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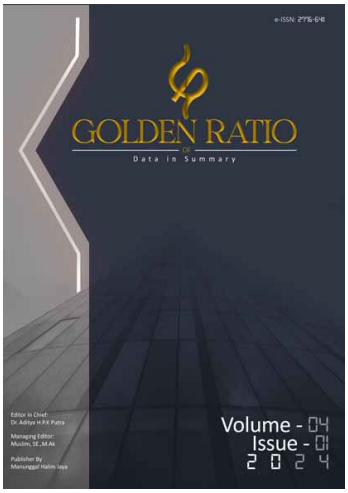

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DESCRIPTIVE OF QUANTITATIVE DATA | SUPPLEMENTARY

Net Profit Margin as Driver of Firm Value: A Study of The Pharmaceutical Sector Listed on IDX

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Abstract: This study aims to analyse the effect of Net Profit Margin (NPM) on firm value, as measured using Price to Book Value (PBV) in the pharmaceutical sector in Indonesia. Profitability is often considered a major factor in determining firm value, but the relationship between NPM and PBV is still debated in various previous studies. This study uses panel data from 7 pharmaceutical companies listed on the Indonesia Stock Exchange (IDX) during the 2019-2023 period. The analysis method used is panel data regression with a fixed effects approach (FEM) to capture differences in characteristics between companies. The results showed that Net Profit Margin (NPM) has no significant effect on firm value (PBV) with a coefficient value of -0.0061 and a p-value of 0.7531. Although the overall model is significant (Prob F-statistic = 0.0000), the NPM variable does not play a major role in explaining variations in firm value in the pharmaceutical sector. This indicates that other factors, such as capital structure, revenue growth, and market conditions, may have more influence on firm value than profitability alone. This study contributes to academics and financial practitioners in understanding the factors that influence firm value in the pharmaceutical industry. The implication of these findings is that financial managers and investors need to consider other variables besides profitability in assessing the prospects and valuation of pharmaceutical companies.

Keywords: Net Profit Margin, Price to Book Value, Firm Value, Panel Data Regression, Pharmaceutical Sector

1. INTRODUCTION

The pharmaceutical sector is one of the strategic industries that has an important role in supporting public health as well as driving the national economy. In the midst of global developments, the pharmaceutical sector faces increasingly complex challenges, including competitive pressures, fluctuations in raw material prices, and demands for technological innovation. In this situation, the company's financial performance is one of the main indicators to measure the competitiveness and sustainability of companies in the pharmaceutical industry (Taha, Murni and Untu, 2023).

One frequently used financial performance indicator is Net Profit Margin (NPM), which reflects a company's efficiency in managing revenue and costs to generate net profit. NPM becomes relevant because a company's ability to maintain a high profit margin indicates a good level of profitability, which in turn can increase investor confidence. This trust is then reflected in an increase in firm value, which is often measured using indicators such as Price to Book Value (PBV) or Tobin's Q (Kumalasari, Parluhutan and Munawarah, 2023).

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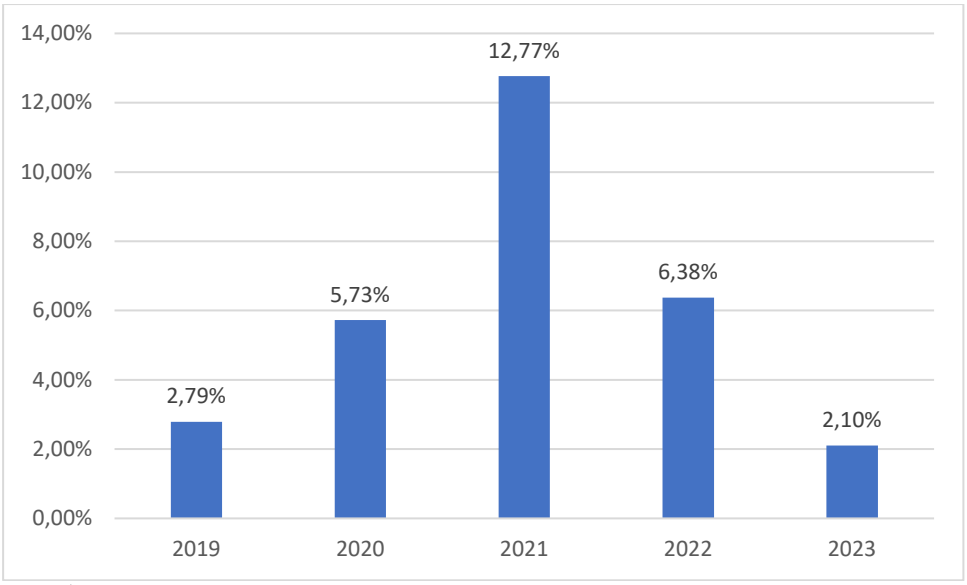

Source: Tradingview

Figure 1. Average Pharmaceutical Sector company value for the period 2019 to 2023

Figure 1 shows that the average company value as measured by PBV is above one, this reflects the high market expectations of the company's performance during the current period and the company's performance in the future period. These high expectations will have a negative impact when the company's financial performance does not match market expectations and this will ultimately reduce market confidence in the company's future performance and ultimately reduce the value of the company itself. Firm value is an important concept in the financial literature because it reflects the market's perception of the company's performance and prospects. Investors tend to give high valuations to companies that have high profitability and good financial stability. Therefore, understanding the effect of Net Profit Margin on firm value in the pharmaceutical sector is important, especially in the midst of dynamic economic conditions and strict regulations on this industry (Setiawati, 2020).

This study was conducted to fill the gap in the literature regarding the relationship between profitability and firm value in the pharmaceutical sector. By using financial data from pharmaceutical companies listed on the IDX, this study aims to empirically analyse the effect of Net Profit Margin on firm value. The results of the study are expected to contribute both to the development of financial theory and for company management in optimising financial strategies to increase firm value.

Thus, this study is not only relevant for academics, but also for financial practitioners and company managers who want to understand the factors that influence firm value in the pharmaceutical sector. In the midst of intense competition and demands for efficiency, the results of this study are expected to be the basis for strategic decision-making to improve the competitiveness of pharmaceutical companies in Indonesia.

2. LITERATURE REVIEW

Net Profit Margin is a financial ratio that shows the percentage of net profit to revenue. NPM reflects the extent to which the company can generate net profit from the revenue earned. According to Gitman and Zutter cited by a high NPM indicates management efficiency in controlling costs, which has implications for increasing investor attractiveness (Dian Safitri, Sudjinan and Nurlia ., 2022)

Net Profit Margin is a financial ratio that shows the percentage of net profit to revenue. NPM reflects the extent to which the company can generate net profit from the revenue earned. The NPM

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indicator consists of net income and net income or sales (Laksono and Rahayu, 2021) The formula for calculating NPM is as follows:

$$NPM = \frac{Laba\ Bersih}{Penjualan\ Bersih}\ x\ 100\%$$

Firm value is a market measure that reflects investors' perceptions of the company's performance and prospects. The value of the company can be reflected by the stock price (Rosita, 2022), but more specifically it can be measured by several indicators such as Price to Book Value (PBV) or Tobin's Q. According to Brigham and Houston (2016), a high company value indicates a strong level of investor confidence in the company's potential (Susan and Winarto, 2023) . In this study, the company value will be measured using PBV, the calculation formula is as follows:

$$PBV = \frac{Nilai\ Perusahaan}{Nilai\ Buku\ Perlembar\ Saham}\ x\ 100\%$$

Signaling theory (Spence, 1973) explains that good financial information, such as high NPM, can be a positive signal to investors. The signal increases market confidence in the company and has an impact on increasing company value (Fitriani, 2023)

Previous research shows a positive relationship between profitability, such as NPM, and firm value. Companies that are able to maintain a stable NPM tend to have a higher market value because they are considered capable of generating sustainable profits (Mufarrikhah, Yuniardi and Syakarofath, 2020)

This study departs from the concept that Net Profit Margin (NPM) is a key indicator of profitability that can affect firm value. A high NPM indicates the company's ability to manage operational efficiency, which then becomes a positive signal for investors. With increased investor confidence, the company's value, as measured by Price to Book Value (PBV) or Tobin's Q, will also increase (Yunita et al., 2014)., 2018)

3. RESEARCH DESIGN AND METHOD

A method is a way of working that can be used to obtain something. Meanwhile, the research method can be interpreted as a work procedure in the research process, both in the search for data or the disclosure of existing phenomena. To achieve the purpose of this paper, quantitative methods are used, while the estimated model used is balanced panel data regression. The form of a causal relationship in a study is usually indicated by the existence of independent variables and dependent variables (Sugiyono; Rosita 2024). This article uses NPM as the independent variable and the dependent variable Company Value, where in this article company value will be proxied using PBV.

This study uses quantitative data in the form of numbers derived from secondary data. The data in this study were taken from the website.tradingview.com. Data obtained using documentation study techniques. Researchers used all pharmaceutical sector companies listed on the IDX as a population of nine entities, which are presented in table 1 below:

Table 1. List of Pharmaceutical Sector Companies listed on the IDX

No.	Company Name	Code
1	PT Kalbe Farma Tbk	KLBF
2	PT Industri Jamu dan Farmasi Sido Muncul Tbk	SIDO
3	PT Tempo Scan Pacific Tbk	TSPC
4	PT Soho Global Health Tbk	SOHO
5	PT Kimia Farma Tbk	KAEF

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6	PT Pyridam Farma Tbk	PYFA
7	PT Darya-Varia Laboratoria Tbk	DVLA
8	PT Merck Tbk	MERK
9	PT Penta Valent Tbk	PEVE
10	PT Ikapharmindo Putramas Tbk	IKPM
11	PT Phapros Tbk	PEHA
12	PT Indofarma Tbk	INAF
13	PT Organon Pharma Indonesia Tbk	SCPI

Source: idnfinancial.com

In this study, not all companies were used as samples due to the unavailability of the required data on several companies, The samples in this study are presented in table 2 below:

Table 2. List of Research Samples

No.	Company Name	Code
1	PT Kalbe Farma Tbk	KLBF
2	PT Industri Jamu dan Farmasi Sido Muncul Tbk	SIDO
3	PT Kimia Farma Tbk	KAEF
4	PT Pyridam Farma Tbk	PYFA
5	PT Darya-Varia Laboratoria Tbk	DVLA
6	PT Merck Tbk	MERK
7	PT Phapros Tbk	PEHA

Source: idnfinancial.com

Panel data analysis is used to process the data that has been collected, because the data is a combination of crosssectional and time series data. The regression equation is as follows:

$$\text{Firm Value}_{it} = \beta 0 + \beta \text{NPM}_{it} + \varepsilon 1$$

After compiling the panel data regression equation, the next step is to check the model that has been made using the common effect, fixed effect and random effect models. Then, to determine the most efficient among the three models, a statistical selection must be made using the chow test and the haussman test. to facilitate the calculation process, the researcher uses the calculation tool eviews12.

4. RESULT AND DISCUSSION

Net Profit Margin is a financial ratio that shows the percentage of net profit to revenue. NPM reflects the extent to which the company can generate net profit from the revenue earned. The following is the NPM of pharmaceutical sector companies during the period 2019 to 2023, presented in Figure 2.

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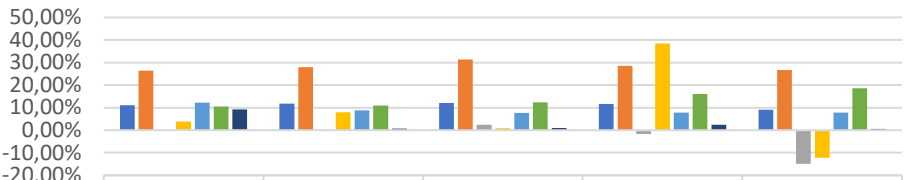

	2019	2020	2021	2022	2023
KLBF	11,08%	11,83%	12,12%	11,69%	9,09%
SIDO	26,33%	28,00%	31,36%	28,58%	26,66%
KAEF	-0,14%	0,18%	2,35%	-1,77%	-14,91%
PYFA	3,78%	7,97%	0,87%	38,47%	-12,14%
DVLA	12,23%	8,86%	7,72%	7,79%	7,74%
MERK	10,51%	10,96%	12,37%	15,99%	18,54%
PEHA	9,23%	0,73%	1,05%	2,40%	0,59%

Source: tradingview, data processed 2025

Figure 2: NPM Chart of Pharmaceutical Sector Companies for the Period 2019 to 2023

The graph above shows the development of NPM of several pharmaceutical companies in Indonesia in the 2019-2023 period. There are three groups of NPM performance developments, namely stable, fluctuating and increasing. Over the past 5 years there have been two companies with stable financial performance including KLBF and SIDO. KLBF shows a relatively stable performance, with NPM ranging from 9% to 12% each year. Although it experienced a slight decline in 2023 (9.09%), the company's performance was maintained. Meanwhile, SIDO consistently has the highest NPM compared to other companies, ranging from 26%-31%. This indicates strong profitability and high operational efficiency.

Then there are also several companies with fluctuating financial performance including KAFA, PYFA, DVLA, and PEHA. KAEF experienced a drastic decline from 2.35% (2021) to -1.77% (2022) and -14.91% (2023). This indicates a possible increase in operating expenses or a significant decline in sales. While PYFA experienced high growth in 2022 (38.47%), it fell drastically to -12.14% in 2023. This indicates instability in the profitability strategy. DVLA then maintained its NPM between 7%-12%, showing stability despite a decline after 2019. Finally PEHA had the lowest NPM throughout the period, with relatively low performance and no significant growth.

Finally, there is also a company that has improved performance, namely MERK, this company shows a positive growth trend, from 10.51% (2019) to 18.54% (2023). This indicates improved efficiency and a successful business strategy to increase profit margins.

The development of NPM which continues to increase can encourage increased market confidence in the company so that in the end it can increase the company's value. The following is presented the company value as measured by PBV in the pharmaceutical sector during the period 2019 to 2023 which is presented in Figure 3.

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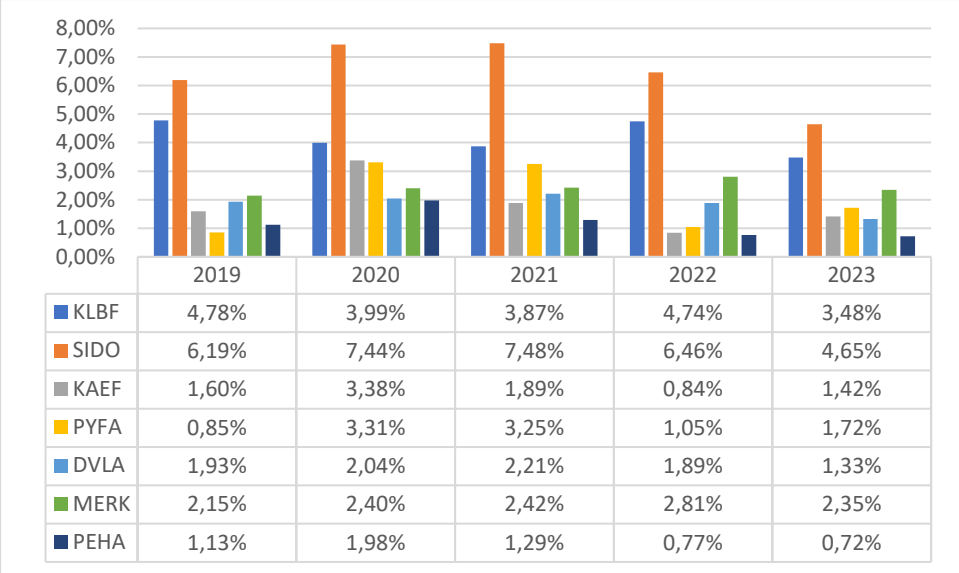

	2019	2020	2021	2022	2023
KLBF	4,78%	3,99%	3,87%	4,74%	3,48%
SIDO	6,19%	7,44%	7,48%	6,46%	4,65%
KAEF	1,60%	3,38%	1,89%	0,84%	1,42%
PYFA	0,85%	3,31%	3,25%	1,05%	1,72%
DVLA	1,93%	2,04%	2,21%	1,89%	1,33%
MERK	2,15%	2,40%	2,42%	2,81%	2,35%
PEHA	1,13%	1,98%	1,29%	0,77%	0,72%

Source: tradingview, data processed 2025

Figure 3: Graph of Pharmaceutical Sector Company Value for the Period 2019 to 2023

The chart above displays the Price to Book Value (PBV) of several pharmaceutical companies in Indonesia in the period 2019-2023. PBV reflects how the market values the company compared to its book value. The following is the development of company value in the pharmaceutical sector, namely companies with high PBV, fluctuating and companies with a stable trend with an upward trend. There are two companies with high PBV values, namely SIDO and KLF. SIDO consistently has the highest PBV among other pharmaceutical companies, with the highest value in 2020 and 2021 (7.44% and 7.48%), but decreased to 4.65% in 2023. This shows that the market valuation of SIDO has corrected in recent years. Meanwhile, KLBF has a stable PBV, ranging from 3.48% - 4.78%. The increase in 2022 (4.74%) shows an increase in valuation before falling slightly in 2023 (3.48%).

The companies with fluctuating PBV consist of KAFA, PYFA and DVLA. KAEF experienced a spike in PBV in 2020 (3.38%), but continued to decline thereafter, reaching 1.42% in 2023. This shows that the market valuation of KAEF has weakened. Meanwhile, PYFA experienced an increase in 2020-2021 (3.31% and 3.25%), but dropped significantly in 2022 (1.05%), before slightly rising back to 1.72% in 2023. Meanwhile, DVLA experienced an increase in PBV from 1.93% (2019) to 2.21% (2021), but then declined to 1.33% in 2023.

Companies with a Stable or Upward Trend consist of MERK and PEHA. MERK shows a gradual upward trend, from 2.15% (2019) to 2.81% (2022) before slightly dropping to 2.35% in 2023. This suggests that the market continues to value Merck positively. Meanwhile, PEHA has the lowest PBV among all analysed companies, with a decline from 1.13% (2019) to 0.72% (2023), indicating a low market valuation of the company.

As for knowing the effect of NPM on firm value, the panel data regression test model uses fixed effects between companies, which means that the specific characteristics of each company are taken into account in the model. These fixed effects can help explain variations in PBV that cannot be explained solely by NPM. Based on the calculation, the following results are obtained:

Table 1. Panel Data Regression Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.912814	0.235451	12.37120	0.0000
NPM	-0.006143	0.019328	-0.317836	0.7531
Effects Specification				

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Cross-section fixed (dummy variables)			
R-squared	0.853221	Mean dependent var	2.851714
Adjusted R-squared	0.815167	S.D. dependent var	1.870752
S.E. of regression	0.804278	Akaike info criterion	2.599888
Sum squared resid	17.46529	Schwarz criterion	2.955396
Log likelihood	-37.49803	Hannan-Quinn criter.	2.722609
F-statistic	22.42141	Durbin-Watson stat	1.949583
Prob(F-statistic)	0.000000		

Based on the calculation results above, it is known that:

1. Interpretation of Regression Coefficient

   Constant (C) = 2.9128. This value indicates that when NPM = 0, the average PBV value of pharmaceutical companies is 2.9128.
   NPM coefficient = -0.0061. This coefficient indicates that for every 1 unit increase in NPM, PBV will decrease by 0.0061 units. However, the probability value (0.7531) indicates that this relationship is not statistically significant.

2. Model Significance

   R-squared = 0.8532 (85.32%)
   This shows that 85.32% of PBV variation can be explained by the independent variables (NPM and intercompany fixed effects).
   Adjusted R-squared = 0.8152 (81.52%)
   After adjusting, the model still has a fairly high predictive ability.
   F-statistic = 22.4214, Prob(F-statistic) = 0.0000
   The overall model is significant (as p-value <0.05), which means there is a relationship between the independent and dependent variables in general.

3. Coefficient Significance Test (t-Statistic & P-Value)

   t-Statistic for NPM = -0.3178, Prob = 0.7531
   This shows that NPM has no significant effect on PBV at the 95% confidence level.
   In other words, changes in profitability (NPM) do not directly impact firm value (PBV) in this model.

5. CONCLUSIONS

The development of Net Profit Margin (NPM) for pharmaceutical sector companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period shows varying trends. Some companies demonstrated stable and high performance, such as SIDO and KLBF, which consistently maintained strong profitability throughout the period. On the other hand, companies like PYFA and KAEF exhibited unstable performance, with KAEF experiencing a sharp decline. Meanwhile, MERK showed positive growth, marked by a consistent upward trend in profitability over the past five years. In terms of company value development, there was also considerable variation among pharmaceutical companies. Companies with the highest market valuation, such as SIDO and KLBF, consistently maintained high Price to Book Value (PBV) ratios, indicating strong investor confidence in their profitability and growth prospects. In contrast, KAEF and PYFA experienced significant declines in

valuation after reaching higher PBV levels during 2020–2021. MERK and KLBF showed relatively stable PBV trends, while PEHA consistently remained at the lowest level of market valuation.

Statistical analysis in this study indicates that there is no significant effect between NPM and PBV, as reflected by a p-value greater than 0.05. However, the overall model is significant, suggesting that other variables—possibly including inter-company fixed effects—play a role in explaining the variations in PBV across pharmaceutical sector companies.

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