

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

THE IMPACT OF COMMODITY PRICE CYCLES ON FINANCIAL PERFORMANCE: OPERATING LEVERAGE, COST STICKINESS, AND FINANCIAL RESILIENCE ASYMMETRY IN THE PALM OIL SECTOR

Faisal Basyir¹, Irham Maulana^{2)*}, Nuzulul Fahmi³, Jesi Yardani⁴ Dwi Anggraini⁵

¹⁾ Agroindustry Study Program, Department of Agricultural Industrial Technology, Tanah Laut State Polytechnic

^{2)*} Agribusiness Study Program, Faculty of Agriculture, Teuku Umar University

³⁾ Department of Agribusiness, Faculty of Agriculture, Jabal Ghafur University

⁴⁾ Department of Engineering and Industry, Tanah Laut State Polytechnic

⁵⁾ Agroindustrial Product Development Study Program, Department of Agricultural Industrial Technology, Tanah Laut State Polytechnic

Corresponding Author: irhammaulana@utu.ac.id

Abstract

The Indonesian palm oil industry holds a strategic global position; however, its status as a price-taker renders the financial performance of its constituent business entities highly vulnerable to extreme fluctuations in the global commodity market. This study, therefore, aims to analyze the transmission impact of global Crude Palm Oil (CPO) price volatility on the financial performance of Indonesian palm oil issuers, and to identify asymmetries in financial resilience attributable to differences in business model structures. Employing a quantitative approach with a comparative descriptive analysis method, this research examines the audited financial statements of five major palm oil companies listed on the Indonesia Stock Exchange - TAPG, SSMS, DSNG, SMAR, and AALI - spanning two distinct macroeconomic cycles during the 2019–2024 period. The findings demonstrate that during the price escalation phase (2019 - 2022), all issuers experienced substantial operating leverage, wherein average selling price appreciation was transmitted exponentially into net profit growth that markedly outpaced revenue growth. A significant resilience asymmetry was also identified: upstream-oriented entities maintained thicker and more adaptive profitability margins compared to downstream-integrated entities, which were disproportionately susceptible to fluctuations in third-party input costs. Upon entering the price normalization phase (2023 - 2024), a margin compression phenomenon emerged, empirically corroborating the theory of cost stickiness. Structural costs that had expanded aggressively during the escalation period proved to be downward rigid, resisting immediate reduction as reference prices corrected. These findings underscore that vertical integration strategies and disciplined fixed-cost management constitute the key determinants of financial resilience amid the uncertainty inherent in global commodity price cycles.

Keywords: Palm Oil, Financial Performance, Price Volatility, Cost Stickiness, Business Resilience.



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1. INTRODUCTION

The Indonesian palm oil industry unquestionably constitutes one of the most strategically significant pillars of the national economic architecture. As the world's largest producer of Crude Palm Oil (CPO), commanding more than half of global production share, Indonesia occupies a central position in the international vegetable oil supply chain. Nevertheless, a fundamental paradox characterizes

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

this industry: despite functioning as the dominant producer, Indonesian palm oil agribusiness entities remain, in essence, price-takers. Manurung et al. (2019) underscore that the palm oil market is highly sensitive to shifts in global macroeconomic conditions, rendering international price fluctuations an absolute external determinant that lies entirely beyond the purview of corporate management.

This price-taker condition carries profound financial risk, given that global CPO price dynamics are characterized by extreme and largely unpredictable volatility. Price movements do not merely respond to fundamental supply and demand laws; they are also acutely susceptible to geopolitical sentiment, climatic conditions, and global energy substitution patterns. Employing an ARCH/GARCH modeling framework, Windirah and Novanda (2023) empirically demonstrated that price shocks in the Indonesian palm oil commodity exhibit extraordinarily long persistence. This implies that price uncertainty is not a transient phenomenon but rather a structural risk that continuously shadows the operational climate of the industry from year to year.

From a managerial perspective, extreme price volatility functions as a double-edged sword, directly transmitting risk into the structure of financial statements. The price transmission mechanism operates with remarkable speed in the extractive sector. Wildani (2022) confirmed in his study that agribusiness firms display a very high degree of sensitivity to market price shocks. In the authors' view, this vulnerability is frequently overlooked when the price cycle favors producers, yet commodity-driven fluctuations in the top line (revenue) ultimately dictate the entire profitability structure at the bottom line.

This sensitivity was vividly manifest during the observation period of 2019 to 2022, classified in this study as the Price Escalation Period. The global supply chain disruptions induced by the COVID-19 pandemic, paradoxically, triggered a CPO price rally to record levels. Rather than suffering, Ula et al. (2023) identified the empirical anomaly whereby the financial performance of palm oil plantation issuers experienced exceptional acceleration amid the global crisis. The surge in commodity selling prices effectively compensated for various logistical inefficiencies, generating what is widely referred to as windfall profit.

The authors contend that the hundreds-of-percent profit explosion during the escalation period was not solely attributable to operational innovation superiority, but rather represented a manifestation of the companies' structural leverage. This is consistent with the theoretical foundation of the Degree of Operating Leverage (DOL) as articulated by Brigham and Houston (2019). The upstream palm oil industry constitutes a capital-intensive sector with a substantial proportion of fixed costs - such as biological asset depreciation and plantation infrastructure maintenance. Consequently, every percentage increase in selling price is transmitted exponentially into net profit growth that far exceeds the corresponding percentage of revenue growth.

However, the euphoria of exponential profit growth frequently creates an illusion of persistent expansion. The true test of financial resilience only emerges when the commodity cycle reverses direction, as occurred upon entering the Price Normalization Phase during 2023 - 2024. When CPO reference prices corrected sharply and reverted toward normal equilibrium, companies were confronted with the reality of a cost structure that had already expanded considerably. The authors observe that the prevailing narrative in the literature tends to focus excessively on the commodity "boom," neglecting a critical examination of how companies sustain operations when prices collapse while operating costs remain elevated.

The profitability contraction during the normalization phase can be theoretically explained through the cost stickiness theory pioneered by Anderson et al. (2003). In the Indonesian agribusiness context, Wijayanti et al. (2022) demonstrated that operating costs exhibit asymmetric behavior: when prices and activity volumes rise, costs increase readily; however, when CPO prices plummet, these costs prove highly rigid and resistant to immediate downward adjustment (downward rigid). It is precisely this residue of cost stickiness that directly triggers margin compression, wherein corporate net profits erode sharply even as sales volumes remain stable.

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

Furthermore, the authors argue that the impact of price volatility and cost stickiness is not uniformly distributed across the industrial landscape. A pronounced structural segregation exists between upstream and downstream business models. Hajar et al. (2024) empirically highlighted that downstream entities with high dependence on third-party raw material supply (Fresh Fruit Bunches/CPO) face considerably more destructive pressure on their financial stability. Conversely, entities fully integrated vertically toward the upstream possess a stronger internal efficiency "buffer" that shields their margins from external price fluctuations.

In light of the extreme dynamics described above, it becomes imperative to dissect the financial performance of Indonesia's palm oil market leaders not merely within a narrow time window, but across two diametrically opposed macroeconomic cycles. A comprehensive understanding of how CPO price volatility transmission triggers operating leverage on one hand, and cost stickiness on the other - particularly when contrasted between upstream and downstream entities - constitutes the primary impetus underlying this research.

Although the relationship between commodity price fluctuations and financial performance has been extensively examined in the literature, several fundamental research gaps remain inadequately addressed. First, the majority of prior studies (such as Ula et al., 2022; Wildani, 2023) tend to concentrate their analysis on performance during the peak price escalation phase (boom phase). A scarcity of literature critically examines corporate profitability resilience during the transitional phase when the price cycle corrects and enters a normalization era (2023 - 2024).

Second, existing literature frequently treats the palm oil industry as a homogeneous entity, thereby neglecting to dissect the differential impact of price volatility across distinct business model structures. Few empirical studies in Indonesia have specifically analyzed operating cost asymmetry or the cost stickiness phenomenon by comparing purely upstream-integrated companies with large-scale downstream-oriented enterprises. This void perpetuates a comprehension bias, as if all issuers possess an equivalent degree of vulnerability to global CPO price shocks.

Grounded in these identified research gaps, this study offers scholarly novelty through an analytical approach that integrates a comparative analysis spanning two diametrically opposed macroeconomic cycles: the Price Escalation Period (2019 - 2022) and the Price Normalization Period (2023 - 2024). Rather than presenting merely an aggregate trend analysis, this research contributes to the academic body of knowledge by empirically evaluating and substantiating the occurrence of cost stickiness and margin compression in the post-commodity-peak phase within the Indonesian agribusiness sector. Furthermore, by designating the five palm oil companies with the largest market capitalization on the Indonesia Stock Exchange as the observation subjects, this study offers a novel perspective confirming that a company's supply chain profile - specifically, its degree of upstream versus downstream integration - constitutes the primary determinant of an issuer's financial resilience in mitigating the risk of extreme commodity price volatility.

2. MATERIALS AND METHODS

2.1 Materials

This study utilizes secondary quantitative data, encompassing an observation period from 2019 to 2024. This period was deliberately selected to capture two contrasting economic cycles: the Price Escalation Period (2019 - 2022) and the Price Normalization Period (2023 - 2024). The primary research materials consist of two principal data categories:

Financial Performance Data: Derived from the audited annual financial reports of the five palm oil issuers with the largest market capitalization listed on the Indonesia Stock Exchange (IDX), namely PT Triputra Agro Persada Tbk (TAPG), PT Dharma Satya Nusantara Tbk (DSNG), PT Sinar Mas Agro Resources and Technology Tbk (SMAR), PT Astra Agro Lestari Tbk (AALI), and

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

PT Sawit Sumbermas Sarana Tbk (SSMS). The data components extracted include Net Revenue, Cost of Goods Sold (COGS), Gross Profit, and Net Profit.

Commodity Price Data: Annual average global CPO prices, converted into Indonesian Rupiah (IDR) to maintain consistency of comparison with the issuers' financial statements. These data are sourced from www.ceicdata.com and Bank Indonesia. CPO prices serve as the independent variable for measuring the degree of international market volatility relative to corporate margins.

The selection of the five aforementioned companies was conducted using purposive sampling to represent the diverse spectrum of business models within the Indonesian palm oil industry, ranging from upstream-focused integrated companies to those with massive downstream processing capacity.

2.2 Methods

This study employs a quantitative approach utilizing a comparative descriptive analysis method. Comparative descriptive analysis is applied to dissect the financial performance of the five sample companies across two macroeconomic cycles: the Price Escalation Period (2019 - 2022) and the Price Normalization Period (2023 - 2024). To support this analysis, financial ratios are calculated using the following standard formulations:

Gross Profit Margin (GPM) is evaluated to measure the efficiency of direct production:

$$GPM = \frac{\text{Gross Profit}}{\text{Net Revenue}} \times 100\% \dots\dots\dots(1)$$

Net Profit Margin (NPM) is calculated to assess comprehensive profitability after all operating expenses:

$$NPM = \frac{\text{Net Profit}}{\text{Net Revenue}} \times 100\% \dots\dots\dots(2)$$

To identify the cost stickiness phenomenon, the Cost of Goods Sold ratio (COGS Ratio) is computed:

$$COGS \text{ Ratio} = \frac{COGS}{\text{Net Revenue}} \times 100\% \dots\dots\dots(3)$$

And the growth ratio is applied to measure year-on-year performance acceleration:

$$Growth = \frac{X_t - X_{t-1}}{X_{t-1}} \times 100\% \dots\dots\dots(4)$$

The resulting ratio computations for each company are tabulated and their trend movements analyzed. Subsequently, to sharpen the analysis and identify asymmetries in the impact of CPO price volatility, the five sample entities are segmented according to their primary business model structure. This segmentation divides the sample into two groups: upstream or extractive-oriented entities (TAPG, SSMS, DSNG) and large-scale downstream-oriented entities (SMAR, AALI). Inter-segment comparison is conducted to provide empirical substantiation of differences in financial resilience and susceptibility to margin compression when confronted with extreme commodity price shocks in the global market.

3. RESULTS AND DISCUSSION

The period from 2019 to 2024 reflects extreme dynamics within the Indonesian palm oil industry, driven by the volatility of Crude Palm Oil (CPO) prices in the global market. The commodity price surge that occurred during 2021–2022 represents the highest price escalation episode in the past two decades. This phenomenon was precipitated by global supply chain disruptions stemming from the COVID-19 pandemic, a surge in renewable energy demand (biodiesel), and geopolitical tensions that distorted the global vegetable oil supply. These conditions positioned Indonesian palm oil

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

issuers in a state of acute sensitivity to international price transmission, which directly dictated the revenue structure and profitability margins of these companies.

In 2022, despite global CPO prices reaching their apex, the industry confronted the challenge of massive operating cost transmission. Rising input prices, particularly fertilizers and global logistics costs, began exerting pressure on issuers' gross margins. The authors observe that during this phase, companies' ability to balance surging average selling prices (ASP) against rising COGS became the primary determinant of sustaining net profit growth.

The research by Manurung et al. (2019) demonstrates that the palm oil market is highly sensitive to shifts in global conditions, as this commodity is widely traded in international markets. CPO price fluctuations can be influenced by various factors such as changes in renewable energy demand, international trade policies, and production conditions in major producing countries such as Indonesia and Malaysia. In this context, changes in global commodity prices frequently and directly affect producers' financial performance through the price transmission mechanism.

Research on the relationship between commodity prices and corporate performance conducted by Wildani (2023) indicates that companies operating in the extractive and agribusiness sectors exhibit a high degree of sensitivity to market price changes. When commodity prices rise, companies generally experience revenue growth as product selling prices increase, while the majority of production costs remain relatively stable in the short run. Consequently, commodity price appreciation frequently yields an improvement in corporate profitability.

More specifically within the context of the Indonesian palm oil industry, the financial performance dynamics of companies have been demonstrably highly sensitive to the CPO price cycle. Empirical research by Ula et al. (2022) found that the financial performance of palm oil plantation entities experienced acceleration and was in an exceptionally strong condition during the COVID-19 pandemic crisis phase. This improvement was driven by the surge in global commodity prices, which served as the primary catalyst in compensating for various logistical and supply chain constraints. Consistent with these findings, the study by Adityo et al. (2022) confirms that appreciation in the average selling price of palm oil products in global markets had a proportional impact on increases in Return on Equity (ROE) and margin profitability of plantation companies listed on the Indonesia Stock Exchange during the commodity escalation period.

These dynamics are grounded in international market price transmission patterns that asymmetrically influence companies' margin structures. Consistent with the cost stickiness theory developed by Anderson et al. (2003), when commodity prices surge, companies' revenue growth tends to significantly outpace growth in COGS. This empirical phenomenon reinforces the hypothesis that the operating cost structure of agribusiness entities - such as plantation maintenance costs and harvest labor - is characterized by rigidity (relative fixity) in the short run. Consequently, every appreciation in commodity selling prices is not immediately accompanied by a proportional cost increase, enabling the price differential to be directly transmitted into massive profitability improvements (windfall profit). As a visual representation to affirm this theoretical foundation, Figure 1 illustrates the historical movement of global CPO prices, which serves as the empirical baseline for evaluating the performance of the five sample companies.

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

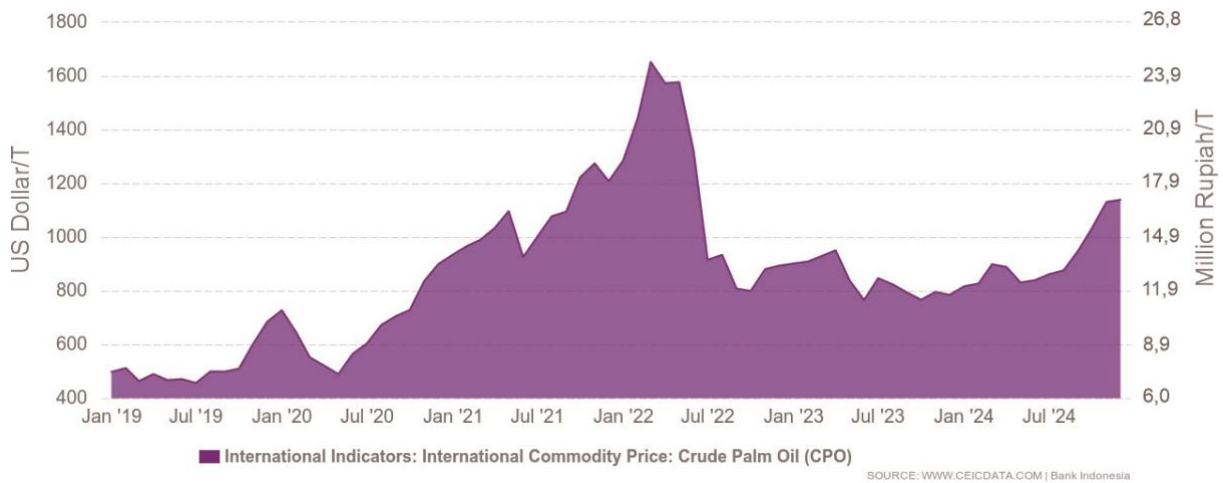


Figure 1. Global Crude Palm Oil (CPO) Price Movement, 2019–2024
 (Source: www.ceicdata.com | Bank Indonesia)

The financial performance of business entities in the palm oil plantation sector exhibits a fundamentally strong correlation with fluctuations in the global commodity reference price. As the empirical foundation for this analysis, Figure 1 presents the trend in Crude Palm Oil (CPO) price movements during the observation period from 2019 to 2024. Structurally, the price dynamics depicted in the figure can be disaggregated into two distinctive macroeconomic cycles. The first phase is identified as the CPO Price Escalation Period (2019 - 2022), characterized by an aggressive upward trend in commodity prices, reaching its highest equilibrium point in mid-2022.

The second phase constitutes the Price Normalization Period (2023 - 2024), representing conditions in which global CPO prices corrected from their peak and moved toward a new level of stability. This bipartite cyclical division is critically important as a baseline framework for evaluating the resilience, operational efficiency, and margin elasticity of each issuer in response to external shocks. Accordingly, the transmission impact of both commodity price phases is comprehensively contextualized through a comparative analysis of historical financial performance data from the five sample companies - TAPG, DSNG, SMAR, AALI, and SSMS - as presented in the following tables.

Table 1. Summary of Sample Companies' Financial Performance (2019–2024) (in billion IDR)

Company	Year	Revenue	Cost of Goods Sold	Gross Profit	Net Profit
TAPG	2019	4.329	3.476	853	188
	2020	5.266	3.873	1.393	933
	2021	6.278	4.662	1.616	1.199
	2022	9.346	5.630	3.716	3.089
	2023	8.326	6.109	2.217	1.661
	2024	9.671	5.949	3.723	3.241
DSNG	2019	5.737	4.276	1.461	178
	2020	6.699	4.947	1.752	478
	2021	7.124	5.100	2.025	740
	2022	9.634	6.516	3.118	1.207
	2023	9.499	6.971	2.527	842
	2024	10.119	7.115	3.004	1.141
SMAR	2019	36.198	32.286	3.913	899
	2020	40.434	34.557	5.877	1.540
	2021	57.004	46.047	10.957	2.829
	2022	75.046	61.734	13.312	5.505
	2023	66.531	59.770	6.761	918
	2024	78.835	70.821	8.014	1.278

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

AALI	2019	17.453	15.308	2.145	244
	2020	18.807	15.844	2.963	894
	2021	24.322	19.492	4.830	2.067
	2022	21.829	18.006	3.822	1.792
	2023	20.745	17.974	2.771	1.088
	2024	21.815	18.474	3.341	1.187
SSMS	2019	3.278	2.268	1.009	12
	2020	4.011	2.214	1.797	581
	2021	5.203	2.998	2.205	1.527
	2022	11.240	6.936	4.304	1.848
	2023	10.703	7.904	2.799	518
	2024	10.367	7.088	3.279	845

The analysis reveals that the majority of companies experienced significant revenue increases in 2022, coinciding with the global CPO price surge, which peaked between March and May at approximately IDR 24.5 million per ton. The average net profit during the CPO price escalation period (2019 - 2022) for TAPG, DSNG, SMAR, AALI, and SSMS was IDR 1,352 billion, IDR 651 billion, IDR 2,693 billion, IDR 1,249 billion, and IDR 992 billion, respectively. The largest revenue increases were recorded by companies with greater export exposure to international markets, underscoring that global commodity prices constitute the primary determinant of palm oil companies' revenues.

Table 2. Cost of Goods Sold Ratio (COGS)

Company	Year COGS (%)					
	2019	2020	2021	2022	2023	2024
TAPG	80,30	73,55	74,26	60,24	73,37	61,50
DSNG	74,53	73,85	71,57	67,64	73,40	70,31
SMAR	89,19	85,47	80,78	82,26	89,84	89,83
AALI	87,71	84,25	80,14	82,49	86,64	84,69
SSMS	69,22	55,20	57,62	61,71	73,85	68,37

The COGS Ratio represents the proportion of fundamental costs relative to total revenue, empirically validating the structural operational differences among issuers. Large-scale downstream-oriented entities such as SMAR and AALI consistently recorded the highest ratios, fluctuating in the range of 80% to nearly 90%. The elevated cost of goods sold ratios do not indicate managerial inefficiency; rather, they are a logical consequence of a business model that is structurally highly dependent on the procurement of primary raw materials from external parties, which directly constrains the available space for gross margin expansion.

Conversely, upstream entities such as SSMS and TAPG demonstrate a comparative advantage through considerably more efficient COGS ratios, owing to the optimization of internal plantation supply integration. TAPG in particular exhibits exceptional cost management, systematically compressing its ratio to 61.50% by 2024, thereby demonstrating fundamental operational robustness irrespective of commodity price normalization pressures.

Based on the analysis, there exist significant differences in margin magnitude and cost structure between upstream entities (such as SSMS and TAPG) and downstream entities (such as SMAR and AALI). Downstream entities with massive dependence on third-party raw material supply are empirically demonstrated to possess a COGS structure more vulnerable to market fluctuations. Conversely, integrated upstream entities benefit from internal efficiency protection, as the majority of Fresh Fruit Bunch (FFB) supply is sourced from their core plantations, rendering them more adaptive in absorbing production input price shocks.

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

Meanwhile, DSNG represents the entity with the most moderate cost stability, operating within a highly measured ratio range of 67%–74%, indicative of the application of highly disciplined agro-economic governance in mitigating external cost volatility.

Table 3. Gross Profit Margin (GPM)

Company	Year GPM (%)					
	2019	2020	2021	2022	2023	2024
TAPG	19.70	26.45	25.74	39.76	26.63	38.50
DSNG	25.47	26.15	28.43	32.36	26.60	29.69
SMAR	10.81	14.53	19.22	17.74	10.16	10.17
AALI	12.29	15.75	19.86	17.51	13.36	15.31
SSMS	30.78	44.80	42.38	38.29	26.15	31.63

Gross Profit Margin (GPM) measures the efficiency of a company's direct production operations. It represents the percentage of revenue remaining after deducting the Cost of Goods Sold, encompassing costs such as plantation maintenance, fertilizers, harvest labor wages, and palm oil mill (PKS) operational costs. A higher GPM signifies greater efficiency in the production process.

As shown in Table 3, SMAR and AALI recorded thinner margins (10%–19%) due to their focus on high-volume downstream businesses requiring third-party raw material procurement. The efficiency gap between upstream and downstream entities can be explained through the lens of Vertical Integration Theory and Transaction Cost Economics (Williamson, 1981). According to empirical research on the palm oil agribusiness value chain by Nesti et al. (2021), companies vertically integrated toward the upstream - possessing a dominant core plantation ratio - hold an absolute advantage in securing margins, as they are insulated from raw material price asymmetries (Fresh Fruit Bunches/CPO) occurring in the spot market. Conversely, large-scale downstream-focused entities perpetually face the risk of third-party input cost volatility, which structurally distorts Gross Profit Margin.

SSMS and TAPG dominated with substantially thick GPMs (frequently exceeding 30%), reflecting their status as upstream companies with highly efficient self-sufficient plantation operations that successfully suppress production cost of goods sold. DSNG, on the other hand, emerged as the most consistently performing company, maintaining margins above 25% across all market conditions. While the CPO price explosion in 2022 demonstrably elevated the GPM of all issuers, TAPG stands out as the most notable positive anomaly, having sustained a margin of 38.50% through 2024 - empirically proving the robustness of their operational efficiency even as commodity prices reverted to normal levels.

Table 4. Net Profit Margin (NPM)

Company	Year NPM (%)					
	2019	2020	2021	2022	2023	2024
TAPG	4.34	17.72	19.10	33.05	19.95	33.51
DSNG	3.10	7.14	10.39	12.53	8.86	11.28
SMAR	2.48	3.81	4.96	7.34	1.38	1.62
AALI	1.40	4.75	8.50	8.21	5.24	5.44
SSMS	0.37	14.49	29.35	16.44	4.84	8.15

Table 4 provides an overview of companies' ultimate profitability (net profit) after deducting all expenses, including taxes and interest. SMAR and AALI consistently recorded the thinnest NPMs (predominantly below 8%), which is a characteristic feature of the high operating burden inherent in large-scale downstream businesses. In contrast, TAPG emerged as the standout performer with a

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

remarkable NPM surge - from merely 4.34% in 2019 to 33.51% in 2024 - signifying extraordinary comprehensive efficiency from the plantation level to the corporate level.

The CPO price explosion phase (2021–2022) demonstrably served as the primary driver of NPM improvement across all issuers, with SSMS having enjoyed margins of up to 29.35% in 2021 before subsequently contracting. The true test, however, is revealed during the normalization period (2023 - 2024). While the majority of companies experienced margin erosion, DSNG was able to maintain stability in the range of 8%–11%, and TAPG once again stood out as a positive anomaly by sustaining an NPM above 33%. This demonstrates that TAPG was not merely "riding" commodity prices but possessed a genuinely robust fundamental foundation and cost control discipline.

The profitability margin analysis indicates that the majority of companies experienced margin improvement in 2022. However, this margin improvement was not always commensurate with revenue growth due to rising production costs and the impact of domestic policies restricting selling prices in the local market.

Table 5. Net Profit Growth

Company	Net Profit (Billion IDR)		Growth (%)	Net Profit (Billion IDR)		Growth (%)
	2019	2022		2023	2024	
TAPG	188	3.089	+1.543,09	1.661	3.241	+95,12
DSNG	178	1.207	+578,09	842	1.141	+35,51
SMAR	899	5.505	+512,35	918	1.278	+39,22
AALI	244	1.792	+634,43	1.088	1.187	+9,10
SSMS	12	1.848	+15.300,00	518	845	+63,13

Net Profit Growth, as presented in Table 5, clearly captures two starkly contrasting commodity cycle phases. During the CPO price escalation period (2019 - 2022), all issuers recorded windfall profits or abnormal profitability improvements, with net profit escalation reaching hundreds to thousands of percent. Upstream-focused entities such as TAPG and SSMS posted the highest growth acceleration - with TAPG's net profit increasing exponentially by 1,543%. This phenomenon confirms that the upstream plantation business model possesses an exceptionally high degree of operating leverage: when global commodity prices appreciate sharply, corporate profit margins expand significantly due to the relatively fixed proportion of production costs. The exponential profit acceleration during the escalation period is consistent with the empirical findings of Ula et al. (2023), wherein a positive commodity price shock generates maximum leverage on the financial performance of plantation issuers. The profit surge surpassing the percentage of revenue growth constitutes an empirical manifestation of the high Degree of Operating Leverage (DOL) in the palm oil plantation industry. According to financial management principles (Brigham & Houston, 2019), upstream agribusiness entities are capital-intensive industries with very high fixed cost structures - such as biological asset depreciation, plantation maintenance, and infrastructure. This structural characteristic generates operating leverage, whereby each percentage increase in CPO selling prices is transmitted into a far greater exponential percentage expansion in Operating Profit and Net Profit.

Entering the Price Normalization Period (2023 - 2024), the fundamental resilience of business entities was put to the test. Notwithstanding the commodity price correction from its peak, all issuers empirically succeeded in recording performance recovery with positive growth trends from the base year 2023 toward 2024. TAPG demonstrated the most superior sectoral performance with a growth rate of +95.12%, wherein the accumulated profit in 2024 surpassed the maximum achievement of the commodity peak period in 2022. Meanwhile, SSMS, SMAR, and DSNG also indicated adequate resilience through profit recovery in the range of 35%–63%. This performance suggests that notwithstanding the stabilization of CPO reference prices, these companies possess proven cost

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

management effectiveness and production volume optimization strategies sufficient to sustain long-term profitability levels.

Table 6. Sectoral Aggregate Performance Comparison (in Billion IDR)

Indikator	Rata-rata Tahunan: Periode Eskalasi (2019 - 2022)	Rata-rata Tahunan: Periode Normalisasi (2023 - 2024)	Persentase Perubahan
Total Pendapatan	92.309,5	123.305,5	+33,58%
Total Laba Bersih	6.937,5	6.359,5	-8,33%
Margin Laba Bersih (NPM)	7,52%	5,16%	-2,36%*

*Note: NPM change is expressed as a decline in absolute percentage points.

This sectoral aggregate data indicates the existence of a structural divergence or anomaly between business volume and profitability during the inter-cycle transition. In aggregate, Total Revenue actually expanded by +33.58% during the Normalization Period (2023 - 2024) compared to the average of the Escalation Period (2019 - 2022). This may be interpreted as evidence that, fundamentally, industrial entities have succeeded in increasing production capacity, sales volume, or expanding market share over time, given that 2019 and 2020 represented a relatively low-volume base.

Nevertheless, this revenue scale improvement did not translate linearly into ultimate profitability. Total Net Profit in aggregate contracted by -8.33%, equivalently compressing the aggregate Net Profit Margin (NPM) from 7.52% to 5.16%. This phenomenon constitutes an empirical representation of post-commodity-escalation margin compression. Although companies were able to sell greater quantities of product (generating higher aggregate revenue), the corrected CPO reference price - reverting to normal levels - caused operating expenses and cost of goods sold (COGS) to consume a far more dominant proportion of revenue. This profitability contraction amid revenue volume expansion academically validates the applicability of Cost Stickiness Theory. As posited in the foundational study by Anderson et al. (2003) and tested on Indonesian agribusiness manufacturing companies by Wijayanti et al. (2022), operating costs exhibit asymmetric (rigid) characteristics. During the escalation period, management aggressively expanded costs (such as logistics, labor expansion, and fertilizers) to match production capacity. However, when CPO reference prices corrected entering the normalization period, these structural costs proved sticky (rigid) and resistant to immediate downward adjustment (downward rigid). It is precisely this residue of cost stickiness that directly triggered aggregate margin compression within the palm oil industry, demonstrating that in commodity industries, the macroeconomic level of profitability is more heavily influenced by reference market price volatility (price-driven) than by mere growth in operational revenue scale.

4. CONCLUSION

Based on a comparative analysis of the financial performance of five major Indonesian palm oil issuers during the 2019–2024 period, this study concludes that global Crude Palm Oil (CPO) price volatility constitutes the absolute determinant dictating sectoral profitability. During the price escalation phase (2019 - 2022), palm oil issuers were found to benefit from massive operating leverage, wherein average selling price appreciation was transmitted exponentially into net profit surges that outpaced operational revenue growth. However, this study also reveals the existence of financial resilience asymmetry driven by business model structure. Upstream-oriented entities (such as TAPG, SSMS, and DSNG) demonstrably possessed higher resilience and thicker margins owing to their independent ownership of biological assets. Conversely, large-scale downstream-integrated entities (such as SMAR and AALI) exhibited greater vulnerability to third-party production input price shocks. Furthermore, upon entering the price normalization period (2023 - 2024), this study empirically validates the applicability of the cost stickiness theory. The occurrence of margin

Faisal Basyir, Irham Maulana, Nuzulul Fahmi, Jesi Yardani, Dwi Anggraini, 2026

compression during this phase demonstrates that structural costs that had expanded during the boom period are rigid and resistant to immediate downward adjustment (downward rigid). Consequently, even as revenue volumes remained stable, corporate profitability contracted due to cost residues that remained elevated amid the normalization of market reference prices.

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