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## MARKETING | RESEARCH ARTICLE

## Examining Linkage of Product Selling Prices on Profitability

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**Abstract:** This study aims to determine the effect of product selling price on profitability at PT. Semen Bosowa in Maros District regency which is descriptive and comparative with the entire population of data in the form of income statements and production data at PT. Semen Bosowa in Maros District Regency. Sampling was carried out by means of positive sampling in order to obtain a sample of the income statement and production data for the years 2015-2019. Data were analyzed using simple linear regression analysis, correlation coefficient and t test. The result of regression analysis shows that  $\hat{Y} = 0.204 - 0.020X$ . This equation means that the constant value of 0.204 is the amount of profitability achieved regardless of the level of the selling price. The regression coefficient value is -0.020 which means that if the selling price increases by 1 percent, it will cause a decrease in the value of profitability at PT. Semen Bosowa in Maros district regency of 0.020. This explains the direction of the negative coefficient between selling price and profitability, namely when the selling price increases it will cause a decrease in profitability. This means that the selling price has an effect but not significantly on profitability.

**Keywords:** Selling Prices, Profitability, R&D Cost, Statistical Analytic.**JEL Classification Code:** M0, C15, O32

### 1. INTRODUCTION

The company is a modern organization that has certain activities to achieve predetermined goals. Economic competition continues to increase regardless of whether business participants are ready or not to face all possible risks (Jin et al., 2016; Pan et al., 2020). One of the things that really needs to be known in the development of the business world is the company's financial position and the results the company has achieved. Financial reports are important because they are objective and measure and present the economic consequences of a business activity (Shim & Kim, 2015). The measure used is the profitability ratio (Albulescu et al., 2018; Ozcelik, 2020; Yagi & Kokubu, 2018). The determination of the selling price generated by the producers has several objectives, as stated by (Albanesi et al., 2015), namely: obtaining maximum profit, obtaining a certain market share, flushing the market (Market skimming), achieving the maximum sales revenue rate at that time. , achieve targeted profits, and promote products. Cement products are a product that is very much needed in infrastructure development. Therefore, good quality cement is needed. This allows producers to produce cement in accordance with the wants and needs of consumers so that consumers are satisfied. Semen Bosowa Maros is a cement company that controls production in the eastern part of Indonesia apart from, PT. Tonasa. Bosowa comes from 3 words, namely BO means bone, SO means Soppeng, and WA means Wajo. The only national private corporation that produces cement in KTI. The rest, the cement industry is enlivened by foreign investors and State-Owned Enterprises (BUMN). PT Semen Bosowa Maros produces cement of 2.5 million tons per year. Cement products are a product that is very much needed in infrastructure development. Therefore, good quality cement is needed (Pryce et al., 2021). This allows producers to produce cement in accordance with the wants and needs of consumers so that consumers are satisfied. Semen Bosowa Maros is a cement company that controls production in the eastern part of Indonesia apart from, PT. Tonasa. Bosowa comes from 3 words, namely BO means



bone, SO means Soppeng, and WA means Wajo. The only national private corporation that produces cement in KTI. The rest, the cement industry is enlivened by foreign investors and State-Owned Enterprises (BUMN). PT Semen Bosowa Maros produces cement of 2.5 million tons per year. This research is to determine the effect of product selling price on profitability at PT. Semen Bosowa in Maros Regency. The following is the selling price data in relation to sales and profitability of PT. Semen Bosowa Maros which is listed in table 1 as follows:

**Table 1: Selling price and profitability at PT Semen Bosowa 2017-2019 (presented in thousands of rupiah)**

| Year | Selling Price (Rp/Ton) | Sales (Rp)    | Net Income (Rp) | Profitability |
|------|------------------------|---------------|-----------------|---------------|
| 2017 | 752.777                | 1.275.898.945 | 131.428.939     | 10,30 %       |
| 2018 | 780.500                | 1.520.005.828 | 189.379.965     | 12,46 %       |
| 2019 | 805.500                | 1.731.648.247 | 211.704.695     | 12,22 %       |

Source: PT. Semen Bosowa (Persero)

From the data in table 1, we can see that there is instability in the company's profitability within 3 years. Where from 2017 to 2018 an increase of 2.16%. Meanwhile, in 2019 there was a decrease of 0.24%. This unstable change is certainly not expected by the company because of very high profitability important for the development of the company. As we all know that one of the efforts to increase profitability is to increase sales which in turn has an impact on increasing net income. The high and low levels of cement sales are largely influenced by the selling price of cement as the company's main product. However, if we look at the data in table 1, when the selling price increases, it will have an impact on increasing sales and net income, but on the contrary this does not happen with profitability. This can be seen in 2019, profitability has decreased even though sales and profits have increased.

## 2. Literature Review

### 2.1. Selling Price

Price is also one of the most flexible elements of the marketing mix because it can be changed quickly in determining market share and operating profit. According to Supriyono (2001: 314) "The selling price is the monetary amount charged by a business unit to buyers or customers for goods or services sold or delivered". Furthermore, (Guan et al., 2020) argues that the selling price is the price that maximizes the difference between income and total costs. The definition above shows that the higher the costs involved in operating the product, the greater the selling price that must be determined by taking into account the amount of profit earned. Economic experts provide limits regarding the determinants of selling prices, as stated by (Behera et al., 2020; Järvinen & Taiminen, 2016) that there are three factors that affect the selling price, namely: Profits and other objectives, factors other than markets and costs. The market situation includes consumers, nature of costs and operations. Production and operation costs, namely the costs incurred to make goods (products) at the cost of these products reaching consumers (Irfan et al., 2020; Silva Gutiérrez et al., 2021).

According to Eniola & Entebang, (2015); Johannessen & Skålsvik, (2013); Rütelioné et al. (2022) the factors that influence the selling price policy are: The desired profit is the amount of profit, the price fixing must consider the adequacy of the return on capital and the need for profit for expansion of the sales proceeds, as well as the desired sales trend. Product factors include the realistic planned sales volume, price discrimination, the availability of idle capacity, the policy to charge the desired price level, the price relation to the product life cycle (Adams et al., 2021; Cox & Mutel, 2018). The cost factor is the level of full and variable costs, the effectiveness of capital use, the sharing of costs for each type of product. Factors from outside the company that must be considered are the elasticity of demand, target market, level of competition and product heterogeneity. For certain products, non-economic factors such as relevant legislation also need to be considered as external factors in pricing. Kotler, (2012) states that there are four main approaches in determining the selling price, namely: Determination of the selling price in normal circumstances (Cost Plus Pricing); Under normal circumstances, the manager

determining the selling price requires full future cost information as the basis for determining the selling price of a product or service, calculated by the following formula:

$$\text{Selling price} = \text{estimated full cost} + \text{expected profit}$$

Determination of the selling price in a Cost-Type Contract (Cost-Type Contract Pricing). A cost-type contract is a contract for the manufacture of a product or service in which the buyer agrees to buy a product or service at a price based on the total costs that are actually incurred by the producer plus the profit which is calculated as a certain percentage of the total actual cost. Calculated based on the full cost that has been incurred to manufacture and market the product. Determination of the special order selling price (Special Order Pricing). Special orders are orders received by a company outside of the company's regular orders and usually cover a large quantity. The cost differential that is used as the basis for determining the selling price of special orders can also consist of variable costs and fixed costs, when a special order is estimated to cause changes in the volume of activities to exceed the range of changes which becomes an increase in fixed costs. Determination of the selling price of the products or services produced by the company which is regulated by government regulations. Determination of the selling price or service produced by a company which is regulated by government regulations (Presidential Decree No. 21 of 1965 concerning: Calculation of costs and the determination of the selling price of goods and services controlled by the government) is determined based on the full future cost plus the expected profit.

## 2.2. Profitability

Holm & Ax, (2020) states that: The profitability of a company can be measured by connecting the profits or profits obtained from the company's main activities with the assets used to generate these profits. Furthermore, (Maqbool & Zameer, 2018) argues that profitability is the end result of various management policies and decisions. Meanwhile, Francoeur et al. (2021) states that profitability is the ability of a company to generate profits. Based on the above definition, it can be concluded that profitability is the ability of a company to generate profits as a result of various policies taken by the company's management in carrying out its company activities. The effectiveness and efficiency of a company can be seen by comparing the profits earned with the sales made by the company to generate profits.

**Table 2: The categories of profitability measures based on the minister of finance for BUMN are as follows:**

| Interval | Category     |
|----------|--------------|
| >12%     | Very Healthy |
| 8% - 12% | Healthy      |
| 5% - 8%  | Less         |
| <5%      | Not Healthy  |

Source: Minister of Finance Decree for BUMN

The factors that affect the level of profitability according to Riyanto (2001: 37): Profit margin is the ratio between net operating income and net sales expressed as a percentage. Operating assets turnover (turnover of business assets), namely the speed at which operating assets rotate in a certain period. According to (Notta & Vlachvei, 2014) the profitability ratios commonly used are net profit margin, return on total assets, return on equity. For more details, these ratios can be described as follows:

1. Net Profit Margin. Net profit margin is a profit ratio that calculates the extent to which the company's ability to generate net profit at a certain sales level. This ratio can also be interpreted as the company's ability to reduce costs (efficiency measures) in the company in a certain period. High profit margin shows the company's ability to generate high profits at a certain sales level. A low profit margin indicates sales that are too low for a certain level of costs or costs that are too high for a certain level of sales or a combination of these. Net profit margin can be formulated as follows:

$$\text{Net profit margin} = \frac{\text{Net profit}}{\text{Sales}} \times 100\%$$

- Return On Total Assets (ROA). According to Olarewaju & Msomi, (2021) that Return On Total Assets is a profitability ratio to measure the company's ability with the overall funds invested in assets used for company operations to generate profits. So it can be concluded that Return On Assets is a comparison between operating profit and the total capital used to generate this profit. ROA can be calculated by the following formula:

$$\text{ROA} = \frac{\text{Net income}}{\text{Total assets}} \times 100\%$$

- Return On Equity (ROE). According to Brad et al. (2015), ROE is a return on yield or equity whose amount is expressed as a parameter and obtained on investment in the company's ordinary shares for a certain period of time. Return on Equity can be formulated as follows:

$$\text{Return on Equity: } \frac{\text{Net income}}{\text{Total assets}} \times 100\%$$

Profitability ratio is the ratio used to measure the effectiveness of the company's management as a whole, which is addressed by the amount of profit the company gets and is expressed in percentage terms or in other words it shows how the company's capabilities are with all its resources and capabilities such as sales activities, cash, capital, number of employees, etc. to generate profit / profit during a certain period. In his research at PT. Sermani Steel, Kamelia concluded that the selling price has a significant effect on the company's operating profit as indicated by the results of regression analysis, correlation and t test. The values obtained indicate a very strong relationship between selling prices and operating profits. According to Xing et al. (2020) profitability is a measure of the company's ability to generate profits, both in relation to sales, certain assets and share capital. According to Albulescu et al. (2018); Francoeur et al. (2021), there are four factors that affect profitability, namely: cost, selling price, sales volume and production. The cost determines the selling price to achieve the desired profit level, the selling price affects the sales volume, the sales volume directly affects the production volume, and the production volume affects the cost. These three factors can affect profitability at any time. According to Newton et al. (2015), one way to increase profitability is to increase margin profits. The size of the profit margin on each sales transaction is determined by two factors, namely net sales and operating income. Where the size of the operating profit depends on the income from sales and the amount of business costs. With a certain amount of business costs, the profit margin can be enlarged by increasing sales, or with a certain number of sales, the profit margin can be enlarged by reducing the cost of the business. Changes in the size of sales are caused by changes in selling prices and sales volume. For this reason, the determination of the selling price is very important and has an indirect effect on the level of profitability. This means that if sales increase and costs decrease, the profit margin will increase. That the selling price has a significant effect on the company's profitability at PT. Semen Bosowa in Maros Regency .

### 3. Research Method and Materials

#### 3.1. Materials

The population of this study is the entire production data and financial statements of income at PT.Seman Bosowa (Persero). The sample in this study is cement production data and financial statements of income at PT. Semen Bosowa for the last 3 years, starting from 2017-2020.



### 3.2. Measurement

The operational definition in question is: The selling price is the amount of rupiah charged by PT. Semen Bosowa to consumers for cement that is sold per ton. Profitability is the ability of PT. Semen Bosowa generates profit from cement sales per ton. Selling price is measured by adding up the full estimated costs and expected profit. Furthermore, for analysis purposes, the development of the selling price is calculated each year. The unit of measure is the percentage, the formula used is (Suharyadi, 2015: 167):

$$H_{t\%} = \frac{H_t - H_0}{H_0} \times 100\%$$

Description:

Ht% : Percentage of selling price in year t (analyzed).

Ht : The analyzed selling price for the current year

H0 : Base year selling price

1. To calculate Profitability (Net Profit Margin), namely by comparing net income to sales. Furthermore, for analysis purposes, the development of profitability is also determined each year. The unit of measure is a percentage (%). According to Ramsbottom et al. (2015), variable measurement is carried out by the formula:

$$\text{Net profit margin} = \frac{\text{net profit}}{\text{sales}} \times 100\%$$

Shaverdi et al. (2014) states that: For the purposes of testing hypotheses or calculating the probability of normal distribution, we need a standard normal distribution. Therefore, we often have to change or transform the original value of each random variable. Data analysis technique is an analytical tool used to answer the problems and hypotheses proposed. The data analysis techniques used in this study are: The regression equation referred to according to Ghozali, (2013) is as follows:

$$\hat{Y} = a + bX$$

Description:

Y = dependent variable (profitability)

X = independent variable (selling price)

a = Constant

b = regression coefficient, which shows the rate of increase or decrease in the profitability variable based on the selling price variable.

$$b = \frac{(\sum Y_i)(\sum X_i^2) - (\sum X_i)(\sum X_i Y_i)}{n \sum X_i^2 - (\sum X_i)^2}$$

$$a = \frac{n \sum X_i Y_i - (\sum X_i)(\sum Y_i)}{n \sum X_i - (\sum X_i)^2}$$

The a and b values were obtained through simple linear regression analysis using the SPSS (Statistic Products and Service Solution) version 19 for windows program. How to get the correlational value of the X and Y variables is used Product Moment Correlation, according to Ghozali, (2013) as follows:

$$r_{xy} = \frac{n \sum X_i Y_i - (\sum X_i)(\sum Y_i)}{\sqrt{\{n \sum X_i^2 - (\sum X_i)^2\} \{n \sum Y_i^2 - (\sum Y_i)^2\}}}$$

Description:

r = Correlation Coefficient

n = Number of Samples

X = Independent Variable (Selling Price)

Y = Bound Variable (Profitability)

To see the results of the correlation value obtained, whether strong or weak, through the following table 3:

**Table 3: Guidelines for providing interpretation of correlation coefficients**

| No. | r-value interval | Interpretation |
|-----|------------------|----------------|
| 1   | 0.00 - 0.19      | Very low       |
| 2   | 0.20 - 0.399     | Low            |
| 4   | 0.40 - 0.599     | Moderate       |
| 5   | 0.60 - 0.799     | Strong         |

How to find out the meaning and answer the hypothesis proposed in this study, then the t-test is carried out with the formula proposed by Ghozali, (2013) as follows:

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}$$

Description:

t = calculated t-value, hereinafter referred to as t-calculated

n = Number of samples

r = correlation coefficient

According to Ghozali, (2013) Hypothesis testing criteria:

- (a) If the t-calculated is smaller than the t-estimated at the 5% significant level, then Ho is accepted and Ha is rejected. This means that there is no significant influence between the selling price on profitability.
- (b) If the t-calculated is greater than the t-estimated at a significant level of 5%, then Ho is rejected and Ha is accepted. This means that there is a significant influence between the selling price on profitability.

## 4. Results and Discussion

### 4.1. Selling Price Analysis

PT Semen Bosowa in Maros Regency in producing cement considers various elements in determining the selling price. The elements of the selling price in question is to use the full costing approach which details the costs incurred, which consists of production costs and non-production costs.

**Table 4: Elements of selling prices at PT Semen Bosowa 2015–2019 (presented in thousands of rupiah)**

| Measurement        | Year (Rp)     |               |               |               |               |
|--------------------|---------------|---------------|---------------|---------------|---------------|
|                    | 2019          | 2018          | 2017          | 2016          | 2015          |
| Raw Material Cost  | 87.299.699    | 109.776.867   | 91.288.899    | 109.110.861   | 112.734.886   |
| Direct labor costs | 172.257.698   | 189.161.655   | 190.174.596   | 195.233.014   | 235.391.775   |
| Overhead Cost      | 1.300.191.434 | 1.433.668.817 | 1.447.778.913 | 1.649.228.996 | 1.915.814.400 |

| Measurement                       | Year (Rp)     |               |               |               |               |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------|
|                                   | 2019          | 2018          | 2017          | 2016          | 2015          |
| Total Production Cost             | 1.559.748.831 | 1.732.607.339 | 1.729.242.408 | 1.953.602.871 | 2.263.941.061 |
| Selling & Distribution            | 79.409.557    | 123.082.732   | 113.596.189   | 148.021.099   | 232.496.555   |
| Administration & General Expenses | 159.634.379   | 194.261.538   | 185.143.548   | 192.871.925   | 239.650.820   |
| Total Non-Production Cost         | 239.043.936   | 317.344.270   | 298.739.737   | 340.893.024   | 472.147.375   |
| Full Cost                         | 1.798.792.767 | 2.049.951.609 | 2.027.982.145 | 2.294.495.895 | 2.736.088.436 |

It can be seen in table 4, the full total cost data has increased over the last five years except in 2017 which only amounted to Rp2,027,982,145. This can be seen from the total production costs incurred by the company in 2018 amounting to Rp1,732,607,339 down to Rp1,729,242,408 in 2017 due to lower raw material costs incurred by the company. Total non-production costs also decreased, from Rp. 317,344,270 in 2018 to Rp. 298,739,737 due to lower sales and distribution expenses as well as general and administrative expenses. This shows that in 2017 the company is capable streamline costs by pressing costs both on production costs and on non-production costs. At PT. Semen Bosowa selling price is the amount of rupiah charged to consumers for cement sold per tonne which is calculated by adding up the total cost and the expected profit. For more details, see table 5.

**Table 5: Product Selling Prices at PT Semen Bosowa in the Last Five Years 2015-2019 (presented in thousands of rupiah)**

| Information                   | Usage Fee     |               |               |               |               |
|-------------------------------|---------------|---------------|---------------|---------------|---------------|
|                               | 2019          | 2018          | 2017          | 2016          | 2015          |
| Production costs              | 1.559.748.831 | 1.732.607.339 | 1.729.242.408 | 1.953.572.871 | 2.263.941.061 |
| Non-production costs          | 239.043.936   | 317.344.270   | 298.739.737   | 340.893.024   | 472.147.375   |
| Total expenses (1+2)          | 1.798.792.767 | 2.049.951.609 | 2.027.982.145 | 2.294.465.895 | 2.736.088.436 |
| Percentage of expected profit | 57%           | 48%           | 58%           | 55%           | 47%           |
| Selling price per ton         | 817.100       | 860.100       | 878.300       | 919.200       | 954.100       |

Data from table 5 can be seen that data regarding production costs and non-production costs is taken from table 3 data. Then to get the total cost, namely the cost of product plus non-production costs, while the expected profit percentage is obtained from the company. Furthermore, to get the selling price, the expected profit percentage is multiplied by the total cost (the sum of the cost of the product with non-production costs) then the result is added back to the total cost.

**Table 6: Development of cement production and sales volume PT Semen Bosowa in Maros Regency 2015-2019**

| Year | Production Volume (Tons) | Sales (Rp)        |
|------|--------------------------|-------------------|
| 2019 | 3.456.130                | 2.204.847.236.000 |
| 2018 | 3.527.246                | 2.814.117.779.000 |
| 2017 | 3.648.159                | 2.723.863.787.000 |
| 2016 | 3.868.704                | 3.039.863.341.000 |
| 2015 | 4.215.157                | 3.753.269.550.000 |

From table 6 it can be seen that from 2019-2015 the production volume has always increased, but this is not the case in the sales data. It can be seen that the sales data in 2017 decreased by IDR 90,253,992,000 this was due to the decline in people's purchasing power of cement and increased market competition in that year. However, in 2016 and 2015 sales again increased, this shows that the purchasing power of consumers towards Bosowa cement is getting higher.

**Table 7: Development of Cement Selling Prices at PT Semen Bosowa in Maros Regency, 2015-2019**

| Year | Selling Price (Rp/Ton) | Increase / Decrease | Sales Price Development (%) |
|------|------------------------|---------------------|-----------------------------|
| 2019 | 805.500                |                     | -                           |
| 2019 | 817.100                | 11.600              | 1,44                        |
| 2018 | 860.100                | 43.000              | 5,26                        |
| 2017 | 878.300                | 18.200              | 2,11                        |
| 2016 | 919.200                | 40.900              | 4,65                        |
| 2015 | 954.100                | 34.900              | 3,79                        |

Based on the data in table 6 regarding the development of product selling prices at PT Semen Bosowa in Maros Regency in 2019-2015, it can be seen that the selling price has increased every year and the highest increase in 2015 was IDR 954,100, this was due to the total costs incurred greater than previous years, so the selling price determination must be able to cover all estimated costs incurred by the company during the production process.

1. Profitability of PT. Semen Bosowa in Maros Regency in 2019

**Table 8: Summary of Calculation of Net Income of PT. Semen Bosowa in 2019**

| Description                     | Amount (Rp)         |
|---------------------------------|---------------------|
| Net sales (revenue)             | 2.204.847.236.000   |
| Cost of goods sold              | (1.549.265.071.000) |
| Gross profit                    | 655.582.165.000     |
| Operating expenses              | (239.043.936.000)   |
| Operating profit                | 416.538.229.000     |
| Other income / expenses are net | 5.875.388.000       |
| Profit before income tax        | 422.413.617.000     |
| Income tax expense              | (127.972.122.000)   |
| Net income                      | 294.441.495.000     |

Source: Attachments to the Financial Statements of Profit and Loss PT. Semen Bosowa 31 dec 2019

In 2019 the net profit obtained by PT. Semen Bosowa, amounting to Rp. 294,441,495,000. Where the profit consists of gross profit, operating profit, and profit before income tax. While the total sales of PT. Semen Bosowa, amounting to Rp. 2,204,847,236,000. Then it can be calculated the profitability (NPM) of the company in 2019, with the following formula:

$$\text{Net Profit Margin} = (\text{net profit}) / \text{Sales} \times 100\%$$

$$= 294,441,495,000 / 2,204,847,236,000 \times 100\%$$

$$= 13.35\%$$

2. Profitability of PT. Semen Bosowa in Maros Regency in 2018

$$\text{Net Profit Margin} = (\text{net profit}) / \text{Sales} \times 100\%$$

$$= 429,722,632,000 / 2,814,117,779,000 \times 100\%$$

$$= 15.27\%$$

**Table 9: Summary of Calculation of Net Profit of PT. Semen Bosowa in 2018**

| Description                     | Amount (Rp)         |
|---------------------------------|---------------------|
| Net sales (revenue)             | 2.814.117.779.000   |
| Cost of goods sold              | (1.917.934.665.000) |
| Gross profit                    | 896.183.114.000     |
| Operating expenses              | (317.344.270.000)   |
| Operating profit                | 578.838.844.000     |
| Other income / expenses are net | 24.979.333.000      |
| Profit before income tax        | 603.818.177.000     |
| Income tax expense              | (174.095.545.000)   |
| Net income                      | 429.722.632.000     |

Source: Attachments to the Financial Statement of Profit and Loss PT. Semen Bosowa 31 dec 2018

In 2018 the net profit obtained by PT. Semen Bosowa, amounting to IDR 429,722,632,000. Where the profit consists of gross profit, operating profit, and profit before income tax. While the total sales of PT. Semen Bosowa, amounting to IDR 2,814,117,779,000. Then it can be calculated the profitability (NPM) of the company in 2018, with the following formula:

### 3. Profitability of PT. Semen Bosowa in Maros Regency in 2017

**Table 10: Summary of Calculation of Net Income of PT. Semen Bosowa in 2017**

| Description                     | Amount (Rp)         |
|---------------------------------|---------------------|
| Net sales (revenue)             | 2.723.863.787.000   |
| Cost of goods sold              | (1.682.722.369.000) |
| Gross profit                    | 1.041.141.418.000   |
| Operating expenses              | (289.739.737.000)   |
| Operating profit                | 742.401.681.000     |
| Other income / expenses are net | (4.135.472.000)     |
| Profit before income tax        | 738.266.209.000     |
| Income tax expense              | (194.679.087.000)   |
| Net income                      | 543.587.122.000     |

Source: Attachments to the Financial Statement of Profit and Loss PT. Semen Bosowa 31 December 2017

In 2017, the net profit obtained by PT. Semen Bosowa, amounting to Rp. 543,587,122,000. Where the profit consists of gross profit, operating profit, and profit before income tax. While the total sales of PT. Semen Bosowa, amounting to Rp. 2,723,863,787,000. Then it can be calculated the profitability (NPM) of the company in 2017, with the following formula:

$$\text{Net Profit Margin} = (\text{net profit}) / \text{Sales} \times 100\%$$

$$= 543,587,122,000 / 2,723,863,787,000 \times 100\%$$

$$= 19.96\%$$

### 4. Profitability of PT. Semen Bosowa in Maros Regency, 2016

In 2016 the net profit obtained by PT. Semen Bosowa, amounting to Rp. 544,293,789,000. Where the profit consists of gross profit, operating profit, and profit before income tax. While the total sales of PT. Semen Bosowa, amounting to Rp. 3,039,863,341,000. Then it can be calculated profitability (NPM) of the company in 2016, with the following formula:

$$\text{Net Profit Margin} = (\text{net profit}) / \text{Sales} \times 100\%$$

$$= 544,293,789,000 / 3,039,863,341,000 \times 100\%$$

$$= 17.90\%$$

**Table 11: Summary of Calculation of Net Income of PT. Semen Bosowa in 2016**

| Description                     | Amount (Rp)         |
|---------------------------------|---------------------|
| Net sales (revenue)             | 3.039.863.341.000   |
| Cost of goods sold              | (1.964.028.725.000) |
| Gross profit                    | 1.075.834.616.000   |
| Operating expenses              | (338.978.955.000)   |
| Operating profit                | 736.855.661.000     |
| Other income / expenses are net | 5.200.082.000       |
| Profit before income tax        | 742.055.743.000     |
| Income tax expense              | (197.761.954.000)   |
| Net income                      | 544.293.789.000     |

Source: Attachments to the Financial Statement of Profit and Loss PT. Semen Bosowa 31 December 2016

##### 5. Profitability of PT. Semen Bosowa in Maros Regency in 2015

**Table 12: Summary of Calculation of Net Income of PT. Semen Bosowa in 2015**

| Description                     | Amount (Rp)         |
|---------------------------------|---------------------|
| Net sales (revenue)             | 3.753.269.550.000   |
| Cost of goods sold              | (2.336.834.200.000) |
| Gross profit                    | 1.416.435.351.000   |
| Operating expenses              | (469.607.865.000)   |
| Operating profit                | 946.827.485.000     |
| Other income / expenses are net | (66.096.934.000)    |
| Profit before income tax        | 880.730.551.000     |
| Income tax expense              | (238.575.735.000)   |
| Net income                      | 642.154.816.000     |

Source: Attachments to the Financial Statement of Profit and Loss PT. Semen Bosowa 31 December 2015

In 2015, the net profit obtained by PT. Semen Bosowa, amounting to Rp. 642,154,816,000. Where the profit consists of gross profit, operating profit, and profit before income tax. While the total sales of PT. Semen Bosowa, amounting to Rp. 3,753,269,550,000. Then it can be calculated profitability (NPM) of the company in 2015, with the following formula:

$$\text{Net Profit Margin} = (\text{net profit}) / \text{Sales} \times 100\%$$

$$= 642,154,816,000 / 3,753,269,550,000 \times 100\%$$

$$= 17.11\%$$

To see the profitability comparison of PT. Semen Bosowa for 2019-2015 can be seen in table 13. Based on table 13, it can be seen that in 2019 the profitability achieved by the company was 13.35%. In 2018 profitability increased by 1.92% from 13.35% to 15.27% which was accompanied by an increase in profits and sales, this was because the company was able to streamline costs to a minimum so that there was a balance between profit and sales. In 2017 profitability increased from 15.27% to 19.96%, which means that profitability increased by 4.69% and is the biggest increase over the last five years, this is because the business costs incurred by the company are less than the previous year so that profits are fixed. increased even though sales decreased. In 2016, the company's profitability decreased by 2.06% and in 2015 it decreased by 0.79%, this was due to the increase in business costs incurred by the company so that there was an imbalance between profit and sales. Where it is seen that in years 2016 and 2015 sales increased quite high, but the resulting profit only experienced a modest increase. Based on the results of the average profitability in table 12, it can be seen that the average profitability value is

15.97%, which means that the profitability achieved by the company from 2019-2015 is in the very healthy category where the company is able to generate profitability of more than 12%.

**Table 13: Development of Profitability at PT. Semen Bosowa in Maros Regency during the period 2019-2015**

| Year | Net Profit (Rp) | Total Sales (Rp)     | Profitability (%) | Profitability Development (%) |
|------|-----------------|----------------------|-------------------|-------------------------------|
| 2020 | 211.704.695.000 | 1.731.648.247.000    | 12,22             | -                             |
| 2019 | 294.441.495.000 | 2.204.847.236.000    | 13,35             | 0,09                          |
| 2018 | 429.722.632.000 | 2.814.117.779.000    | 15,27             | 0,14                          |
| 2017 | 543.587.122.000 | 2.723.863.787.000    | 19,96             | 0,31                          |
| 2016 | 544.293.789.000 | 3.039.863.341.000    | 17,90             | (0,10)                        |
| 2015 | 642.154.816.000 | 3.753.269.550.000    | 17,11             | (0,04)                        |
|      | <b>Average</b>  | <b>Profitability</b> | <b>15,97</b>      | -                             |

Source: PT. Semen Bosowa (Persero), (data has been processed).

The following can be seen a comparison of the development of the selling price and the company's profitability at PT. Semen Bosowa in Maros Regency. In order to do an analysis of the effect of selling prices on the profitability of the company or the variables to be studied.

**Table 14: Development of Selling Prices and Development of Profitability of PT. Semen Bosowa in Maros Regency during the period 2019-2015**

| Year | Selling Price (%) | Profitability (%) |
|------|-------------------|-------------------|
| 2019 | 1,44              | 0,09              |
| 2018 | 5,26              | 0,14              |
| 2017 | 2,11              | 0,31              |
| 2016 | 4,65              | (0,10)            |
| 2015 | 3,79              | (0,04)            |

Source: PT. Semen Bosowa (Persero), (data has been processed)

Based on table 14, it can be seen that the selling price has increased from 2019-2015. This change in selling price is due to the fact that production and non-production costs continue to experience changes in prices so that the company must also set a stable selling price so as not to experience losses because the cost of providing information on the lower limit of the selling price should be set. In addition, the things that underlie the company to increase or decrease the selling price of its products are the existence of various internal and external factors that influence the determination of the selling price. In terms of internal factors other than cost, namely the company's marketing objectives and marketing mix strategy, while in terms of external factors, namely changes in consumer tastes, the number of competitors or companies producing similar goods entering the market and selling prices set by competitors. We can see that the profitability at PT Semen Bosowa based on table 13 has changed, namely that in 2019-2017 it has increased, then in 2016-2015 it has decreased. This is due to the inefficient use of business costs resulting in an imbalance between profits and sales achieved by the company.

#### 4.2. Regression Analysis

To test the hypothesis proposed that it is assumed that the selling price has a significant effect on profitability, a simple linear regression analysis is used. The results of processing simple linear regression analysis with the SPSS (Statistic Product and Service Solution) version 19 for windows program are presented in the following table 15. From table 15, the regression test above shows the results of simple regression analysis with SPSS 19, namely the values of  $a = 0.204$  and  $b = -0.020$  so that if they are entered into the equation it will be  $\hat{Y} = 0.204 - 0.020X$ . This equation means that the constant value of 0.204 is the amount of profitability achieved regardless of the level of the selling price. As for value The

regression coefficient is -0.020 which means that if the selling price increases by 1 percent, it will cause a decrease in the value of profitability at PT. Semen Bosowa is 0.020.

**Table 15: Regression Test**

| Coefficients <sup>a</sup> |               |                             |            |                           |       |      |
|---------------------------|---------------|-----------------------------|------------|---------------------------|-------|------|
| Model                     |               | Unstandardized Coefficients |            | Standardized Coefficients | T     | Sig. |
|                           |               | B                           | Std. Error | Beta                      |       |      |
| 1                         | (Constant)    | ,204                        | ,130       |                           | 1,561 | ,216 |
|                           | Selling Price | -,020                       | ,035       | -,309                     | -,563 | ,613 |

a. Dependent Variable: Profitability  
Source: Processed data

In general, the selling price can affect the sales volume and the profit generated so that it can be said that the selling price has an effect on profitability. In this study, it was found that there was a negative relationship between selling price and profitability, namely when the selling price increased it would cause a decrease in profitability. It can be seen in table 13 that in 2016 the selling price increased by 4.65% then profitability decreased by 0.10%. Likewise in 2015, the selling price increased by 3.79% then profitability decreased by 0.04%. This happened because profitability in 2017 experienced a big increase because total sales in that year decreased but there was an increase in profits. From the data obtained, the increase in profit occurs due to cost efficiency. Then in 2016 there was indeed an increase in sales and an increase in profit but it was not proportional to the increase in profit in 2017 so that profitability in that year decreased. This slight increase in profit occurred because of a large increase in costs. To determine the correlation between selling price (X) and profitability (Y) at PT. Semen Bosowa, can be seen in table 16.

**Table 16 Correlation Analysis**

| Model Summary |                   |          |                   |                            |
|---------------|-------------------|----------|-------------------|----------------------------|
| Model         | R                 | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1             | ,309 <sup>a</sup> | ,096     | -,206             | ,11374                     |

a. Predictors: (Constant), Selling Price  
Source: Processed data

**4.3. Discussion**

From the calculation of the correlation coefficient table 16, the value of  $r = 0.309$  is obtained, this means that the magnitude of the negative relationship between selling price and profitability is 0.309. This value indicates a low relationship value (based on the  $r$  value interpretation table) suggested by Sugiyono (2017: 184). While the coefficient of determination  $r^2 = 0.096$  or 9.6%, which means that the contribution of the selling price to profitability is 9.6% while the remaining 90.4% is determined by other factors not examined. Furthermore, research hypothesis testing will be carried out as previously stated. Hypothesis testing in this study will be carried out partially (t-test). In table 14, it appears that the value of  $t_{count}$  is -0.563 while the value at the significant level  $\alpha = 5\%$  where the degrees of freedom  $dk = (n-2 = 5-2)$  are obtained with the number 2.353. These results indicate that  $t_{count} < t_{table}$ , namely  $-0.563 < 2.353$  at the significant level = 5%, which means that  $H_0: p = 0$  is accepted, so the hypothesis proposed is "It is assumed that the selling price has a significant effect on profitability at PT Semen Bosowa in Maros District" was rejected. The results of this test prove that the selling price has an effect but not significantly on profitability. This means that the results of the research obtained have an effect but the effect is not yet convincing, so it only applies to the sample and cannot be applied in general to the population. It can be concluded that while, profitability is affected by the total costs incurred by the company.

## 5. Conclusion

Based on the results of research on the effect of product selling prices on profitability at PT Semen Bosowa in 2019-2015, it can be concluded that: Based on the results of regression analysis, it shows that  $\hat{Y} = 0.204 - 0.020X$ . This equation means that the constant value of 0.204 is the amount of profitability achieved regardless of the level of the selling price. The regression coefficient value is -0.020 which means that if selling price increases by 1 percent, it will cause a decrease in the value of profitability at PT. Semen Bosowa is 0.020. This explains the direction of the negative coefficient between selling price and profitability, namely when the selling price increases it will cause a decrease in profitability. From the results of the correlation analysis obtained the value of  $r = 0.309$ , this means that the magnitude of the negative relationship between selling price and profitability is 0.309. While the coefficient of determination  $r^2 = 0.096$  or 9.6%, which means that the contribution of the selling price to profitability is 9.6% while the remaining 90.4% is determined by other factors not examined. Based on the results of the t-test analysis shows that  $t \text{ count} < t \text{ table}$ , namely  $-0.563 < 2.353$  at the significant level  $\alpha = 5\%$ , which means that  $H_0: p = 0$  is accepted, so the hypothesis proposed is "It is assumed that the selling price has a significant effect on profitability at PT Semen Bosowa in Maros Regency" was rejected. This means that the selling price has an effect but not significantly on profitability. This means that the results of the research obtained have an influence but the effect is not yet convincing, so it only applies to the sample and cannot be applied in general to the population. It can be concluded that while, profitability is affected by the total costs incurred by the company.

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