Financial Performance Using Economic Value Added Method: A Case Study on PT Pelayaran Nasional Indonesia

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ABSTRACT

The purpose of this research is to analyze financial performance in PT Pelayaran Nasional Indonesia within the period of 2013 to 2017 using Economic Value Added method. The analysis was conducted in order to know whether the performance of the company has been managed efficiently before and after the government program. The program given by the government such as cattle ship, pioneer ship, and tol laut ship. The result of this research indicated that the company has the negative value during the period of year. Moreover, it indicates that the negative EVA value result tends to be smaller if there is no additional capital given by the government. It is because the cost of equity is greater than the cost of debt.

Keywords: EVA; Financial Performance; Performance Measurement; Shipping; Pelni

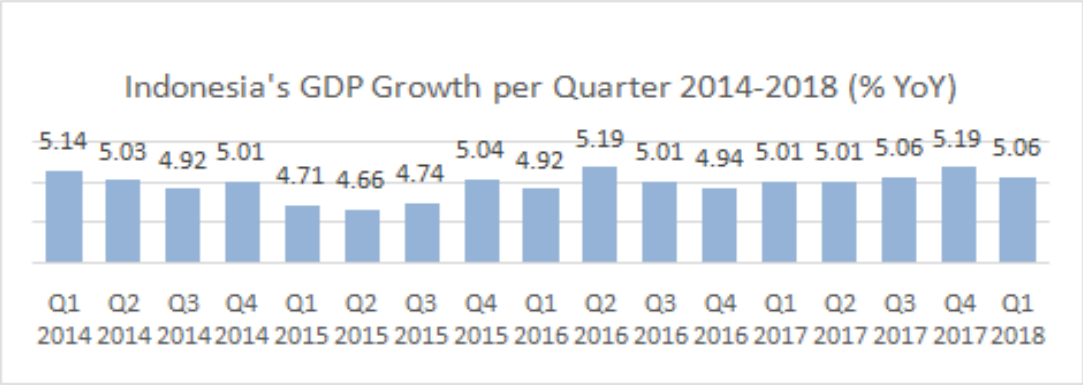
INTRODUCTION

Indonesia is an archipelagic country that has a large areas of land and oceans. The land area is about 1.9 million km^2, whereas the ocean area is about 5.9 million km^2. (Directorate General of Sea Transport, 2011). Therefore, the total territory of Indonesia's oceans is three times larger when compared to its land area. The marine sector will add contribution to the state as a foreign exchange. Because of that, it is necessary to utilized marine sector properly, especially in the shipping industry. Indonesia's shipping industry plays an important role, especially in terms of distribution of goods and as a transportation to carry passengers all over regions.

Economic conditions in Indonesia have increased in 2017 compared to previous years. Indonesia's Gross Domestic Product (GDP) growth increased from 5.01% by the end of 2014 to 5.04% by the end of 2015, according to Central Bureau of Statistics data. In 2016 GDP growth declined by 4.94% and then began to increase again in the year 2017 of 5.19%. Increasing the value of GDP in Indonesia can show positive conditions for shipping growth in Indonesia.

PT Pelayaran Nasional Indonesia (PELNI) is a state-owned enterprise in the shipping industry. The company existence will provide great input to the shipping industry and to also the state. Nowadays, In the globalization era, the entire industries including the

shipping industry must be able to compete globally and to increase its competitive advantage. Therefore, PT PELNI must be able to improve its competitiveness and quality, and also prioritize customer satisfaction in order to maintain and increase its market share.



Source: Central Bureau of Statistic Data

Throughout the year of 2015 the government is promoting the Tol Laut project for shipping companies in Indonesia. With the project, the government expected Indonesia to be the central of a maritime axis. This supported by the fact that Indonesia is having strategic geographical position as a lane for the world sea trade. To be the central of maritime axis in the world, Indonesia need the variety of facilities and also adequate infrastructure and required a reliable marine infrastructure. Thus, economic activities in the marine sector can grow.

Referring to Presidential Regulation No. 106 of 2015 concerning the implementation of public obligations for sea freight transport, and the Minister of Transportation Regulation No. 4/2016 on the amendment to the Minister of Transport Regulation No. 161 of 2015 on the implementation of public service obligations for the transportation of goods at sea , PT PELNI as State-Owned Enterprise is responsible for maintaining the territorial sea by taking the projects of pioneer ship, tol laut ship and cattle ship which sometimes not only to gain profit for the company, but also to provide public services.

As the condition mention above, PT PELNI should immediately increase its competitive advantage by increasing efficiency, capacity, and quality. The highly competition requires companies to be able to develop and improve its ability to increase its quality. Therefore, PT PELNI will not lose its market share compared to their competitors. Moreover, company also needs a change of business strategy to increase the competitiveness of the company.

In relation to a state-owned enterprise with all shares owned by the government, PT PELNI is granted a subsidy to run its business in accordance with government programs for

the public welfare. Therefore, the government also has an interest in the company's performance information to assess whether the subsidy has been properly used. In addition, consumers are also interested in PT PELNI performance improvement, because it is expected to maximize its function as a company that serves the public interest (public service obligation).

Performance improvements need to be done to give contribution for company to be better. Because of that, evaluation is needed to assess and improve company performance. Management can also measure achievement target in company. In addition, management can ultimately take strategic steps relating to efficiency and effectiveness in operations. Performance measurement tools that commonly used by a lot of companies is with financial ratios. These calculations generally include measurements using the financial ratios of Return on Investment (ROI), Price to Earning Ratio (PER), Return on Equity (ROE), and Return on Assets (ROA). However, performance measurement by using financial ratios is considered unfavorable because it does not take into account the inherent costs for each fund acquisition. The components of capital costs need to be taken into account, since the cost of capital acquired should be worth less than the rate of return on investment. Therefore, a concept of Economic Value Added (EVA) method is considered appropriate to assess company performance. The EVA method was developed by Joel Stern and G. Bennett Stewart III in 1982. This method is used to measure the profit of a company by reducing Net Operating Profit After Tax (NOPAT) over the cost of capital from debt or equity (Grant, 2003).

LITERATURE REVIEW

Economic Value Added (EVA) Introduces by the founder of Stern Stewart & Co, Joel Stern and G. Bennett Stewart III in 1982, who proposed performance evaluation systems that encourages managers to undertake only projects that will increase shareholder wealth. They suggested that managers should consider to raise EVA value than increasing profits. They also encourage the use of EVA for assessing performance, maintaining goals, settling bonuses, interacting with investors, and for capital budgeting and valuations of all sorts (Stewart,1991). The formula to calculated EVA is (Al Ehrbar,1998):

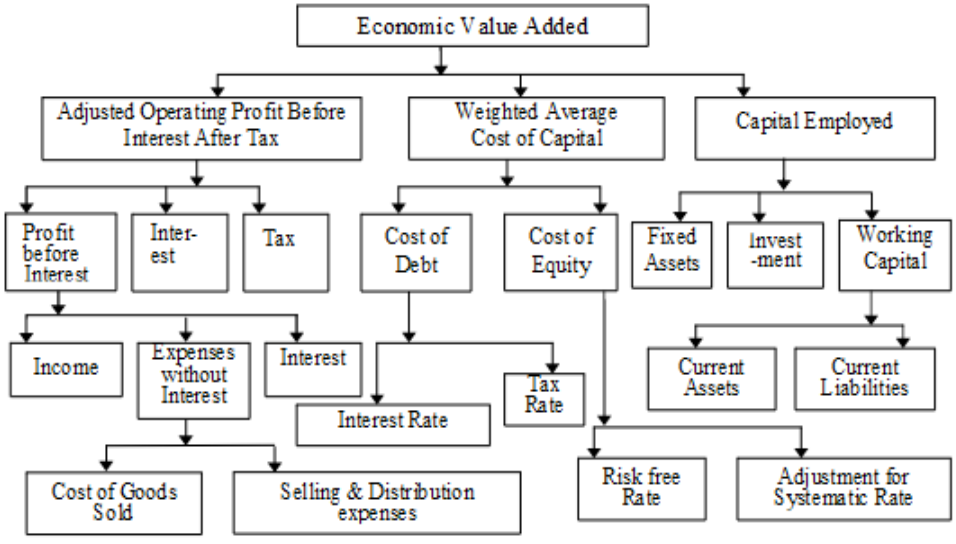
$$EVA = NOPAT - (Cost\ of\ Capital \times Capital) \quad (1)$$

EVA estimates the organization performance on the site whether the NOPAT (Net Operating Profit After Tax) beyond the cost of capital (Tsuji,2006). It is amplified that it is economic profit and not the value-added which is central to the explanation of EVA (Poornima et al,2015).

The first step in computing EVA is calculating the firm's return on capital by adjusting NOPAT (Net Operating Profit After Taxes) which divided by adjusted capital. NOPAT is the operating profit of the company, net of tax, and calculate the profits that has been generated from the company on going operations (Young, 2001). The adjustment of

net operating income and capital figures needed to provide incentives in order to create wealth. Next, subtract the cost of capital items from the return on capital. This difference is multiplied by the extraordinary amount of capital to get in EVA. Companies that have some positive results indicate that they have invested in value-enhancing projects, while negative results show the overall projects did not cover the cost of capital.

The EVA measurement is considered to be superior than any other metrics. It is because EVA needed managers to run through a long-term planning and giving obvious signals to maximize shareholder value. The indicator of EVA is trying to describe the real economic profit of the enterprise faithfully (Jakub, Viera and Eva, 2015). Its advantage over conventional approaches are the economic performance of the company combination become understandable and the risk degree that is needed to attain this performance (Koller et al,2014). The EVA concept is passing through into the practice of financial managers in less developed economies than the origin country of this indicator evaluation. However, the original concept of EVA and some various constructions forms needed comparatively large adjustments to the data in accounting comes from the accounts of various national economies, even though there are still some different aspects in accounting harmonization in the world (Kiestik et al,2014). The EVA model is described as follows:



EVA measures a form of economic profit that show whether the firm has enclosed all its expenses. It is also included the economic cost of supplying the funds for equity. If the weighted cost of capital of the dollar value is divided into its two of element cost (debt and equity). Moreover, EVA can be stated as NOPAT-(WACC x capital employed), where the WACC is stated by a percentage cost. The NOPAT is taking out all financing costs and

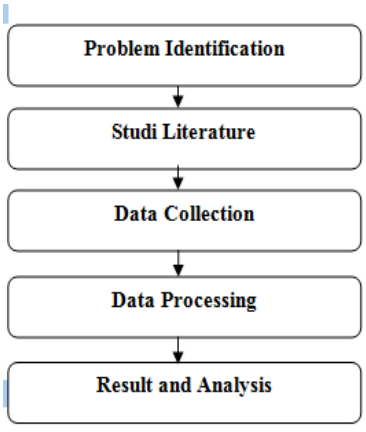
needs adjustments for some items, such as: reserves and provisions, the deferred tax provision, extraordinary items, and interest income or expense.

Eventhough EVA is considered as superior measure of performance, it suffers from certain limitations. One major limitation of EVA is that it is over reliant on financial metrics like the amount of capital invested, profit margins, cost of capital etc. Empirical studies have shown that these metrics are often incapable of indicating future performance (Fletcher & Smith, 2004). The computation of EVA relies heavily on revenue realization and expense recognition. For getting better financial results, managers of the companies can manipulate these financial numbers (Homgren, Foster &Datar, 1997). Moreover, EVA is based upon the accounting profits and it is often as a bad proxy in determining profit in economic. Thedifference between accounting earnings and economic earnings is aggravate by inflation. (Villiers, 1997).

The results of the performance appraisal with the EVA method can be interpreted with the value of EVA> 0, reflecting that the company has a good performance, due to the value added process that was successfully created by management in that period. The value of EVA = 0, indicates that the breakeven condition occurs in the company in the calculation period. The value of EVA <0, reflects management's failure to generate added value for the company

METHODOLOGY

The method of this research is using literature study conducted by reading journals, articles, and books related to financial performance measurement analysis using EVA method. The data analyzed were obtained from the company's financial statements. The following research schemes are conducted:



The data used are secondary data obtained from PT Pelni and further processed which then analyzed to evaluate company performance. Data in the form of financial statements of PT PELNI within the period of 2012-2016. Furthermore, the SBI rate data is obtained from the official website of Bank Indonesia and risk premium data obtained from the damodaran website.

The data analysis using EVA method with the equation as follows (Al Ehrbar,1998):

$$EVA = NOPAT – (Cost\ of\ Capital\ x\ Capital)$$

Data collection is gathered from Company Profile, Annual Report of the Company, Management Report, and SBI Rate.

The steps in determining data processing are:

- Net Operation Profit After Tax (NOPAT) and adjusted NOPAT calculations (Young,2001):

NOPAT = Operating Profit + interest income - income taxes - (tax rate x interest expense) (2)

- Calculation of Cost of Debt & Cost of Equity. The equation for Cost of Equity is calculated by (Bodie, Kane & Marcus, 2008):

$$CAPM = Rf+(Rm-Rf)*\beta \quad (3)$$

- Cost of Debt, is calculated by (Brigham & Houston, 2001):

$$Ki = Kd\ (1-T \quad (4)$$

- Invested Capital Calculation (Young,2001):

Invested Capital = excess cash + working capital requirement+ fixed asset (5)

- EVA calculations

$$EVA = NOPAT – (Cost\ of\ Capital\ x\ Capital) \quad (6)$$

RESULTS

This EVA calculation requires several components, namely Net Operating Profit after Tax (NOPAT), the cost of capital that can come from debt and capital, as well as the amount of Invested Capital or investments invested during the current year period. Performance measurement with EVA can assess the economic profit for the company. Thus, the value of the calculation can be used as an assessment indicator for investors in seeing the success of management to be able to increase value for shareholders.

Net Operating Profit After Tax (NOPAT) is the profit obtained from the company's operating activities after deducting taxes. The profits generated from daily operational activities that are tax-exempt plus the expense account seen from economic profit are not included in the expense. Adjustments to NOPAT need to be made because of differences in accounting policy standards used by each company. PT Pelni's adjustment to its financial statements is on deferred income tax, intangible assets amortization and equity equivalent. The intangible assets account must be adjusted because the value remains in the balance sheet. This value will be embedded in the company within a period that cannot be limited. While for LIFO reserve account there is no adjustment because PT Pelni is a service company. Calculation of NOPAT Adjusted is presented in the table below:

TABLE 1- *Adjusted* NOPAT PT PELNI

	2013	2014	2015	2016	2017
EBIT	-577,972	87,513	107,588	234,310	357,327
Interest Expense	21,028	24,866	27,310	25,338	7,059
After tax int expense	35,175	51,218	20,767	25,660	80,445
NOPAT	-613,148	36,296	86,821	208,651	276,881
Bad Debt Reserve	2,473	1,950	202	223	174
Deffered Income Tax Liabilities	19,757	25,996	36,751	45,546	5,095
Cummulative Intagible Assets Amortization	2,564	3,536	1,412	2,253	5,460
LIFO Reserve	0	0	0	0	0
Inventory Obsolescance Reserve	0	0	0	0	0
Total Equity Equivalent	24,794	31,483	38,365	48,022	10,729
Adjusted NOPAT	-588,354	67,779	125,187	256,673	287,610

Source: Annual Report PT Pelni processed by authors

The calculation results from Table 1 show the value of Adjusted NOPAT in 2013 is negative, which is Rp. 588,354 million. This is because the value of operating income is negative and of considerable value. The losses suffered due to an increase in other expenses compared to the previous year. Other expenses are in the form of non-business expenses, which are foreign exchange loss and spin off tax expense. Where spin-off costs occur due to a PPH tax underpayment by a subsidiary of PT Pelni, namely Pelni Hospital. In 2014 the value of Adjusted NOPAT increased from the previous year amounting to Rp67,779 million. This is because the value of operating income has been positive. Compared to the previous year, the revenue generated this year has also increased. The following year, in 2015 the NOPAT value also increased from the previous year which was worth Rp. 125,187 million. The increase was quite significant at 84.69% compared to the previous year. Positive operating income and income that is also higher than the previous year is a factor that causes the NOPAT value to be positive. For 2016, the NOPAT produced was positive at Rp. 256,673 million. This positive value is due to the increase in profits generated this year compared to the previous year. The last is the year 2017, the year when the NOPAT value generated experienced the highest amount, which is worth 287,610 million. In this year the income generated experienced the highest increase compared to previous years.

Invested capital is calculated by searching for net operating assets. Where this net operating asset is the difference between current assets and current liabilities. The result of the deduction is then deducted from the fixed assets which has been reduced by the accumulated depreciation. Furthermore, the calculated capital invested value is also adjusted to the equity equivalent element. The calculation of the invested capital value is presented in the table below:

TABLE 2- *Invested Capital* PT PELNI

	2013	2014	2015	2016	2017
Net operating asset	449,871	476,857	1,257,856	1,952,245	2,239,303
Net plant, property, and equipment	3,743,095	3,540,144	3,630,293	3,467,049	3,570,430
Intangibles	166,811	226,251	3,271	4,536	21,690
Other Assets	171,666	176,490	138,088	128,408	1,216
Accumulated goodwill amortization	2,564	3,536	1,412	2,253	5,460
Bad-debt reserve	2,473	1,950	202	223	174
Invested capital	4,536,480	4,425,228	5,031,122	5,554,714	5,838,272
Net operating asset/net working capital					
aktiva lancar	1,216,668	1,339,481	2,060,530	2,542,571	2,765,448
kewajiban lancar	766,797	862,624	802,673	590,326	526,146
	449,871	476,857	1,257,856	1,952,245	2,239,303

Source: Annual Report PT Pelni processed by authors

In the table it can be seen that the highest invested capital value was generated in 2017. This is due to an increase in net operating assets in the year, also an increase in net plant, property and equipment compared to the previous year. The increase in invested capital in 2017 reached 5.10% compared to the previous year. In 2014 there was a decrease in invested capital value compared to 2013, although the decline was not significant enough at 2.52%. Throughout 2014 to 2017 it can be seen that there is an upward trend for investment capital in PT Pelni.

In calculating the cost of debt, the calculation is to use the company's long-term and short-term debt components. This calculation uses a tax rate of 25%, in accordance with the corporate PPH charged on company income. The table below shows the calculation of PT PELNI's cost of debt.

TABLE 3- *Cost of Debt* PT PELNI

	2013	2014	2015	2016	2017
Short term debt	766,797	862,624	802,673	590,326	526,146
Long term debt	488,512	366,612	402,568	155,439	202,271
Total Debt	1,255,308	1,229,236	1,205,242	745,765	728,416
Income tax rate	25%	25%	25%	25%	25%
Interest expense	21,028	24,866	27,310	25,338	7,059
Cost of debt	1.68%	2.02%	2.27%	3.40%	0.97%
After tax cost of debt	1.26%	1.52%	1.70%	2.55%	0.73%

Source: Annual Report PT Pelni processed by authors

From the table above it can be seen that the highest total debt was in 2013, which was Rp. 1,255,308 million and the smallest was in 2017 with a value of Rp. 728,416 million. The biggest long-term debt was in 2013, amounting to Rp 488,512 million to finance the procurement of passenger ships and procurement of spare parts for passenger ships with loans to KFW (Kreditanstalt fur Wiederaufbau).

The cost of debt obtained from the distribution of interest expense with total debt in the same period will then be reduced by the applicable tax rate. While the highest cost of debt is 3.40% and the smallest is 0.97% in 2016 and 2017. The value of PT Pelni's cost of debt has a small percentage because the company experienced a downward trend in its total debt. In addition, the value of its expensing interest also tends to decrease so as to produce a small value of the cost of debt. This indicates that PT Pelni made a lot of interest payments which caused a reduction in the amount of interest.

In calculating the cost of equity, the CAPM (Capital Asset Pricing Model) formula is used with the formula:

$$CAPM = Rf + (Rm-Rf) * \beta$$

Where:
Risk free rate: is the average in each period of the SBI interest rate within one month
Risk premium: a country risk premium in Indonesia taken from the damodaran website.
Beta: is a market risk, calculated using the beta formula.

TABLE 4- Beta Value PT PELNI

	2013	2014	2015	2016	2017
Beta	0.50524	0.43316	0.73709	0.38338	0.48546

Source: Pefindo processed by authors

The beta value is calculated by the beta formula using the beta value of the listed shipping industry in Indonesia. The company's beta value refers to the beta results from Pefindo's data. The results of the beta calculation for 2013-2017 are worth 0.505236, 0.433155, 0.737088, 0.383381, and 0.48546.

TABLE 5- *Cost of Equity* PT PELNI

	2013	2014	2015	2016	2017
Risk free rate (dari website BI)	0.065	0.075	0.075	0.068	0.046
Risk Premium (dari website damodaran)	0.075	0.083	0.095	0.097	0.088
Market Risk	0.505236	0.433155	0.737088	0.383381	0.48546
Cost of Equity (Rf+(Rm-Rf)*beta))	7.00%	7.87%	8.99%	7.91%	6.63%

Source: BI Rate, Damodaran Risk Premium, processed by authors

The risk free rate value for 2013 - 2017 comes from the BI website, namely the SBI rate which is averaged over 1 year with the resulting value of 6.5%, 7.5%, 7.54%, 5.8% and 4.6%. The cost of equity has increased from 2013 to 2015. While in 2016 the cost of equity was smaller than the previous year. The highest value for cost of equity is in 2015, which is 8.99% and the lowest is in 2017. WACC is a weighted average cost based on the proportion of financing instruments from a company. The existence of different risks for creditors and investors will affect the value of weighting. WACC is generated from the proportion of debt and equity to total capital after adjustments have been made in the calculation of table 4.7. These results will then be multiplied by the cost of debt and the cost of equity. So, the capital cost of PT PELNI is calculated by adding up the cost of capital component multiplied by the proportion of its weighting.

TABLE 6-WACC

	2013	2014	2015	2016	2017
Cost of equity	7.00%	7.87%	8.99%	7.91%	6.63%
(*) Proportion of Equity	69.49%	70.26%	74.49%	86.47%	87.25%
(+) Cost of Debt after tax	1.26%	1.52%	1.70%	2.55%	0.73%
(*) Proportion of Debt	30.51%	29.74%	25.51%	13.53%	12.75%
WACC	5.248%	5.980%	7.128%	7.184%	5.88%

Source: Annual Report PT Pelni processed by authors

Table 6 indicates that PT PELNI uses more capital from equity than using debt. This is reflected in the results of the proportion of capital that is greater than the proportion of the debt. The resulting WACC experienced a percentage increase from 2013 to 2016. However, in 2017 WACC experienced a decrease in percentage due to a decrease in the proportion of debt to be less than in previous years. It can be illustrated that PT PELNI uses greater capital by calculating an average of 77% compared to using a proportionate debt of 23%. After obtaining the results of the EVA components above, the EVA value can be obtained. The table below shows PT Pelni's EVA calculation results from 2013-2017.

TABLE 7-EVA VALUE PT PELNI

	2013	2014	2015	2016	2017
NOPAT	-588,354	67,779	125,187	256,673	276,881
INVESTED CAPITAL	4,536,480	4,425,228	5,031,122	5,554,714	5,838,272
WACC	5.248%	5.980%	7.128%	7.184%	5.88%
ADJUSTED EVA	-826,430	-196,843	-233,429	-142,383	-66,151

Source: Annual Report PT Pelni processed by authors

In 2013 PT Pelni's EVA value was negative. This value is also the biggest negative value resulting from the calculation of EVA. This is because the company suffered a significant loss of Rp. 634,297 million. The losses suffered due to an increase in other expenses compared to the previous year. Other expenses are in the form of non-business expenses, which are foreign exchange loss and spin off tax expense. As a result of this loss, the value of EVA produced is of negative value, which is quite large, namely Rp. 826,430 million. For 2014 and 2015, the value of EVA produced was also negative, valued at Rp. 196,843 million and Rp. 233,429 million. This condition is caused by the fact that even though the company experienced a profit in the second year, which was valued at Rp. 11,429 million and Rp. 59,511 million, the calculation of invested capital resulted in a value higher than the NOPAT value

In 2016 the company experienced the highest increase in profit, namely Rp. 183,312 million. Therefore, the negative value generated from EVA calculations is lower than in previous years, which is worth Rp 113,062 million. Adjusted NOPAT calculations for 2016 also produce a high positive value, which is valued at Rp. 256,672 million. Furthermore, in 2017, EVA produced by PT PELNI is still negative, which is valued at Rp. 66,150 million. This is because even though the net income in the year indicated a profit that was Rp. 183,312 million and resulted in the highest adjusted NOPAT value of Rp. 287,610 million but the invested value of the capital was greater, which was Rp. 5,838,272 million. Thus the value of EVA produced becomes negative. From the calculations and figures above it can be seen that the value of EVA produces a negative value from year to year. Although it can be seen that the negative value is getting smaller and the smallest value is in 2017. EVA results that are negative indicate that the added value for the company has not been successfully created by management performance. EVA calculation results before running the government program in 2013 to 2014 were

negative Rp 826,429 million and Rp 196,843 million. Meanwhile, the results of EVA calculations after implementing the government program in 2015 to 2017 have a smaller negative value which is worth Rp. 233,429 million, Rp. 113,062 million, and Rp. 66,150 million. EVA value in the shipping industry sector in most companies indicates a negative value. Following are the results of EVA values generated by shipping companies listed in Indonesia.

CONCLUSION

There are several conclusion based on the result. The results of the company's EVA calculation from 2012 to 2016 resulted in a negative value. This indicates that the performance of management has not been able to create added value for the company. EVA calculation value before doing government program that is in year 2013-2014 indicate negative value that is equal to Rp 826.429,- millions and Rp 196.843,- millions. The value is negative because the company suffered losses in the year of 2013. In 2014 despite already recorded profit, but profit can not produce positive value for EVA. The value of EVA calculation after the government program that is in 2015-2017 indicates a negative value of Rp 233,429,- millions and Rp 113,062,- millions for the year 2015-2016, and in the last year of 2017 recorded the smallest negative value worth Rp 66,150,- millions. Although the company's EVA calculation results are negative, but the value moves smaller. That way, it can be concluded that the government programs that run give a good contribution to the performance of the company.

The EVA value of shipping companies listed in Indonesia also shows negative values dominance. This indicates that the shipping sector in Indonesia is still largely unable to create added value for the company. The EVA value of the shipping industry in the Emerging Market also showmany negative results for the period of 2013 up to 2017. It can be concluded that the EVA value of the industrial sector in Indonesia is almost equal to the average EVA value in emerging market which also recorded the negative value.

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