

PUBLISHER: https://journal.adlermanurungpress.com/
DOI: https://doi.org/10.63607/jcmb.v14i4

PRODUCTION COSTS, OPERATING COSTS, AND TAX EXPENSE AS DETERMINANTS OF NET PROFIT IN FOOD AND BEVERAGE MANUFACTURING SUB-SECTOR COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE

Cep Wika[1], Tevi Leviany[2], Syarief Hidayat[3], Medianto Suryo[4]
[1234]Sangga Buana YPKP University
Email: cepwika80@gmail.com[1], tevi.leviany@usbypkp.ac.id[2], syarief.hidayat@usbypkp.ac.id[3], medianto.suryo@usbypkp.ac.id[4]
Alamat: Jl. PH.H. Mustofa No.68, Cikutra, Kec. Cibeunying Kidul, Kota Bandung, Jawa Barat 40124
Koresprodensi Penulis: cepwika80@gmail.com

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh biaya produksi, biaya operasional, dan beban pajak terhadap laba bersih pada perusahaan manufaktur sektor makanan dan minuman yang terdaftar di Bursa Efek Indonesia (BEI) selama periode 2019–2023. Penelitian ini menggunakan metode kuantitatif dengan pendekatan asosiatif serta memanfaatkan data sekunder. Populasi dalam penelitian ini terdiri atas 100 perusahaan manufaktur sektor makanan dan minuman yang terdaftar di BEI selama periode penelitian. Dengan menggunakan metode purposive sampling, diperoleh 16 perusahaan yang memenuhi kriteria sebagai sampel penelitian, sehingga menghasilkan 80 observasi selama lima tahun.

Hasil penelitian menunjukkan bahwa secara parsial, biaya produksi berpengaruh positif dan signifikan terhadap laba bersih dengan nilai probabilitas sebesar 0,0001. Sementara itu, biaya operasional berpengaruh negatif dan tidak signifikan terhadap laba bersih dengan nilai probabilitas sebesar 0,7718. Beban pajak berpengaruh positif dan signifikan terhadap laba bersih dengan nilai probabilitas sebesar 0,0000. Secara simultan, biaya produksi, biaya operasional, dan beban pajak secara bersama-sama berpengaruh signifikan terhadap laba bersih dengan nilai probabilitas sebesar 0,000000.

Kata kunci: Biaya Produksi, Biaya Operasional, Beban Pajak, Laba Bersih

Abstract

This study examines the effect of production costs, operating costs, and tax expense on net profit among food and beverage manufacturing companies listed on the Indonesia Stock Exchange (IDX) for the 2019–2023 period. A quantitative method with an associative approach was employed, drawing on secondary data. The population comprised 100 food and beverage manufacturing companies listed on the IDX during the study period. Using a purposive sampling method, 16 companies were selected as the research sample, yielding a total of 80 observations over five years. The results indicate that, partially, production costs exert a significant positive effect on net profit (probability value = 0.0001), while operating costs show a negative and insignificant effect (probability value = 0.7718). Tax expense demonstrates a significant positive effect on net profit (probability value = 0.0000). Simultaneously, production costs, operating costs, and tax expense collectively have a significant effect on net profit (probability value = 0.000000).

Keywords: Production Costs, Operating Costs, Tax Expense, Net Profit

INTRODUCTION

Net profit is one of the most important indicators used to assess a company's financial performance and operational success. As the final earnings remaining after all expenses, including taxes, have been deducted, net profit reflects management's effectiveness in utilizing resources and controlling costs. In manufacturing companies, particularly those operating in the food and beverage subsector, profitability is strongly influenced by the company's ability to manage production costs, operating costs, and tax expenses efficiently. Ineffective cost management may reduce profitability despite increasing sales revenues.

Production costs represent expenditures incurred in transforming raw materials into finished goods, including direct materials, direct labor, and manufacturing overhead costs (Mulyadi, 2018). Operating costs, on the other hand, include marketing, administrative, and general expenses required to support business activities outside the production process (Rudianto, 2013). Tax expense also plays a crucial role because it directly reduces earnings before tax and ultimately affects net profit (Waluyo, 2014). Therefore, effective management of these expenditures is essential for achieving optimal financial performance.

The relationship between these variables can be explained through Agency Theory and Signaling Theory. Agency Theory suggests that managerial decisions regarding cost management and profit generation may create conflicts of interest between managers and shareholders (Jensen & Meckling, 1976). Meanwhile, Signaling Theory explains that financial information, particularly net profit, serves as a signal to external stakeholders regarding the company's performance and prospects. Higher net profit is generally interpreted as an indication of effective resource management and strong financial performance.

Previous studies have produced mixed findings regarding the determinants of net profit. Prasetya et al. (2022) found that operating costs significantly affected net profit, while production costs did not. Conversely, Deki et al. (2024) reported that both production costs and operating costs significantly influenced net profit. Purdiansyah and Nurasik (2018) revealed that operating costs and tax expenses had significant effects on net profit, whereas Suryani et al. (2023) found tax expense to be a significant determinant of profitability. These inconsistent findings indicate that the relationship between cost components and net profit remains an area requiring further investigation.

The novelty of this study lies in examining the simultaneous effects of production costs, operating costs, and tax expenses on net profit within food and beverage manufacturing companies listed on the Indonesia Stock Exchange during the 2019–2023 period. Unlike previous studies that focused on specific variables or different industrial sectors, this study integrates the three determinants into a single analytical model to provide more comprehensive evidence regarding factors influencing corporate profitability.

Based on the theoretical framework and previous empirical findings, it is hypothesized that production costs, operating costs, and tax expenses significantly affect net profit, both partially and simultaneously. Accordingly, this study investigates the effects of production costs, operating costs, and tax expenses on net profit in food and beverage manufacturing companies listed on the Indonesia Stock Exchange during the 2019–2023 period.

RESEARCH METHOD

This study employed a quantitative research approach using secondary data obtained from the annual reports and financial statements of food and beverage manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2019–2023 period. The population consisted

of 100 companies within the food and beverage subsector. The sample was selected using a purposive sampling technique based on the following criteria: (1) companies listed on the IDX during 2019–2023, (2) companies continuously listed since 2019, (3) companies not delisted during the observation period, (4) companies that did not experience losses during the research period, and (5) companies with complete data related to production costs, operating costs, tax expenses, and net profit. Based on these criteria, 16 companies were selected, resulting in 80 firm-year observations.

The dependent variable was net profit (Y), while the independent variables consisted of production costs (X_1), operating costs (X_2), and tax expenses (X_3). Production costs were measured as the sum of direct material costs, direct labor costs, and manufacturing overhead costs. Operating costs were measured as the sum of marketing expenses and general and administrative expenses. Tax expense was measured as the sum of current tax expense and deferred tax expense. Net profit was measured as profit after tax reported in the company's income statement. All variables were measured using a ratio scale.

Data were analyzed using descriptive statistics, classical assumption tests consisting of normality, heteroscedasticity, multicollinearity, and autocorrelation tests, followed by panel data regression analysis. The appropriate panel regression model was determined through the Chow test, Hausman test, and Lagrange Multiplier test. Hypothesis testing was conducted using the t-test to examine partial effects and the F-test to examine simultaneous effects, while the coefficient of determination (Adjusted R^2) was used to assess the explanatory power of the model. The panel regression model employed in this study is expressed as follows:

$$NP = \alpha + \beta_1 PC + \beta_2 OC + \beta_3 TE + \varepsilon$$

Where:

NP = Net Profit
α = Constant
β_1–β_3 = Regression Coefficients
PC = Production Costs
OC = Operating Costs
TE = Tax Expense
ε = Error Term
The data were processed using EViews software with a significance level of 5%.

RESULTS AND DISCUSSION

This study employs a quantitative approach drawing exclusively on secondary data sourced from the financial statements and annual reports of food and beverage manufacturing companies listed on the Indonesia Stock Exchange (IDX) over the five-year period 2019–2023. From a total population of 100 listed food and beverage firms, 16 companies were selected as the study sample through purposive sampling, yielding a balanced panel of 80 observations (16 companies × 5 years).

Descriptive statistical analysis was conducted to characterize the distribution of each research variable, encompassing production costs, operating costs, tax expense, and net profit. The results are presented in Table 1.

Table 1. Descriptive Statistics

	X1 (Production Cost)	X2 (Operating Cost)	X3 (Tax Expense)	Y (Net Profit)
Mean	9,875,570,924,268.75	2,209,491,961,946.91	480,945,403,256.46	1,454,459,726,049.45
Median	3,137,610,828,423	474,121,365,391	103,601,000,000	341,393,588,500
Maximum	75,459,442,000,000	16,371,795,000,000	4,121,651,000,000	11,493,733,000,000
Minimum	176,909,771,000	85,021,846,834	2,219,000,000	957,169,058
Std. Dev.	17,043,735,782,920.09	3,974,530,425,988.89	947,111,802,792.28	2,701,720,752,802.18
Skewness	2.4061	2.3491	2.4634	2.4167
Kurtosis	8.1044	7.4699	7.8548	7.7283
Jarque-Bera	164.0429	140.1766	159.4713	152.3931
Probability	2.39e-36	3.64e-31	2.35e-35	8.10e-34
Observations	80	80	80	80

Prior to regression estimation, the four standard classical assumption tests were conducted: normality, heteroscedasticity, multicollinearity, and autocorrelation. Initial examination revealed non-normal residuals (Jarque-Bera probability = 0.000089) and VIF values exceeding 10 for all independent variables, indicating multicollinearity. Both issues were resolved by applying a natural logarithm (Ln) transformation to the dependent and independent variables. Following transformation, all four assumptions were satisfied, as summarized in Table 2.

Table 2. Classical Assumption Test Results

Test	Statistic / Value	Probability	Conclusion
Normality - Jarque-Bera (after Ln transformation)	JB = 3.260754	0.195856	Normal
Heteroscedasticity - Glejser	F = 0.216227	0.8849	No heteroscedasticity
Multicollinearity - VIF (after Ln transformation)	LN_X1: 2.93 | LN_X2: 4.93 | LN_X3: 3.88	-	No multicollinearity
Autocorrelation - Breusch-Godfrey LM	Obs*R^2 = 3.851412	0.1458	No autocorrelation

Three panel data model specifications were evaluated sequentially: the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM). The Chow test and the Hausman test were applied to identify the most appropriate specification, with results consolidated in Table 3.

Table 3. Panel Data Model Selection Test Results

Test	Statistic	Probability	Decision
Chow Test (CEM vs. FEM)	Chi-sq = 37.821	0.0010	Fixed Effect Model
Hausman Test (FEM vs. REM)	Chi-sq = 19.306	0.0002	Fixed Effect Model

Panel data regression was estimated using the Fixed Effect Model via Panel EGLS with cross-section weights. The coefficient estimates, model fit statistics, and significance tests are presented jointly in Table 4.

Table 4. Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.457972	(15,61)	0.0070
Cross-section Chi-square	37.820958	15	0.0010

Table 4. Partial Test Results (t-Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8.426800	1.969734	-4.278141	0.0001
LN_X1	0.370147	0.091037	4.065890	0.0001

LN_X2	-0.034181	0.092095	-0.371149	0.7118
LN_X3	0.996275	0.043381	22.96597	0.0000

Table 5. Simultaneous Test Results (f-Test) and Coefficient Determination

R-squared	0.995212
Adjusted R-squared	0.993800
S.E. of regression	0.323129
F-statistic	704.4443
Prob(F-statistic)	0.000000

Based on the results of the F-test (simultaneous test) presented in Table 4.14, the calculated F-value was 704.4443, which is greater than the F-table value of 2.725, while the probability value was 0.000000, which is lower than the significance level of 0.05. Therefore, Ha is accepted and H_0 is rejected. It can be concluded that, simultaneously, the three independent variables production costs, operating expenses, and tax expenses have a significant effect on the dependent variable, namely net profit.

Furthermore, the Adjusted R-squared value is 0.993800, indicating that approximately 99.38% of the variation in the dependent variable (net profit) can be explained by the independent variables, namely production costs, operating expenses, and tax expenses. Meanwhile, the remaining 0.62% is explained by other factors that were not included in this research model.

Effect of Production Cost on Net Profit

Production cost (LN_X1) yields a t-statistic of 4.066 (p = 0.0001), exceeding the critical value of 1.991, such that the null hypothesis is rejected and a statistically significant positive effect on net profit is confirmed. In the food and beverage manufacturing context, production cost encompasses direct material costs, direct labor costs, and manufacturing overhead—expenditures that determine the cost of goods sold and therefore directly compress or expand the gross profit margin. Efficient management of these costs is thus central to profitability. These findings are consistent with Deki et al. (2024) and Ali et al. (2024), who similarly documented a significant relationship between production cost and net profit, observing that lower production expenditures are systematically associated with higher profitability.

Effect of Operating Cost on Net Profit

Operating cost (LN_X2) produces a t-statistic of 0.371 (p = 0.7118), well below the critical value of 1.991, such that the null hypothesis is retained and no statistically significant effect on net profit is found. This result suggests that fluctuations in operating expenditures—encompassing general and administrative as well as selling and distribution costs—did not materially influence net profit outcomes over the observation period. A plausible explanation is that operating costs remained relatively stable across the sample firms, without experiencing the abrupt increases that would produce a detectable impact on bottom-line profitability. The evidence indicates that effective cost control measures were in place, preventing operating expenditures from emerging as a dominant driver of profit variability. This finding aligns with Ali et al. (2024), who similarly reported a negative but statistically insignificant relationship between operating cost and net profit.

Effect of Tax Expense on Net Profit

Tax expense (LN_X3) yields a t-statistic of 22.966 (p = 0.0000), far exceeding the critical value of 1.991, confirming a statistically significant effect on net profit. As one of the primary deductions applied in computing net profit after all revenues and operating expenses have been recognized, tax expense bears a direct mechanical relationship with bottom-line earnings: an increase in fiscal obligations, unless offset by commensurate revenue growth or cost efficiencies elsewhere, reduces the residual profit available to shareholders. Strategic tax planning—within the bounds of regulatory compliance—therefore constitutes a critical dimension of corporate financial management for firms in this subsector. These findings corroborate Purdiansyah & Nurasik (2018) and Suryani et al. (2023), who also documented a significant relationship between tax expense and net profit.

Joint Effect of Production Cost, Operating Cost, and Tax Expense on Net Profit

The F-test confirms that the three independent variables jointly exert a statistically significant effect on net profit (F = 704.44; p = 0.000). The Adjusted R^2 of 0.9938 indicates that, taken together, production cost, operating cost, and tax expense account for 99.38 percent of the variation in net profit among the sample firms over the 2019–2023 period. This exceptionally high explanatory power underscores that these three cost dimensions constitute near-exhaustive determinants of net profit variability within the food and beverage manufacturing subsector listed on the IDX.

CONCLUSION

Four principal findings emerge from this study, which examined the effects of production cost, operating cost, and tax expense on the net profit of food and beverage manufacturing companies listed on the Indonesia Stock Exchange (IDX) over the period 2019–2023.

First, production cost exerts a statistically significant positive effect on net profit ($t = 4.066$, $p = 0.0001$). This finding indicates that the efficiency with which production-related expenditures are managed plays a central role in determining firm profitability. Effective control of raw material usage, labour deployment, and manufacturing overhead is therefore critical to sustaining and improving the earnings of food and beverage manufacturers.

Second, operating cost does not exert a statistically significant effect on net profit ($t = 0.371$, $p = 0.7118$). Changes in operating expenditures—encompassing administrative, marketing, and distribution costs—did not materially influence net profit outcomes over the observation period, suggesting that the sample firms maintained relatively stable and well-controlled operating cost structures throughout the study window.

Third, tax expense exerts a statistically significant positive effect on net profit ($t = 22.966$, $p = 0.0000$). Given that tax obligations constitute a direct and mechanical deduction in the computation of net profit, the magnitude of a firm's fiscal burden bears an immediate consequence for residual earnings. Proactive tax planning within the bounds of regulatory compliance is thus an important dimension of financial management for firms in this subsector.

Fourth, production cost, operating cost, and tax expense jointly exert a statistically significant effect on net profit ($F = 704.44$, $p = 0.000$). The coefficient of determination indicates that the three variables collectively account for 99.38 percent of the variation in net profit, with the remaining 0.62 percent attributable to factors outside the scope of the present model. The exceptionally high explanatory power of the model underscores that these cost dimensions constitute near-exhaustive determinants of net profit variability within the food and beverage manufacturing subsector.

These findings carry several practical implications for corporate management. With respect to production costs, firms are advised to pursue continuous efficiency improvements through optimal utilisation of raw materials, labour, and production technology, with the dual objective of maintaining product quality while maximising profitability. With respect to operating costs, periodic and comprehensive evaluation of administrative, marketing, and distribution expenditures

is recommended to identify and eliminate inefficiencies before they erode margins. With respect to tax management, firms should actively leverage available fiscal incentives, ensure full compliance with prevailing tax regulations, and develop structured tax payment schedules to support cash flow stability. More broadly, firms are encouraged to construct periodic financial projections incorporating all three cost dimensions as inputs into strategic decision-making and profitability planning.

Future research is encouraged to extend the observation period beyond the five years covered in this study so as to capture longer-term dynamics and structural shifts in the food and beverage industry. The variable set may also be broadened to incorporate additional determinants of net profit not captured by the present model such as revenue growth, capital structure, or macroeconomic conditions given that 0.62 percent of profit variation remains unexplained. Subsequent studies may further consider expanding the sample beyond the food and beverage subsector to encompass other manufacturing industries listed on the IDX, thereby enhancing the generalisability of the findings. Finally, qualitative or mixed-method approaches, including firm-level interviews with financial managers, could enrich understanding of how the identified cost factors operate in practice and interact with managerial decision-making processes.

REFERENCES

Aripin, Z., & Negara, M. R. P. (2021). *Akuntansi manajemen*. Deepublish.

Basuki, A. T. (2021). *Analisis data panel dalam penelitian ekonomi dan bisnis: Dilengkapi dengan penggunaan EViews*. Danisa Media.

Fitriandi, P. (2023). *Susunan satu naskah UU perpajakan terlengkap*. Salemba Empat.

Ghozali, I. (2018). *Aplikasi analisis multivariate dengan program IBM SPSS 25* (9th ed.). Badan Penerbit Universitas Diponegoro.

Kasmir. (2021). *Analisis laporan keuangan* (Rev. ed.). PT RajaGrafindo Persada.

Lestari, W., & Permana, D. B. (2020). *Akuntansi biaya dalam perspektif manajerial* (2nd ed.). Rajawali Pers.

Mulyadi. (2018). *Akuntansi biaya* (5th ed.). UPP STIM YKPN.

Purba, R. B. (2023). *Teori akuntansi: Sebuah pemahaman untuk mendukung penelitian di bidang akuntansi*. Merdeka Kreasi.

Purwanti, A. (2023). *Akuntansi manajemen* (G. Sartika, Ed.). Salemba Empat.

Rudianto. (2013). *Akuntansi manajemen: Informasi untuk pengambilan keputusan strategis*. Erlangga.

Sofia, M., Pratiwi, R. A. I., & Wulandari, K. (2024). *Pengantar manajemen keuangan: Teori dan praktik* (Astuti & D. E. Situmeang, Eds.). Batam Publisher.

Subroto, V. K., & Endaryati, E. (2024). *Kumpulan teori akuntansi* (I. Yunianto, Ed.). Yayasan Prima Agus Teknik.

Sugiyono. (2023). *Metode penelitian kuantitatif, kualitatif, dan R&D* (2nd ed.). Alfabeta.

Waluyo. (2014). *Akuntansi pajak*. Salemba Empat.

Ali, H. R. C., Mahsina, M., & Fauziah, D. A. (2024). Biaya produksi, biaya operasional, volume penjualan dan laba bersih perusahaan makanan dan minuman terdaftar di BEI. *Equity: Jurnal Akuntansi, 4*(2), 57–68.

Deki, M., Chandrayanti, T., & Bustari, A. (2024). Pengaruh biaya produksi terhadap laba bersih pada perusahaan manufaktur sub sektor farmasi yang terdaftar di Bursa Efek Indonesia (BEI) periode 2016–2020. *Ekasakti Pareso Jurnal Akuntansi, 2*(2), 179–188.

Ernawati, F. (2015). Pengaruh biaya operasional terhadap laba bersih dengan perputaran persediaan sebagai variabel pemoderasi. *Jurnal Ilmu dan Riset Manajemen, 4*(5), 1–15.

Halawa, D. (2023). Pengaruh beban pajak kini, beban pajak tangguhan dan perubahan tarif pajak terhadap manajemen laba pada perusahaan perbankan yang terdaftar di BEI periode 2015–2021. *Jurnal Akuntansi, Bisnis dan Ekonomi Indonesia (JABEI), 2*(1), 81–90.

Harianja, A. F., & Sari, P. (2024). Analisis biaya operasional dalam meningkatkan laba perusahaan pada PT Segar Berjaya Makmur. *Jurnal Widya, 5*, 1423–1431.

Kezia, P., & Wulandari, E. (2024). Pengaruh biaya produksi terhadap laba bersih pada perusahaan makanan dan minuman yang terdaftar di Bursa Efek Indonesia tahun 2019–2022. *Seminar Nasional Pariwisata dan Kewirausahaan (SNPK), 3*.

Kurnia, I., Purnamasari, F., & Rifan, D. F. (2024). Pengaruh biaya produksi dan biaya operasional terhadap laba bersih di perusahaan manufaktur sektor industri semen terdaftar di JII. *Jurnal Media Akademik, 2*.

Luayyi, S., Fitri, N. S., & Awalina, P. (2023). Pengaruh pendapatan produk sampingan, biaya kualitas dan biaya operasional terhadap profitabilitas perusahaan. *Jurnal Ilmiah Cendekia Akuntansi, 8*(2), 36–45.

Makalalag, A., Ilat, V., & Walandouw, S. K. (2023). Pengaruh biaya produksi, biaya pemasaran dan biaya kualitas terhadap laba bersih (Studi pada perusahaan manufaktur subsektor

makanan dan minuman yang terdaftar di BEI tahun 2018–2020). *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi, 11*(3), 71–81.

Prasetya, V., Suripto, & Puspitasari, S. M. (2022). Pengaruh biaya produksi, biaya operasional dan penjualan terhadap laba bersih (Studi pada sub sektor food and beverage di Bursa Efek Indonesia periode 2017–2021). *Journal on Education, 5*(1), 555–563.

Purdiansyah, A., & Nurasik, N. (2018). Pengaruh biaya operasional dan beban pajak terhadap kemampuan laba bersih dengan persediaan sebagai variabel moderasi perusahaan makanan dan minuman yang terdaftar di BEI tahun 2014–2016. *Indonesian Journal of Law and Economics Review, 1*(2).

Purwanti, & Rismasari, A. U. (2022). Pengaruh modal kerja dan biaya operasional terhadap laba bersih. *Journal Intelektual, 1*(2), 231–241.

Suryani, R., Andriani, N. Y., & Gunardi. (2023). Pengaruh aktivitas operasi dan beban pajak penghasilan terhadap laba bersih pada PT Voksel Electric Tbk yang terdaftar di Bursa Efek Indonesia periode 2012–2021. *Jurnal EMBA: Jurnal Riset Ekonomi, Manajemen, Bisnis dan Akuntansi, 2*(1), 116–136.