FINANCIAL PERFORMANCE ANALYSIS AND MEASURENMENT OF STATE OWNED POWER GENERATION COMPANIES BEFORE AND AFTER ASSET REVALUATION IN 2015

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ABSTRACT

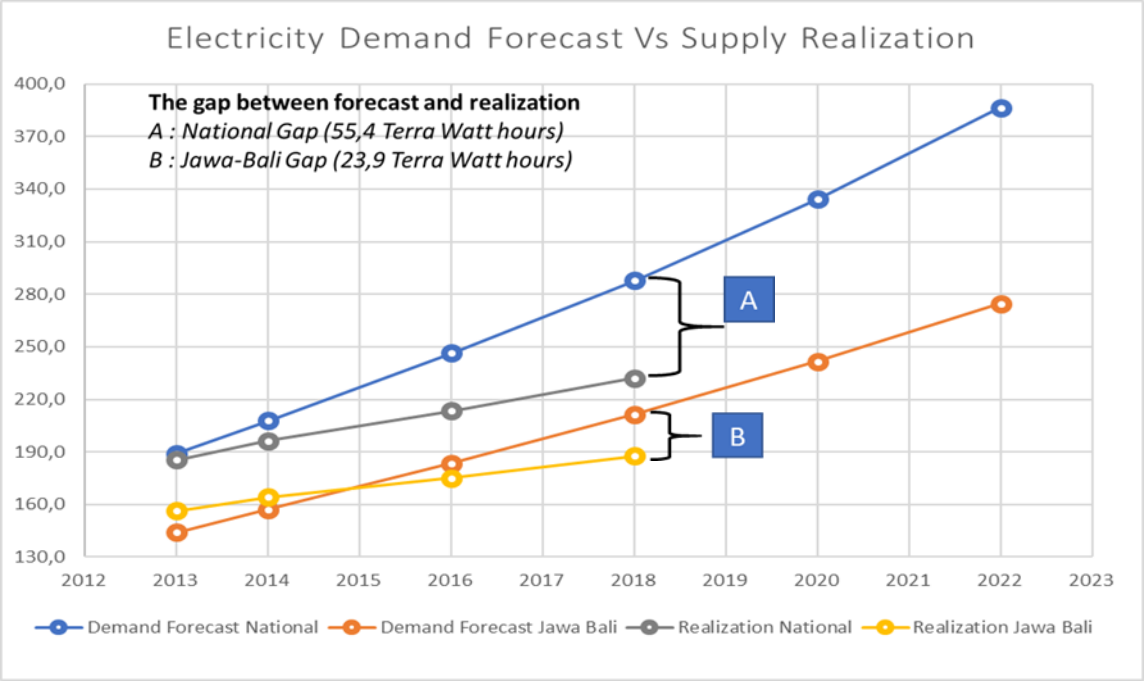
To support the electricity development program in Indonesia, electricity companies need to increase their financial strength so they can play a role in funding projects that are effective and efficient and with timely planning. PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB), the two largest power generation companies in Indonesia, provided efforts to increase their financial strength to participate in financing electricity facilities by revaluing assets in 2015. After the revaluation of assets, the percentage of total equity to total assets of the two companies increased to more than 95% compared to the period before the revaluation of assets ranging from 82% - 86%. To examine the realization of the impact of asset revaluation on the condition of corporate finance in addition to total equity on total assets, this study has two objectives, first analyzing the financial performance of profitability, liquidity, activities, and solvency followed by conducting an assessment of the condition of financial health using eight financial indicators in the Minister of SOE No. PEM. -100 / MBU / 2002 as a benchmark. Secondly, validate differences in financial performance indicator before (2011-2014) and after (2015-2018) asset revaluation using the method of paired t-test statistical approach. The results of an assessment of the financial healthiness level stated that the achievements of the two companies in the period after (2015-2018) asset revaluation were as follows, IP (53.30; BBB, and less healthy) and PJB (60.75, BBB, and less healthy). The paired t-test results are obtained as follows: IP, there are no significant differences for the six financial ratios in ROI, cash ratios, current ratios, collection periods, ITO, and TATO, while PJB, there is no significant change for the three financial ratios in current ratio, ITO, and TATO.

Keywords: Asset Revaluation, Financial Performance, Decree of State Owned Company Ministry, Power Generation Company, Paired T-Test, Electricity development.

I. INTRODUCTION

Electricity is a very important infrastructure to support economic growth, encourage investment and industrial equity, which has a sustainable impact on job creation and regional economic growth. The stability of electricity supply and competitive electricity prices are two keys to driving industrial growth that will drive improvement in the national economy growth. In 2016, the government launched the 35 Giga Watt (GW) program through a presidential decree. This presidential regulation will encourage increased electricity supply stability and electricity price competitiveness to attract investors to put their money in building factories, tourism, transportation, and other industries. Since 2013 until 2018, the realization of electricity production has always been below the electricity forecasted demand. There is a big gap between the forecasted demand and the realization of electricity production. In 2018, the difference reached 55.4 Terra Watt Hours. Figure 1 below is a graph showing the difference between the realization of electricity production and the forecasted demand.

Figure 1. Demand Forecast Versus Supply Realization Graph of Electrical Energy



Sources: RUPTL 2013-2022, RUPTL 2019-2028, PT. IP' Statistic Report

State Electric Company Ltd, PT. The National Electricity Company (PLN) as the only state-owned company engaged in the electricity sector seeks to finance funding for development projects in order to support the achievement of a 100% electrification ratio in the territory of Indonesia. Efforts developed by PLN are to increase the role of the private sector in supplying electricity and strengthening corporate finance. To identify the company's financial capability in project funding, PT. PLN revalued its assets in 2015 as supported by regulation PMK1919 / PMK.010 / 2015. The asset revaluation implementation was followed by two PLN subsidiaries in the power generation sector, PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB). Both companies implemented an asset revaluation in 2015 with the aim of increasing the value of assets and equity to reduce the ratio of debt to assets. As a result of asset revaluation, the number of fixed assets will be stated in the latest condition so that it can reflect the company's condition at that time.

An increase in the value of assets and equity to improve the leverage ratio, as well as an increase in corporate net profits, are factors expected by many companies to revalue their assets. Diantimala et al (2018) provide information that to improve the conditions of leverage and investment opportunities, companies tend to choose to revalue assets. While the analysis results from the research of Wijaya and Supandi (2017) concluded that revalue assets implementation can increase the company's net profits. An increase in corporate equity will have a positive impact on the creditor's trust giving loans to companies. However, the ease of getting a loan is not the only motivation for the company to decide to re-valuate its assets. Surgawi and Solikhah (2018) found the fact that increased managerial ownership and government ownership are two factors that influence the company's decision to re-valuate assets. This fact is reinforced through the results of a research conducted by Faisal and Murwaningsari (2019) who concluded that the improvement in ownership structure is a significant factor for a company to re-valuate assets. Whereas Khalil et al. (2018) informed the findings of their research that Pakistani companies had revalued their fixed assets to increase the book value of their assets and high-leverage entrepreneurial organizations used fixed asset revaluation to increase the book value of their assets so they could get a loan at a cheaper rate.

The study results of several researchers explain the reasons companies revalue their assets as follows: First, because of the company's leverage conditions and investment opportunities (Piera, 2007). With revaluation, leverage is expected to decrease (Easton, Eddey, & Harris, 1993) and investment opportunities increase when the market value of assets increases. Second, this revaluation is driven by relative investment in property, asset growth rates, and size (Brown, et.al., 1992). Third, the decrease in cash flow from operations has encouraged management to reassess assets when leverage is high (Cotter & Zimmer, 1995). Fourth, poor liquidity, greater size, higher fixed asset intensity, lower market value to book ratios, and higher profitability have motivated management to choose asset revaluation (Lin & Peasnell, 2003).

Changes in the value of property and equipment are recorded and reported on the balance sheet. This list will have an impact on the corporate's financial performance on profitability, liquidity, activity, and solvency. Azmi and Ali (2019) found a positive effect on asset revaluation on changes in operating income, however, a positive relationship was not found between asset revaluation and operating cash flow. Financial performance is an internal factor that is always considered for providing the

company's short-term and long-term strategies. In order to obtain detail information about the impact of revaluing asset, this study was conducted to help management find out more in detail about changes in the condition of corporate finance of the two companies after the revalue assets using two analytical tools, Minister of SOE Decree No. KEP-100 / MBU / 2002 as a benchmark to measure the condition of the company's financial health and paired t-test statistics to validate differences between the two groups of related data in the period before (2011-2014) and after (2015-2018) asset revaluation.

II. LITERATURE REVIEW

II.1 POWER GENERATION INDUSTRY

With projected average growth in electricity demand of 6.86% (RUPTL 2018-2027) and driven by PLN's need to supply sufficient electricity to people throughout Indonesia continuously, the power generation sector is an industry that is expected to continue to grow in Indonesia. This sector is expected to be able to supply 275,945 Giga Watt Hours of electricity demand in 2020. In Indonesia, power generation companies are divided into 4 big groups such as PT. Indonesia Power, PT. Pembangkitan Jawa Bali, UB Tanjung Jati B, and Independent Power Producer. Table 1 below shows the supply of electrical energy in the Java-Bali system.

Table 1: Electricity Supply of Java Bali System in 2018

No.	Company	GWH	%
1	PT. Indonesia Power*	68.617	36,57
2	PT. Pembangkitan Jawa Bali*	50.757	27,05
3	UB Tanjung Jati B	19.529	10,41
4	Independent Power Producer**	48.322	25,76
5	Project	379,17	0,20
	Total	**187.605**	**100**

Source: Annual Report of PT. Indonesia Power, 2018.
*including O&M services production
**private company groups

PT. Indonesia Power and PT. Pembangkitan Jawa Bali is two large power generation companies in Indonesia with a total market share reaching 63.62% in 2018 while the remaining 36.38% is controlled by private companies.

II.2 PREVIOUS RESEARCH

Previous research related to the revaluation analysis of company assets and analysis of corporate financial performance that assess the healthiness financial level and tested the significant differences between the two related groups before and after of the phenomena has been done by researchers.

In the aspect of asset revaluation analysis, Wijaya and Supandi (2017) conducted an asset revaluation analysis at PT. Indonesia Power. Surgawi and Solikhah (2018) examine financial and non-financial factors that can influence management's decision to revalue assets. Diantimala et al (2018) analyze several factors that influence the management decisions of asset revaluation in Indonesian Listed Companies. Faisal and Murwaningsari (2019) developed research to see the determinants of asset revaluation and corporate value, then Azmi and Syaiful (2019) who explored the relationship between revaluation of fixed assets and company performance.

In the aspect of financial analysis, Wiwiek M. Daryanto has produced a lot of research in the period 2017 - 2018 that measured and compared the oil and gas company's financial condition in the period before and after the decline in oil production, she also conducted research in the pharmaceutical industry to compare financial conditions in the period before and after BPJS implementation, conducted research financial indicators in the palm oil agro-industry, in the aviation segment as well as analyzing financial aspect in the cement industry during the development of the infrastructure in Indonesia.

In the previous researches, studies on the measurement and comparison of financial performance before and after the revaluation of assets in the power generation industry have not been conducted. Therefore, this research was conducted in the power generation industry where two large power generation companies in Indonesia, PT. Indonesia Power and PT. Pembangkitan Jawa Bali conducted an asset revaluation in 2015. To explore the impact of the implementation of the revaluation, the focus of this study was to analyze the company's financial performance, measure aspects of the company's financial health condition by using Ministerial Decree No.00 / MBU / 2002 as a benchmark and validate significant differences from two groups data related in the achievement of financial performance in the previous period (2011-2014) and after (2015 -2018) asset revaluation using the paired t-test statistical analysis approach.

II.3 THE DECREE OF MINISTRY OF STATE-OWNED ENTERPRISES (SOEs)

To measure the healthy condition of a company's financial aspect, the measurement mechanism and standards in SOE Ministerial Decree No.100 / MBU / 2002 could be used as a benchmark. This decree was developed to measure the corporate performance, provided for all industries both financial and non-financial industries. As per the decree, companies in the non-financial industry are divided into two categories. the first category is called infrastructure companies and the second is non-infrastructure companies. There are three aspects of assessment to get a view of company performance, that is financial, operational and administrative aspects. For financial aspects, the total assessment score for non-infrastructure is 70 and infrastructure is 50.

This decree provides eight financial indicators to measure the financial health condition of a company as follows: return on equity (ROE), return on investment (ROI), cash ratio, current ratio (CR), collection period (CP), inventory turnover (ITO), total assets turnover (TATO), and total equity to total assets (TETA). Based on that decree, PT. Indonesia Power and PT. Pembangkitan Jawa Bali are a state-owned company engaged in electricity industry so that they are declared an infrastructure company. Table 2 below is the score weights for the infrastructure industry.

Table 2: Assessment Score List of Infrastructure Industries

No.	Indicators	Weight Score
1	RETURN ON EQUITY (ROE)	15
2	RETURN ON INVESTMENT (ROI)	10
3	CASH RATIO	3
4	CURRENT RATIO	4
5	COLLECTION PERIOD	4
6	INVENTORY TURNOVER (ITO)	4
7	TOTAL ASSET TURNOVER (TATO)	4
8	TOTAL EQUITY TO TOTAL ASSET (TETA)	6
	TOTAL WEIGHT SCORE	**50**

Source: The Decree of Ministry of SOE No.KEP-100/MBU/2002

There are three type categories of the healthy performance which are healthy, less healthy and unhealthy. Each category has three score levels such as AAA (if the total score > 95 points), AA (if the total score is > 80 and $\leq$ 95), and A (if the total score is > 65 and $\leq$ 80) for the healthy category. Furthermore, three score levels for less healthy category such as BBB (if the total score > 50 and $\leq$ 65), BB (if it is > 40 and $\leq$ 50), B (if the total score is > 30 and $\leq$ 40) and for the unhealthy condition there are CCC (if the total score is >20 and $\leq$ 30), CC (if it is > 10 and $\leq$ 20), and C (if it is $\leq$ 10).

II.4 THE VARIABLE AND PERFORMANCE SCORE

A. PROFITABILITY PERFORMANCE

Profitability performance is an indicator commonly used by shareholders to see how much the company's ability to generate income from each capital used. This indicator could be expressed by return on equity (ROE) and return on investment (ROI). As per the decree of the Ministry of State-Owned Enterprises, the formula to calculate ROE and ROI are as follows:

$$\boldsymbol{ROE = (Net\ Income \div Equity) \times 100\%}$$
$$\boldsymbol{ROI = \big((EBIT + Depreciation) \div Capital\ Employed\big) \times 100\%}$$

ROE is the first indicator assessed in the decree and it is an important ratio in measuring company performance for shareholders to see their ability to generate net income from each equity used. Table 3 below shows the ROE assessment score.

Table 3: Assessment Score List of ROE

No.	ROE	Weight Score
1	15 < ROE	15
2	13 < ROE <= 15	13,5
3	11 < ROE <= 13	12
4	9 < ROE <= 11	10,5
5	7,9 < ROE <= 9	9
6	6,6 < ROE <= 7,9	7,5
7	5,3 < ROE <= 6,6	6
8	4 < ROE <= 5,3	5
9	2,5 < ROE <= 4	4
10	1 < ROE <= 2,5	3
11	0 < ROE <= 1	1,5
12	ROE < 0	1

Source: The Decree of Ministry of SOE No.KEP-100/MBU/2002

ROI is the second indicator assessed in the decree also the noteworthy ratio. This indicator illustrates the company's ability to generate profits on every asset invested efficiently. Table 4 below shows the ROI assessment score.

Table 4: Assessment Score List of ROI

No.	ROI	Weight Score
1	18 < ROI	10
2	15 < ROI <= 18	9
3	13 < ROI <= 15	8
4	12 < ROI<= 13	7
5	10,5 < ROI <= 12	6
6	9 < ROI <= 10,5	5
7	7 < ROI <= 9	4
8	5 < ROI <= 7	3,5
9	3 < ROI <= 5	3
10	1 < ROI <= 3	2,5
11	0 < ROI <= 1	2
12	ROI < 0	0

Source: The Decree of Ministry of SOE No.KEP-100/MBU/2002

B. LIQUIDITY PERFORMANCE

Liquidity performance is also an indicator that is always explored by shareholders. its function is to determine the ability of the company to pay short-term liabilities. As per the decree, cash ratio and current ratio are two indicators of liquidity that are used to examine the health condition of a company. To calculate cash ratio and current ratio are as follow:

$$\boldsymbol{Cash\ Ratio} = (\boldsymbol{Cash\ and\ Cash\ Equivalent} \div \boldsymbol{Current\ Liabilities}) \times \mathbf{100}\%$$
$$\boldsymbol{Current\ Ratio} = (\boldsymbol{Current\ Asset} \div \boldsymbol{Current\ Liabilities}) \times \mathbf{100}\%$$

The cash ratio is used to describe the company's ability to pay short-term liabilities with its cash resources, expressed in percent (%). The cash ratio assessment score is shown in table 5 below.

Table 5: Assessment Score List of Cash Ratio

No.	Cash Ratio	Weight Score
1	Cash Ratio >= 35	3
2	25 <= Cash Ratio < 35	2,5
3	15 <= Cash Ratio < 25	2
4	10 <= Cash Ratio < 15	1,5
5	5 <= Cash Ratio < 10	1
6	0 <= Cash Ratio < 5	0

Source: The Decree of Ministry of SOE No.KEP-100/MBU/2002

Almost the same as the cash ratio, the difference is in the resources used to pay debts or short-term liabilities of the company. Current ratio illustrates a company's ability to use current asset resources to pay for its short-term liabilities and is expressed in percent (%). Table 6 below shows the Current Ratio assessment score.

Table 6: Assessment Score List of Current Ratio

No.	Current Ratio	Weight Score
1	125 <= Current Ratio	3
2	110 <= Current Ratio < 125	2,5
3	100 <= Current Ratio < 110	2
4	95 <= Current Ratio < 100	1,5
5	90 <= Current Ratio < 95	1
6	Current Ratio < 90	0

Source: The Decree of Ministry of SOE No.KEP-100/MBU/2002

C. ACTIVITY PERFORMANCE

This performance indicator measure how effectively companies use their assets to generate revenue. Based on the decree, collection period, inventory turnover and total asset turnover are three indicators used to determine the financial health condition of the company. To calculate the collection period, inventory turnover, and total asset turnover is to utilize the formula as follows:

$$\boldsymbol{Collection\ Period} = \boldsymbol{Account\ Receivable} \div \boldsymbol{Sales\ Revenue}) \times \mathbf{365}\ \boldsymbol{Days}$$
$$\boldsymbol{ITO} = (\boldsymbol{Total\ Inventory} \div \boldsymbol{Sales\ Revenue}) \times \mathbf{365}\ \boldsymbol{Days}$$
$$\boldsymbol{TATO} = (\boldsymbol{Sales\ Revenue} \div \boldsymbol{Capital\ Employed}) \times \mathbf{100}\%$$

This ratio illustrates the company's ability to get cash from customers' receivables which is expressed in days. Table 7 below shows the Collection Period assessment score. Table 7 below shows the Collection Period assessment score
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Table 7: Assessment Score List of Collection Period

No.	CP = X (Days)	Adjustment (Days)	Weight Score
1	X <= 60	X > 35	4
2	60 < X <= 90	30 < X <= 35	3,5
3	90 < X <= 120	25 < X <= 30	3
4	120 < X <= 150	20 < X <= 25	2,5
5	150 < X <= 180	15 < X <= 20	2
6	180 < X <= 210	10 < X <= 15	1,6
7	210 < X <= 240	6 < X <= 10	1,2
8	240 < X <= 270	3 < X <= 6	0,8
9	270 < X <= 300	1 < X <= 3	0,4
10	300 < X	0 < X <= 1	0

Source: The Decree of Ministry of SOE No.KEP-100/MBU/2002

Inventory Turnover is a performance indicator to assess how many days the company takes in turning inventory into products and expressed in days. The assessment score for the inventory turnover is shown in table 8 below.

Table 8: Assessment Score List of Inventory Turnover

No.	ITO= X (Days)	Adjustment (Days)	Weight Score
1	X <= 60	35 < X	4
2	60 < X <= 90	30 < X <= 35	3,5
3	90 < X <= 120	25 < X <= 30	3
4	120 < X <= 150	20 < X <= 25	2,5
5	150 < X <= 180	15 < X <= 20	2
6	180 < X <= 210	10 < X <= 15	1,6
7	210 < X <= 240	6 < X <= 10	1,2
8	240 < X <= 270	3 < X <= 6	0,8
9	270 < X <= 300	1 < X <= 3	0,4
10	300 < X	0 < X <= 1	0

Source: The Decree of Ministry of SOE No.KEP-100/MBU/2002

Total Asset Turnover is an indicator that assesses a company's ability to generate sales volume by utilizing all assets owned and expressed in percent (%). The assessment score for Total Asset Turnover is shown in table 9 below.

Table 9: Assessment Score List of Total Asset Turnover

No.	TATO = X (%)	Adjustment (%)	Weight Score
1	120 < X	20 < X	4
2	105 < X <= 120	15 < X <= 20	3,5
3	90 < X <= 105	10 < X <= 15	3
4	75 < X <= 90	5 < X <= 10	2,5
5	60 < X <= 75	0 < X <= 5	2
6	40 < X <= 60	X <= 0	1,5
7	20 < X <= 40	X < 0	1
8	X <= 20	X < 6	0,5

Source: The Decree of Ministry of SOE No.KEP-100/MBU/2002

D. SOLVENCY PERFORMANCE

To measure solvency performance, the decree provides the equation formula to calculate this ratio and can be expressed as:

$$\boldsymbol{TETA} = (\boldsymbol{Total\ Equity} \div \boldsymbol{Total\ Asset}) \times \mathbf{100}\%$$

TETA percentage shows how much percentage of shareholder ownership of company assets. Shareholder ownership is represented by the number of equity in the balance sheet. The assessment score for Total Equity to Total Asset is shown in table 10 below.

Table 10: Assessment Score List of TETA

No.	TETA = X (%)	Weight Score
1	X < 0	0
2	0 <= X < 10	4
3	10 <= X < 20	6
4	20 <= X < 30	7,25
5	30 <= X < 40	10
6	30 <= X < 40	9
7	40 <= X < 50	8,5

8	50 <= X < 60	8
9	60 <= X < 70	7,5
10	70 <= X < 80	7
11	90 <= X < 100	6,5

Source: The Decree of Ministry of SOE No.KEP-100/MBU/2002

III. RESEARCH METHODS

This study uses the Financial Ratio Analysis (FRA) research method for the following indicators: Profitability Ratios, Liquidity Ratios, Activity Ratios, and Solvency Ratios. Based on the reference to the decision of the Minister of State Enterprises No. KEP-100 / MBU / 2002 concerning financial health assessment for SOEs. There are eight financial indicators used as benchmarks. The eight financial ratio indicators are as follows, Return On Equity (ROE), Return On Investment (ROI), Cash Ratios, Current Ratios, Collection Periods, Inventory Turnover, Total Asset Turnover (TATO) and Total Equity to Total Assets (TETA). All indicators are calculated and measured and then tested using ministerial decision standards to find out whether the company's financial performance is in a healthy condition or not.

In addition to using the decree reference, a statistical-based research method using paired t-test is used to test the significant differences between the two groups of related data samples before (2011-2014) and after (2015-2018) asset revaluation.
Secondary data derived from annual reports that have been published by PT. Indonesia Power and PT. Pembangkitan Jawa Bali is a source of data used in this research.

IV. RESULT AND DISCUSSION

IV.1 PROFITABILITY PERFORMANCE ANALYSIS

Figure 2 described the return on equity (ROE) of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) between 2011 and 2018. Overall, Figure 2 below described that the ROE percentage of IP and PJB in the period before (2011-2014) is better than after (2015-2018) asset revaluation. During the period 2011-2018, the achievement of ROE percentage of IP and PJB was under the minimum standard of 15% set in the ministerial decree. However, the ROE percentage of IP and PJB tends to increase in 2017-2018.

Figure 3 described the return on investment (ROI) of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) between 2011 and 2018. Figure 3 mentioned that the ROI percentage of IP decreased quite sharply in 2017 and 2018 and the ROI of PJB increased quite sharply after 2015. In the period of 2017-2018, the achievement of ROI percentage of IP was under the minimum standard of 18% meanwhile the ROI percentage of PJB was over the minimum standard.

Figure 2: Profitability Performance (ROE)

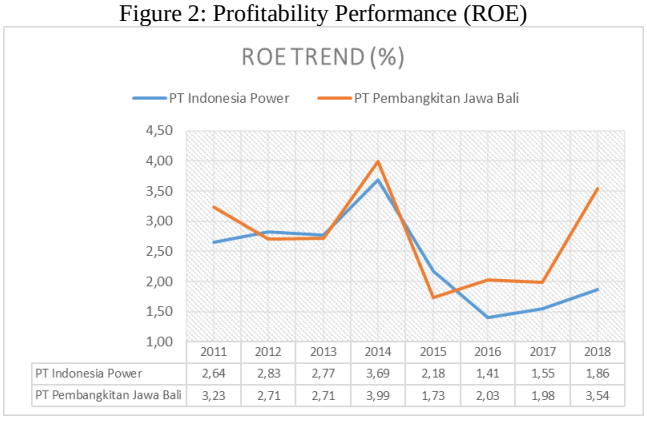
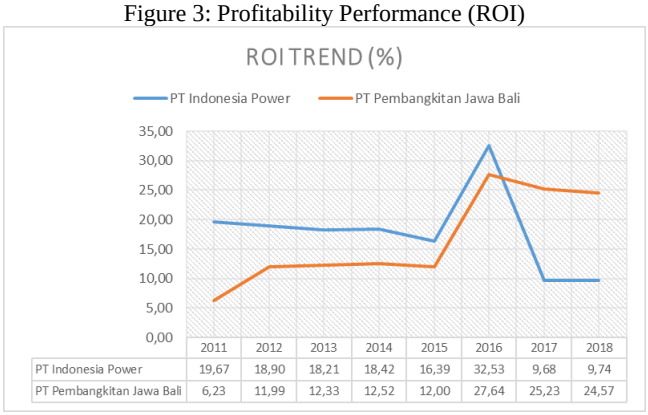


Figure 3: Profitability Performance (ROI)



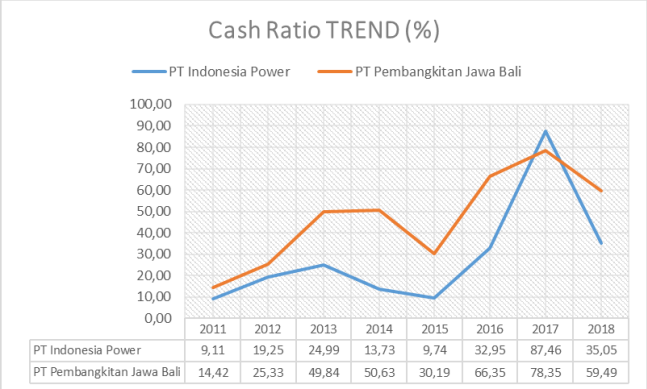
Based on the trending results of the ROE and ROI indicators above, it can be explored that overall the profitability performance of the power generation industry after the period (2015 - 2018) asset revaluation decreased in ROE and Increased in ROI compared to the period before (2011 - 2014) asset revaluation. Based on ROE analysis, the net profits received by the company increased but not as large of equity owned by the company's shareholders after the revaluation of assets. This indication illustrates that the company's ability to generate value to shareholders declined during this period. Based on ROI analysis, the number of returns received by the company on the amount of investment incurred by the company increased during the period after the revaluation. This indication explains that the company's ability to generate profits after investment increased during this period.

IV.2 LIQUIDITY PERFROMANCE ANALYSIS

Figure 4 described the cash ratio of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) for the 2011 - 2018 period. Overall, Figure 4 below mentioned that the cash ratio percentage of IP and PJB in the period after (2015-2018) is better than before (2011-2015) asset revaluation. In the period 2017-2018, the achievement of cash ratio percentage of IP and PJB was over the minimum standard of 35% set in the ministerial decree. However, the percentage of cash ratios of IP and PJB decreased significantly in 2018.

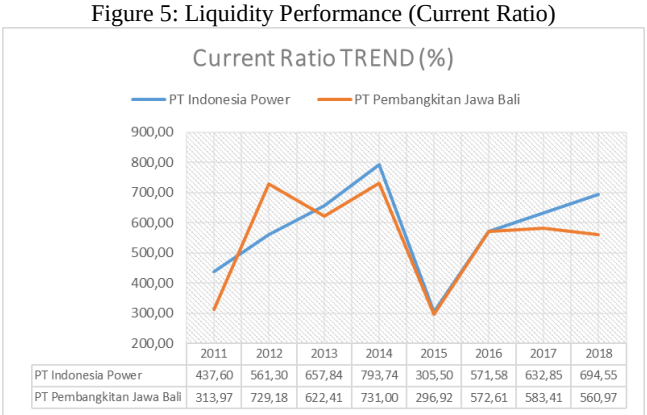
Figure 5 described the current ratio of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) between 2011 and 2018. Overall, Figure 5 below mentioned that the current ratio percentage of IP and PJB was over the minimum standard of 125% set in the ministerial decree and highly fluctuating in the 2011-2018 period. In the period 2016-2018, the current ratio percentage of IP tended to increase while the achievement of the current ratio percentage of PJB tended to stable.

Figure 4: Liquidity Performance (Cash Ratio)



	2011	2012	2013	2014	2015	2016	2017	2018
PT Indonesia Power	9,11	19,25	24,99	13,73	9,74	32,95	87,46	35,05
PT Pembangkitan Jawa Bali	14,42	25,33	49,84	50,63	30,19	66,35	78,35	59,49

Figure 5: Liquidity Performance (Current Ratio)



	2011	2012	2013	2014	2015	2016	2017	2018
PT Indonesia Power	437,60	561,30	657,84	793,74	305,50	571,58	632,85	694,55
PT Pembangkitan Jawa Bali	313,97	729,18	622,41	731,00	296,92	572,61	583,41	560,97

Based on the trending results of the cash ratio and current ratio above, it can be seen that overall the liquidity performance of the power generation industry after the period (2015 - 2018) asset revaluation increased in cash ratio and decreased in current ratio compared to the period before (2011 - 2014) asset revaluation. Based on the cash ratio calculation, the value of cash the company has to pay its current liabilities is better than before the revalue asset period. However, both companies should pay attention to the phenomenon of a sharp decline in cash ratio in 2018. Based on the current ratio calculation, the company's ability to cover short-term liabilities with current asset sources decreases compared to the period before revaluation.

IV.3 ACTIVITY PERFORMANCE ANALYSIS

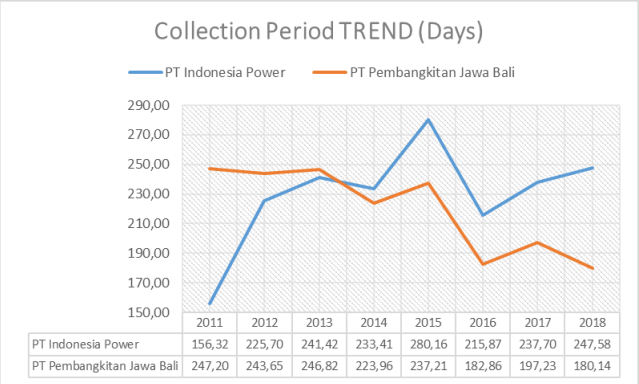
Figure 6 described the collection period of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) between 2011-2018. Overall, it mentioned that the collection period of IP and PJB were above the maximum standard of 60 days since 2011,

based on a ministerial decree. and it fluctuated highly in the 2011-2018 period. After the revaluation of assets, the IP collection period tended to be slower while the PJB collection period tended to be faster.

Figure 7 described the inventory turnover of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) between 2011 - 2018. Overall, it mentioned that the inventory turnover of IP and PJB was under the maximum standard of 60 days, based on the ministerial decree. This ratio tended to stable in the 2011-2018 period. After asset revaluation, the inventory turnover of IP tended to be stable while the collection period of PJB tended to be slower.

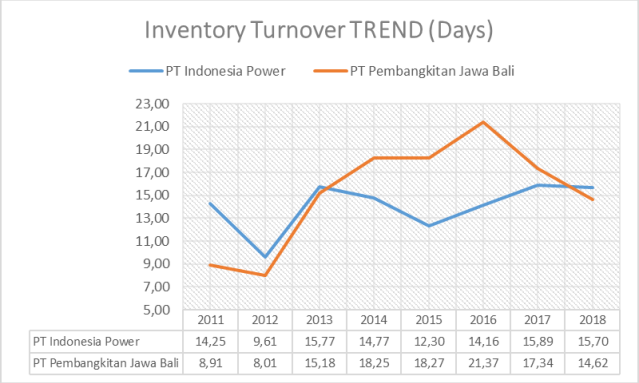
Figure 8 described the total assets turnover of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) between 2011-2018. Overall, the figure mentioned that the TATO percentage of IP and PJB tended to fall under the minimum standard of 120% set in a ministerial decree. After asset revaluation, the TATO of IP tended to be decreased while the TATO of PJB tended to be stable.

Figure 6: Activity Performance (Collection Period)



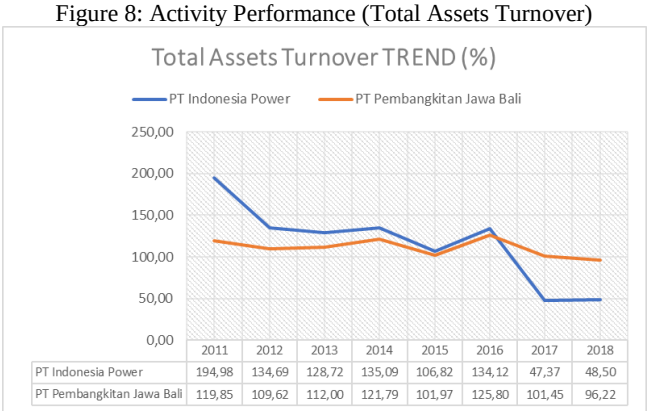
	2011	2012	2013	2014	2015	2016	2017	2018
PT Indonesia Power	156,32	225,70	241,42	233,41	280,16	215,87	237,70	247,58
PT Pembangkitan Jawa Bali	247,20	243,65	246,82	223,96	237,21	182,86	197,23	180,14

Figure 7: Activity Performance (Inventory Turnover)



	2011	2012	2013	2014	2015	2016	2017	2018
PT Indonesia Power	14,25	9,61	15,77	14,77	12,30	14,16	15,89	15,70
PT Pembangkitan Jawa Bali	8,91	8,01	15,18	18,25	18,27	21,37	17,34	14,62

Figure 8: Activity Performance (Total Assets Turnover)



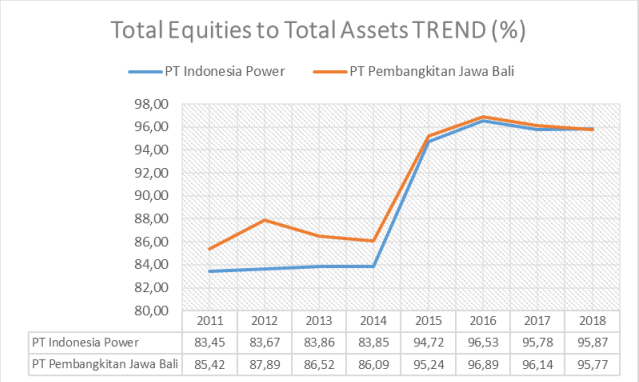
	2011	2012	2013	2014	2015	2016	2017	2018
PT Indonesia Power	194,98	134,69	128,72	135,09	106,82	134,12	47,37	48,50
PT Pembangkitan Jawa Bali	119,85	109,62	112,00	121,79	101,97	125,80	101,45	96,22

Based on the activity performance trending above (Collection Period, Inventory Turnover and TATO), overall, it indicated that the activity ratio performance of SOE electricity power generation in the period after (2015 - 2018) has relatively declined compare to the period before (2011 - 2014) asset revaluation.

IV.4 SOLVENCY PERFORMANCE ANALYSIS

Figure 9 described the total equity to total assets of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) between 2011-2018. Overall, the figure mentioned that the total equity to total asset percentage of IP and PJB increased significantly after asset revaluation. However, there was upper the maximum standard of 30%-40% set in a ministerial decree.

Figure 8: Solvency Performance (TETA)



Based on the TETA trending above, it can be explored that the overall solvency performance of the power generation industry after the period (2015 - 2018) asset revaluation increased by 95% compared to the assets of the period before (2011-2014) revaluation with values below 90%. Based on an analysis of total equity of total assets, shareholder ownership of the company's assets increased due to increase in the company's equity compared to the period before the asset revaluation.

IV.5 HEALTH CONDITION ASSESSMENT

To measure how healthy the financial aspect of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) under the power generation industry whether they are in the healthy, less healthy or unhealthy categories in the period before (2011-2014) and after (2015-2018) asset revaluation, the decree of Ministry of SOEs No. KEP-100/MBU/2002 was utilized to test the assessment. Tables 11 to 14 below mentioned the test result during the 2011 – 2018 financial year for IP and PJB.

Table 11: Test Result of IP

Indicators	Before								After							
	2011		2012		2013		2014		2015		2016		2017		2018	
	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score
Profitability																
ROE (%)	2,64	4,00	2,83	4,00	2,77	4,00	3,69	4,00	2,18	3,00	1,41	3,00	1,55	3,00	1,86	3,00
ROI (%)	19,67	10,00	18,90	10,00	18,21	10,00	18,42	10,00	16,39	9,00	32,53	10,00	9,68	5,00	9,74	5,00
Liquidity																
Cash Ratio (%)	9,11	1,00	19,25	2,00	24,99	2,00	13,73	1,50	9,74	1,00	32,95	2,50	87,46	3,00	35,05	3,00
Current Ratio (%)	437,60	3,00	561,30	3,00	657,84	3,00	793,74	3,00	305,50	3,00	571,58	3,00	632,85	3,00	694,55	3,00
Activity																
Collection Period (Days)	156,32	2,00	225,70	1,20	241,42	0,80	233,41	1,20	280,16	0,40	215,87	1,20	237,70	1,20	247,58	0,80
Inventory Turnover (Days)	14,25	4,00	9,61	4,00	15,77	4,00	14,77	4,00	12,30	4,00	14,16	4,00	15,89	4,00	15,70	4,00
TATO (%)	194,98	4,00	134,69	4,00	128,72	4,00	135,09	4,00	106,82	3,50	134,12	4,00	47,37	1,50	48,50	1,50
Solvency																
Total Equity to Total Assets Ratio (%)	83,45	4,00	83,67	4,00	83,86	4,00	83,85	4,00	94,72	3,50	96,53	3,50	95,78	3,50	95,87	3,50
Total Score		32		32,2		31,8		31,7		27,4		31,2		24,2		23,8
Average Total Score	31,93								26,65							

Overall, based on Table 11 above, there was a slight decline in the total health indicator score of PT. Indonesia Power after asset revaluation. It decreases slightly by 5,28% on average (31,93 before and 26,65 after).

Table 12: Summary of IP Test Result

Period	Year	Total Score	Total Weight	Value	Level	Category	Average	Level	Category	Changes
Before	2011	32,00	64,00	50 < TS ≤ 65	BBB	Less Healthy	63,85	BBB	Less Healthy	-16,52%
	2012	32,20	64,40	50 < TS ≤ 65	BBB	Less Healthy				
	2013	31,80	63,60	50 < TS ≤ 65	BBB	Less Healthy				
	2014	31,70	63,40	50 < TS ≤ 65	BBB	Less Healthy				
After	2015	27,40	54,80	50 < TS ≤ 65	BBB	Less Healthy	53,30	BBB	Less Healthy	
	2016	31,20	62,40	50 < TS ≤ 65	BBB	Less Healthy				
	2017	24,20	48,40	40 < TS ≤ 50	BB	Less Healthy				
	2018	23,80	47,60	40 < TS ≤ 50	BB	Less Healthy				

Based on Table 12 above, the financial health condition of PT. Indonesia Power tends to continue to decline. As per the decree of the Ministry of SOE No. KEP-100 / MBU / 2002, the last two years (2017-2018) period the company's financial performance was classified at the BB level and Less healthy category with total weighted scores reaching 48.40 and 47.60. Although overall the total weighted score before and after the revaluation of assets experienced a negative change of 16.52%, the financial condition of PT. Indonesia Power is classified at the same level and same category (BBB and Less Healthy) both before and after the revaluation period.

Table 13: Test Result of PJB

Indicators	Before								After							
	2011		2012		2013		2014		2015		2016		2017		2018	
	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score	Ratio	Score
Profitability																
ROE (%)	3,23	4,00	2,71	4,00	2,71	4,00	3,99	4,00	1,73	3,00	2,03	3,00	1,98	3,00	3,54	4,00
ROI (%)	6,23	3,50	11,99	6,00	12,33	7,00	12,52	7,00	12,00	6,00	27,64	10,00	25,23	10,00	24,57	10,00
Liquidity																
Cash Ratio (%)	14,42	1,50	25,33	2,50	49,84	3,00	50,63	3,00	30,19	2,50	66,35	3,00	78,35	3,00	59,49	3,00
Current Ratio (%)	313,97	3,00	729,18	3,00	622,41	3,00	731,00	3,00	296,92	3,00	572,61	3,00	583,41	3,00	560,97	3,00
Activity																
Collection Period (Days)	247,20	0,80	243,65	0,80	246,82	0,80	223,96	1,20	237,21	1,20	182,86	1,60	197,23	1,60	180,14	1,60
Inventory Turnover (Days)	8,91	4,00	8,01	4,00	15,18	4,00	18,25	4,00	18,27	4,00	21,37	4,00	17,34	4,00	14,62	4,00
TATO (%)	119,85	3,50	109,62	3,50	112,00	3,50	121,79	4,00	101,97	3,00	125,80	4,00	101,45	3,00	96,22	3,00
Solvency																
Total Equity to Total Assets Ratio (%)	85,42	4,00	87,89	4,00	86,52	4,00	86,09	4,00	95,24	3,50	96,89	3,50	96,14	3,50	95,77	3,50
Total Score		24,30		27,80		29,30		30,20		26,2		32,1		31,1		32,1
Average Total Score	27,90								30,38							

In contrast to the results of the calculation of PT. Indonesia Power, the total score of healthiness indicator of PT. Pembangkitan Jawa Bali experienced a slight increase after the revaluation of assets. The average increase reached 2.48% (27.90 before and 30.38 after) as shown in table 13 above

Table 14: Summary of PJB Test Result

Period	Year	Total Score	Total Weight	Value	Level	Category	Average	Level	Category	Changes
Before	2011	24,30	48,60	40 < TS ≤ 50	BB	Less Healthy	55,80	BBB	Less Healthy	8,87%
	2012	27,80	55,60	50 < TS ≤ 65	BBB	Less Healthy				
	2013	29,30	58,60	50 < TS ≤ 65	BBB	Less Healthy				
	2014	30,20	60,40	50 < TS ≤ 65	BBB	Less Healthy				
After	2015	26,20	52,40	50 < TS ≤ 65	BBB	Less Healthy	60,75	BBB	Less Healthy	
	2016	32,10	64,20	50 < TS ≤ 65	BBB	Less Healthy				
	2017	31,10	62,20	50 < TS ≤ 65	BBB	Less Healthy				
	2018	32,10	64,20	50 < TS ≤ 65	BBB	Less Healthy				

Based on Table 14 above, the financial health condition of PT. Pembangkitan Jawa Bali tends to continue to increase. In the last one-year period (2018) after revaluation of assets, the company's financial performance reached the highest weighted score (64.20%) close to the score in the healthy condition category (65%). In accordance with Minister of SOE Decree No. KEP-100 / MBU / 2002, the company's financial performance remains classified at the BBB level and the Less Healthy category that year. Although the overall weighted total score before and after the revaluation of assets experienced a positive change of 8.87%, the

financial condition of PT. Pembangkitan Jawa Bali remained classified at the same level and category (BBB and Less Healthy) both before and after the revaluation period.

V. VALIDATING TESTING

To validate the significant difference before and after asset revaluation in financial performance of PT. Indonesia Power (IP) and PT. Pembangkitan Jawa Bali (PJB) under power generation industry, the statistical method of paired t-test approach is utilized to test the validation. Table 15 and Table 16 below mentioned the paired t-test result of two groups sample of IP and PJB.

Table 15: Summary of Paired T-test Result of IP

Variables	Period	Means	Standard Deviation	t-test (p)	alpha (α)	Decision
ROE	Before	2,98	0,413	0,023	0,05	Ho Rejected
	After	1,75	0,298			
ROI	Before	18,80	0,562	0,766	0,05	Ho Accepted
	After	17,08	9,328			
Cash Ratio	Before	16,77	5,948	0,163	0,05	Ho Accepted
	After	41,30	28,441			
Current Ratio	Before	612,62	130,492	0,157	0,05	Ho Accepted
	After	551,12	148,322			
Collection Period	Before	214,21	33,883	0,394	0,05	Ho Accepted
	After	245,33	23,152			
Inventory Turnover	Before	13,60	2,370	0,550	0,05	Ho Accepted
	After	14,51	1,440			
TATO	Before	148,37	27,029	0,057	0,05	Ho Accepted
	After	84,21	37,532			
TETA	Before	83,71	0,166	0,000	0,05	Ho Rejected
	After	95,73	0,647			

Overall, based on Table 15 above, the ROE and TETA indicators of PT. Indonesia Power presents a p-value lower than alpha, α ($p < \alpha$). This indication illustrates that there are significant differences between the periods before and after revalue assets for those indicators. It is influenced by the high increase in the value of the company's equity. Other financial indicators are presented $p > \alpha$. There were no significant differences after the revaluation of assets in ROI, cash ratio, current ratio, collection period, ITO, and TATO.

Table 16: Summary of Paired T-test Result of PJB

Variables	Period	Means	Standard Deviation	t-test (p)	alpha (α)	Decision
ROE	Before	3,16	0,524	0,035	0,05	Ho Rejected
	After	2,32	0,714			
ROI	Before	10,77	2,626	0,012	0,05	Ho Rejected
	After	22,36	6,090			
Cash Ratio	Before	35,06	15,666	0,045	0,05	Ho Rejected
	After	58,59	17,734			
Current Ratio	Before	599,14	170,413	0,094	0,05	Ho Accepted
	After	503,48	119,518			
Collection Period	Before	240,41	9,594	0,033	0,05	Ho Rejected
	After	199,36	22,797			
Inventory Turnover	Before	12,59	4,279	0,254	0,05	Ho Accepted
	After	17,90	2,409			
TATO	Before	115,82	5,121	0,374	0,05	Ho Accepted
	After	106,36	11,449			
TETA	Before	86,48	0,904	0,000	0,05	Ho Rejected
	After	96,01	0,601			

Overall, based on Table 16 above, three financial indicators for the current ratio, ITO, and TATO from PT. Pembangkitan Jawa Bali presents a p-value higher than alpha, α ($p > \alpha$). This indication explains that there are no significant differences in the three parameters between the period before and after the revaluation of assets. Other financial indicators presented $p < \alpha$ show

significant changes in ROE, ROI, cash ratio, billing period, and TETA. ROE and TETA indicators, a significant difference is influenced by an increase in company's equity. While ROI tends to significantly increase company profits per year at a relatively stable investment value. In cash ratios, significant differences can be influenced by the performance of the company's collection period that is increasingly able to convert receivables into cash. For collection periods, a significant difference is likely to be influenced by the company's ability to legally justify the collection of receivables into corporate income.

VI. LIMITATION

This study provides relevant and useful information for the company, the government, and researchers. From a company perspective, this research provided strong information to see the company's financial strength. This could be used as a management consideration to support the electricity development program. In addition, the results of the study could be beneficial for management in developing short-term and long-term corporate strategies, especially in utilizing growth opportunities for electricity consumption. Similar to management, the government as the owner of the company can find out the company's financial capability to support the electricity development program. In addition, the results of this study also support evaluating the impact of the decision to implement an asset revaluation on the financial health of a state-owned electricity company. As for researchers, this research could be used to support research related to asset revaluation and its impact on the company's financial performance. For the authors, this research is part of the learning process that is expected to increase knowledge and understanding related to the application of asset valuation on the financial health of state-owned electricity companies

Furthermore, the exploration of financial analysis on other private companies in the power generation industry whether produced from the same or different phenomena will enrich information regarding financial conditions in this industry. In addition, the research could be developed as well to measure SOE performance by combining all three aspects of financial, operational, and administrative performance

VII. CONCLUSION AND RECOMMENDATION

VII.1 CONCLUSION

To see the impact of asset revaluation on the company's financial condition. This study analyzed the company's financial performance in the four years before (2011-2014) and four years after (2015-2018) asset revaluation. On financial performance, this study found justification that the implementation of asset revaluation had an impact on the solvency performance in accordance with the results of a study conducted by Diantimala et al (2018), Surgawi & Solikhah (2018), and Faisal & Murwaningsari (2019). The solvency performance of the two power generation companies increased after revalue assets. Therefore, companies should take advantages of increased solvency performance in obtaining funds to fund the development of electricity facilities.

In addition to analyzing financial performance, this study measures the financial health condition in the same period (2011-2018). From the results of the assessment, this research did not obtain a justification for the impact of asset revaluation implementation on the financial health condition of the company. Overall, the condition of the company's financial health is classified at the same level and category (BBB and Less Healthy) both the period before (2011-2014) and after (2015-2018) the revaluation of assets.

The final method to see the impact of asset revaluation on a company's financial performance is a statistical method with paired t-test. This method has strengthened the results of financial performance analysis. Using the paired t-test method, this study found validity that the implementation of asset revaluation had a significant impact on achieving solvency and ROE performance. At PT. Indonesia Power and PT. Pembangkitan Jawa Bali, both financial indicators have experienced significant changes between asset revaluation before (2011-2014) and after (2015-2018).

VII.2 RECOMMENDATION

To improve the structure of shareholder ownership and improve the performance of the company's solvency so as to obtain the ease of loan funds, the company should implement asset revaluation. However, asset revaluation could not help improve the company's financial performance and health. In the last two years (2017-2018) of the research period after the asset revaluation, PT. Indonesia Power experienced a decline in the company's financial performance score and health level (< 49% and BB). Therefore, the power generation company should develop an effective strategy using the value of the company's solvency which has increased after the revaluation of assets. Loan funds should be maximized to invest in the development of electricity facilities in order to pursue opportunities for growth in electricity consumption.

Although it is still above the minimum standard set by a ministerial decree, PT. Indonesia Power and PT. Pembangkitan Jawa Bali should pay attention to the sharp decline in the company's cash position towards its current liabilities. To increase the cash ratio, both companies should be able to obtain cash in their commercial contracts. In addition to increasing the cash ratio, this effort was developed to improve the performance of the company's collection period to reach the maximum number of days (60 days). If the company has a better cash position, it is very possible that they can support the electricity development program.

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