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Research Article

Analysis of Factors That Influence Sticky Costs in Transportation Sub-Sector Companies

Lailatus Saadah[1*], Dita Hafizah[2], Putri Marsella Zalianti[3]
[1-3]Management, Faculty of Economics, Universitas KH. A. Wahab Hasbullah, Indonesia
Email: [1)] lailatus@unwaha.ac.id, [2)] hafizahhdita@gmail.com, [3)] marssmarssello8@gmail.com

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Abstract
This study aims to analyse sticky cost behaviour in transportation sub-sector companies listed on the Indonesia Stock Exchange (IDX) during the 2019-2023 period. Sticky cost is a phenomenon in which costs do not decrease proportionally when business activity decreases. This study uses a descriptive approach with secondary data in the form of company financial statements processed with panel data analysis techniques. The independent variables tested include sales, company size, asset intensity, intellectual capital, and leverage. The results showed that the level of sticky costs in transport sub-sector companies was very low, indicating high cost flexibility. This finding implies that companies in this sub-sector are able to adjust their cost structure efficiently to manage financial risk and improve competitiveness.

Keywords: Sticky Cost, Sales, Company Size, Asset Intensity, Intellectual Capital, Leverage

1. Introduction

In the business world, efficiency and effective cost management are crucial aspects that play a major role in maintaining a company's operational sustainability and competitiveness in the market. Companies that are able to control costs efficiently not only tend to generate greater profits, but also have stronger resilience in the face of various dynamics and changes in economic conditions, such as recession or inflation. With optimal cost efficiency, companies can allocate resources more strategically, maintain financial stability, and improve their ability to compete in the long run.

In the context of the Indonesian economy, transport sub-sector companies listed on the Indonesia Stock Exchange (IDX) faced significant challenges during the 2019-2023 period. One of the most prominent factors was the impact of the COVID-19 pandemic in 2020, which caused major disruptions to the demand for transport services. Mobility restrictions, decreased economic activity, and changing consumer preferences towards public transport resulted in a drastic drop in revenue in this sub-sector. In the midst of these challenges, transport companies must make strategic decisions regarding cost management, including how to maintain operational capacity without compromising cost efficiency in times of crisis. Management must allocate resources in a way that allows costs not to become rigid, by reducing the mix of fixed and variable costs, and increasing variable costs, in order to avoid a sticky cost structure (Septiansyah & Asmara, 2021).

Sticky costs can be influenced by a number of internal factors, such as firm size, financial leverage, revenue growth rate, and capital intensity. Firm size reflects the scale of operations and the firm's ability to absorb fluctuations in revenue, where large firms tend to have more fixed costs than small firms. Financial leverage indicates the extent to which a company relies on debt in financing its operations,

which may affect the company's flexibility in adjusting its cost structure. Revenue growth and capital intensity are also important indicators that reflect a company's operational efficiency and structure in the face of changing economic conditions.

Research on sticky costs was first conducted by Anderson et al. (2003) who used data for 20 years with a sample of 7,629 companies. They found that sticky costs often occur in selling, administrative, and general expenses in most public companies in the United States. One of the studies on Sticky Cost was conducted by (Okta & Syadevi, 2024), they argued that partially, sales and leverage variables affect sticky costs. Meanwhile, the variables of firm size, asset intensity, and intellectual capital have no effect on sticky cost. Research by Azmi & Januryanti (2021) examining Sticky cost behaviour on sales, asset intensity and intellectual capital found that there was an influence of the three on Sticky Cost. Further research was also conducted by Lian et al. (2024) which also suggests that there is Sticky Cost behaviour in selling, general and administrative costs. Likewise with research by Padang & Kristianti (2022) which found that there is a Sticky Cost in the cost of sales. However, research conducted by Lusiana & Kristianti (2020) is not in line with the findings by Azmi & Januryanti (2021), Lian et al. (2024), Okta & Syadevi (2024) and Padang & Kristianti (2022) which found the absence of sticky costs in the cost of sales.

2. Literature Review

2.1. Sticky Cost

The concept of cost stickiness refers to the phenomenon where costs tend to increase more when there is an increase in sales compared to a decrease in costs when sales decrease. In other words, when sales increase, the company will increase certain resources or costs in its operations significantly to support increased business activities. However, when sales decline, the company does not necessarily adjust or reduce costs proportionally. Sticky cost behaviour can be bad for the company, because the higher the level of sticky costs, the more difficult it is for the company to achieve profit (Riskia Vonna & Daud, 2016).

This phenomenon is often caused by several factors, such as uncertainty of future demand, long-term contracts for fixed costs, or managerial decisions to retain resources in the face of potential demand recovery. As a result, costs become more 'sticky' or difficult to decline compared to how quickly they increase when business activity increases (Banker et al., 2012). Costs are said to have sticky behaviour if costs will increase more significantly when there is an increase in revenue, but to the same extent, costs will decrease less when there is a decrease in revenue (Suak et al., 2021)

2.2. Sales

Sales is the main component in financial statements that shows the revenue a company generates from its main activity, which is selling products or services to customers. In general, sales are calculated by totalling all transactions that occur, but often need to be reduced by discounts, rebates, or returns that reduce gross revenue. Therefore, the net sales recorded in the financial statements reflect the revenue actually received by the company after accounting for such deductions (Kartikasari et al., 2018).

2.3. Company Size

Company size is an indicator used to describe the size of a company. This measurement is usually based on several important aspects of finance, such as the value of total assets, total sales, or the value of equity owned by the company (Suciani & Setyawan, 2022). Thus, company size is often used as a reference to analyse the performance, financial structure, and competitiveness of companies in a particular industry (Kolias, 2011)

2.4. Asset Intensity

Asset Intensity is a ratio that shows how large the proportion of fixed assets owned by the company is compared to the company's total assets. This ratio provides an overview of the company's asset structure and how much the company relies on fixed assets in carrying out its operational activities. Companies with a high level of fixed asset intensity tend to have a larger fixed cost burden, because the maintenance and depreciation of fixed assets are relatively fixed costs and cannot be directly adjusted to changes in revenue or production (Zacharias, 2023).

2.5. Intellectual Capital

Intellectual capital is knowledge, intellectual abilities, and tendencies that can be converted into added value for the company. Intellectual capital is divided into three main categories, namely human capital, structural/organisational capital, and relational capital. Intellectual capital is a resource in the form of intangible assets owned by the company, whose existence has been owned before being utilised. Therefore, intellectual capital is considered a form of resource that is bound and strategic in supporting the company's performance (Soegiharto & Rachmawati, 2022)

2.6. Leverage

Leverage is a concept that describes the utilisation of borrowed funds to fund a company's operations or investments with the aim of increasing potential profits. When revenues from investments are greater than the cost of debt to be paid, leverage can increase profits. However, leverage also has risks, because if the income generated is less than the cost of debt, the losses incurred by the company will also be greater (Herfanti & Prasetyono, 2017).

3. Methods

This type of research uses descriptive research with qualitative methods. Descriptive research is a research approach used to systematically describe a phenomenon and certain factors (Sa'adah, 2021). Meanwhile, qualitative data is data that cannot be measured by numbers. This data is in the form of words, characteristics, categories, and so on (Sa'adah, 2021). The population of this study are companies engaged in the transportation and logistics sector listed on the Indonesia Stock Exchange for the period 2019-2023. The sample used is the transportation sub-sector companies listed on the Indonesia Stock Exchange for the 2019-2023 period with purposive sampling technique.

The data source in this study is secondary data obtained from financial report data published by the Indonesia Stock Exchange and can be accessed on the official website www.idx.co.id. The data collection technique uses documentation in the form of collecting financial statement data for the 2019-2023 period which can be accessed on the official website www.idx.co.id.

The data analysis technique in this study is financial data analysis by calculating sticky costs and the factors that influence it in the form of sales, company size, asset intensity, intellectual capital, and leverage.

4. Results and Discussion

4.1. Research Results

4.1.1. Sticky Cost Calculation Results

Sticky Cost is a description of the phenomenon where costs experience unbalanced changes in their activities.

Table 1. Sticky Cost Calculation Result

No	Issuer Code	Average	Description
1	ASSA	-13%	Very Low
2	BIRD	-18%	Very Low
3	BPTR	-13%	Very Low
4	CMPP	-19%	Very Low
5	SAFE	-16%	Very Low
6	TAXI	-56%	Very Low
7	WEHA	-17%	Very Low

Source: processed from 2019-2023 financial statements

The seven issuers, namely ASSA, BIRD, BPTR, CMPP, SAFE, TAXI, and WEHA obtained an average sticky cost value that was classified in the very low category.

4.1.2. Company Net Sales Calculation

Sales are the total amount of revenue earned by the company from the sale of products or services after deducting discounts.

Table 2. Net Sales Calculation Results

No	Issuer Code	Year	Net Sales	Average
1	ASSA	2019	Rp 2,334,222,192,085	Rp 4,153,658,385,585
		2020	Rp 3,037,359,367,967	
		2021	Rp 5,088,094,179,374	
		2022	Rp 5,870,093,882,006	
		2023	Rp 4,438,522,306,494	
2	BIRD	2019	Rp 4,047,691,000,000	Rp 3,265,552,800,000
		2020	Rp 2,046,660,000,000	
		2021	Rp 2,220,841,000,000	
		2022	Rp 3,590,100,000,000	
		2023	Rp 4,422,472,000,000	
3	BPTR	2019	Rp 162,595,163,771	Rp 262,453,262,422
		2020	Rp 162,257,365,449	
		2021	Rp 212,042,439,331	
		2022	Rp 333,909,938,076	
		2023	Rp 441,461,405,484	
4	CMPP	2019	Rp 6,708,800,607,590	Rp 3,870,324,495,891
		2020	Rp 1,610,973,387,045	
		2021	Rp 626,001,737,959	

		2022	Rp 3,780,525,920,680	
		2023	Rp 6,625,320,826,182	
5	SAFE	2019	Rp 180,073,555,181	Rp 196,226,741,793
		2020	Rp 143,961,352,119	
		2021	Rp 161,057,570,000	
		2022	Rp 253,248,613,734	
		2023	Rp 242,792,617,933	
6	TAXI	2019	Rp 134,251,103,000	Rp 34,171,001,000
		2020	Rp 21,541,634,000	
		2021	Rp 7,263,061,000	
		2022	Rp 2,948,504,000	
		2023	Rp 4,850,703,000	
7	WEHA	2019	Rp 146,173,217,700	Rp 152,145,282,398
		2020	Rp 70,513,990,516	
		2021	Rp 93,434,910,443	
		2022	Rp 183,435,869,223	
		2023	Rp 267,168,424,107	

Source: processed from 2019-2023 financial statements

The issuer ASSA had average net sales from 2019-2023 of IDR 4,153,658,385,585. Issuer BIRD obtained average sales of Rp 3,265,552,800,000. Issuer BPTR amounting to Rp 262,453,262,422. Issuer CMPP amounting to Rp 3,870,324,495,891. Issuer SAFE amounting to Rp 196,226,741,793. Issuer TAXI amounting to Rp 34,171,001,000. Issuer WEHA amounting to Rp 152,145,282,398.

4.1.3. Company Size Calculation

Company size is a scale that describes the size of the company based on various provisions.

Table 3. Company Size Calculation Results

No	Issuer Code	Year	Total Assets = Company Size	Average	Description
1	ASSA	2019	Rp 4,849,223,630,042	Rp 6,131,260,001,755	Medium
		2020	Rp 5,170,895,098,267		
		2021	Rp 6,031,946,733,670		
		2022	Rp 7,268,436,910,723		
		2023	Rp 7,335,797,636,072		
2	BIRD	2019	Rp 7,424,304,000,000	Rp 7,149,787,800,000	Medium
		2020	Rp 7,253,114,000,000		
		2021	Rp 6,598,137,000,000		
		2022	Rp 6,893,160,000,000		
		2023	Rp 7,580,224,000,000		
3	BPTR	2019	Rp 536,133,980,207	Rp 932,282,364,918	Small
		2020	Rp 536,303,219,831		
		2021	Rp 816,739,145,113		
		2022	Rp 1,243,695,808,964		
		2023	Rp 1,528,539,670,473		

4	CMPP	2019	Rp 2,613,070,074,932	Rp 5,060,758,487,596	Medium
		2020	Rp 6,080,516,085,752		
		2021	Rp 5,136,948,816,783		
		2022	Rp 5,356,962,889,162		
		2023	Rp 6,116,294,571,351		
5	SAFE	2019	Rp 357,452,208,843	Rp 297,263,640,567	Very Small
		2020	Rp 322,122,601,641		
		2021	Rp 298,604,232,055		
		2022	Rp 270,842,050,371		
		2023	Rp 237,297,109,924		
6	TAXI	2019	Rp 479,265,331,000	Rp 191,106,849,200	Very Small
		2020	Rp 243,302,339,000		
		2021	Rp 91,040,495,000		
		2022	Rp 73,091,559,000		
		2023	Rp 68,834,522,000		
7	WEHA	2019	Rp 269,602,629,189	Rp 275,058,735,267	Very Small
		2020	Rp 239,784,904,490		
		2021	Rp 222,474,205,879		
		2022	Rp 291,613,017,752		
		2023	Rp 351,818,919,026		

Source: processed from 2019-2023 financial statements

In the above calculations, it is known that the issuers ASSA, BIRD, and CMPP are medium-sized companies. Where ASSA is Rp 6,131,260,001,755, BIRD is Rp 7,149,787,800,000, and CMPP is Rp 5,060,758,487,596. BPTR issuers are classified into small-scale companies, where the average assets owned are Rp 932,282,364,918. While the issuers SAFE, TAXI, and WEHA are classified as very small-scale companies, where SAFE has an average total assets of Rp 2977,263,640,567, TAXI of Rp 191,106,849,200, and WEHA of Rp 275,058,735,267.

4.1.4. Asset Intensity Calculation

Fixed asset intensity is a ratio that indicates the intensity of a company's fixed asset ownership compared to total assets.

Table 4. Results of Asset Intensity Calculation

No	Issuer Code	Average	Description
1	ASSA	75%	High
2	BIRD	78%	High
3	BPTR	91%	Very High
4	CMPP	19%	Very Low
5	SAFE	91%	Very High
6	TAXI	91%	Very High
7	WEHA	60%	High

Source: processed from 2019-2023 financial statements

The issuers ASSA, BIRD, and WEHA are categorised with a high value of dependency on fixed assets. Issuers BPTR, SAFE, and TAXI obtained a value categorised as very high on dependence on fixed assets where almost all of its operational activities depend on fixed assets. While the issuer CMPP obtained a value categorised as very low on the dependence on fixed assets.

4.1.5. Intellectual capital calculation

Intellectual capital is a resource in the form of intangible assets that create a company's competitiveness.

Table 5. Intellectual Capital Calculation Results

No	Issuer Code	Average	Description
1	ASSA	53.69	Very high
2	BIRD	26.34	Very high
3	BPTR	100.51	Very high
4	CMPP	0.05	Very low
5	SAFE	70.15	Very high
6	TAXI	-15.38	Very low
7	WEHA	65.90	Very high

Source: processed from 2019-2023 financial statements

ASSA, BIRD, BPTR, SAFE, and WEHA are classified in the very high category of intellectual capital. While the issuers CMPP and TAXI are classified in the very low category.

4.1.6. Leverage Calculation

Leverage is the use of debt or loan funds to increase profits in business.

Table 6. Leverage Calculation Results

No	Issuer Code	Average	Description.
1	ASSA	0.69	Good
2	BIRD	0.25	Good
3	BPTR	0.67	Good
4	CMPP	1.80	High Risk
5	SAFE	1.19	High Risk
6	TAXI	1.12	High Risk
7	WEHA	0.43	Good

Source: processed from 2019-2023 financial statements

Issuers ASSA, BIRD, BPTR, and WEHA obtained an average leverage value < 1 which is classified in the good category. While the issuers CMPP, SAFE, and TAXI obtained an average leverage value> 1 which is classified in the high risk category.

4.2. Discussion

Sticky Cost is a phenomenon where the company's costs do not change in balance with fluctuations in the volume of sales activities. In other words, when production or sales increase, costs will go up. However, when sales decrease, the decrease in costs does not occur as quickly or as large as the previous increase.

In the results of the above calculations, the seven issuers, namely ASSA, BIRD, BPTR, CMPP, SAFE, TAXI, and WEHA, obtained an average sticky cost value that was classified in the very low category. This means that the company has very flexible costs that can adjust operating costs efficiently and does not depend on high fixed costs when there is a decline in sales. When sales increase, variable costs such as raw materials and direct labour usually go up. However, fixed costs such as rent, depreciation, and salaries of permanent employees tend to remain unchanged in the short term. This causes the proportion of fixed costs to total costs to be greater, which in turn contributes to the high level of sticky costs.

From the above calculations, it is known that the issuer ASSA has average net sales from 2019-2023 of Rp 4,153,658,385,585. Issuer BIRD obtained average sales of Rp 3,265,552,800,000. Issuer BPTR amounting to Rp 262,453,262,422. Issuer CMPP amounting to Rp 3,870,324,495,891. Issuer SAFE amounting to Rp 196,226,741,793. Issuer TAXI amounting to Rp 34,171,001,000. Issuer WEHA amounting to Rp 152,145,282,398. Of the seven issuers, only the TAXI issuer experienced a decrease in sales from 2019-2023. While the other six experienced an increase that tended to be stable from 2019-2023.

In the above calculations, it is known that ASSA, BIRD, and CMPP issuers are medium-sized companies where the company has limited financial conditions compared to large companies, but still has the ability to compete in the market. BPTR issuers are classified into small-scale companies, where the average assets owned are Rp 932,282,364,918. Companies that have a small scale usually operate on a limited basis and only focus on the local market. While the issuers SAFE, TAXI, and WEHA are classified as very small companies, where SAFE has an average total assets of Rp 297,263,640,567, TAXI of Rp 191,106,849,200, and WEHA of Rp 275,058,735,267. Very small-scale companies are companies that are only managed by informal teams and have little influence on the macro economy.

In the calculation above, it is known that the issuers ASSA, BIRD, and WEHA are classified at a high value of dependence on fixed assets. Issuers BPTR, SAFE, and TAXI obtained a value categorised as very high in dependence on fixed assets where almost all of their operational activities depend on fixed assets. While the issuer CMPP obtained a value categorised as very low on dependence on fixed assets. This category indicates that it does not rely on fixed assets, but the company focuses on investing in working capital.

In the above calculation, it is known that the issuers ASSA, BIRD, BPTR, SAFE, and WEHA are classified in the very high category. While CMPP and TAXI issuers are classified in the very low category. If the VAIC value is higher, then the company in using its intellectual resources to produce added value is more efficient. Conversely, if the VAIC value is low, then the company in managing its intellectual resources is less efficient.

In the results of the above calculations, it is known that the issuers ASSA, BIRD, BPTR, and WEHA obtained an average leverage value <1 which is classified in the good category. This means that the company has strong enough capital to finance operational activities and the company is not too dependent on debt so that the company has a large contribution to total assets. While the issuers CMPP, SAFE, and TAXI obtained an average leverage value> 1 which is classified in the high risk category. This means that the company's total debt exceeds the total assets. The company has a high dependence on debt in financing its operational activities. This can have a negative impact on the sustainability of the company in the long term. If this happens, investors will doubt investing in the future.

5. Conclusion

Sticky costs have an important impact on the efficiency of cost management and the level of corporate financial risk. Factors such as sales, firm size, asset intensity, and leverage tend to increase a firm's vulnerability to sticky costs. On the other hand, the presence of intellectual capital can provide higher flexibility in managing costs. This relationship suggests that flexible cost management strategies and proper financial planning are essential to overcome the challenges of sticky costs.

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