THE Journal
Tourism and Hospitality Essentials Journal

**THE Journal:**
**Tourism and Hospitality Essentials Journal**

p-ISSN: 2460-366X e-ISSN: 2549-9920
Journal homepage: http://ejournal.upi.edu/index.php/thejournal

# WHY PROFITABILITY NEGATIVELY AFFECT THE CAPITAL STRUCTURE IN FOOD AND BEVERAGE INDUSTRY?

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Article history:
First Received: 25 February 2019
Final Proof Received: 08 March 2019

**Abstract:** The capital structure became the foundation for a company. Conditions of the capital structure will greatly affect the survival of a company. The financial manager is obliged to maintain the stability and the good condition of the capital structure with capital sourced from the selection of internal and external. The company's profit is the source of internal capital, so that profitability has a relationship with the capital structure. The purpose of this study was to obtain evidence on whether profitability has a negative impact on the capital structure. This study used secondary data from company financial statements of Consumer Goods Industry sector, more specifically Food and Beverage sub-sector obtained from the Indonesian Stock Exchange (BEI). The sample used was 14 companies of the food and beverage industry. The analysis technique used was a simple linear regression. The results showed that there was a negative effect on the profitability of the capital structure, which means that food and beverage companies have formed a theory of Pecking Order in which internal financing has used retained earnings.

**Keywords:** Pecking order theory, capital structure, profitability, the food and beverage industry, Indonesia Stock Exchange

## INTRODUCTION

One of the problems in the financial decisions of the company is the issue of capital structure. The problem of capital structure is an important issue for any company because good and bad capital structure will have a direct effect on the financial position of the company. A company with a capital structure that is not good, in this case has a very large debt would place a heavy burden on the company concerned (Bambang, 2001, p. 296).

In order to meet the funding requirements, companies need to consider several things, including how much they need these funds, what the source of these funds, and how long the funds will be used. The funding requirements for the company's operating expenses financed using short-term funding sources and long-term funding sources. This short-term funding sources used to finance the company's daily operations, such as paying salaries, purchase of raw materials, administrative fees and others. The fund that is spent for operational purposes is expected to be back in a relatively short period of time (less than one year) through the proceeds.

Brigham & Houston (2001, p. 39) stated that the factors affecting capital structure, namely: the stability of sales, asset structure, operating leverage, growth rate, profitability, tax, control, management attitude, the attitude of lending and the assessing agency ratings, market condition, internal company condition and financial flexibility.

Profitability is one of the factors that affect the capital structure. According to Sartono (2008, p. 122), Profitability is the ability of the company to make a profit in the relationship with the seller, total assets, or equity. Profitability measurement that is used in this study was economic profitability or return on assets (ROA). Return on assets is a measurement of the ability of the company as a whole in generating profits or gains for a total amount of assets contained in the company.

This study was conducted on the effect of profitability on the capital structure, carried out at the manufacturing enterprise specifically on food and beverage industry listed on the Indonesia Stock Exchange. The reason why it was conducted in that sector was because their existence is important in Indonesia in order to fulfill the need and want of Indonesian market. Due to the large demand in the manufacturing sector food and beverage industry has resulted in the amount of competition that occurs in food and beverage industry in Indonesia.

Fluctuations in the growth of ROA and capital structure of the company manufacturing industrial sectors of food and beverages that are listed in the

Indonesia Stock Exchange was caused by several factors, including the national economic condition and the success of new products produced by the companies of manufacturing sectors of food and beverage industry listed in Indonesia Stock Exchange. This success will give more value for the company itself. The tough competition and a massive expansion could result a sharp decrease and lead to increase sharply as well. With the new products generated by each company, it will generate more value for the company itself and in the eyes of investors.

These factors have resulted in the growth of assets and ROA up and down. There is always the possibility in a long-term that will reduce the ability of the company to gain profit or advantage for the company's revenue.

In this economic condition, funding decisions could be extremely important as it could directly affect the company's competitive power; therefore, companies could generate profit or income as what they wanted to get satisfactory results.

There are several companies in manufacture especially in food and beverage sub-sector that are listed on the Indonesia Stock Exchange 2012-2016 period, which have issues regarding their lack of funding decision making in the company and still bewildered in deciding whether the capital should be funded by their own or by foreign source to avoid the risks that will be faced by manufacturing companies listed in Indonesia Stock Exchange and obtain optimal results for the company.

## LITERATURE REVIEW

### *Profitability*

Sartono (2008, p. 122) explained that "profitability is the ability of the company to make a profit in relation to sales, total assets, and the capital itself". Profitability also is the ability of a company to generate profit for a certain period (Bambang RJ, 2008: 35).

Based on those definitions, it can be concluded that profitability is the company's ability to generate profits, by comparing the income with capital assets or those that generate profits. The way to assess the profitability of a company could be varied, it can be analyzed by comparing the profits derived from operations or business, net income before tax to total assets, net income after taxes by total assets or the ratio between the net profit after tax with their own capital. Although there are several means to determine the profitability of a company, the ratio is something that commonly used by people.

Each company will measure the profitability that they obtained. The measurement of profitability will allow the company; in this case, the management to evaluate the level of earnings in conjunction with selling volume, total assets, and certain investments that are made by the company's owner. Here, attention is placed on profitability, due to the birth and survival of a company, it must be in a favorable state or profitable. Without the profit, it would be difficult for companies to attract capitals from outside. The directors, the owner of the company and particularly the management will attempt to increase the profit, as well as recognize how important its advantage for the future.

In this study, the level of profitability of a company was measured by using a benchmark Return on Assets (ROA). Return on Assets intended to measure the ratio of profit before tax to total assets in the same period achieved.

With the formula:

$$\text{ROA} = \frac{EBIT}{Total\ Asset} X\ 100\% \ldots$$

(Bambang 2008, p. 35)

### *Capital Structure*

According to Sartono (2008, p. 225), "The capital structure is balancing the number of short-term debt which is permanent, long-term debts, preferred stock and common stock". The capital structure can be calculated by the formula:

$$\text{DAR} = \frac{Total\ Debt}{Total\ Asset} X\ 100\% \ldots$$

### *The Relationship of Profitability and Capital Structure*

Bambang (2008, p. 297) explained that "companies that have a relatively stable income will always be able to fulfill their financial obligations as a result of the use of foreign capital and may have a better chance to hold a loan or withdrawal the foreign capital ".

The capital structure becomes an important issue for any company since good or bad capital structure of the company will have a direct effect on the financial position of the company. The capital structure of a company is influenced by several factors, such as the sales level, asset structure, rate of growth, profitability, variable income and tax protection, enterprise scale, the company's internal conditions and macroeconomic (Sartono, 2008, p. 248).

## METHOD

This is an applied research. In accordance to Gay (1977) as cited by Sugiyono (2008, p. 4), it is a study conducted with the aim of implementing, testing, and evaluating the ability of a theory applied in solving the problems faced. Methods used in this research were descriptive and verification methods. Descriptive method was used to describe or explain the condition of profitability (ROA) and capital structure. The verification method was used to test the truth of the hypothesis which was done by collecting data in order to

know the effect of profitability (ROA) on the capital structure through statistical analysis tools.

The data used in this study were secondary data, where the data obtained indirectly, meaning that data have been processed and they were presented by other parties (Sugiyono, 2008, p. 137).

Secondary data were obtained by reading, learning and understanding through various media sources, literature and library books or data from a company that deals with the problems examined.

This study obtained data from reports regarding data on profitability (ROA) and capital structure on companies listed in Indonesia Stock Exchange. Those reports were from annual financial statements which were published during the announcement of the annual financial statements and during the observation period.

Data collection techniques in this research were obtained through techniques as follows: 1) documentation, data collection was done by examining the documents from the company, 2) library research, this secondary data were obtained from reading the literature either from books, lecture notes or other written materials, 3) internet research, there were a lot of financial information from journals that have been published by various Universities, Institutions and Independent Institutions that explore the field of finance.

The instrument used in this study is the researchers himself as a researcher and analyst of financial statements and some of the documents produced in accordance with this research study. The draft analysis used in this research was descriptive analysis method with qualitative approach and methods of verification analysis with quantitative approach.

This descriptive analysis will provide a snapshot of data to be studied so that it could help in understanding the characteristics of sample data. The descriptive analysis in this study conducted by researchers to answer the problem formulation of the development of Return on Assets (ROA) and on the development of Capital Structure.

In this study, a simple linear regression analysis is used to prove the extent of the influence relationships Return on Assets (ROA) of Capital Structure. The equation of multiple linear regression analysis as follows:

$$Y = \beta_o + \beta X_1 + \varepsilon$$

Where:

Y = Variable Capital Structure
X1 = Variable Return on Assets (ROA)
a = constant intercept
b1 = number of direction or regression coefficient Return on Assets (ROA)

Classic assumption tests were conducted to obtain the accuracy of the model that will be analyzed. Those tests were: Data ratio, linearity test, normality test, autocorrelation and heteroscedasticity test.

## RESULTS AND DISCUSSION

### *Food and Beverage Companies in Indonesia Stock Exchange*

Food and beverage industry got much attention lately, due to the growth of their market capitalization; even though not as much as other sectors, but they could keep up the pace of market capitalization in Indonesia Stock Exchange. Companies which were analyzed in this study were listed in Table 1.

**Table 1. Food and Beverage Companies in Indonesia Stock Exchange**

| No | Code | Company Name |
|---|---|---|
| 1 | AISA | Tiga Pilar Sejahtera Food Tbk |
| 2 | ALTO | Tri Banyan Tirta Tbk |
| 3 | CEKA | PT Wilmar Cahaya Indonesia Tbk |
| 4 | DLTA | Delta Djakarta Tbk |
| 5 | ICBP | Indofood CBP Sukses Makmur Tbk |
| 6 | INDF | Indofood Sukses Makmur Tbk |
| 7 | MLBI | Multi Bintang Indonesia Tbk |
| 8 | MYOR | Mayora Indah Tbk |
| 9 | PSDN | Prasidha Aneka Niaga Tbk |
| 10 | ROTI | Nippon Indosari Corpindo Tbk |
| 11 | SKBM | Sekar Bumi Tbk |
| 12 | SKLT | Sekar Laut Tbk |
| 13 | STTP | Siantar Top Tbk |
| 14 | ULTJ | Ultra Jaya Milk Industry |

### *The Descriptive Analysis of Profitability (ROA)*

The results of the data processing regarding profitability (ROA) of the year 2012-2016 described in table 2.

**Table 2. Data of Companies Regarding Profitability**

| Code | 2012 | 2013 | 2014 | 2015 | 2016 | Average |
|---|---|---|---|---|---|---|
| AISA | 0.0656 | 0.0691 | 0.0513 | 0.0412 | 0.0476 | 0.0550 |
| ALTO | 0.0498 | 0.0080 | -0.0082 | -0.0206 | 0.0027 | 0.0064 |
| CEKA | 0.0568 | 0.0608 | 0.0319 | 0.0717 | 0.0907 | 0.0624 |
| DLTA | 0.2864 | 0.3120 | 0.2904 | 0.1850 | 0.1520 | 0.2451 |
| ICBP | 0.1286 | 0.1051 | 0.1016 | 0.1101 | 0.1047 | 0.1100 |
| INDF | 0.0806 | 0.0438 | 0.0599 | 0.0404 | 0.0444 | 0.0538 |
| MLBI | 0.3936 | 0.6572 | 0.3563 | 0.2365 | 0.2860 | 0.3859 |
| MYOR | 0.0897 | 0.1090 | 0.0398 | 0.1102 | 0.0742 | 0.0846 |
| PSDN | 0.0375 | | -0.0454 | -0.0687 | -0.0096 | -0.0215 |
| ROTI | 0.1238 | 0.0867 | 0.0880 | 0.1000 | 0.0728 | 0.0942 |
| SKBM | 0.0440 | 0.1171 | 0.1372 | 0.0525 | 0.0236 | 0.0749 |
| SKLT | 0.0319 | 0.0379 | 0.0497 | 0.0532 | 0.0390 | 0.0423 |
| STTP | 0.0597 | 0.0778 | 0.0726 | 0.0967 | 0.0456 | 0.0705 |
| ULTJ | 0.1460 | 0.1156 | 0.0971 | 0.1478 | 0.1392 | 0.1292 |
| Average | 0.1138 | 0.1385 | 0.0945 | 0.0826 | 0.0795 | |
| Maksimum | 0.3936 | 0.6572 | 0.3563 | 0.2365 | 0.2860 | |
| Minimum | 0.0319 | 0.0080 | -0.0454 | -0.0687 | -0.0096 | |
| Growth | | 22% | -32% | -13% | -4% | |

Data in Table 2 described that the average profitability of all firms in the last 5 years pointed to profit. The highest profitability was achieved by PT. Multi Bintang Indonesia Tbk. engaged in the bottled water industry. While the least profitable company was PT. Prasidha Aneka Niaga Tbk. engaged in the industry of noodles with negative profitability in the last 3 years. Generally, the growth of profit could be described as negative except in 2015 which grew positively.

***The Descriptive Analysis of Capital Structure (DAR)***

Capital Structure of food and beverage companies as being processed and presented in Table 4 indicated that the average capital structure from all of the companies was positive. The highest capital structure was achieved by PT. Multi Bintang Indonesia Tbk. engaged in the bottled water industry. While within a period of 3 years, the lowest capital structure was obtained by PT. Delta Djakarta Tbk. engaged in the noodle industry. However, the overall growth in the capital structure was in negative growth in the last two years except in 2013 and 2014 which were grew positively.

**Table 3. Data of Companies Regarding Capital Structure**

| Code | 2012 | 2013 | 2014 | 2015 | 2016 | Average |
|---|---|---|---|---|---|---|
| AISA | 0.4742 | 0.5306 | 0.5126 | 0.5622 | 0.5413 | 0.5242 |
| ALTO | 0.4180 | 0.6391 | 0.5701 | 0.5704 | 0.5757 | 0.5547 |
| CEKA | 0.5491 | 0.5061 | 0.5814 | 0.5693 | 0.4801 | 0.5372 |
| DLTA | 0.1974 | 0.2197 | 0.2293 | 0.1817 | 0.1802 | 0.2017 |
| ICBP | 0.3248 | 0.3762 | 0.3962 | 0.3830 | 0.3678 | 0.3696 |
| INDF | 0.4245 | 0.5086 | 0.5203 | 0.5304 | 0.5142 | 0.4996 |
| MLBI | 0.7137 | 0.4459 | 0.7518 | 0.6352 | 0.7807 | 0.6654 |
| MYOR | 0.6305 | 0.5944 | 0.6015 | 0.5420 | 0.5358 | 0.5808 |
| PSDN | 0.4000 | | 0.3903 | 0.4772 | 0.5052 | 0.4432 |
| ROTI | 0.4468 | 0.5680 | 0.5520 | 0.5608 | 0.5154 | 0.5286 |
| SKBM | 0.5581 | 0.5959 | 0.5106 | 0.5499 | 0.5788 | 0.5586 |
| SKLT | 0.4815 | 0.5376 | 0.5375 | 0.5968 | 0.5655 | 0.5438 |
| STTP | 0.5362 | 0.5278 | 0.5191 | 0.4745 | 0.5170 | 0.5149 |
| ULTJ | 0.3075 | 0.2833 | 0.2235 | 0.2097 | 0.1611 | 0.2370 |
| Average | 0.4616 | 0.4872 | 0.4926 | 0.4888 | 0.4871 | |
| Maksimum | 0.7137 | 0.6391 | 0.7518 | 0.6352 | 0.7807 | |
| Minimum | 0.1974 | 0.2197 | 0.2235 | 0.1817 | 0.1611 | |
| Growth | | 6% | 1% | -1% | 0% | |

***Classic Assumption Test***

1. Data Ratio

The data used in this analysis were the ratio data, data that could be calculated by arithmetic operations. As illustrated in table 5, data that were used were data of the average profitability (ROA) from 14 companies over the last five years from 2012 to 2016. And the average data Capital Structure (DAR) from 14 companies over the last five years of 2012 to 2016. The capital structure

data were gained from 14 companies over the last five years from 2012 to 2016.

**Table 4. Data of the Ratio of Profitability and Capital Structure**

| Year | DAR | ROA |
|---|---|---|
| 2012 | 0.4616 | 0.1138 |
| 2013 | 0.4872 | 0.1385 |
| 2014 | 0.4926 | 0.0945 |
| 2015 | 0.4888 | 0.0826 |
| 2016 | 0.4871 | 0.0795 |

2. Data Outlier

Based on the data presented in Table 4, the whole set of data showed no outliers, each Datum is completely different from the other data.

3. Normality Test

Figure 1 showed that the data (dots) spread around the diagonal line and follow the direction of the diagonal line. Thus, it can be concluded that the regression model met the assumption of normality.

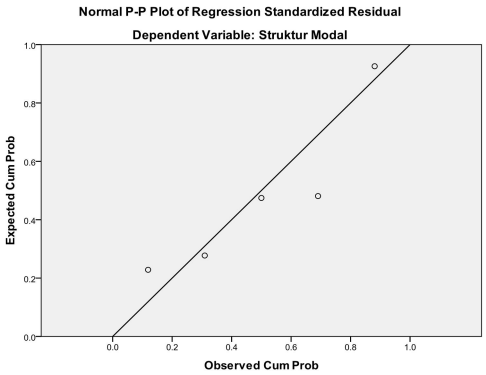


**Figure 1. The Result of Normality Test**

4. Linearity Test

Figure 2 showed that the resulting model does not show a linear model because the chart shows the distribution of the data plots formed a pattern that follows the line.

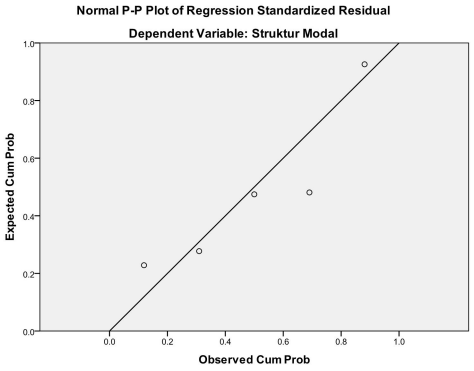


**Figure 2. The Result of Linearity Test**

5. Heteroscedasticity Test

This test used SPSS version 19 and the result could be seen in Figure 3.

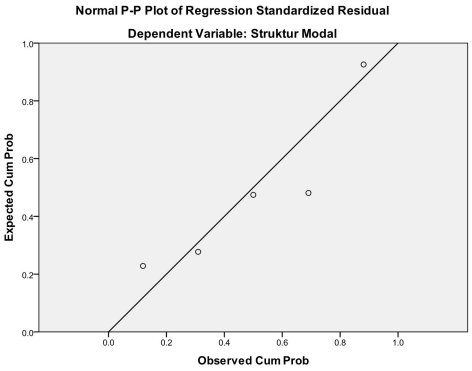


**Figure 3. Scatterplot Graph of Dependent Variables**

Based on Figure 3, dots appeared randomly, they did not spread in a specific pattern and emerged both above and below the number 0 in Y-axis, it means heteroscedasticity did not occur in regression models.

6. Autocorrelation test

This study calculated the residual value of Durbin-Watson statistic (DW) for the autocorrelation test and it used SPSS version 19. The result of the calculation, the value was 1.604. This value was compared with the value of $d_L$ and $d_U$ from the Durbin-Watson table. Based on $\alpha$ = 0:05, k = 2 and n = 6, the value of $d_L$ = 0.6102 and $d_U$ = 1.4002. The value of d > dU, it can be concluded that in the regression model there was no autocorrelation.

***The Influence of Profitability on Capital Structure***

In order to determine the form of correlation between the profitability and the capital structure, this study used simple linear regression analysis. Based on the results of data processing using SPSS 19 software, the regression results as shown in Table 5.

**Table 5. Results of Statistical Analysis**

| | t-value | Unstandardized Coefficients Beta |
|---|---|---|
| (Constant) | 0.754 | 0.396 |
| Profitability | -0.560 | -0.608 |
| **r** | | **-0.308** |
| **$R^2$** | | **0.095** |
| **F** | | **0.314** |

Capital Structure = 0396-0608 Profitability

Based on the results of the calculations, it can be interpreted as follows; 1) If there was no X (profitability), then Y-value (capital structure)

would be 0.396 (constant), 2) If Profitability increased by 1, then the capital structure would be reduced by 0.608.

Based on the results of the calculation, it also noted that the value of the correlation between profitability (X) and capital structure (Y) r = -0308, this means there was a fairly strong correlation between those two variables, since the r-value was in the range between 0.25 to 0.5 (Sarwono, 2006).

The value of R square in Table 5 was 0.095, it meant that the variable capital structure can be determined by the variable profitability in the amount of 9.5% while the rest was determined by other factors amounted 90.5%.

The t-value was -0.560, it was then compared to the t-table. Based a 5% error with two tiled and dk = n – k – 1 = 5 – 1 – 1 = 3, the t-table = 3.182. Therefore; as could be seen in Figure 4, t-value = -0.560 > t-table = 3.182, then $H_0$ is rejected, it meant that there was an influence of profitability towards the capital structure.

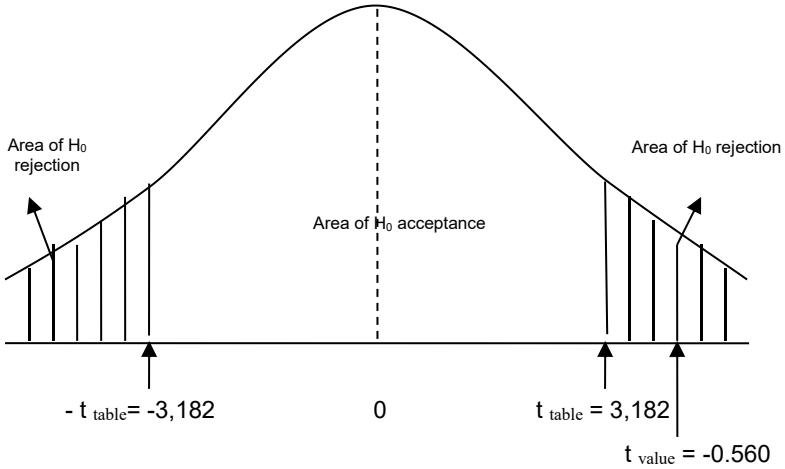


**Figure 4. Hypothesis Test Results**

The F-value = 0.314, compared with the F-table with $df_1 = 1$ and $df_2 = 3$, then the F-table = 10.13. Therefore, F-value < F-table then $H_0$ was accepted. The significance value was also 0.614 which was higher than $\alpha$ = 5 % (0,05), which meant that $H_0$ was accepted. Hence, there was no significant effect of profitability towards the capital structure.

***The Results of Partial Test***

Based on table 6, it can be analyzed that there were two companies which had significant influence of profitability towards the capital structure. There were also two companies which had positive influences of profitability towards capital structure, even though the influences were not significant. Overall, 12 out of 14 companies were proven had negative correlations between profitability and capital structure, although those correlations were not significant.

**Table 6. Partial Statistical Calculation Results**

| Code | Correlation | R Square | Coeficient | t count | F count | Significant |
|---|---|---|---|---|---|---|
| AISA | -0.6610 | 0.4370 | -1.8380 | -2.4420 | 2.3240 | 0.2250 |
| ALTO | -0.7480 | 0.5600 | -2.2960 | -1.9550 | 3.8220 | 0.1460 |
| CEKA | -0.7270 | 0.5280 | -1.4490 | -1.8340 | 3.3620 | 0.1640 |
| DLTA | 0.8630 | 0.7450 | 0.2670 | 2.957 | 8.7470 | 0.0600 |
| ICBP *** | -0.9180 | 0.8430 | -2.3010 | -4.0210 | 16.1650 | 0.0280 |
| INDF *** | -0.8820 | 0.7770 | -2.2490 | -3.2340 | 10.4590 | 0.0480 |
| MLBI | -0.7830 | 0.6130 | -0.6430 | -2.1790 | 4.7470 | 0.1170 |
| MYOR | -0.1830 | 0.0340 | -0.2560 | -0.3230 | 0.1040 | 0.7680 |
| PSDN | -0.2730 | 0.0750 | -0.3350 | -0.4010 | 0.1610 | 0.7270 |
| ROTI | -0.6260 | 0.3910 | -1.6360 | -1.3890 | 1.9290 | 0.2590 |
| SKBM | -0.3510 | 0.1230 | -0.2300 | -0.6500 | 0.4220 | 0.5620 |
| SKLT | 0.7550 | 0.5700 | 3.6370 | 1.9940 | 3.9780 | 0.1400 |
| STTP | -0.6750 | 0.4550 | -0.8360 | -1.5820 | 2.5040 | 0.2120 |
| ULTJ | -0.0540 | 0.0030 | -0.1430 | -0.0930 | 0.0090 | 0.9320 |

*** Significant at the 5% significance level

Based on the results of simultaneous and partial test, then the answer to the research question was food and beverage companies have conducted what is called the Pecking Order Theory (Myers, 1984), which stated that "Companies with a high level of profitability will have low levels of debt, because companies which gain high profitability will have abundant internal funding sources".

This study also found that food and beverage companies have been trying to use their profit in the form of retained earnings as a source of internal funding. Companies have strongly considered the risk of being forced to use internal funds. Food and beverage companies also tended to apply a dividend payout policy which was constant or relatively unchanged in number and did not correlate with fluctuations of profits and losses of the company.

## CONCLUSION

The results of a case study on food and beverage companies have shown that there was a negative effect of profitability towards the capital structure. These results have strengthened the theory of financial management company which is Pecking Order Theory (Myers, 1984).

The results have also proved that the scenario in selecting funding sources referred to the Pecking order Theory (Smart, Megginson, and Gitman, 2004), which suggests that the scenario as follows; 1) The company chose to use internal funding sources rather than external funding. In which the internal funds were obtained from the company's profit in the form of retained earnings, 2) If companies required external funding, they would choose the safest securities, such as debt that has the smallest risk, then a more risky debt, convertible bonds, preferred stock, and common stock as the last resort, 3) Companies generally established a constant dividend which did not correlate with the magnitude of the company's profit or loss, 4) The company anticipated cash supply due to the fixed dividend policy, changing in the rate of profit, and investment opportunities by providing investment portfolio which was provided seamlessly.

This study has limitations of data that were only analyzed 14 food and beverage companies out of 555 companies listed in Jakarta Stock Exchange. The market capitalization of food and beverage companies also only 4.69% of the market capitalization of the Jakarta Stock Exchange. Indicators of the variables were also only consisted of ROA as an indicator of profitability and DAR which was an indicator of capital structure. Thus, it is recommended that future studies use more data by taking more samples and a longer period of time.

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