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THE FINANCIAL EQUILIBRIUM BASED ON MARGINAL APPROACH TO IMPROVE FINANCIAL PERFORMANCE IN STATE ELECTRICITY COMPANY (PT PLN)

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Abstract

This study aims to analyze the factors that influence PLN's financial equilibrium. The position of the equilibrium of marginal revenue with marginal cost shows the best conditions achieved by the company so that the position that is farther from the equilibrium, the company's financial performance tends to decline. The study uses secondary data based on PLN's financial statements from 2007 to 2018. During that period PLN made a large-scale investment. PLN built a power plant installation with a large enough capacity. This study aims to analyze the specific period, as well as a source of information that can be input for the main stakeholders of PLN. The results of statistical tests show that the key variables have a significant effect on PLN's financial equilibrium. This study also found a unique condition because it contradicts the prediction before the research, namely the variables X6AG, X7IG, and X8ROE turned out to have a negative effect or the opposite of the original prediction which is a positive effect on the company's financial equilibrium. This result is the originality of this research, so it is very useful for corporate management and research in the future.

Keywords: Financial management, Equilibrium, marginal approach, marginal revenue, marginal cost.

1. Introduction

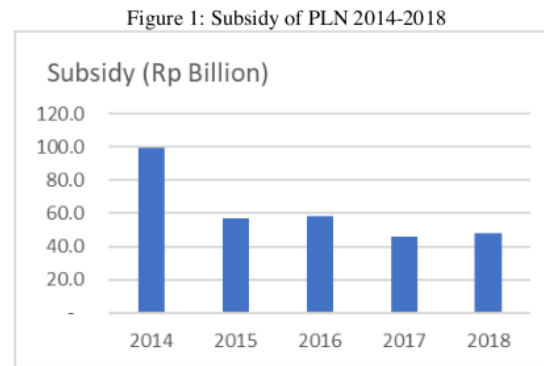
This study aims to analyze the financial phenomena of PT PLN (Persero), which until now still burden the state finances through the help of subsidies from year to year. PT. PLN is a state-owned enterprise engaged in the electricity sector in Indonesia. This phenomenon shows that there is a gap between financial performance and the purpose of the company established as mandated in article 12 point b of law number 19 of 2003, which is to pursue profits to increase the value of the company. Based on this gap, PT PLN (Persero) is difficult to develop investment meet the electricity demand of consumers, because operational funding alone is still difficult to be fulfilled independently so that the dependence on government subsidies reaches a very significant value as mentioned above.

The marginal equilibrium approach is an important concept that can be used by management in achieving the company's optimal conditions, namely maximum profit or minimum loss. Key factors that affect the financial equilibrium must be a considered factor in preparing management strategies and policies, especially in terms of (a) preparing annual plans or annual budgets, (b) medium-term five-year plans known as the company's long-term plans or RJPPs, (c) become KPI's target for management and (d) as a tool to evaluate the company's performance achievements.

The value of the company will attract the attention of investors on the Stock Exchange, because stock returns will increase, as Ady, et al. (2019) and Assagaf, et al. (2017). Investors in the Stock Exchange generally make rational decisions based on financial balance performance that reflects the value of the company, as Assagaf (2017), Ady (2018). The impact of financial conditions that have reached the condition of financial balance tends to maintain the achievement of financial performance, meet financial obligations on time, including compliance with the obligation to pay taxes, as Sayidah et al. (2019). Management can use a marginal approach to pricing policy, determining the quantity of production or sales, and achieving maximum profits. While this study specifically examines the key factors that affect marginal-based financial equilibrium, then the magnitude of the factor coefficient is used to indicate the role of each of these factors, so that company policy on components related to these factors will have an impact on the company's financial equilibrium. Based on the phenomenon of the gap between the company's founding goals and the realization of PLN's financial performance, the research has an important role, especially in providing input to PLN's main stakeholders, such as management and shareholders, in this case the Ministry of State-Owned Enterprises.

Thus, this research is expected to contribute to alleviating the financial burden of the state, and funding of these subsidies can be used by the government to finance other sectors. Subsidies received from the

government are as per the financial statements of the last two years, namely in 2017 of IDR 45.7 trillion and in 2008 increased to IDR 48.1 trillion. But compared to 2014, the number of subsidies has decreased, mainly due to the adjustment in the basic electricity tariff, as illustrated below.



Source: Annual Report of PLN 2014-2018

This research is expected to also contribute to PLN in terms of increasing the ability to manage its financing independently, not only to finance operational funding but also fulfill investment funding. In the long run, PLN will be able to fulfill financial obligations with significant accumulated value. PLN's financial obligations reported in the 2018 statistics and financial statements are around IDR 507 trillion, consisting of IDR 350 trillion long-term liabilities and IDR 157 trillion short-term liabilities.

This research has empirically identified several key factors that are considered to have an important role in influencing financial equilibrium, so the main issues of this study are: do operating cost, cash flow from operating, asset growth, investment growth, return on equity, government subsidy affect financial equilibrium?

2. Theoretical Background

Marginal Theory

The neo-classical economists used the marginal theory to explain marginal utility. This marginal concept was first developed by Heindrich Gossen based on the application of differential calculus to the behavior of consumers and producers, as well as determining market prices and optimal quantities Niehans J. (1990). The marginal approach is used to analyze the company's equilibrium by comparing the marginal cost or MC with marginal revenue or MR. Price policy (P) and determine the quantity of product (Q) that produces the maximum profit using the marginality analysis method through the equation $MC = MR$. The maximum benefit is achieved if $MR - MC = 0$ or $MR = MC$ (Romero, 2014). MR (marginal revenue) is

the change in total revenue (TR) for changes in one unit sold. Whereas TR is price multiplication with the quantity or $P \times Q$. MR is a derivative of the total income equation (TR) to the number of units sold, so that we can calculate: $MR = \Delta TR / \Delta Q$. MC (marginal cost) is a change in costs caused by a change in one unit of sale. MC is a derivative of the total cost equation (TC) to the number of units sold so that we can calculate MC: $MC = \Delta TC / \Delta Q$. The marginal approach is used in strategies and policies related to the structure of costs and revenues, so that it can decide the price level and volume of production or sales that produce maximum profits (Arsyad, 2011; Gaspersz, Vincent. 2000) and Salvatore, 2001). Assagaf et al. (2019) use a marginal approach to predict financial distress.

Previous research

The previous researchers have implemented of marginal approach to their studies. Yustiana, et al. (2015) argues that Marginal Cost Pricing has several advantages, including that this mechanism is considered the most efficient and can avoid the occurrence of underpriced (under-priced valuation). This view proves that the equilibrium of marginal revenue and marginal cost results in a maximum profit or minimum loss. The price adjustment follows the marginal equilibrium or $MR = MC$, and in the monopoly market structure the MR curve is equal to price and forms a horizontal curve so that the price adjustment goes up or down following the quantity of demand on the equilibrium $MR = MC$. (b) Sutjati et al. (2015) argued that transfer pricing starts from profit optimization, i.e. when marginal revenue (MR) from the marketing division equals marginal cost (MC) to produce an equilibrium point that will be projected onto the demand curve to obtain the transfer price and produce the number of products. The marginal approach is also used to obtain maximum benefits in transfer pricing through the equilibrium of $MR = MC$. (c) Coase (1972) describes the demand, MR, and MC equilibrium curves and suggests that: price and quantity on the demand curve formed at the intersection of the $MR = MC$ curve produce the maximum profit. (d) Damayanti, et al. (2014) argues that profit is the difference between total revenue (TR) and total cost (TC). And to obtain maximum profit, the price and quantity of sales are determined at the value of $MR - MC = 0$ or the value of $MR = MC$. (e) Hall (1988) in implementing marginal cost pricing, argues that competitive companies equate marginal cost with the market price of their products to achieve maximum profit. This condition happens because the equality of marginal cost with price is the best efficiency condition in the allocation of resources. (f) Several other studies based on the concept of marginal equilibrium ($MR = MC$) are suggested by Indrayani and Hellyward (2015) using a marginal approach ($MR = MC$) in determining Product Optimization and Profit Maximization in cattle farms; Misanam (2007) uses a marginal approach ($MR = MC$) in determining the quantity that produces the maximum profit; Septiantoro and Utomo (2015) used a marginal approach ($MR = MC$) to set housing prices;

Widyantara and Dewi (2016) used a marginal approach ($MR = MC$) in determining the number of sales and selling prices of plantation products.

Based on the marginal theory-based research referred to above, the financial management strategies and policies take into account the equilibrium of the cost and income structure as well as investment policies that affect the equilibrium in the future. This equilibrium is intended to obtain a position of marginal equilibrium and marginal cost, to achieve optimal results or the best level of efficiency in the use of resources. Based on the theoretical approach and previous research, the hypotheses proposed in this study consist of the following H1 to H7 hypotheses.

- H1: Operation cost has a negative and significant effect on the financial equilibrium.
- H2: Cash flow from operating or CFO has a positive and significant effect on the financial equilibrium.
- H3: Assets growth has a negative and significant effect on the financial equilibrium.
- H4: Investment growth has a negative and significant effect on the financial equilibrium.
- H5: Return on equity or ROE is negative and significantly influences the financial equilibrium.
- H6: Government subsidy has a significant positive effect on the financial equilibrium.

3. Research Method

3.1 Samples

We obtain samples with purposive sampling. Some researchers have used a purposive sampling method to select samples (Sayidah, et al., 2019; Sayidah and Assagaf, 2019; Sayidah, et al., 2019; Sayidah, et al., 2020; Assagaf, et. al., 2017; Assagaf and Yunus, 2016; Assagaf, 2017b). This study uses financial statement data from 2007 to 2018 because during this period there was a large-scale electricity development by constructing a power plant with a large enough capacity of the first phase of 10,000 MW or about 305 of the company's total capacity. Then it is programmed in the next stage to build a power station in a greater number with a capacity of 35,000 MW. These two stages of development are the largest since the development of electricity in Indonesia, which began in 1945 by the Government of Indonesia.

3.2 Variable definition and measurement

The dependent variable is financial equilibrium (YFD). YFD shows the optimal conditions achieved by the company when a condition of equilibrium revenue (MR) and marginal cost (MC) is achieved, with the measurements used as in the following Assagaf (2019) research.

$$\begin{aligned}
 YFD &= \frac{MR}{MC} \\
 MR &= \frac{\Delta TR}{\Delta Q} \\
 MC &= \frac{\Delta TC}{\Delta Q} \\
 \Delta TR &= \frac{TR_t - TR(t-1)}{TR(t-1)} \\
 \Delta TC &= \frac{TC_t - TC(t-1)}{TC(t-1)} \\
 \Delta Q &= \frac{Q_t - Q(t-1)}{Q(t-1)}
 \end{aligned}$$

Where: YFD: financial equilibrium, MR: marginal revenue, MC: marginal cost, ΔTR : change in total revenue between periods, ΔTC : change in total cost between periods, ΔQ : change in the number of sales between periods.

Independent variable, include:

- Operating Cost (X4OPC)

$$X4OPC_t = \frac{OPC(t) - OPC(t-1)}{OPC(t-1)}$$

The efficiency of operating costs is measured by comparing the operating costs of period t and operating costs for the period (t-1). If positive, there will be a growth in operating costs for period t, and vice versa, if negative means a decrease in operating costs. 3. Variable, independent cash flow from operating (X5CFO)

Growth of cash flow from operating (ZACFO), namely as an intervening variable that illustrates the amount of cash flow originating from the company's operational activities within a certain period, for example one year. The reason for using this variable as an intervening variable and the accompanying statistical test, which is carried out as in chapter 2.2 in the description of the conceptual framework. The measurement of this variable is based on the results of the calculation of cash flow from operating presented in the year-end financial statements as used in the research of Chen et al. (2010), with calculations:

$$X5CFO = \frac{CFO(t) - CFO(t-1)}{CFO(t-1)}$$

Where: $CFO_t = (\text{cash initial equilibrium}) + (\text{Amount of cash receipts from operating activities including the number of current receivables}) - (\text{final cash equilibrium at the end of the period})$, or $CFO_t = \text{Total expenses for company operational activities including payment of long-term debt that is due date}$. 4. Variable independent assets growth (X6AG) Asset growth, namely as an independent variable that shows

the magnitude of the change in total assets in the period t compared to the total assets period t-1. This variable was measured using a formula as in the study of Chen et al. (2010), namely:

$$XAG = \frac{\text{Total Asset}(t) - \text{Total Asset}(t-1)}{\text{Total Asset}(t-1)}$$

- Investment growth (X7IG) Investment growth (X1CAPEX_t), as an independent variable, indicates the amount of investment expenditure in a certain period or known as the capital expenditure period t.

This variable was measured using a formula as in the study of Chen et al. (2010), namely:

$$XIG = \frac{\text{Fixed Asset}(t) - \text{Fixed Asset}(t-1)}{\text{Fixed Asset}(t-1)}$$

- Return on equity (X8ROE) variable ROE is a change return on equity between one period and the previous period. Measurement of this variable is done using a formula as in the study of Brigham and Daves (2007), namely:

$$X8ROE = \frac{\text{ROE}(t) - \text{ROE}(t-1)}{\text{ROE}(t-1)}$$

- Government subsidy variable (X9SUB)

Government subsidy, i.e., subsidy funding provided by the government to PLN which is determined through the state budget. This variable is measured using the Price-Gap formula as used by Doug Koplow (2009), namely:

$$GSAE = \frac{\text{Cost of Good Sold} - \text{Sales}}{\text{Cost of Good Sold}}$$

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3.3 Analysis Model

The analytical model used in this study, namely Model 1 and Model 2, with the reason that there is multicollinearity between the variables growth assets (X6AG) with investment growth (X7IG), so to test the hypotheses H3 and H4 different models are used. While hypotheses H1, H2, H5 and H6 are only used to test the consistency of trends or direction of influence of the two models.

Model 1: Test of hypotheses H1, H2, H3, H5 and H6 (without hypothesis H4) with the following equation model.

$$YFD = \beta_0 + \beta_1 X4OPC + \beta_2 X5CFO + \beta_3 X6AG + \beta_4 X8ROE + \beta_5 X9SUB + e_t$$

Model 2: Test of hypotheses H1, H2, H4, H5 and H6 (without hypothesis H3) with the following equation model.

$$YFD = \beta_0 + \beta_1 X4OPC + \beta_2 X5CFO + \beta_3 X7IG + \beta_4 X8ROE + \beta_5 X9SUB + e_t$$

Where:

YFD: financial equilibrium, X4OPC: operating cost, X5CFO: cash flow from operating, X6AG: assets growth, X7IG: investment growth, X8ROE: return on equity, X9SUB: government subsidy, β_0 : constant, $\beta_1 \dots \beta_5$: regression coefficient, e investment = error.

4. Results And Discussion

4.1 Correlation

Correlation is a statistical analysis tool used to show the degree of relationship between two variables and determine how closely the relationship between the two variables. Correlations between variables used in this study are presented in the following table, showing correlations between independent variables, intervening variables, moderator variables and dependent variables, namely: (a) correlation between the independent operation cost variable or X4OPC with financial equilibrium or YFD of -0.086 which means the degree of relationship between the two variables is relatively small at around 8.6% or insignificant. (b) the correlation between the independent cash flow from operating variable or X5CFO with the financial equilibrium or YFD of 0.378, which means the degree of relationship between the two variables is relatively small at around 37.8% or insignificant. (c) the correlation between the independent assets growth variable or X6AG with the financial equilibrium or YFD of -0.007 which means the degree of relationship between the two variables is relatively small around 0.7% or insignificant. (d) the correlation between the independent investment growth variable or X7IG with the financial equilibrium or YFD of 0.039, which means the degree of relationship between the two variables is relatively small at around 3.9% or insignificant. (e) the correlation between the intervening return on investment or X8ROE variable with the financial equilibrium or YFD of -0.063 which means the degree of relationship between the two variables is relatively small around 6.3% or insignificant. (f) the correlation between moderating government subsidy or X9SUB variable with financial equilibrium or YFD of 0.099 which means the degree of relationship between the two variables is relatively small at around 9.9% or insignificant.

Table 2. Correlation

	YFD	X4OPC	X5CFO	X6AG	X7IG	X8ROE	X9SUB
YFD	1						
X4OPC	-0.086	1					
X5CFO	0.378	0.007	1				
X6AG	-0.007	-0.520	-0.109	1			
X7IG	0.039	-0.527	-0.101	.998**	1		
X8ROE	-0.063	-0.068	.670*	-0.305	-0.320	1	
X9SUB	0.099	.960**	0.037	-0.395	-0.393	-0.069	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS Output (2019)

4.2 Hypothesis testing

Researchers use Model 1 and Model 2 to test the hypothesis because there is significant correlation between X6AG and X7IG so that when used in one regression equation will lead to violations of the classic assumption of multi correlational assumptions. Model 1 and Model 2 are also used to see the consistency of the negative and positive directions of the influence of the variables X4OP, X5CFO, X8ROE and X9SUB on financial equilibrium. The result turned out to be consistency between the two models.

Model 1 shows that the independent variables X4OPC, X5CFO, X6AG, X8ROE, and X9SUB have a significant effect on PLN's financial equilibrium. While Model 2 occurs the direction of influence is consistent, and the results show that X4OPC, X5CFO, X7IG, X8ROE, and X9SUB significantly influence PLN's financial equilibrium.

The magnitude of the influence of each independent variable on PLN's financial equilibrium is presented in the following table. The trend of that influence can be explained as follows: (a) X4OPC variable has a significant negative effect of -6,803 and -7,191 on the financial equilibrium because the increase in operational costs will have an impact on the decline PLN's financial equilibrium or decreasing financial performance which means getting further from the financial equilibrium. (b) X5CFO variable has a significant positive effect of 0.018 and 0.019 on financial equilibrium because the increase in cash flow from operating will strengthen PLN's financial equilibrium position, which means that financial

management must pay attention to cash flow planning both short term and medium-term or long term. (c) X6AG variable has a significant negative effect of -0.020 on PLN's financial equilibrium, which means that the growth of the company's assets will disturb PLN's financial equilibrium. This impact happens because the addition of assets encourages an increase in the connection of electricity flow or the addition of customers so that the amount of subsidy needs increases or the performance of PLN's financial equilibrium decreases. (d) variable X7IAG has a significant negative effect of -0.001 on PLN's financial equilibrium, which means that the company's investment growth or capital expenditure will have a negative impact on PLN's financial equilibrium. This impact happens because an increase in investment or capital expenditure encourages an increase in the connection of electricity flow or an increase in the number of customers, so the amount of subsidy needs increases or the financial equilibrium of PLN decreases as there is a decrease in financial performance. (e) The X8ROE variable has a significant negative effect of -0.175 and -0.186 to PLN's financial equilibrium, which means that increasing return on equity or ROE will reduce the performance of PLN's financial equilibrium. This impact happens because at the same rate of return, but a decrease in equity assistance from the government will cause a decrease in the performance of PLN's financial equilibrium. Due to limited government funding to increase capital deposits, so the increase in tariffs and the reduction in additional equity participation will have a negative impact on PLN's financial equilibrium. (f) The X9SUB variable has a significant positive effect of 2,358 and 2,485 on PLN's financial equilibrium, which means that the more the amount of subsidy provided by the government increases, the PLN's financial equilibrium position is getting better or closer to the equilibrium. This result suggests that government subsidy assistance is needed by PLN to strengthen its financial equilibrium position.

Table 3: Factors affecting PLN's financial equilibrium

Variables	Prediction	Model 1: Dependent YFD		Model 2: Dependent YFD	
		Coeff.	p-value	Coeff.	p-value
(Constant)		0.844	0.000 ***	0.832	0.000 ***
X4OPC	-	-6.803	0.000 ***	-7.191	0.000 ***
X5CFO	+	0.018	0.001 ***	0.019	0.000 ***
X6AG	+	-0.020	0.001 ***		
X7IG	+			-0.001	0.001 ***
X8ROE	+	-0.175	0.001 ***	-0.186	0.000 ***
X9SUB	+	2.358	0.000 ***	2.485	0.000 ***
Adj R ²		0.909		0.927	
F-Statistic		23.015		29.000	
Prob (F-Statistic)		0.001***		0.000***	

***Significant at a level of 1 percent; **Significant at a level of 5 percent; *Significant at a level of 10 percent

Note: X4OPC: Operation cost; X5CFO: Cash flow from operating; X6AG: assets grow; X7IG: investment growth; X8ROE: Return on equity; X9SUB: government subsid.

Source: SPSS Output (2019)

4.3 Regression equation

The regression coefficients of the two models above can be stated in the form of the following regression equation.

Model 1:

$$YFD = 0.844 - 6.803 X4OPC + 0.018 X5CFO - 0.020 X6AG - 0.175 X8ROE + 2.358 X9SUB$$

Model 2:

$$YFD = 0.832 - 7.191 X4OPC + 0.019 X5CFO - 0.001 X7IG - 0.186 X8ROE + 2.485 X9SUB$$

4.4 Discussion

Effect of Operation Cost (OPC) on Financial Equilibrium (YFD)

The negative effect of the operation cost variable on the financial balance of PT with a regression coefficient of -6.803 means that the addition of one unit of operation cost causes a decrease in the company's financial balance of 6,803. It is necessary to explain the operational cost component, which consists of operational cost and operating income. The operating cost structure and operating income structure are very significant to influence the financial balance. The changes in operating costs affect the amount of marginal cost. The changes that occur in the operating revenue component will have an impact on marginal revenue. The magnitude of the changes that occur in the operating income structure influence the size of the marginal revenue. The implication, namely the management of companies that want to improve financial performance through a balance of revenue margins and marginal costs, the policy on the cost structure must be studied more comprehensively when preparing the company's budget work plan. In its realization, management must control it so that the follow-up of the operating and investment budget decided by the shareholders can be absorbed effectively. Some functions that cannot add value can be analyzed through value analysis techniques (Alobaidi, Albdiri, & Albdaire, 2020).

In the event of deviations or deviations due to internal administrative factors, the company management needs to make efforts to improve the standard operating procedure or SOP. Key performance indicators or KPIs are needed starting at the top level between shareholders, commissioners, and company directors, then continued with performance contracts between company directors and managers, performance contracts between managers and assistant managers, and finally individual performance between managers and implementing staff. The performance indicators must be measured quantitatively.

Management selects key indicators that are relevant to corporate objectives. The company can achieve its goal. The directors and shareholders can fulfill the performance contract. If there is a failure to achieve it, it can be evaluated in more detail to the lowest organizational level, because the performance achievements of each can be proven quantitative. If the cost component becomes a measure at the level of directors with shares held, then the component is reflected up to the performance contract at the lowest organizational level. Deviations that occur make it easy to trace by comparing the budget with the realization between the department or sector data. One way to improve operational efficiency is to apply leading and lagging indicators. This indicator can help management choose a method that suits the nature of the work (Mezher & Ali, 2020).

In terms of operating income has a very large effect on company balance because changes in operating income significantly affect the value of marginal revenue. Operating income is related to sales volumes and tariffs set by policymakers. At certain rates, the management's effort to increase operating income is through an increase in sales volume that leads to an increase in the value of marginal revenue. In terms of tariffs, it is the decision of the government and the senator, so that the tariff policy is an act outside the authority of the company's directors, but in an effort to make such tariff adjustments, PLN's management needs to submit a proposed alternative tariff adjustment, arguing that without such tariff adjustments would cause negative cash flow and the company will experience a financial crisis in the future. The operating cost structure and operating income structure are empirically very closely related so that changes in operating costs and operating income have a significant effect on financial balance as measured by the marginal cost and marginal revenue approaches. Without subsidies, operating costs exceed operating income. Management can achieve a company's balance through efforts to improve operational efficiency and radically change of financial policies supported by the government and Parliament. The company must able to manage its finance independently. Management can make radical changes to improve financial balance towards a peak point through medium-term or long-term programs. Management can manage fuel independently, utilize opportunity income from electricity purchase contracts with private electricity companies, optimize subsidiary capacity, and improve tariff structures.

The Effect of Cash Flow From Operating (CFO) on Financial Equilibrium (YFD)

Cash flow from operating or CFO as cash inflows and cash outflows that has a positive effect on financial balance. The inflow of cash is not the same as the income from the sale of electricity, because a portion of the sale does not become a cash inflow due to receivables paid in the next period. Cash inflows include receipts from previous period receivables, receipts of other current receivables, other operating income, short-term loan receipts for working capital, and other operational receipts. Whereas the cash outflow for

operations does not include depreciation costs but only solely expenses in the form of cash for operational activities such as employee costs, raw material costs, labor costs, payment of short-term debt or trade debt, and other operational expenses. Its influence on financial balance is partly because the marginal balance is not only compounded by cash flow but overall revenue and cost, so that if there is an uneven cash flow operating it will have an impact on financial balance. Variable cash flow operating or CFO has a positive effect on financial balance with coefficients of 0.018 and 0.019, which means that an increase in cash flow operating by one percent will affect the increase in financial balance around 0.018% to 0.019%. Empirically, it shows that PLN has not been able to meet the targets mandated by the SOE establishment law in the form of a company, which is to gain profits and increase company value, especially because cash flow operating is still a deficit, and this also means that the company's financial balance will decline. To overcome the cash-flow deficit, the company tries to improve operational cost efficiency and increase revenue so that it affects financial balance.

Effect of Assets Growth (AG) on Financial Equilibrium (YFD)

The development of total assets has a negative and significant effect on the company's balance with a coefficient of -0.020. The increase in company assets or asset growth has an impact on increasing supply capacity that can meet consumer electricity demand. Demand growth further worsens financial balance because marginal revenue is smaller than marginal cost. The growth of total assets or asset growth is closely related to the growth of fixed assets or investment growth, as shown above, so that multicollinearity occurs between the independent asset growth variables and investment growth. Therefore, in this study using the two variables but with a different model, namely Model 1 using the variable asset growth, while Model 2 uses the variable investment growth. When used in a regression equation model, the results are invalid because of multicollinearity.

Effect of Investment Growth (IG) on Financial Equilibrium (YFD)

Investment growth as measured by fixed assets has a negative effect on the company's financial balance with a coefficient value of -0.001 which means that the construction of an increasing electricity power installation will further worsen PLN's financial balance, i.e., an increase of one percent investment will reduce the financial balance by 0.001% mainly because the development of marginal revenue is smaller than the development of marginal cost, so that it is further from the expected balance level. The development of investment and sales growth in 2014-2018 as shown in Figure 4 above, shows a positive direction between investment growth and sales growth, but it harms financial balance because the marginal revenue distance is higher than the marginal cost.

The Effect of Return on Equity (ROE) on Financial Equilibrium (YFD)

Return on equity or ROE has a negative and significant effect on PLN's financial balance with coefficients of -0.175 and -0.186, which means that the increase in return on equity will harm financial balance. This impact happens because government capital assistance is increasingly restricted causing ROE to tend to be constant because fixed capital and profits tend to be constant because of subsidies. While the financial balance is decreasing because the amount of funding is met by foreign loans in the form of bonds or from international financial institutions to meet investment needs. The increase in electricity sales and lower marginal revenue growth compared to marginal cost growth or even worse financial balance conditions. Since 2015 the government has limited additional capital investment to PLN because the burden of subsidies is very burdensome to the state budget or APBN.

Effect of Government Subsidy (SUMB) on Financial Equilibrium (YFD)

Subsidy assistance is the main source of funding to meet the operating income against operating costs. The government subsidy variable has a positive and significant effect on financial balance with coefficients of 2,358 and 2,485. This coefficient means that the addition of subsidy assistance has further enhanced PLN's financial balance position. Although this should not happen because PLN has the potential that can be used to reduce these subsidies, for example through managing fuel independently from upstream to downstream, ie PLN manages itself starting from fuel sources such as coal starting from the mining process, transportation on land and at sea get to the center of generation. The efficiency of fuel costs will be very helpful for company efficiency and the ability to reduce the burden of subsidies, even able to pay debts that are due. However, PLN's independent fuel management process can only run if it is supported by the government and the House of Representatives, which authorizes PLN to continue managing fuel at an economic scale according to PLN's needs, and its management is carried out in stages starting with a certain operational scale until finally it is fully managed Mandiri by PLN. The contribution of fuel costs to the total operating costs in the 2014-2018 period was in the range of 42% - 58%, so the savings in fuel costs will have a significant impact on PLN's financial balance. Fuel costs are the largest component of operating costs compared to other operational costs, so it is natural that PLN's management actively convinces the government and the Parliament to prepare a detailed program, including PLN's ability to win the management of this fuel independently.

5. Conclusions

² This study aims to examine the factors that affect the balance of financial management at PT. PLN, a state-owned enterprise engaged in the electricity sector in Indonesia. Researchers ³⁷ use a marginal approach to measure the balance of financial management. Based on the results of hypothesis testing with multiple regression analysis, researchers found that regression analyses of Model 1 and Model 2 show that the variables X4OPC, X5CFO, X6AG, X7IG, X8ROE, and X9SUB have a ²⁷ significant effect on the position of the company's financial equilibrium. Management strategies and policies need to pay attention to these independent variables to improve the company's financial performance position, which is getting closer to that equilibrium.

The results of the analysis as the regression equation Model 1 and Model 2 can be used as tools in predicting the financial equilibrium encountered by the program launched by the company. This financial equilibrium analysis model can be used to determine targets in projecting annual plans or long-term plans of the company. This financial equilibrium analysis model ⁷ can be used to assess the company's performance that has been achieved in accordance with the realization of management responsibility. This financial equilibrium analysis model can be used by company management in determining targets by taking into account the variables and the ¹ magnitude of the influence of these variables on financial equilibrium.

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