Sudrajad
Institut Teknologi Bandung, Indonesia
wiranti.wirawan@gmail.com

ABSTRACT

Laparoscopic cholecystectomy is the surgical method of choice for gallbladder removal. Enhanced Recovery After Surgery (ERAS) is a program designed to accelerate patient recovery after surgery by reducing length of stay, pain, and accelerating initial mobilization. This study aims to evaluate the effectiveness of the ERAS nursing program on pain levels, initial mobilization, and length of hospitalization of post-laparoscopic cholecystectomy patients at Pluit Hospital Jakarta. A total of 65 patients undergoing laparoscopic cholecystectomy were sampled, with 40 patients in the ERAS group and 25 patients in the control group. Data were collected using questionnaires and observation sheets, and analyzed using the ANCOVA test. The results showed that the ERAS group had lower numerical scale scores for pain (1.87 vs 5.72, $p < 0.001$), earlier mobilization (3.45 hours vs 9.12 hours, $p < 0.001$), and shorter length of stay (27.13 hours vs 74.84 hours, $p < 0.001$) compared to the control group. The implementation of the ERAS nursing program has proven to be effective in reducing pain levels, accelerating initial mobilization, and reducing the length of stay of patients after laparoscopic cholecystectomy at Pluit Hospital Jakarta. This study supports the use of ERAS protocol to improve the quality of surgical care in Indonesia.

Keywords : ERAS nursing program; aparoscopic cholecystectomy; early mobilization

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 (Abdullah & Shamsheer, 2011).

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 (Asmirantho & Somantri, 2017). 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 (Damodaran, 2012).

PT Kimia Farma Tbk (KAEF), a pharmaceutical firm operating in Indonesia, has made significant contributions to the production, distribution, and marketing of critical medications and medical devices needed by residents (Atmaja & Davianti, 2022). 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 (Devi, Warasniasih, Masdiantini, & Musmini, 2020). A unique fact about Kimia Farma is 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 faced challenging financial issue. Their record negative growth in the revenue and net income. Whereas, the financial performance is the crucial tools for the investors and management to make evaluation, trend analysis, and future prediction (Nurbaeti et al., 2023).

Based on this background, the objective of this study is to examine the financial performance and stock valuation of PT Kimia Farma by utilizing its historical financial statements (Endri, Susanti, Hutabarat, Simanjuntak, & Handayani, 2020). The analysis approach for analyzing financial performance involves the 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 examine the external condition using PESTEL and Porter's Five Forces analysis (Ikhwansyah, Chandrawulan, & Amalia, 2018).

Company Profile



Figure 1 PT. Kimia Farma Tbk. Logo

Kimia Farma is Indonesia's first pharmaceutical industrial company, established by the Dutch East Indies government in 1817. Dutch pharmacist W. Van Delden established the company, which was initially known as NV Chemicalien Handle Rathkamp & Co, in the Dutch East Indies. In 1958, the Republic of Indonesia's government created pharmaceutical firms to create PNF (Perusahaan Negara Farmasi) Bhinneka Kimia Farma. The company's name was PT Kimia Farma (Persero) due to the legal status of PNF being changed to a Limited Liability Company (Perseroan Terbatas) on August 16th, 1971.

PT Kimia Farma (Persero) changed its status on July 4th, 2001, becoming PT Kimia Farma (Persero) Tbk, also known as the Company. The Jakarta Stock Exchange and the Surabaya Stock Exchange, which have since combined to form the Indonesia Stock Exchange, both listed the company simultaneously. The company's name has become a company as per the approval of the Minister of Law and Human Rights of the Republic of Indonesia, as stated in Decision Letter Nos. AHU-0017895.AH.01.02 of 2020 and AHU-AH.01.03-0115053 dated February 28, as well as in Minutes of Extraordinary General Meeting of Shareholders No. 18 dated September 18, 2019. As of February 28, 2020, it is known as PT Kimia Farma Tbk instead of PT Kimia Farma (Persero) Tbk.

After years of development, the Company has become a provider of comprehensive healthcare services in Indonesia. The healthcare and pharmaceutical industries make up the bulk of Kimia Farma's activity; Farma's company 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.

RESEARCH METHOD

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 utilizing 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 also use to find the fair stock price use 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.

Data Collection Method

This research used secondary data from credible references. The following 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 stock valuation process.

Data Analysis

The author will calculate company performance through several steps and conduct external factor analysis using PESTEL and Porter's Five Forces. Following that, Author calculates company performance from financial report in 2018-2022. The ratio as below:

1. Current Ratio

Current Ratio formula as below:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \quad \text{III.1}$$

2. Quick Ratio

Quick Ratio formula as below:

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Current Liabilities}} \quad \text{III.2}$$

3. Inventory Turnover

Inventory Turnover formula as below:

$$\text{Inventory Turnover} = \frac{\text{Cost of Good Sold}}{\text{Average Inventory}} \quad \text{III.3}$$

4. Total Asset Turnover

- Total Asset formula as below:
- $$\text{Total Asset Turnover} = \frac{\text{Sales}}{\text{Total Asset}} \quad \text{III.4}$$
5. Debt to Equity Ratio
Debt to Equity Ratio formula as below:
- $$\text{Debt to Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}} \quad \text{III.5}$$
6. Debt to Asset Ratio
Debt to Asset Ratio formula as below:
- $$\text{Debt to Asset Ratio} = \frac{\text{Total Debt}}{\text{Total Asset}} \quad \text{III.6}$$
7. Gross Profit Margin
Gross Profit Margin formula as below:
- $$\text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Revenue}} \times 100\% \quad \text{III.7}$$
8. Net Profit Margin
Net Profit Margin formula as below:
- $$\text{Net Profit Margin} = \frac{\text{Net Profit}}{\text{Revenue}} \times 100 \quad \text{III.8}$$
9. Operating Profit Margin
Operating Profit Margin formula as below:
- $$\text{Operating Profit Margin} = \frac{\text{Operating Profit}}{\text{Revenue}} \times 100 \quad \text{III.9}$$
10. Return on Equity
Return on Equity formula as below:
- $$\text{Return on Equity} = \frac{\text{Net Profit}}{\text{Total Equity}} \times 100 \quad \text{III.10}$$
11. Return on Asset
Return on Asset formula as below:
- $$\text{Return on Asset} = \frac{\text{Net Profit}}{\text{Total Asset}} \times 100 \quad \text{III.11}$$

To calculate and analyze the valuation, the Author use DCF Valuation and Relative Valuation. The steps to calculate the DCF Valuation are:

1. Forecast financial statement by using CAGR. The formula as below:

$$\text{CAGR} = \left(\frac{\text{Ending Value}}{\text{Beginning Value}} \right)^{\frac{1}{n}} - 1 \quad \text{III.12}$$

Where:

n = number of years in the period

2. Calculate FCC by using this formula:

$$\text{FCFF} = \text{EBIT} (1 - t) + \text{Depreciation \& Amortization} - \text{Capex} - \Delta \text{Net Working Capital} \quad \text{III.13}$$

Where:

EBIT (1-t) : Net Operating Profit After Tax

Depreciation & Amortization : Depreciation & Amortization Expenses

Capex : Capital Expenses

Δ Net Working Capital : Changes in current assets and liabilities

3. Calculate the Discount Rate using WACC. The formula is as follow:

$$WACC = \frac{D}{D+E} K_d(1 - t) + \frac{E}{E+D} K_e \quad \text{III.14}$$

Where:

D : Debt

E : Equity

K_d : Cost of Debt

K_e : Cost of Equity

t : Tax rate

4. Calculate the Terminal Value using this formula:

$$Terminal\ Value = \frac{FCFF_n \times (1+g)}{WACC-g} \quad \text{III.15}$$

Where:

FCFF_n : Free Cash Flow in Last Forecasted Year

WACC : Weighted Average Cost of Capital

g : Growth Rate

5. Discount the Terminal Value using this formula:

$$PV = \frac{TV}{(1+WACC)^n} \quad \text{III.16}$$

Where:

PV : Present Value of Terminal Value

TV : Terminal Value

WACC : Weighted Average Cost of Capital

n : number of years in the future at which the Terminal Value occurs

6. Asses value per share by dividing the intrinsic value of the company by the number of outstanding shares

In order to support the analysis, the author applies the relative valuation method in addition to DCF valuation calculations. Using Price to Earning Ratio (PER) and Earning Per Share (EPS), the author conducts an evaluation.

RESULT AND DISCUSSION

External Analysis

External analysis is the process of assessing external elements that can affect organizational 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 (Jagun, 2018).

Pestel Analysis

PESTEL analysis is used to assess the impact of external factors on the company. The author analyzes by considering PESTEL to proactively assess external factors, identify potential risks and opportunities, and make appropriate decisions to improve management for companies in the health industry (Siddiqui, 2021).

- 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 (Yusmar, Sumirat, & Sudrajad, 2023).

- Economical

Industrial commodities that have a large contribution to 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 (PT Kimia Farma Tbk, 2022). 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 (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 in the health industry. Currently, Kimia Farma has invested in R&D, one of which is in technology to develop new products and maximizing 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, 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 maximizing this technology could lead to increasing the company revenue by automatic digital marketing.

- Environmental

Environmental concerns are naturally strongly linked to the pharmaceutical industry, particularly in terms of research and development as well as the 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 minimize the environmental footprint of its business operations. In the company yearly report in 2022 states that Kimia Farma has assisted farmers to process 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 integrity and client trust in the health industry, businesses operating in this sector should protect their data and comply to legal regulation (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, 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.

Porter's Five Forces

To compete in the Indonesian pharmacy sector, Kimia Farma must identify and understand their competitive strengths and position.

- 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 has 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

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 face 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 buyer 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 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 that the presence of substitute products does not really matter.

- **Rivalry Among Existing Firms: High**

Rivalry Among Existing Firms for Kimia Farma is high because there are many other pharmaceutical companies in Indonesia that compete with Kimia Farma. The thing that is highlighted by investors 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 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 is dominated by Kalbe Farma and Merck.

Internal Analysis

Internal analysis is the process of evaluating a company's internal resources, capabilities, and weaknesses to identify its strengths and deficiencies. The financial ratio analysis is used by the internal analysis to identify areas where the performance 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.

Financial Ratio Analysis

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 is also evaluated using this metric. Following is the methodology used for Kimia Farma's financial ratio analysis:

- **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 2 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 in 2018 to 2020, the period before and during the pandemic, and 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 indicate the company is financially stable to pay the liabilities.

- **Activity Ratio**

The activity ratio calculated to measure how efficient the company use its asset in operation.

Table 3 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 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.

- **Leverage Ratio**

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

Table 4 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 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 indicate the company does not depend on debt to run its business.

- **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 5 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 pandemic, resulting the increase in GPM. Net Profit Margin also continued to decline until after pandemic but has increased in 2021. Declining the NPM in 2022 can be caused by the decrease of 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. Although, there is a warning signal for Kimia Farma's financial health.

- **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 as follows:

Table 6 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 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, there are several ratios that show warning signals, therefore it is needed to be careful in making some decisions.

Business Solution

After measuring and assessing the financial ratio, those calculation become parameters of the developed business solution. The business solution is the answer for the research question

Financial Assumption

The author needs general information that becomes a calculation parameter to determine the firm's value. In order to make the following assumptions for Kimia Farma's projection, the author gathered data as follows:

Table 7 Financial Assumption

Assumption		
Variable	Value	Source
Risk Free Rate	6.69%	Market Risk Premia
Implied Market Risk Premium	3.77%	Market Risk Premia
Implied Market Return	10.46%	Assumption Processed Data
Beta	1.529	KAEF Beta by PEFINDO
Revenue	CAGR	Company's Processed Data
COGS, Opex, Capex, Depreciation	% of sales	Company's Processed Data
Tax Rate	22%	Indonesia Corporate Tax by PwC
Terminal Growth	4.65%	Market Insight by Statista

Financial Projection

Kimia Farma financial projection started from 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 calculates by proportional of sales. For income statement the revenue growth is calculated about 2,58%. The other projection are calculated from percent of sales such as COGS (62,967%), Interest Expense (4,816%), Free cash flow projection as below:

Table 8 Financial Free Cash Flow 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 & Amortization 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 firm	(47,253,475)	16,769,215	121,201,729	277,882,808	503,617,557

Absolute Valuation

The author determines the present value (PV) of FCF to determine the firm's value. A discounted rate utilizing the FCF risk is required for PV calculations. The Weighted Average Cost of Capital (WACC) is used to calculate the discounted rate. Authors compute the capital structure and estimate the share of debt and equity to determine the WACC. The following are the results of the capital structure calculation:

Table 9 KAEF Capital Structure

Capital Structure	
Variable	Value
Debt	45.92%
Equity	54.08%
Total Debt	7,928,739,079
Total Equity	9,339,290,330

After calculating the capital structure, the author estimate the portion of debt and equity to determine the WACC. 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 assumption above. Furthermore, the calculation of cost of debt using the calculation of interest expense, total debt, and tax rate as stated in assumption above. Thus, the calculation of WACC as followed:

Table 10 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 & Sudrajad, 2023). Therefore, using current estimations, this company's terminal value is Rp 12,847,128,305.

Table 11 KAEF Present Value of Free Cash Flow

PV FCF	
2023 F	(43,523,479)
2024 F	14,226,315
2025 F	94,706,188
2026 F	199,995,888

2027 F	333,849,013
Total DCF	599,253,925
PV Terminal Value	8,516,385,181

After calculating the PV Terminal Value, the Author calculating value of equity and common stock and value per share as follows:

Table 12 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 out Standing	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 overvalue.

Relative Valuation

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

Table 13 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.

Sensitivity Analysis

The author conducted a sensitivity analysis utilizing 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 as follows:

Table 14 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 at the SensIt Tornado and SensIt Spider charts below, with an equity value per share for KAEF determined at Rp. 596.

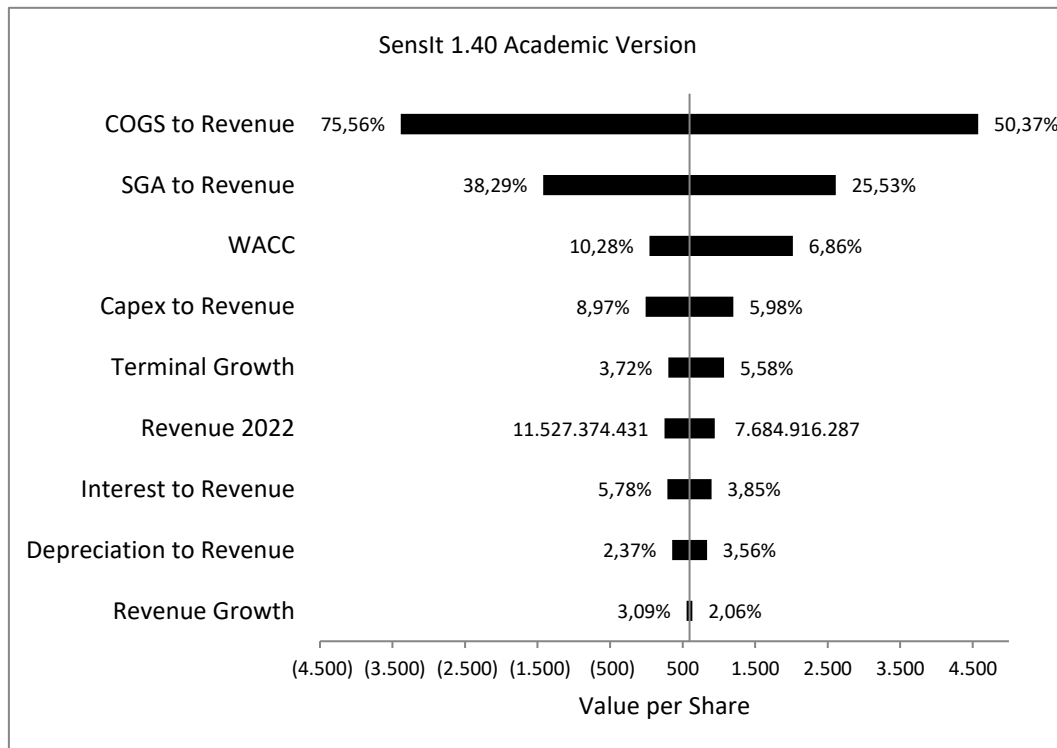


Figure 1 SensIt Tornado Diagram

An 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, cost of goods sold (COGS) to revenue exhibits the highest sensitivity, ranging from 75.56% to 50.37%. Selling, general & administrative expenses (SGA) to revenue sensitivity follows at 38.29% to 25.53%. The third is weighted average cost of capital (WACC) demonstrates a sensitivity of 10.28% to 6.86%.

Complementing the findings of the tornado diagram, the spider diagram visually reinforces the identification of the three most influential independent variables on intrinsic value. Similarly, this chart utilizes absolute sensitivity values calculated at a $\pm 20\%$ change (20% lower limit and 20% upper limit). The spider diagram's principle is that a steeper slope signifies a greater impact on the equity value per share. As illustrated in Figure IV.2, COGS to revenue, SGA to revenue, and WACC are identified as the variables with the most substantial influence.

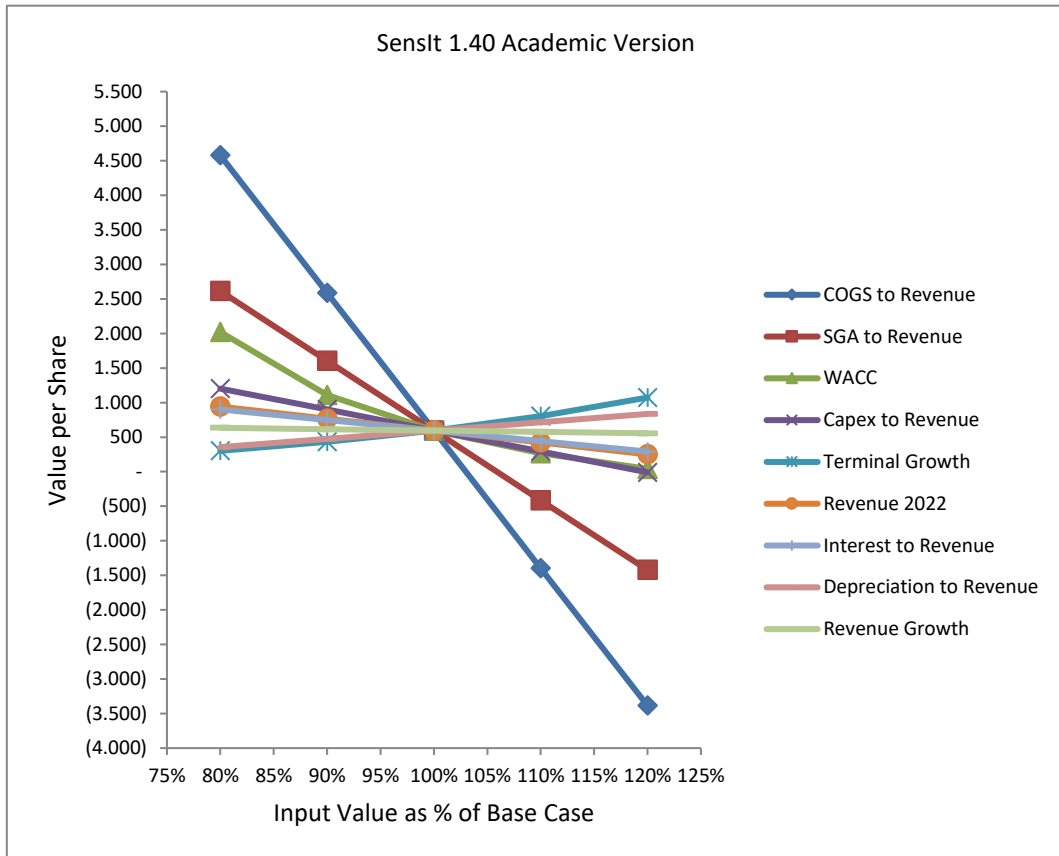


Figure 2 SensIt Spider Diagram

Based on the results of the sensitivity analysis above, 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 optimizing 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 optimize WACC.

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 significantly impact to 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 prioritizes 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 for 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 by 1.5 times. Sensitivity analysis reveals that COGS, SGA, and WACC are the primary factors influencing intrinsic value.

REFERENCES

- Abdullah, Mohammad Nayeem, & Shamsher, Robaka. (2011). A study on the impact of PEST analysis on the pharmaceutical sector: the Bangladesh context. *Journal of Modern Accounting and Auditing*, 7(12), 1446.
- Asmirantho, Edhi, & Somantri, Oktiviani Kusumah. (2017). The effect of financial performance on stock price at pharmaceutical sub-sector company listed in Indonesia stock exchange. *JIAFE (Jurnal Ilmiah Akuntansi Fakultas Ekonomi)*, 3(2), 94–107.
- Atmaja, Michelia Yemima Hardwi, & Davianti, Arthik. (2022). Kinerja Keuangan Perusahaan Farmasi BUMN dan Non-BUMN Sebelum dan Selama Pandemi. *Owner: Riset Dan Jurnal Akuntansi*, 6(3), 2721–2739.
- Dalilah, Afna, & Hendrawan, Riko. (2021). Valuasi Saham Pada Perusahaan Sub Sektor Farmasi Dengan Metode Discounted Cash Flow Dan Relative Valuation Pada Periode Tahun 2013-2020. *eProceedings of Management*, 8(5).
- Damodaran, Aswath. (2012). *Investment valuation: Tools and techniques for determining the value of any asset* (Vol 666). John Wiley & Sons.
- Devi, Sunitha, Warasniasih, Ni Made Sindy, Masdiantini, Putu Riesty, & Musmini, Lucy Sri. (2020). The impact of COVID-19 pandemic on the financial performance of firms on the Indonesia stock exchange. *Journal of Economics, Business, and Accountancy Ventura*, 23(2), 226–242.
- Endri, Endri, Susanti, Desi, Hutabarat, Lamminar, Simanjuntak, Torang P., & Handayani, Susi. (2020). Financial performance evaluation: Empirical evidence of pharmaceutical companies in Indonesia. *Systematic Reviews in Pharmacy*, 11(6), 803–816.
- Ikhwanysyah, Isis, Chandrawulan, An An, & Amalia, Prita. (2018). Optimalisasi Peran Badan Usaha Milik Negara (BUMN) pada Era Masyarakat Ekonomi Asean (MEA). *Jurnal Media Hukum*, 25(2), 150–161.
- Jagun, Charles. (2018). *Strategies for Compliance with Government Regulations in a Pharmaceutical Company*.
- Nurbaeti, Nunung, Mirfaqoh, Vella, Zuhendra, Rezki, Amin, Yosep Hertanto, Alhadi, Neo Cahyo, Fadhil, Ahmad, Sitohang, Rifi Hamdani, & Yusriani, Sri. (2023). Analysis of The Financial Performance of PT Kimia Farma, Tbk (Persero) 2021-2022. *Proceeding of The International Seminar on Business, Economics, Social Science and Technology (ISBEST)*, 3(1).
- Prayogi, Reynaldy, & Wandebori, Harimukti. (2020). Proposed Strategy for Pharmaceutical Industry (Case Study: PT Bio Farma Persero). *European Journal of Business and Management Research*, 5(5).
- Siddiqui, Ahsan Ali. (2021). The use of Pestel analysis tool of quality management in the health care business and its advantages. *Am J Biochem Biotechnol*, 14, 507–512.
- Statistik., Badan Pusat. (2023). *Statistik Indonesia 2023*.
- Yusmar, Qiva Chandra Mahaputera Meizon, Sumirat, Erman, & Sudrajad, Oktofa Yudha. (2023). Company Fair Valuation Considering ESG Factor (Case Study: Pt Pertamina Geothermal Energy, Tbk). *European Journal of Business and Management Research*, 8(5), 95–101.
- Zayetri, Novia, & Sudrajad, Oktofa Yudha. (2023). Healthcare Company Valuation (Case Study Of Hospital ABC). *Journal of Economics and Business UBS*, 12(2), 919–936.