The Effect of Operational Efficiency, Marketing Effectiveness, and Leverage on the Financial Performance of PT Pelabuhan Indonesia (PERSERO) Regional I

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Abstract. This study aims to analyze the performance of PT Pelabuhan Indonesia (Persero) Regional I as part of the Indonesian logistics chain. The efficiency and effectiveness of PT Pelabuhan Indonesia (Persero) Regional I are expected to reduce logistics costs to realize economic development in the Western region of Indonesia. Performance measurement was done through its financial performance. This evaluation measured the effect of operational performance, marketing activities, and leverage on its financial performance to identify and need to improve its performance. The object of this research was the financial statements of PT Pelabuhan Indonesia (Persero) Regional I for the period 2015–2020. Based on the DuPont method, return on equity is influenced by net profit margin, total asset turnover, and debt to equity.

Keywords: Operational Efficiency · Marketing Effectiveness · Financial Leverage · Financial Performance

1 Introduction

Aceh, North Sumatra, Riau, and Riau Islands are the westernmost regions of Indonesia attractive for investment. In addition to the potential for natural resources and population, these four provinces are quite strategic because they are in the Malacca Strait, one of the world's busiest straits. Based on the Investment Coordinating Board (BPKPM) book in 2020, domestic and foreign investment in the four provinces is shown in Table 1.

Foreign investment (PMA) in Aceh Province is low, but domestic investment (PMDN) is relatively high compared to other provinces. Thus, it can be said that the four westernmost areas of Indonesia are still quite attractive to investors. However, the trade balance between regions in Indonesia in 2017–2020 showed that economic transactions in the four provinces were in deficit, implying that the four provinces cannot meet demand, or the products produced have low competitiveness compared to other regions/areas in Indonesia (Table 2).

Logistics costs need to be evaluated considering that Indonesia's logistics performance is still lagging other countries in Southeast Asia, meaning that Indonesia's

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Table 1. Domestic and Foreign Investment.

Province	Domestic Investment		Foreign Investment	
	Rank	Investment (Billion IDR)	Rank	Investment (Billion IDR)
Aceh	13	8,24111	29	51,1
Sumatera	8	18,189.5	12	974.8
Riau	4	34,117.8	11	1,078.0
R. Island	10	14,249.0	6	1,649.4

Source: Investment Coordinating Board (BPKPM), 2021.

Table 2. Trade Balance Between Regions in Indonesia.

Province	Balance of Trade (Million IDR)			
	2017	2018	2019	2020
Aceh	(3,859,322)	3,506,934	(16,795,945)	(9,394,598)
Sumatera Utara	808,868	33,852,926	(30,034,564)	(24,970,946)
Riau	(462,642)	(57,000,948)	(24,654,067)	(50,175,971)
Riau Islands	(3,387,187)	(8,981,640)	(5,356,898)	5,660,346
Indonesia	413,817,763	2,492,214,717	0	0

Source: Central Bureau of Statistics, 2021.

logistics costs are high compared to several Southeast Asia countries. Based on the World Bank's Logistics Performance Index (LPI) in 2018, Indonesia was ranked 46th, Singapore was 7th, Thailand was 32nd, Vietnam was 39th, and Malaysia was 41st.

Ports contribute to national logistics costs as the main gateway for national logistics. Logistics has an essential impact on the economy, where the development of logistics in a region will affect the economic development of that country.

This relates to the development of other industries in the economy because logistics connects all logistics activities or supply chain functions. Based on these activities, logistics will make the company's business activities more effective and faster, so logistics plays a vital role in increasing the competitiveness of a country and the economy [1].

Therefore, port development is closely related to the regional economy because port activities such as transfer, loading and unloading, warehousing, processing, packaging, logistics services, and value-added activities have a multiplier effect on the local, regional, and national economy [2].

PT Pelabuhan Indonesia (Persero) Regional I, as the manager of ports in the Aceh, North Sumatra, Riau, and Riau Islands regions, must be able to support regional economic development by creating low logistics costs. Evaluation and mapping of the performance of PT Pelabuhan Indonesia (Persero) Regional I to make low logistics costs can be done by evaluating its financial performance. Financial performance is one indicator that can show the company's overall performance.

Three main pillars that can evaluate financial performance are as follows [3]. First, profit margins which show how well the company can use all its resources to generate sales and profits to support business continuity. Second, asset utilization which shows how well the company can utilize non-current and current assets to generate company sales. Third, leverage, which is the equity multiplier. Leverage represents the level of equity shareholder funds in the total capital structure (total assets).

According to Ningsih & Utami [4], financial performance is an analysis of how a company has implemented financial implementation rules correctly and adequately. These financial performance measures reflect strategical, operating, and financing decisions. Information from financial performance analysis is needed to assess potential changes in economic resources that may be controlled in the future and to predict the production capacity of existing resources.

Financial ratios are a company's financial analysis tool to assess a company's performance based on a comparison of financial data contained in the post of financial statements. The ratio describes a relationship or balance between a certain amount with another amount.

DuPont analysis, also known as DuPont identity or DuPont model, is a framework used to measure whether a company has optimally carried out its activities to achieve its financial goals. According to this method, a company's financial plan aims to maximize profits to increase the wealth of its shareholders. Thus, it can be said that companies that can increase shareholder wealth following the risks are financially healthy [5]. The means used to achieve this goal are divided into three pillars: a. Maximize operating returns; b. Manage assets efficiently; c. Optimal use of leverage (Fig. 1).

According to these three pillars, the three elements of return on equity are net profit margin, total asset turnover, and equity multiplier. Net profit margin describes a company's profitability in terms of its ability to control costs.

More profitable companies with more cost control signify higher profit margins than competitors. Total asset turnover measures the company's efficiency in using assets to generate sales. The higher this ratio, the better. The equity multiplier is a measure of leverage. A higher equity multiplier ratio indicates that an institution relies more on debt

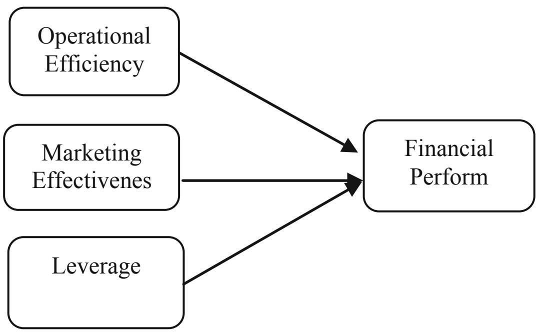

Fig. 1. Three Pillars

financing to raise funds. This ratio can be a helpful tool in comparing a company with its competitors or the industry.

2 Research Methods

This type of research is quantitative research, and the aim is to obtain evidence of a causal relationship (causal relationship) between the independent and the dependent variables by using secondary data in the form of the financial statements of PT Pelabuhan Indonesia (Persero) Regional I from 2016 to 2020.
Three-Step Calculation Dupont Analysis,

Return on Assets = Net Profit Margin + Total Asset Turnover Assets + Debt to Equity.

Net Profit Margin = Operating Revenue/Net Income.

Total Asset Turnover = Operating Revenue/Total Assets.

The multiple linear regression models in this study are:

$$ROEit = \beta 0it + \beta 1NPMit + \beta 2TATOit + \beta 3DERit + \mu it.$$

3 Results and Discussion

To measure the company's financial performance using the DuPont method, comparisons are made to other PT Pelabuhan Indonesia (Persero) regions, are shown in Table 3.

The operating efficiency ratio is a ratio to compare the operational costs incurred by the company with the operating income received in the last 1 (one) year period [6]. The net profit margin formula is the ratio of net margin to sales. This ratio shows the company's level of efficiency in carrying out its operational activities.

Table 4 shows that from 2015 to 2018, Pelindo 4 had a better level of operational efficiency than regional 1. In 2019, regional 1 reduced its operating costs, which continued in 2020 compared to regional 4.

Table 3. Net Profit Margin PT Pelabuhan Indonesia (Persero).

Year	Regional 1	Regional 4
2015	29.92	20.46
2016	30.45	14.67
2017	29.21	19.93
2018	29.29	16.75
2019	12.07	14.98
2020	4.77	13.21

Table 4. PT Pelabuhan Indonesia (Persero) Total Asset Turnover.

Year	Regional 1	Regional 4
2015	47.98	34.72
2016	38.95	43.67
2017	40.71	65.71
2018	61.91	60.74
2019	21.11	46.65
2020	−0.24	36.51

Table 5. PT Pelabuhan Indonesia (Persero) Debt to Equity.

Year	Regional 1	Regional 4
2015	50.87	26.28
2016	69.75	26.48
2017	73.47	30.04
2018	116.39	42.33
2019	153.47	41.18
2020	105.61	92.07

The formula for the total assets turnover ratio is the ratio of sales to total assets. Table 5 shows that asset turnover in Regional 1 is quite volatile compared to Pelindo 4, which tends to increase from 2015 to 2018. In 2019–2020, the total asset turnover of the two regions decreased, but the decline in regional 4 was not as significant as the decline experienced by regional 1. Table 5 shows that regional 4 marketing is more effective than regional 1.

The debt-to-equity ratio is one of the leverage calculations. Leverage in the DuPont ratio is explicitly related to the proportion of debt in the company's capital structure, which is used to determine risk. Table 6 shows that financing using debt in investment activities carried out by regional 1 is more significant than in regional 4.

Financial performance is the result or achievement that the company has achieved in managing its assets effectively within a certain period [7].

Based on the DuPont method, net profit income and total asset turnover directly correlate with return on equity. When the two financial ratios increase, the return on equity also increases. Still, when one of the financial ratios decreases, the return on equity will decrease, as seen in the 2015–2020 financial statements of PT Pelabuhan Indonesia (Persero). Debt to equity as financial leverage shows the level of company risk. As the analysis was carried out based on the DuPont method, we can see if regional 1 has experienced declining financial performance since 2019. The decline continued in 2020 during the Covid-19 pandemic. In 2020, the net profit margin from regional 1

Table 6. PT Pelabuhan Indonesia (Persero) Return on Equity.

Year	Regional 1	Regional 4
2015	27.49	11.18
2016	26.9	8.17
2017	29.39	14.11
2018	45.1	5.89
2019	9.84	7.66
2020	3.21	6.73

Source: PT Pelabuhan Indonesia (Persero).

Table 7. Multiple Regression Results.

Variable	Coefficient	St. Error	t-Stat	Prob
C	1.076666	20.9289	0.051444	0.9636
NPM	−0.041487	0.996827	−0.041619	0.9706
TATO	0.683762	0.426157	1.604483	0.2498
DER	−0.004876	0.130244	−0.037437	0.9735

experienced a very significant decline. High operating costs and low sales levels indicate that regional 1 has not been efficient in its operational activities. Operational efficiency in a company can only achieve if a company can control all costs incurred to generate revenue [7].

The total asset turnover is minus indicating that regional 1 sales activity is much less than the assets owned, and it also shows that the marketing is not effective. In addition, the level of debt financing in regional 1 is relatively high and when combined with NPM and TATO, the port business in regional 1 carries a high risk. Measuring the relationship between the independent and dependent variables is done through multiple linear regression, with the results (Table 7).

The regression also shows that the net profit margin and debt to equity have an inverse relationship to the return on equity relationship. To increase ROE, then Pelindo regional 1 must reduce NPM and DER. While TATO has a positive relationship to ROE, the higher the TATO, the higher the ROE value.

4 Conclusion

Financial performance, in this case, return on equity, is influenced by net profit margin, total asset turnover, and debt to equity, indicating the performance of PT Pelabuhan Indonesia (Persero) depends on how management carries out operational activities, effective marketing and the use of debt financing. Tables 3, 4, 5 and 6 show that PT Pelabuhan Indonesia regional 1 has not carried out its operational activities efficiently, marketing activities have not been effective, and have a relatively high asset financed by debt compared to regional 4. Based on the conclusions obtained in this study, the suggestions are as follows: PT. Pelindo must evaluate its operational costs to improve the efficiency of the company's operational activities. PT. Pelindo must reduce its asset financed by debt to reduce high business risks.

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