1st International Conference on Management, Business and Economy (ICoMBEc 2025)
Vo. 1 No. 1 2025
e-ISSN : XXXX-XXX

THE EFFECT OF SALES AND OPERATING EXPENSES ON NET PROFIT AT PT GUDANG GARAM, TBK. PERIOD 2015 - 2024

Liska Amelia[1], Putri Nur Anzani[2], Virliana Maharani[3]

Abstract

This study aims to analyze the influence of sales and operating expenses on net profit at PT Gudang Garam Tbk during the period 2015–2024. This study uses a quantitative approach with multiple linear regression analysis methods. The data used is secondary data obtained from the company's annual financial statements. The analysis was carried out through a series of classical assumption tests, including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, and continued with partial t-tests and simultaneous F tests to test the influence of each independent variable on the dependent variable. The results of the study show that sales and operating expenses do not have a significant effect partially on net profit. In addition, the results of the simultaneous test also indicated that the two variables together did not have a significant effect on net profit. These findings imply that other factors beyond sales and operating expenses likely play an important role in determining a company's net profit. This research contributes to expanding insights related to the financial management of manufacturing companies, especially in the cigarette industry sector.

Keywords:
Sales, Operating Expenses, Net Profit

Introduction

Manufacturing companies have an important role in driving national economic growth, especially in the cigarette industry sector which is one of the largest contributors to state revenue. One of the leading cigarette companies in Indonesia is PT Gudang Garam Tbk, which has been operating for decades and is a major player in the tobacco products industry. The financial performance of a manufacturing company can be measured through various indicators, one of which is net profit. Net profit reflects the final results of all the company's operational and financial activities in a period.

In the context of financial performance measurement, sales are one of the main components that can affect net profit. An increase in sales volume will usually contribute directly to an increase in the company's revenue and profit. However, net profit is not only affected by sales, but also by operating expenses. Operating expenses include sales, administrative, and general costs incurred by the company to support its operational activities. If operating expenses increase significantly without being offset by an increase in sales, then the company's net profit may decrease.

The period 2015–2024 is an interesting time frame to analyze because it covers various national and global economic dynamics, including changes in cigarette excise

regulations, fluctuations in raw material prices, and changes in people's consumption behavior. This has an impact on the company's sales performance and operating cost structure. Thus, it is important to examine the extent to which sales and operating expenses affect the company's net profit during that period.

Through this study, it is hoped that it can provide a clearer picture of the relationship between sales, operating expenses, and net profit at PT Gudang Garam Tbk. The results of the research can also be considered for the company's management in making strategic decisions to improve operational efficiency and profitability of the company.

Table 1 Financial Ratio Report of PT Gudang Garam, Tbk. Period 2015 – 2024

tahun	penjualan (X1)	beban operasional (X2)	laba bersih (Y)
2015	7,9%	7,9	9,1
2016	8,3%	10,8	8,8
2017	9,2%	7,5	9,3
2018	14,90%	7,9	8,14
2019	15,5	7,2	9,8
2020	3,6	6,4	6,7
2021	9,1	5,7	4,5
2022	0,16	5,8	2,2
2023	4,6	6,2	4,5
2024	17,1	7,8	1

Financial performance in the period 2015–2024 shows significant fluctuations in sales, operating expenses, and net profit. These three indicators have a close relationship in determining the level of profitability of the company, because sales play a role as the main source of income, while operating expenses reflect the efficiency of cost management in carrying out business activities.

In 2015, the company's sales and operating expenses were both at 7.9%, with a net profit of 9.1%. This condition shows stability between revenue and costs, where net profit is still quite high. Entering 2016, sales increased to 8.3%, but was followed by a surge in operating expenses of up to 10.8%. As a result, net profit declined slightly to 8.8%, indicating that the increase in revenue has not been able to cover the increase in costs.
In 2017, resales rose to 9.2% and operating expenses decreased to 7.5%, resulting in an increase in net profit to 9.3%. This indicates good operational efficiency. However, in 2018, although sales jumped sharply to 14.9%, net profit actually decreased to 8.14%, which indicates pressure from external factors such as rising raw material prices or taxes.

2019 was the best-performing period, when sales rose to 15.5% and operating expenses fell to 7.2%, resulting in the highest net profit of 9.8%. This condition illustrates the ideal balance between increased revenue and cost efficiency. But in 2020, the COVID-19 pandemic had a major impact on the industry, including. Sales fell sharply to 3.6%, operating expenses decreased to 6.4%, and net profit also fell to 6.7%.
In 2021, sales began to recover to 9.1%, with operating expenses decreasing to 5.7%, but net profit actually decreased sharply to 4.5%. This can be caused by a decrease in operational efficiency or other expenses that are not directly related to the company's operations. 2022 was the lowest point in this period, with sales only 0.16% and net profit slumping to 2.2%, although operating expenses remained in the range of 5.8%. These conditions show that the company is under great pressure in terms of revenue, while costs remain high.

In 2023, sales increased slightly to 4.6% with an operating expense of 6.2%, and net profit rose slightly to 4.5%. This indicates that the recovery process is still limited. Meanwhile, in 2024, although sales jumped sharply to 17.1%, operating expenses increased to 7.8%, and net profit actually dropped drastically to 1%. This fact shows that an increase in sales does not automatically increase profits if it is not accompanied by effective cost control.

Overall, PT Gudang Garam Tbk's performance during 2015–2024 shows that sales (X_1) fluctuated sharply, operating expenses (X_2) tended to be stable but increased at the end of the period, and net profit (Y) showed a downward trend, especially after 2019. This indicates that operational efficiency and cost control strategies are important factors for companies in maintaining profitability, especially in the midst of economic dynamics and increasingly fierce competition in the national cigarette industry.

Theoretical Framework

According to Philip Kotler (2008), sales is a social and managerial process in which individuals or groups obtain what they need and want through the creation and exchange of products and values with others.
According to Rudianto (2012), operating expenses are all costs arising from the company's main activities, both fixed and variable, to generate revenue for a period.
According to Kasmir (2016) states that net profit is the profit that the company actually earns after all costs, expenses, and taxes are deducted from income.

From the results of the previous study, it can be identified that there are gaps in the research, including

1. Inconsistency in previous research results related to the effect of operating expenses on net profit.

2. Lack of long-term research analyzing financial trends for nearly a decade.
3. There is a lack of specific studies on the cigarette industry sector, even though this sector has unique characteristics, especially in the cost structure and government regulations.

This study aims to update and expand on previous findings by using the latest data for the period 2015–2024 to assess the influence of sales and operating expenses on net profit in cigarette manufacturing companies, in particular. Conceptually, sales and operating expenses act as independent variables, while net profit is a dependent variable that reflects the company's financial performance.
Theoretically, an increase in sales is expected to increase net profit, because the higher the sales rate, the greater the potential revenue that the company will get after deducting costs. On the other hand, an increase in operating expenses tends to lower net profit, as an increase in operating expenses will reduce the difference between revenue and expenses, thereby reducing the company's profits.
Using historical data over 10 years (2015–2024), this study is expected to provide a more comprehensive picture of the relationship between sales, operating expenses, and net profit in one of the largest cigarette companies in Indonesia. In addition, the results of this study are expected to be an update of previous studies that still show different results, as well as provide an empirical reference for management in improving operational efficiency and sales strategies to maintain the company's profitability.

The relationship between variables based on the above theories

1. H1: Sales have a positive and significant effect on net profit in the 2015–2024 period.
2. H2: Operating expenses have a negative and significant effect on net profit in the 2015–2024 period.
3. H3: Sales and operating expenses simultaneously have a significant effect on net profit in the 2015–2024 period.

Method
The scope of this research includes financial data for 10 years, from 2015 to 2024, which includes three main components: sales revenue, operating expenses, and net profit.
Data is collected by copying sales value, operating expenses, and net profit from the company's financial statements, then recorded in Microsoft Excel format, to be further processed and analyzed using SPSS software.
In this study, there are two types of variables, namely:
Variable Dependency (Y)

Net Profit (LB)
Net profit is the difference between total revenue and all expenses incurred by the company after tax. Net profit is used to describe the level of profitability and overall financial performance of a company.

2. Independent Variable (X)

a. Sales (Sales / X_1)
Sales are the total revenue that a company earns from the sales of products or services during a certain period. The increase in sales is expected to increase net profit, as it shows an increase in the company's economic activity.
b. Beban Operasional (Operating Expenses / X_2)
Operating expenses are all expenses incurred by a company to support its operational activities, such as labor, marketing, distribution, and administrative costs. Increased operating expenses tend to lower net profit because it reduces the company's profit margin.
The analysis methods used in this study include:

1. Classic Assumption Test

This test is performed to ensure that the multiple linear regression model meets the criteria as a good model, consisting of:
a. Normality Test – To see if the residual data is normally distributed using histogram graphs or normal P–P plots.
b. Multicollinearity Test – To ensure there is no correlation between independent variables. Criteria: Tolerance value > 0.10 and VIF < 10.00.
c. Heteroscedasticity Test – To test whether there is a residual variance disparity between observations using the scatterplot method.
d. Autocorrelation Test – To detect the presence of correlation between residuals using the Durbin–Watson (DW Test). If the value of DW is between du and (4–du), then there is no autocorrelation.

2. T test (Partial test)

The t-test is used to determine the influence of each independent variable (sales and operating expenses) on the dependent variable (net profit) partially.
Test criteria:
If the significance value (sig.) < 0.05, then the independent variable has a significant effect on net profit.

3. F Test (Simultaneous Test)

The F test is used to determine the influence of the two independent variables simultaneously on the dependent variables.

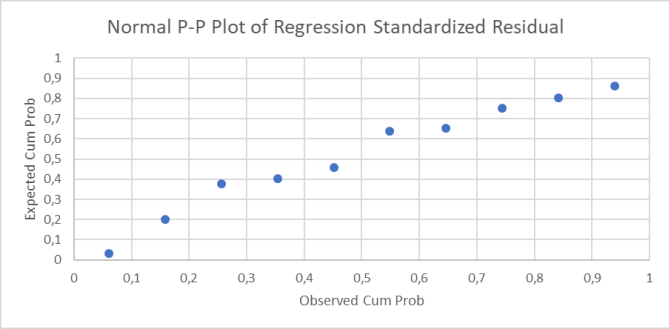
Test criteria:
If the significance value of F < 0.05, then the regression model as a whole is declared feasible and the sales variables and operating expenses have a significant effect simultaneously on net profit.

Results

1. Normality Test

According to Sugiyono, the normality test is a test carried out to find out whether in the regression model the dependent and independent variables have a normal or close to normal distribution. This test is important because classical regression analysis assumes the data should be normally distributed.

Gambar 1. Hasil Uji Normalitas



Sumber: Data di olah (SPSS Ver 26)

According to Ghozali, the normality test aims to test whether in the regression model the disruptive or residual variable has a normal distribution. If this assumption is not met, then the results of the statistical test become invalid.

From figure 1, it can be concluded that this regression model shows a normal distribution. This can be seen from the position of the residual points that are almost parallel to the normal line, which indicates that the residual data is well distributed.

1. **Multicollegiate Test**

According to Ghozali, the multicollinearity test aims to test whether there is a correlation between independent variables in the regression model. A good regression model should not have a strong correlation between independent variables.

Gambar 2. Hasil Uji Multikoleniaritas

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-0,789	5,288		-0,149	0,886		
	X1	0,009	0,207	0,015	0,041	0,968	0,869	1,150
	X2	0,972	0,760	0,459	1,279	0,242	0,869	1,150

a. Dependent Variable: Y

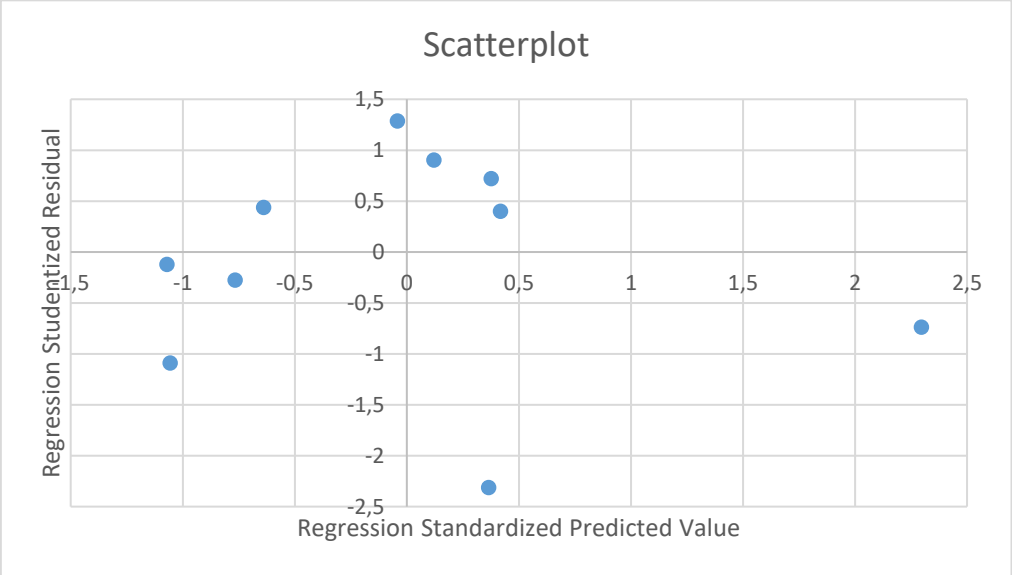
The condition is that multicollinearity does not occur if the Tolerance value is more than 0.100 and the VIF value is less than 10.00, if the VIF value exceeds 10 or the

Tolerance is close to zero, then it can be concluded that multicollinearity occurs in the analyzed regression model.
In table 2, it can be seen that the tolerance value for Revenue and Operating Expenses is 0.869 greater than 0.100 and the VIV value for both variables is 1.150 less than 10.00. So it can be concluded that this regression model does not have symptoms of multicollinearity.

1. Heteroscedasticity Test

The heteroscedasticity test is a classical assumption test used to find out whether there is an unevenness in the regression model of variance from the residual (error) for all observations. If the residual variance is not constant, then heteroscedasticity occurs and this can cause the estimation results to be inefficient.

Gambar 3 hasil 1. Uji Heteroskedastisitas



According to Ghozali (2018), the heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from one residual observation to another. If the residual variance is the same, then it is called homocedasticity; if it is not the same, it is called heteroscedasticity.
Judging from figure 2, the data points are randomly scattered above and below the 0 (zero) line, without being collected in one area or forming a specific pattern. Therefore, it can be concluded that in this regression test, no symptoms of heteroscedasticity were found.

1. Uji AutoKorelasi

Gambar 4. Hasil 1. Uji AutoKorelasi

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.388[a]	.150	-.092	251.18485	2.332

a. Predictors: (Constant), X2, X1

b. Dependent Variable: Y

According to Ghozali (2018), the autocorrelation test aims to test whether in the linear regression model there is a correlation between the interference error in the t-period and the error in the t-1 period (previously). Autocorrelation often occurs in time series data.

Based on the results of the Autocorrelation test using the Durbin–Watson method, a DW value of 2.332 was obtained. This value is between the upper limit (dU) and 4 – dU at a significance level of 5%. This shows that there is no autocorrelation, either positive or negative, in the regression model. With this assumption being met, it can be concluded that the residuals are random and independent, so the regression model is considered feasible for use in advanced analysis

1. Partial t-test (multiple linear regression) based on significance values

According to Ghozali (2018), the t-test aims to see how far an independent variable partially influences the dependent variable assuming an independent variable

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0,789	5,288		-0,149	0,886
	X1	0,009	0,207	0,015	0,041	0,968
	X2	0,972	0,760	0,459	1,279	0,242

a. Dependent Variable: Y

Partial t-test is a statistical testing method used in multiple linear regression analysis to determine the influence of each independent variable (X) individually on the dependent variable (Y). This test was performed to test the significance of the regression coefficient of each independent variable in the model.

Based on the results of the partial t-test in the Coefficients table, significance values were obtained for each independent variable. For the X1 variable, the significance value is 0.968, while for the X2 variable, the significance value is 0.241. Both of these values are greater than the significance limit of 0.05. Thus, it can be concluded that neither X1 nor X2 have a significant effect on the dependent variable (Y).

These results show that the changes that occur in variable Y cannot be partially explained by either the variables X1 or X2. In other words, when independent

variables are tested individually, they do not make a meaningful contribution to the bound variables. It also indicates that the relationship between each independent variable and the bound variable is weak or not strong enough to significantly affect the regression outcome.

1. Simultaneous f test (Multiple Linear Regression) based on significance value

Simultaneous F-test in multiple linear regression is a statistical method used to find out whether independent variables together have a significant influence on dependent variables**.**

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19,453	2	9,727	0,963	.427[b]
	Residual	70,704	7	10,101		
	Total	90,157	9			

a. Dependent Variable: Y

b. Predictors: (Constant), X2, X1

if the Sig value < 0.05, then the independent variable (X) simultaneously has an influence on the dependent variable (Y). On the other hand, if the Sig value is greater than 0.05, then it can be concluded that the independent variable has no simultaneous effect on the dependent variable.

Based on the results of the simultaneous test, the variables Revenue (X1) and Operating Expenses (X2) simultaneously had no effect on Net Profit (Y), because the significance value obtained was 0.47, which is greater than 0.05.

Discussion

This study aims to analyze the extent to which revenue and operating costs affect PT Gudang Garam Tbk's net profit from 2015 to 2024. By applying quantitative methods and multiple linear regression analysis, this study evaluates the relationship between financial variables based on data from the company's annual report processed using SPSS software version 27.

From figure 1, it can be concluded that this regression model shows a normal distribution. This can be seen from the position of the residual points that are almost parallel to the normal line, which indicates that the residual data is well distributed.

In table 2, it can be seen that the tolerance value for Revenue and Operating Expenses is 0.869 greater than 0.100 and the VIV value for both variables tersebut adalah 1,150 lebih kecil dari 10,00. Jadi dapat disimpulkan bahwa model regresi ini tidak terjadi gejala multikolinearitas.

Judging from figure 2, the data points are randomly scattered above and below the 0 (zero) line, without being collected in one area or forming a specific pattern. Therefore, it can be concluded that in this regression test, no symptoms of heteroscedasticity were found.

Based on the results of the classical Autocorrelation test using the Durbin–Watson method, a DW value of 2.332 was obtained. This value is between the upper limit (dU) and 4 – dU at a significance level of 5%. This shows that there is no autocorrelation, either positive or negative, in the regression model. With this assumption being met, it can be concluded that the residuals are random and independent, so the regression model is considered feasible for use in advanced analysis

Based on the results of the partial t-test in the Coefficients table, significance values were obtained for each independent variable. For the X1 variable, the significance value is 0.968, while for the X2 variable, the significance value is 0.242. Both of these values are greater than the significance limit of 0.05. Thus, it can be concluded that neither X1 nor X2 have a significant effect on the dependent variable (Y).

These results show that the changes that occur in variable Y cannot be partially explained by either the variables X1 or X2. In other words, when independent variables are tested individually, they do not make a meaningful contribution to the bound variables. It also indicates that the relationship between each independent variable and the bound variable is weak or not strong enough to significantly affect the regression outcome.

Simultaneous F test if the Sig value < 0.05, then the independent variable (X) simultaneously has an influence on the dependent variable (Y). On the other hand, if the Sig value is greater than 0.05, then it can be concluded that the independent variable has no simultaneous effect on the dependent variable.

Based on the results of the simultaneous test, the variables Revenue (X1) and Operating Expenses (X2) simultaneously had no effect on Net Profit (Y), because the significance value obtained was 0.47, which is greater than 0.05.

Conclusion

Based on the results of the research conducted on the influence of revenue and operating costs on the net profit of PT Gudang Garam Tbk, it can be concluded that the test results applied in this study have met all classical assumptions, making them suitable for use in statistical analysis. However, the results of the t-test showed that individually, the income and operating expense variables did not have a significant impact on PT Gudang Garam Tbk's net profit, with significance values of 0.041 and 1.279, respectively, which were greater than 0.05. The results of the simultaneous F test also showed that the two independent variables together did not significantly affect the net profit, with a significance value of 0.427, which is greater than 0.05. These findings show that the company's net profit in the 2014–2023 period was not directly affected by changes in revenue or operating expenses.

This study makes an empirical contribution to corporate finance research in the Indonesian agribusiness sector, particularly related to the relationship between the elements of the report keuangan dan profitabilitas. Dengan memanfaatkan data A ten-year history and systematic statistical method, this study enriches the literature on the effectiveness of financial management of public companies in the oil palm plantation sector. In addition, the results of this study highlight the need to consider external factors and operational efficiency in evaluations.

The limitations of this study include the limited sample size, i.e. only ten years of financial statement data, which can reduce the generalization of the findings. In addition, the regression model applied only involves two independent variables, namely Revenue and Operating Costs, in analyzing the influence of Net Profit without including additional relevant control variables, such as commodity prices, distribution costs, and fiscal policy. The analytical approach used is also linear, so it has not been able to capture non-linear relationships or more complex interactions between variables.

For future researchers, it is recommended to use the time series or panel regression method to capture temporal dynamics more accurately. The addition of control variables such as CPO prices, inflation, maintenance costs, and operational efficiency will provide a more complete picture of the factors affecting net profit. In addition, comparative studies between agribusiness companies can also be conducted to identify more effective management and financial strategies in dealing with industrial volatility.

Acknowledgments

The author would like to thank all parties who have provided support in the preparation and completion of this research. Special thanks are expressed to PT Gudang Garam Tbk for providing financial statement data that is the basis for analysis in this study. The award was also given to the supervisor, Mr. Mahnun Mas'Adi SE. MM, for his guidance, input, and academic direction that was very meaningful during the research process. Not to forget, the author would like to thank his teammates who have actively collaborated in data collection, statistical processing, and compilation of this article. Technical and moral support from family and friends is also an important part of the smooth running of this research. Hopefully the results of this research can make a positive contribution to the development of financial management science, especially in the agribusiness sector in Indonesia.

References

EKO, Krido, et al. ANALYSIS OF FINANCIAL STATEMENTS TO ASSESS THE FINANCIAL PERFORMANCE OF PT. GUDANG GARAM, TBK. Macro: Journal of Management and Entrepreneurship, 2019, 3.2: 159-170.

Ghozali, I. (2018). *Multivariate analysis application with the IBM SPSS 25 program*. Publishing Agency of Diponegoro University.

Gujarati, D. N. (2003). *Basic econometrics* (4th ed.). McGraw-Hill.

Hansen, D. R., & Mowen, M. M. (2006). *Cost management: Accounting and control*. South-Western College.

Cashmere. (2016). *Analysis of financial statements*. RajaGrafindo Persada.

Kotler, P., & Keller, K. L. (2008). *Marketing management*. Pearson Prentice Hall.

Munawir, S. (2014). *Analysis of Financial Information*. Liberty.

Nachrowi, N. D., & Usman, H. (2006). *A popular and practical approach to econometrics for economic and financial analysis*. Publishing Institution of the Faculty of Economics UI.

Rudianto. (2012). *Introduction to accounting*. Erlangga.

Subagyo. (2015). *Econometrics: Theory and application*. BPFE.

Simamora, H. (2018). Corporate financial management (Revised Edition). STIM YKPN Press.

Sugiyono. (2016). *Quantitative, qualitative, and R&D research methods*. Alphabet.

Suharyadi, & Purwanto. (2011). *Statistics for modern economics and finance*. Salemba Four.

Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning, 51*(1), 40–49