International Journal of Application on Economics and Business (IJAEB)
Volume 1, Issue 4, 2023. ISSN: 2987-1972

THE EFFECT OF PROFITABILITY AND CAPITAL STRUCTURE USING INFLATION AS MODERATING VARIABLE

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Submitted: 21-06-2023, Revised: 23-08-2023, Accepted: 18-10-2023

ABSTRACT

The study aims to analyze the effect of profitability on capital structure and inflation as moderation variable on food and beverage company from consumer industry and listed in Indonesia Stock Exchange in period 2019-2021. The sampling method is using purposive sampling technique and the valid data was 24 and 72 data were processed. The data was processed using EViews 12 (software). The results is showing that profitability negatively influences capital structure and the inflation is proven to not able moderating the effect of profitability on capital structure.

Keywords*: Capital Structure, Profitability, Inflation*

1. INTRODUCTION

Due to the globalization era, many sector are affected in the rapid development, including business is also affected in this globalization era. The globalization make fast and rapid development which impact on emergence of new business competitors which mean the competition in the business world is getting tougher so that companies must improve their performance and company value in order to survive amid the fierce business competition that occurs. In addition, the company's funding can be obtained from two sources, there are internals sources and external sources. Where internal sources are sources of capital or costs obtained from the company itself which can be in the form of retained earnings, acquisition of own capital, or equity participation. And the external sources are sources of funds obtained from outside the company which can be in the form of short term debt, long term debt obtained from banks or other companies. Therefore, it is necessary to have a good capital structure to get optimal performance and company value. In order to realize an optimal capital structure, there are also factors that can affect a company's capital structure, such as liquidity, profitability, asset structure, growth opportunities, and others. The capital structure is proportion of meeting company's expenditure needs obtained from a combination of long term funding and long term debt (Sulistio and Saifi, 2017). Profitability is a ratio that will be used to help investors measure how well a company manages its expenses (Drake and Fabozzi, 2010). Inflation is a monetary phenomenon in which the general price level increases continuously over a certain period, there by affecting the macro economy (Suzulia et al., 2020).

Food and beverage companies are one of the basic needs in supporting daily life. Therefore, food and beverage companies play an important role in state activities in terms of providing the needs of the people, besides that with inflation, food and beverage companies do not get a significant impact because people need food and beverage in their daily lives. Although it is possible that the demand for food and beverage companies will increase, a decrease is also inevitable. One of the reasons for this decline is because the number of household needs has

also decreased, which can also be caused by economic factors so that people cannot buy food and beverage products.

Based on the previous research about profitability, inflation to capital structure, there's some different results between one research and the other. Due to the inconsistencies and limitations that occurred in previous studies, further research is needed by testing and measuring the effect of profitability and inflation used as a moderation on capital structure in order to obtain the latest research results which are expected to be more accurate to be-able to improve the results of research that has been done before.

This research is expected to be an input for companies to increase the importance of implementing capital structure in carrying out their company's operations and also to assist companies in making decisions regarding corporate funding and to assist companies in maximizing the company's ability to generate profits, increase company value, and the welfare of shareholders.

Related Work

Pecking Order Theory

Myers (1984) stated that pecking order theory is a theory that contains an explanation of levels or sequences based on risk in seeking corporate funds which indicates that companies will prefer to use internal funds in an effort to seek alternative funding starting from the company's retained earnings, debt, and equity as a last resort. The pecking order theory creates a hierarchy in the sources of funds, namely internal funding in the form of retained earnings and external funding in the form of debt and shares. This hierarchy will later be used as a reference in deciding in choosing a company's funding source. This funding sequence shows this funding is based on level risk of decisions and fees for funding sources form the cheapest to the most expensive (Sartono, 2015).

Capital Structure

The capital structure could be interpreting as balancing the using of loan-capital is consist of short-term-debt, long-term-debt and own capital. The capital structure illustrating proportion between equity and debt which has the aim of being able to assist in making decisions in terms of maximizing returns and having strong influence on the firm value (Mujiatun et al., 2021). Measurement of capital structure can be proxy by Debt-to-Equity Ratio (DER).

Profitability

Profitability can be used to measure the ability to manage assets in obtaining company profits and can also measure management efficiency in the use of organizational resouces. Measurement of profitability can be proxied by return on assets (ROA). ROA is ratio shows the return on a number of assets used in the company. ROA would provides a better measure of company-profitability because ROA can show effectiveness and performance of management in using assets to earn income.

Inflation

Inflation is a phenomenon that occurs outside the will of the company, an event that results in an increase in interest rates on an ongoing basis and affects the macro economy. With a high inflation rate, companies will choose external funding due to the consequences of inflation where prices for goods and employee wages increase so that the use of capital is too large and funding from within the company is insuffiecient. Measurement of inflation can be proxied by consumer price index (CPI).

Profitability related to Capital Structure

The pecking-order-theory says that profitability has a negative effect on capital structure. Based on research conducted by Pricilla and Jonnardi (2022) which said profitability will have negative and significant effect on capital structure, and also the research by Sari et al. (2018) stated that profitability has an influence on capital-structure. On the other hand, this-study contradicts Tobing (2020) which profitability has a significant positive effect on the capital structure, and also according to Sari et al. (2020) which stated that profitability has a positive and significant influence on capital structure.

Inflation with Profitability related to Capital-Structure

The-pecking-order-theory in doing funding when inflation increases, companies tend to look for external funding sources compared to using internal funding sources. Thus, inflation will have positive effect on the negative effect of profitability on the capital-structure. Based-on research conducted by Pricilla and Jonnardi (2022) which said inflation can partially moderate or strengthen the effect of profitability on capital-structure. And also Teng and Jonnardi (2019) stated that inflation strengthens the relationship between firm size and capital-structure. But on the other hand, this study contradicts Tobing (2020) which states inflation has a negative effect on the negative effect of profitability.

Hypothesis Development

Profitability is proxied by Return on Assets (ROA). ROA was chosen as a proxy because it measures a company's performance in generating-profits by using its asset. This explanation is in line with research Pricilla and Jonnardi (2022) and Sari et al. (2018), stating that profitability would influences the capital-structure. On the other hand, this explanation contradicts the research by Tobing (2020) and Sari et al. (2020), stating that profitability does not affect capital structure.
H_1: Profitability has a negative effect on capital structure.

The study measures inflation using the consumer price index (IHK) proxy. IHK is a calculating index the average number of goods and services consumed by a household. IHK in this research comes from the bps.go.id website page. This description is in accordance with the research by Pricilla and Jonnardi (2022), where it is stated that inflation can moderate or strengthen the-effect of profitability on capital-structure. On the other-hand, there are other contradictory studies where in Tobing's research (2020), it is stated that inflation can not moderate or strengthen an effect of profitability on capital-structure.
H_2: Inflation can be able to moderate the affect profitability on capital structure.

Based on the description of the development of the hypothesis above, the research framework is described as follows:

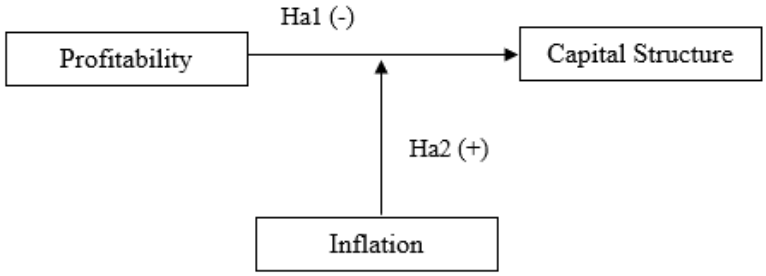

Figure 1 Research Framework

Our Contribution

The-study aimed to obtain empirical-evidence about the effect profitability, inflation as moderating variable on the capital-structure of food and beverage company listed on the Indonesia Stock Exchange. The method of determining the sample in this study is a purposive sampling method with several criteria for sampling. The total sample that meets the criteria is 24 food and beverage companies in 2019-2021. The data was processed using the panel-data regression method with EViews 12 software. Based on the-results of the study found that profitability has negative influence on the capital-structure. And inflation can-be moderated the effect of profitability on capital structure.

Paper Structure

This study use quantitative research design, which means the researches focuses on testing theory through the measurement of research variables with numbers and perform statistical procedure data analysis. Quantitative research methods also aims to determine the relationship between two variables or more. The data used in this-study is secondary-data, where the-data is already available and obtained from sources. Secondary data was obtained from the company's annual for 2019-2021. Annual reports can-be accessed through-the official website of the Indonesia-Stock-Exchange, www.idx.co.id and the company's official-website. The method for determining the sample is purposive sampling, where samples that can be taken are samples that meet the criteria. Here are some criteria:

1. Food and beverage companies were consecutively listed on the Indonesia-Stock-Exchange in 2019-2021.
2. Foodandbeverage companies that publish annual reports in 2019-2021.
3. Companies whose IPO (Initial Public Offering) date is other that the year 2019-2021.

The total sample that meets the criteria is 24 food and beverage companies in 3 years, so 72 data are obtained.

2. METHODS

This study uses Chow test, Hausman test, Lagrange Multiplier test, multicollinearity test, moderated regression analysis (MRA), F-test, t-test, and the coefficient of determination test.

The following is a table of operational variables and measurement formulas for each dependent and independent variable:

Table 1. Operational and Measurement Variables

No	Variable	Indicator	Measurement Formula	Source
1	Capital Structure	Debt To Equity Ratio	$\frac{Total\ Debt}{Total\ Equity}$	Drake dan Fabozzi (2010)
2	Profitability	Return on Asset	$\frac{Net\ income}{Total\ Asset}$	Drake dan Fabozzi (2010)
3	Inflation	Consumer Price Index	$\frac{IHKn - IHK0}{IHK0}$	Putong (2013)

Source: Data Processed with EViews 12 Software

3. FINDINGS

Chow-Test

Table 2. Chow-Test Results

Effects Test	Statistics	df	Prob.
Cross-section F	4.099116	(23.45)	0.0000
Cross-section Chi-square	81.347143	23	0.0000

Source: Data Processed with EViews 12 Software

Based on Table 2 above, the-value of Prob. Cross-Section Chi-Square is 0.0000. The result show a probability-value below 0.05, so it can be concluded that the best estimation model for this research is the Fixed Effect Model. Selected Fixed Effect Model requires the Hausman-test.

Hausman-Test

Table 3. Hausman-Test Results

Test Summary	*Chi-Sq. Statistics*	*Chi-Sq. df*	*Prob.*
Cross-section Random	1.759364	3	0.6238

Source: Data Processed with EViews 12 Software

Based on Table 3 above, the value of Prob Cross Section-Random is 0.6238. The result shows a probability value above 0.05, so it can-concluded that the best estimation model for this-research is the Random-Effect Model. The selected Random Effect Model requires further testing by performing the Lagrange Multiplier test.

Lagrange Multiplier Test

Table 4. Lagrange Multiplier Test Results

	Hypothesis Test		
	Cross-Section	Time	Both
Breusch-Pagan	17.72074 (0.0000)	1.159527 (0.2816)	18.88027 (0.0000)

Source: Data Processed with EViews 12 Software

Based on Table 4 above, the-probability value is 0.0000. The result shows probability-value below 0.05, so it can-concluded that the best estimation model for this-research is the Random-Effect Model.

Multicollinearity-Test

Table 5. Multicollinearity-Test Results

	Profit	Inflation	Profit.Inf
Profit	1.0000000	0.098820	-0.443466
Inflation	0.098820	1.0000000	0.375885
Profit.Inf	-0.443466	0.375885	1.0000000

Source: Data Processed with EViews 12 Software

Based on Table 5 above, the-value between profitability, inflation and profitability with inflation variables has a correlation value below 0.85. It shows no multicollinearity between the-independent variables in this study.

Moderated Regression Analysis

Table 6. Moderated Regression Result

Variable	**Coefficient**	**Std. Error**	**t-Statistics**	**Prob.**
C	1.486636	0.318862	4.662316	0.0000
PROFIT	-4.958628	1.599181	-3.100730	0.0028
INF	1.948786	1.250644	1.558226	0.1238
PROFIT*INF	-19.48961	8.350743	-2.333877	0.0226

Source: Data Processed with EViews 12 Software

Moderated regression analysis was conducted to be able to know whether a variable is a moderating variable or not. This MRA test using multiplelinear regression techniques where in the equation the regression contains an element of interaction, namely multiplication of two or more independenct variable. Based on Table 6 above, the equation model can-be formulated as follows:

$$DER = 1.486636 – 4.958628\ ROA + 1.948786\ IHK + -19.48961\ ROA.IHK + e$$

Where DER is capital structure; α is a constant; β_1-β_2-β_3 is regression coefficients; ROA is profitability; IHK is Inflation; e is an error.

F-Test

Table 7. F test results

Weighted Statictics			
R-squared	0.141860	Mean dependent var	0.504035
Adjusted R-squared	0.104001	S.D. dependent var	1.208419
S.E. of regression	1.143856	Sum squared resid	88.97161
F-statistics	3.747052	Durbin-Watson stat	1.239600
Prob (F-Statistics)	0.014909		

Source: Data Processed with EViews 12 Software

The F-test was conducted to determine whether there is an overall effect between the-independent variables, profitability, inflation on the dependent variable capital structure. Base on Table 7 above, it is shown that the-probability value of the F-statistics is 0.014909, where the probability value of the F-statistics is below the significance level of 0.05. This-result indicating that profitability, inflation simultaneously affect capital-structure.

t-Test

Table 8. t-test results

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	1.486636	0.318862	4.662316	0.0000
PROFIT	-4.958628	1.599181	-3.100730	0.0028
INF	1.948786	1.250644	1.558226	0.1238
PROFIT*INF	-19.48961	8.350743	-2.333877	0.0226

Source: Data Processed with EViews 12 Software

The t-test was conducted to determine the partial effect of each independent-variable profitability, inflation on the dependent-variable capital strcuture.

Table 8 above shows that profitability symbolized by PROFIT has a probability of 0.0028, where the probability-value is below the significance-level of 0.05. This result indicates that profitability negatively influences the capital-structure. The-results of this-study are in line with (Pricilla and Jonnardi, 2022) and (Sari et al., 2018), where-it is-stated that profitability negatively influences the capital-structure. The results of this study also state the higher the level of profitability, then the lower capital structure will be made. On the other hand, this explanation contradicts the research by (Tobing, 2020) and (Sari et al., 2020), stating that profitability does not affect capital-structure.

The-research results in table 8 above show that profitability who moderated with inflation, which Profit*Inf symbolizes, has an probability of 0.0226, where the probability-value is

below the significance-level of 0.05. This result indicates that inflation can not be moderated the effect profitability on capital structure. The-results of this-study are in line with Tobing (2020) which stated that inflation has a negative effect-on the negative effect of profitability, on the other hand, this study contradicts (Pricilla and Jonnardi, 2022) which said inflation can partially moderate or strengthen the effect of profitability on capital structure. Teng and Jonnardi (2019) also stated that inflation strengthens the relationship between firm size and capital structure.

Table 9. Hypothesis Test Results

Hypothesis	Test results
H_1: Profitability has a negative effect on capital structure.	Accepted
H_2: Inflation can moderated the effect profitability on capital structure.	Rejected

Source: Data Processed with EViews 12 Software

Coefficient of Determination Test (R^2)

Table 10. Coefficient of Determination Test Result

Weighted Statictics			
R-squared	0.141860	Mean dependent var	0.504035
Adjusted R-squared	0.104001	S.D. dependent var	1.208419
S.E. of regression	1.143856	Sum squared resid	88.97161
F-statistic	3.747052	Durbin-Watson stat	1.239600
Prob (F-Statistics)	0.014909		

Source: Data Processed with EViews 12 Software

The coefficient of determination test was conducted to determine the percentage influence of the independent variables on the dependent variable so that it can be seen how much the independent variable can explain the dependent variable. Table 10 above shows that the-coefficient-of-determination test results can be seen from the adjusted R-squared value. Adjusted R-Squared above indicates a value-of 0.104001 or around 10.40%, it can be concluded that 10.40% of capital structure can be explained by profitability, inflation variables. Independent variables can explain the remaining 90.60% of the dependent variable on capital structure outside the independent variables in this study.

4. DISCUSSION

Profitability has a probability of 0.0028, where the probability value is below the significance level of 0.05, which shows profitability influences the capital structure. Profitability also has a coefficient of -4.958628, indicating a negative effect. Thus, profitability negatively influences the capital structure. The results of this study are in line with the research by Pricilla and Jonnardi (2022) and Sari et al. (2018), where it is stated profitability-negatively influences capital structure. The first hypothesis in this study is profitability negatively

affects capital structure. Based on the study's results, it is stated that the first hypothesis is accepted.

Inflation moderated-profitability on capital structure has a probability of 0.0226 and a coefficient of -19.48961, where the probability value is above 0.05 and show inflation indicating a negative effect on profitability to capital structure, which shows that inflation can not moderated profitability on capital-structure. The results of this-study are in line with Tobing (2020), where it is stated that which states inflation has an negative effect on the negative effect of profitability on capital-structure.

5. CONCLUSION

Based on the-research results above, it can be concluded that profitability-variable negatively influences the capital-structure, which shows that if the company makking higher the profitability, it will be lower capital structure. This result in line with pecking-order-theory that if the profitability of company getting higher, the company will choose to use internal funds, which causes the company to use less debt. Therefore, the hypothesis is accepted.

On the other hand, it was found that the inflation can not moderated probability on capital structure. This result is not in line with the pecking order theory in funding, when inflation increases, companies tend to seek external funding sources compared to using internal funding sources. With this price increase, company management will choose to use debt. If the company has a lot of debt, then the capital-structure owned-by the company will be bigger because the company uses capital from outside the company as the chosen funding.

This research is far from perfect. The limitation of this study are: the sample used in this-study is only food andbeverage company listed on the Indonesian-stock-exchange, so it does not reach all companies in Indonesia; This-study only uses one independent variables: profitability. This study only takes short period which is 3 years (2019-2021).

Based on the limitations of this study, it is recommended that further researchers examine other industries besides the food and beverage industry. In addition, it is hoped-that further-researchers can choose and add the other independent-variables such as company size, liquidity, assets structure and other variables that can affect the capital structure. In addition, further researchers can increase the period of the research.

The implication of this study is the need to increase role company managers to determine optimal capital structure in order to maximize the company’s ability to generate profits, increase firm value and investor-welfare. And the result can help the investor to choose what company will they invested, and they will know the prospect of the choosen company.

ACKNOWLEDGMENT

This work was supported by the Faculty of Economics and Business, Universitas Tarumanagara Jakarta and the Indonesia Stock Exchange (IDX).

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