Original Article

The Effect of Specific Macroeconomic and Internal Company Variables on the Capital Structure of Manufacturing Listed Companies in the Indonesia Stock Exchange

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Abstract: External and internal factors can affect a company's capital structure. Managers cannot limit the macroeconomic component of external factors, while a company can monitor internal factors and their effects. This study aims to determine the effect of specific macroeconomic variables, namely, Interest Rates, Inflation Rates, GDP, and company internal variables, namely, Return on Assets (ROA), Tangible Assets (TAN), and Firm Size (SIZE) on Capital Structure (DER) of food and beverage sub-sector manufacturing companies in the Indonesia Stock Exchange. This research is associative research, and the data type used is quantitative. The data is obtained from the company's financial statements audited on the Indonesia Stock Exchange during the study period. The analytical method used is descriptive analysis and panel data regression. The population of this study is the food and beverage sub-sector manufacturing companies for the period 2017-2021, totaling 62 companies. The sample in this study amounted to 27 companies. The results of this study indicate that simultaneously, Interest Rates, Inflation Rates, GDP, ROA, TAN, and SIZE have a significant effect on DER in food and beverage sub-sector manufacturing companies on the Indonesia Stock Exchange in the 2017-2021 period. Partially, the Interest Rate and TAN variables have a positive and insignificant effect on DER. The inflation rate variable positively and significantly affects DER at = 0.1. The SIZE variable has a positive and significant effect on DER. The GDP variable has a negative and insignificant effect on DER. In contrast, the ROA variable positively and significantly affects DER at = 0.1 in food and beverage sub-sector manufacturing companies on the Indonesia Stock Exchange.

Keywords: Interest rate, inflation rate, gross domestic product, return on assets, tangible assets, firm size, and capital structure

1. Introduction

In Indonesia's economic growth, homeland manufacturing is still the leading sector of the national economy amid the pressures of the COVID-19 pandemic, especially in the food and beverage industry. The food and beverage industry are projected to remain Indonesia's mainstay of manufacturing and economic growth. The critical role of the food and beverage industry can be seen from its considerable contribution to the country's non-oil and gas gross domestic

product (GDP), reaching 38.42% in 2021. This achievement increased compared to the previous year in 2020 by 19.87% (Kementrian Perindustrian, 2018). The performance of the food and beverage industry during the 2015-2019 period grew by an average of 8.16% or above the average growth of the non-oil and gas processing industry of 4.69%. During the impact of the pandemic, throughout the fourth quarter of 2020, there was a contraction in the growth of the non-oil and gas industry by 2.52%. However, the food and beverage industry could still grow positively by 1.58% in 2020 (Kementrian Perindustrian, 2018). In 2021, the growth of the food and beverage industry will be at 2.95%, which indicates an increase in growth compared to the previous year, with a GDP contribution of 6.66% to the Indonesian economy. However, this growth is still below the growth of the food and beverage industry in the previous three years, 2017, 2018, and 2019. This shows that Indonesia's food and beverage industry's growth has slowed in the last five years. Data regarding the growth rate of the food and beverage industry from 2017-2021 is presented in the Figure 1 below.
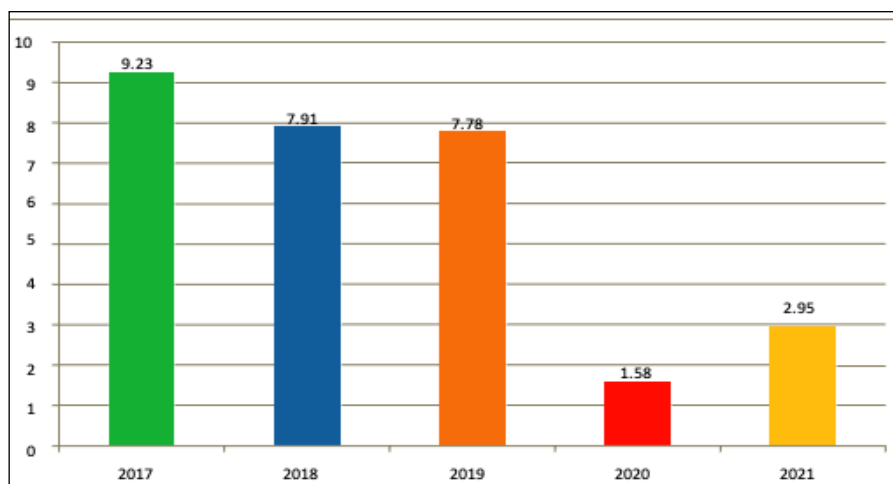

Figure 1. Growth Rate of Food and Beverage Companies in Indonesia

Source: www.kemenperin.go.id

The food and beverage industry are a sub-sector of the consumer goods industry. The Consumer Goods industry in Indonesia is considered one of the most attractive industries with sales of more than US$ 10 billion. Fast Moving Consumer Goods (FMCG) have been considered one of the drivers of economic movement, and the number shows promising potential. With more than 272 million people and more than half of them working age, this positive trend is expected to continue to increase yearly in Indonesia. In general, FMCG items effectively contributed 18.5% to National GDP in 2016, and this figure is relied on to reach 30% by 2030 (Law et al., 2017). Therefore, the FMCG industry is considered to have a high dependence on a country's macro economy. Apart from a large population and rapid financial expansion, what makes Indonesia attractive in the food and beverage industry is the accessibility of households to various rural products, such as coffee, cocoa, soybeans, and palm oil. Farmers are usually weak in the chain of national food creation, so even cocoa is currently imported from abroad to meet business needs, which has caused the growth of the food and beverage industry in Indonesia to slow down in recent years. So that the emergence of increasingly fierce competition between companies involving various local and imported brands. Local producers are still defenseless against fluctuations in worldwide prices for materials they must import from abroad. This can be seen clearly in the last six years when the dry season in the United States and Brazil pushed up world soybean prices and raised the costs of Tofu and Tempe producers in Indonesia. More than 90% of soybean needs come from imports. The soybean price is US$ 13 per bushel, becoming the highest in the last six years. And the devaluation of the rupiah that occurred in Indonesia was a real blow to Indonesian companies that depended on imports of wheat, or sugar, milk or other materials (Kementrian Perindustrian, 2018).

The reason for choosing the food and beverage industry in this study is considering the development of the food and beverage industry in Indonesia, which is growing and controlled by the people's basic needs for food and beverages. This industry is changing because of population development, urbanization, and buyers' changing patterns. Asia is estimated to be home to 4.9 billion people by 2030, will see food consumption more than double per capita in the next 12 years. Meanwhile, the growing population in Asia is affected by the increasingly high urbanization in developing countries in Asia, including Indonesia (Sumual, 2015). According to research released by The Economist Intelligence Unit. Entitled "From Farm to Fork", research sponsored by Cargill shows that in Indonesia, urbanization is expected to accelerate. In 2010, half of the total population lived in cities, even according to the World Bank, 68% of the population will live in cities by 2025. Urbanization makes people's diets more diverse and requires more significant food resources, especially when consuming meat. Meanwhile, the Indonesian economy is shifting further away from the agrarian

economy as urban areas are increasingly displacing rural employment. The average consumer in Indonesia has more money and fast-changing food preferences, so supermarkets must meet fast-changing consumer demands and provide safe and high-quality food products at competitive prices. The National Bureau of Statistics reports that online sales grew to 3.88 trillion in 2015, and 37% of all consumers are already shopping online, and another 53% are willing to shop online (Sumual, 2015). This is what causes the growing global pattern of food and drink to increase. Moreover, food and beverage companies have significantly contributed to the national economy. Therefore, this industry has a close relationship with macroeconomic conditions that a manager must anticipate in terms of choosing the most optimal funding decision.

With these conditions, every company is required to be able to capture the situation to excel in the market. Capital structure is a proposition in determining the fulfillment of company expenditure needs where funds are obtained using a combination of sources originating from long-term funds consisting of two primary sources, namely those from within and from outside the company (Rodoni & Ali, 2010). Sunarwi & Muharam (2011) state that managers must be able to raise funds both from within the company and from outside the company efficiently, in the sense that the funding decision can minimize the cost of capital the company must bear. This decision to choose a funding source is known as the capital structure. The company's value can decrease if the capital structure decisions are not right. Capital structure decisions are important because every decision on the company's capital structure can affect shareholders' welfare (Aamir et al., 2013). The capital structure shows the extent to which debt is used to fund speculation so that shareholders can understand the alignment between risk and profitability by knowing the capital structure. The optimal capital structure can be seen through the Debt to Equity Ratio, namely the ratio of total debt to equity (Ross et al., 2013). Based on Brigham & Houston (2011), capital structure is a combination of debt, preferred stock, and equity in a long-term financial structure. Capital structure is the specific combination of long-term debt and equity companies use to finance their companies.

According to Sartono (2010), there are several factors that affect the capital structure, including sales level, asset structure, company growth rate, profitability, liquidity, company size, profit and tax protection variables, company scale, internal company conditions and the macroeconomic. Internal factors and their influence can be monitored by a company, while managers cannot limit the macroeconomic component. However, two kinds of determinants affect the company's capital structure. In addition, information about the effect supports companies in determining the optimal choice of capital structure with the ultimate goal of financial stability and sustainability because if there is a wrong decision on the capital structure, it can lead to a dangerous financial position and eventually lead to bankruptcy. However, with the right combination in choosing the capital chosen, it will be able to produce an optimal capital structure, which is able to become a strong foundation for the company. It is interpreted here that macroeconomic factors influence how top management selects financing options for their associations. Obviously, there is an unavoidable situation between organizational executives and shareholders as this problem shows, management may want adjustments in utilizing cash reserves to secure future opportunities, while investors may want better returns on corporate profits every time. This will affect the company's financing choice, whether to utilize its internal sources, namely retained earnings or long-term debt.

The main idea behind this research study is to investigate how food and beverage companies in Indonesia listed on the Indonesia Stock Exchange decide their ideal company capital structure under conditions of external factors which are interest rates, inflation rates, and GDP growth, as well as internal factors namely profitability, asset structure, and company size that might influence the decision. This is the right side of the balance sheet, i.e., liabilities and owner's equity, which relates to the firm's capital structure decisions. The capital structure will change if the company finances the company's operations with foreign capital, especially with long-term debt, where changes in the capital structure can positively or negatively affect the company's financial managers. Interest rates, inflation rates, GDP growth, the value of profits generated, fixed assets, as well as total assets, total equity, and total debt of several manufacturing companies in the mobile food and beverage sub-sector tend to fluctuate every year. Some of these companies also have drastic increase and decrease in value within a year. In the ADES company, it was seen in 2019 that the decline in interest rates was not always in line with the increase in debt levels. When interest rates are low the company should take advantage of this to maximize debt levels because an increase in interest rates will affect credit interest rates. When credit interest rates decline, the company will usually use debt to finance the company's operational activities. Companies will tend to use external funding rather than using internal funding sources. So that when interest rates decrease, the proportion of debt will also increase (Mahanani & Asandimitra, 2017).

On the other hand, in 2020, the increase in net profit is also not always in line with the decrease in total debt, and vice versa, where the level of net income is too much higher than the increase in the company's debt. In the pecking order theory, it is stated that companies with high levels of profitability have low levels of debt because they have abundant internal sources of funds (Myers & Majluf, 1984). In BUDI's company, the increase in the inflation rate is not always in line with the increase in total debt. In the trade off theory, it is stated that, with increasing debt, the company will experience tax savings. Where when a country experiences an increase in inflation, what happens is that the cost of raw materials will increase. Indirectly, the company's operational costs will also increase. With the increased operational

costs, the company requires large funds to finance its operational activities. One of the efforts made by using external funding sources is debt in its capital structure. On the other hand, every year from 2017-2020, the debt value was higher than the company's equity value. With a larger proportion of debt, the value of the ratio of debt to equity is more than one. With a value above one, it means that the company has a debt more incredible than the amount of its own capital. This is not following the optimal capital structure theory, where the company's debt should not be more outstanding than its own capital.

In CAMP companies, it is seen that GDP growth is not in line with the increase in the amount of debt. This is not in line with an economic theory, which explains that economic growth is a material standard of living that increases in the long term, the increase comes from an increase in income, allowing people to consume more and more diverse quantities of goods and services (Mankiw, 2006). For companies, economic growth is an increase in people's purchasing power which must be responded to by investment activities. The increase in investment encourages management to look for sources of funds to realize these investments (Subagyo, 2009). On the other hand, the value of the company's fixed assets tends to increase, in line with the increase in the company's total debt. Companies that have large fixed assets can rely on their assets as debt guarantees so that external parties who provide loans will trust to provide loans to companies on a large scale so that the level of use of company debt will be greater than their own capital in the company's capital structure.

In the CEKA company, every year from 2017-2020, the equity value is higher than the debt value. With a lower proportion of debt, the value of the ratio of debt to equity will be below one. A value below one means that the company has a lower amount of debt than equity. This is in line with the optimal capital structure theory, where the amount of debt should not be greater than the company's equity level. On the other hand, the increase in net income should be followed by a decrease in the company's debt, and conversely, a decrease in the level of net income should be followed by an increase in the amount of debt. However, the company's net profit increased but did not decrease in debt and vice versa in 2017-2019. In the trade-off theory, it is stated that companies with high levels of profitability should not use too much debt to avoid unwanted risks. In DLTA companies, it is seen that when the interest rate increases, it is not in line with the decrease in the level of debt, and when the interest rate decreases, it is not in line with the increase in total debt. The increase in the value of net income is also not in line with the decrease in the company's debt in 2018, and when net income decreases, it is also not in line with the increase in total debt, which is seen in 2019-2020. But on the other hand, in 2018-2020 the inflation rate and GDP growth tended to decrease in line with the decline in total corporate debt.

Thus, in some companies, in terms of external factors, companies experiencing increased inflation and GDP growth are not always in line with the increase in total debt, and the decline in interest rates is also not always in line with the increase in total company debt. Regarding the company's internal factors, the increase in net income is not always followed by an increase in assets, equity, and debt, and vice versa. Some companies that experience a decrease in total net income are also not always followed by a decrease in the value of total assets, equity, and debt. Although some companies have a unidirectional relationship between interest rates, inflation rates, GDP growth, net income, equity and debt, conditions are still volatile. Hence, it is not easy to predict. The choice of capital structure is essential for the company because the capital structure is one of the barometers of the level of confidence of the company's investors. The better the capital structure owned, the more investors will invest, but conversely, the weaker the capital structure owned, the more investors will consider making decisions to invest in the company.

Managers are trusted to make smart choices about the combination of capital structure provisions to finance their companies. So, the question that arises is how to choose the best proportion of debt to equity for a company. The financial manager's choice regarding the capital structure decision to get a positive increase will directly affect the company's stock price and ultimately increase the company's market estimate, provided that a choice will be made between debt and equity. By looking at the effect of interest rates, inflation rates, and GDP growth, in addition to several specific internal company variables, such as profitability, asset structure, and company size, which are considered to have an influence on the company's capital structure when choosing between debt and equity. On the basis of stated issues, this study seeks to examine the Effect of Specific Macroeconomic and Internal Company Variables on the Capital Structure of Manufacturing Listed Companies in the Indonesia Stock Exchange.

2. Literature Review

2.1. Capital Structure

Every company, in carrying out its business activities, certainly requires capital; the availability of adequate capital for the company will encourage the smooth running of its business, this means that the capital requirement for every company is essential because capital is a factor of production, and if a company is not supported by the availability of these factors capital production, the company will not run smoothly (Artanti, 2007). Capital is the main factor that supports to advance and develop the company and increase production output. The need for funds or developing a company can be met by adding own capital or with foreign capital, and it can also be a combination of the two sources, from whichever source the capital is obtained, the costs that will arise to obtain the capital must also be taken into

account. Capital structure is a balance or comparison between foreign capital (long term) with own capital in a company (Muslimah et al., 2020). According to Horne (2012), the capital structure is a mix (proportion) of the company's permanent long-term financing which can be represented by debt, preferred stock, and common stock equity. Determining the proper capital structure in a business activity is challenging for company executives. The company will try to obtain funds with minimal capital costs with maximum results (Raharjaputra, 2009). Capital structure theory explains whether long-term spending policies can affect the company's value, the company's cost of capital, and the market price of the company's stock. Suppose the company's spending policies can affect these three factors. How is the combination of long-term debt and own capital that can maximize the company's value, minimize the company's cost of capital, or maximize the company's stock market price (Sudana, 2011). According to Sudana, (2011), the explanation described in the theory of capital structure is how the effect of capital structure on firm value, the company's cost of capital, and stock market prices. In answering these problems, it is necessary to understand some of the assumptions involved in the theory of capital structure which are explained as follows.

1. No taxes and bankruptcy fees.
2. The debt-to-equity ratio is changed by how the company issues shares to pay off debt or borrows to buy back the outstanding shares.
3. The company has the policy to pay all income to shareholders as dividends.
4. The expected value of the subjective probability distribution of each company's operating income in the future is the same for all investors.
5. The company's operating income is not expected to grow.

Capital structure is measured based on the Debt to Equity Ratio (DER). Debt to Equity Ratio (DER) is a comparison of debt and equity in the company's funding and shows the ability of the company's own capital to meet all its obligations. According to Kodrat & Herdinata (2009), the company's capital structure is centered on a combination of debt and capital. Companies can issue several different shares in various combinations. However, the company is also trying to find a combination that can optimize market value. The optimal capital structure is one of the things that can maximize the market value of the company's stock. If this ideal combination can be created, then the company's shares will reach the maximum price and the capital structure used is the optimal capital structure.

2.2. Underlying Theory

2.2.1. Modigliani and Miller (MM) Theory

Modigliani and Miller introduced the theory of modern capital structure in 1958. Modigliani & Miller (1959) proved that the value of a company is not influenced by its capital structure (Brigham & Houston, 2011). Modigliani & Miller (1959) argue that in perfect market conditions, the use of debt is irrelevant to firm value, but with taxes, debt will be relevant (Modigliani & Miller, 1959) in Ali & Hartono (2003). However, Modigliani & Miller (1959) and Brigham & Houston (2011) stated there are several unrealistic assumptions, including

1. No brokerage fees (brokerage)
2. No tax
3. No bankruptcy fees
4. Investors can borrow at the same interest rate as the company
5. All investors have the same information as management about the company's future investment opportunities
6. EBIT is not affected using debt.

In 1963, Modigliani and Miller published a follow-up article entitled "Corporate Income Taxes and The Cost of Capital: A Correction," which undermined the assumption of no corporate tax. Tax regulations allow deducting interest payments as an expense, but dividend payments to shareholders are not deductible. This different treatment encourages companies to use debt in their capital structure. Modigliani & Miller (1959) in Ali & Hartono (2003)) prove that interest on debt is deducted in tax calculations, the value of the company increases in line with the increasing amount of debt and its value will reach its maximum point if all of it is financed with debt (Brigham & Houston, 2011). The irrelevant results of the study of Brigham & Houston (2011) also depend on the assumption that there are no bankruptcy costs. But in practice, bankruptcy costs can be prohibitive. Bankrupt companies have very high legal and accounting costs and find it challenging to retain customers, suppliers, and employees, making Modigliani and Miller's theory less relevant. Problems related to bankruptcy tend to arise when the company uses more debt in its capital structure (Brigham & Houston, 2011). This means that the greater the bankruptcy cost, the higher the profit required by shareholders. The cost of debt capital will also be higher because lenders will charge high interest to compensate for the

increased risk of bankruptcy. Therefore, according to this assumption, the company will continue to use debt if the benefits of debt (tax savings from debt) are more incredible than the costs of bankruptcy. If the bankruptcy cost exceeds the tax savings from debt, the company will lower its debt level.

2.2.2. Pecking Order Theory

The next theory is the pecking order theory. This theory was first applied by Donaldson in 1961, while Myers carried out the naming of the pecking order theory in 1984. The Capital Structure Puzzle, which states that there is a kind of pecking order for companies in using capital. This theory is called the pecking order because this theory explains why companies will determine the most preferred hierarchy of sources of funds. In summary, the theory states that Brealey et al. (2008) in Husnan (2000);

1. The company chooses internal funding. The internal funds are obtained from profits (profits) generated from the company's activities.
2. The company tries to adjust the dividend distribution target by avoiding drastic changes in dividend payments.
3. Dividend policy is relatively reluctant to change, accompanied by fluctuations in profitability and unpredictable investment opportunities, resulting in the result that operating funds sometimes exceed the need for funds for investment, although, on other occasions, it may be lacking. The company will reduce the cash balance or sell its securities if the operating funds are less than the investment needs.
4. If external financing is needed, the company will issue the safest securities first, starting with the issuance of bonds, followed by securities with option characteristics (such as convertible bonds), and finally, if it is still not sufficient new shares published. The pecking order theory explains why profitable companies generally borrow in small amounts. This is not because the company has a low target debt ratio but because it requires little external financing. Meanwhile, less profitable companies tend to have more outstanding debt because internal funds are insufficient, and debt is the preferred external source. The use of external funds in the form of debt is preferred over own capital for two reasons; first, consideration of issuance costs where the cost of bond issuance will be cheaper than the cost of issuing new shares. This is because the issuance of new shares will reduce the price of old shares. Second, managers are worried that the issuance of new shares will be interpreted as bad news by investors and make stock prices go down, this is partly due to the possibility of information inequality between management and investors (Husnan, 2000).

2.2.3. Trade-Off Theory

Trade Off theory explains the relationship between taxes, bankruptcy risk and the use of debt caused by capital structure decisions taken by the company (Brealey et al., 2008). This theory is a balance between the advantages and disadvantages of using debt. The basic assumption used in the trade-off theory is the existence of asymmetric information that explains the capital structure decisions taken by a company, namely the existence of information owned by the management of a company that can convey information to the public. According to the trade-off theory expressed by Brealey et al. (2008), the company will owe up to a certain level of debt, where the tax shields from additional debt are equal to the cost of financial distress (financial distress). The cost of financial distress is the cost of bankruptcy (bankruptcy costs) and agency costs (agency costs) which increase as a result of the decline in a company's credibility. The trade-off theory implies that managers will think in terms of trade-offs between tax savings and the cost of financial difficulties in determining capital structure. On the basis of the trade-off theory, the company's decision to use debt is based on a balance between tax savings and the cost of financial difficulties. From this theory, it can also be concluded that companies with high levels of profitability should not use too much debt to avoid unwanted risks because they will try to reduce their taxes by increasing their debt ratio so that the additional debt will reduce taxes.

2.2.4. Signaling Theory

A signal is an action taken by the company's management that gives clues to investors about the company's prospects (Brigham & Houston, 2011). Companies with favorable prospects will try to avoid selling shares and seek any new capital needed by other means, including the use of debt that exceeds the normal target capital structure. Companies with less favorable prospects will tend to sell their shares. Announcement of the issuance of shares by a company is generally a sign that management views the company's prospects as bleak. If a company offers to sell new shares, more often than usual, its share price will decrease because issuing new shares means giving a negative signal which can then depress stock prices even though the company's prospects are bright. The announcement of using more debt in the company's capital structure shows the company's optimism about its prospects, where the company will be more profitable and can fulfill its financial obligations.

2.2.5. Theory of Balancing

The model of capital structure in the context of Balancing theories. Myers & Majluf (1984) and Bayless & Diltz (1994) is referred to as a balance theory, namely balancing the benefits and sacrifices that arise from the use of debt. The debt will be added as long as the benefits are still considerable. But if the sacrifice due to using debt is greater, the debt is no longer added. The sacrifice due to using the debt can be in the form of bankruptcy costs (bankruptcy costs) and agency costs (agency costs). Bankruptcy costs include legal fees, namely fees that must be paid to legal experts to settle claims and distress prices, namely company assets that are forced to be sold at low prices when the company is considered bankrupt. The greater the probability and the cost of bankruptcy, the less attractive it is to use debt. This is due to the cost of bankruptcy; the cost of own capital will rise at an increasingly rapid rate. As a result, despite benefiting from tax savings from the use of large debt, the impact of the increase in the cost of own capital is sharp, increasing the company's cost.

2.2.6. Equity Market Timing

Baker & Wurgler (2002) suggest that companies will issue equity when the market value is high and buy back equity when the market value is low. This practice is then referred to as equity market timing. The purpose of doing equity market timing is to exploit temporary fluctuations in the cost of equity against the cost of other forms of capital. According to Baker & Wurgler (2002), capital structure is the cumulative result of past equity market timing efforts. Baker & Wurgler (2002) use the market-to-book ratio, which is generally used as a proxy to measure investment opportunities, but in theory, the market-to-book ratio is also used to see whether the value of equity is overvalued or undervalued. Baker & Wurgler (2002) developed a variable model: the external finance weighted average market-to-book ratio. This variable is a company's weighted average market-to-book ratio in the past. Baker & Wurgler (2002) use this variable to see a company's effort in doing equity market timing.

2.3. Macroeconomic Variables and Capital Structure

2.3.1. Interest Rate

Interest rate is the value borrowers pay for the use of cash they receive from money lenders or fees paid for acquired resources. Ngugi (2001) describes borrowing costs as cash costs that reflect advertising data concerning expected changes in the effect of future cash purchases or expansions. Financial specialists argue that interest rates are the cost of determining capital over time; monetarists use interest rates as a significant tool to attract more savings because rising interest rates prevent companies from issuing liabilities. Financing costs are necessary because they control the development of cash in the economy. According to Sherine et al. (2022), the interest rate is the price that must be paid in the event of an exchange between one rupiah now and one rupiah later. Increasing interest rates will affect the company's funding decisions because high-interest rates will increase the burden of interest costs in obtaining capital through debt. It will directly reduce the company's profits in obtaining debt because it pays higher costs. An increase in the SBI interest rate will affect lending rates. When credit interest rates increase, companies are usually reluctant to use debt to finance company operations. Companies will tend to use internal funding rather than using external funding sources. So, when interest rates increase, the proportion of debt will also experience a decrease. Companies that tend to use internal funding instead of using external funding sources, this is following the statement of the Pecking-Order Theory.

2.3.2. Inflation Rate

The inflation rate is the rate at which the price level increases (Blanchard & Sheen, 2013). According to Booth et al., (2001), the pressure exerted by inflation actually reduces the company's dependence on debt. Gajurel (2006), studied the Nepalese companies and validates the same argument. This negative affiliation has been disclosed because companies turn to inward sources of financing at times of high inflation weights as expansion builds up costs to acquire external sources of subsidies as either long-term or temporary debt (Camara, 2012). Deangelo & Deangelo (2006), stated that inflation could theoretically encourage the use of debt because the higher the inflation, the cheaper the loan interest. When a country experiences high inflation, what happens is the cost of raw materials goes up. Indirectly, the company's operational costs will also increase. The company needs large funds to finance its operational activities with the increased operational costs. One of the efforts that can be done in order to obtain these funds is to use debt in the capital structure. With increasing debt, the company will experience tax savings, this is based on the Trade-off Theory.

2.3.3. Gross Domestic Product

Gross Domestic Product (GDP) is defined as the market value of all finished goods and services produced in a country within a certain period of time (Mankiw, 2006). According to Amrillah (2016), GDP growth is the amount of

change in GDP over time. This can be represented as a percentage rate. GDP growth indicates that the economy is doing well and national wealth is increasing. When the economy develops well, there is an increase in the population's lifestyle, which then increases the company's profitability. With increased profits, companies can support the certainty of financial specialists so that they can increase share prices. Meanwhile, negative GDP growth indicates declining financial developments and means that speculators' certainty will be reduced. Gross Domestic Product (GDP) is defined as the entire value of goods and services produced in a region within a certain period of time, usually per year, there are two types of GDP (Miles et al., 2005), namely:

- Nominal GDP (GDP at Current Prices)
  The value of GDP here does not pay attention to the influence of prices. The nominal GDP value is the product of the total amount of goods and services produced by the current price. So from this under-standing, nominal GDP can increase due to two things: increasing the amount of production of goods and services and or increasing the prices of these goods or services.
- Real GDP (GDP at Constant Prices)
  In calculating the value of real GDP, corrections are made to the value of nominal GDP, where real GDP includes the effect of prices. The real GDP's value is calculated by multiplying the total amount of production of goods and services by the constant reference price. So, in the end, the increase in real GDP is only due to an increase in the amount of production of goods and services in a certain period, not due to an increase in the price of these goods and services.

Putri (2020) states that GDP growth is one of the critical macroeconomic variables that can affect a company's capital structure. Economic growth has a close relationship with the growth opportunities of a company. With high GDP growth, this means that in general the company's growth, in general, is also relatively high. Along with the increase in company growth, companies tend to use their capital compared to debt.

2.4. Company Internal Variables

2.4.1. Profitability

A company's profitability level will show its ability to fund its own operational activities. In addition, profitability can also determine the company's ability to pay long-term debt and interest. The company's high profitability will be an attraction for investors in the company (Firnanti, 2011). According to Joni & Lina (2010), the profitability ratio is a ratio that can be used to measure the ability of a company to generate profits (profitability) at the level of sales, assets, and capital. There are three ratios that can be used in the profitability ratio, namely:

1. Return on assets (ROA), the ratio is used to show the company's ability to generate profits by utilizing the assets of the company.
2. The return on equity (ROE) this ratio is used to describe the level of return generated by the company to be distributed to shareholders.
3. Net profit margin (NPM) where this ratio is used to measure the extent to which the company can generate net profit at a certain level of sales, a low level of profit margin will indicate management inefficiency, otherwise, a high level of profit margin will indicate management efficiency in generating net profit.

In this study, the profitability ratio used is Return on Assets (ROA). This ratio measures the company's ability in the overall funds invested in assets used for company operations to generate profits. By knowing ROA, we can assess whether the company has efficiently used its assets in operating activities to generate profits. The high level of profit allows the company to obtain most of its funding from retained earnings (Mislevy et al., 2003). So that a very profitable company basically does not need a lot of debt financing, the company's high retained earnings are sufficient to finance the company.

2.4.2. Asset Structure (Tangible Assets)

The asset structure describes some total assets that can be used as collateral. Brigham & Gapenski (1996) state that, generally, companies with debt guarantees will find it easier to get debt than companies that do not have collateral. This theory is also consistent with (Setia-Atmaja, 2010) which states that companies with assets that can be used as debt collateral tend to use relatively large debt. Companies that have long-term fixed assets, then the company will use long-term hitpotik debt financing, with the hope that these assets can be used to cover their debts. On the other hand, companies whose assets are primarily in the form of receivables and inventories, the value of which is highly dependent on the sustainability of the profitability (sales) of each company, should be financed with short-term debt financing (Weston & Copeland, 1997). According to Hatta & Riyanto (2013), most industrial companies where most of their capital is embedded in fixed assets prioritize meeting their capital needs from permanent capital, namely their own capital,

while foreign capital is complementary. This can be related to the existence of a horizontal conservative financial structure which states that the amount of own capital should at least be able to cover the number of fixed assets plus other permanent assets. And companies that mainly use their own assets from current assets will prioritize meeting their funding needs with short-term debt.

2.4.3. Company Size

Company size describes the size of a company. The size of the company scale can be determined based on total sales, total assets, average sales levels, and average total assets (Seftianne & Handayani, 2011). According to Kartini & Arianto, (2008), company size is one of the factors considered in determining how big the capital structure funding decision policy is to meet the size or size of the company's assets. Large companies tend to have diversified sources of capital, so it is doubtful that the company will go bankrupt and be able to meet its obligations so that large companies have more outstanding debt than small companies. Based on the theories and previous research studies, a conceptual framework is developed regarding the effect of specific macroeconomic variables and company-specific internal variables on capital structure. The conceptual framework of the research is described as follows:
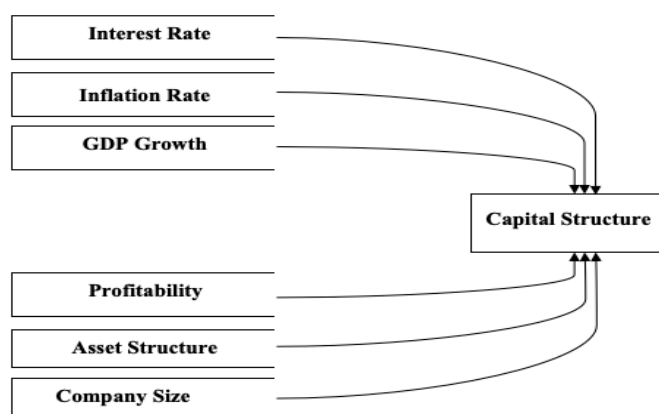

Figure 2. Conceptual Framework

2.5. Hypotheses

On the basis of conceptual framework above (see Figure 2), the proposed hypotheses of this research are as follows:

H1: Interest rates have a negative and significant effect on the capital structure of manufacturing listed companies in the Indonesia stock exchange.

H2: The inflation rate has a positive and significant effect on the capital structure of manufacturing listed companies in the Indonesia stock exchange.

H3: GDP growth has a negative and significant effect on the capital structure of manufacturing listed companies in the Indonesia stock exchange.

H4: Profitability has a negative and significant effect on the capital structure of manufacturing listed companies in the Indonesia stock exchange.

H5: The structure of assets has a positive and significant effect on the capital structure of manufacturing listed companies in the Indonesia stock exchange.

H6: Firm size has a positive and significant effect on the capital structure of manufacturing listed companies in the Indonesia stock exchange.

3. Materials and Methods

This type of research is causal associative research. According to Sugiyono (2013), associative research is causal research (explains the relationship between two or more variables), and there are independent and dependent variables in a causal relationship. In this study, the independent variables (independent) that are linked are interest rates, inflation rates, GDP growth, profitability, asset structure, and firm size to the dependent variable (dependent) capital structure. This research was conducted on the Indonesia Stock Exchange through the internet using the website www.idx.co.id. This research was started from April 2022 to October 2022. Operational boundaries are the determination of boundaries that better explain specific, more substantive characteristics of a concept. Researchers set operational limits to avoid

misinterpretation of terms in the research title and focus more on making observations. Operational limitations in this study are the dependent variable, namely capital structure. The independent variables are interest rates, inflation rates, GDP growth, profitability, asset structure, and company size in a food and beverage sub-sector manufacturing company listed on the Indonesia Stock Exchange. The data used is financial report data from manufacturing companies in the food and beverage sub-sector for 2017–2021.

3.1. Definition of Operational Variable

3.1.1. Company Capital Structure

The dependent variable in this study is the Capital Structure, which is calculated using the Debt to Equity Ratio, where this ratio shows the company's ability to meet total debt based on total own capital. Measurement of capital structure in this study is represented by the Debt to Equity Ratio (DER) with the following formula (Pudjiastuti & Husnan, 2011).

3.1.2. Independent Variables

1. Interest rate

The interest rate is the amount of interest paid per unit of time which is referred to as a percentage of the amount lent (Samuelson et al., 2004). This study uses data on the SBI interest rate that has been available during the research period on the Bank Indonesia website (www.bi.go.id).

2. Inflation Rate

According to McMahon & Boediono (1992), inflation is the tendency of prices to rise in general and continuously. An increase in the price of one or two goods alone cannot be called inflation unless the increase is widespread and results in an increase in most of the prices of other goods. This study uses the inflation formula with the Consumer Price Index as a proxy. The Consumer Price Index is an indicator commonly used in Indonesia to describe the goods and services consumed by the public.

3. GDP growth

According to Samuelson et al., (2004), Gross Domestic Product (GDP) is the total amount of output produced within the boundaries of a country in one year. GDP is the total measure of the production of goods and services of a country either produced or produced by the citizens of the country concerned and foreign nationals in the country within a certain period. GDP growth is one of the indicators of economic growth in a country. If the country has an excellent economic system and a GDP that continues to grow, this indicates that output growth in the country will continue to grow (Prasetyo, 2013).

4. Profitability

The measurement used to measure the level of company profitability is Return on Assets (ROA). According to Atrill & McLaney (2009), profitability ratios are concerned with the effectiveness of the business in generating profit. A very popular means of assessing a business is to assess the amount of wealth generated for wealth invested. ROA is a ratio that shows the company's ability to generate profits from the assets used. The greater this ratio, the better the state of a company because assets can spin faster in generating profits. The profitability ratio shows how effectively a business activity gains profit (profit).

5. Asset Structure

Kesuma (2009) states that the structure of assets (tangible assets) is the wealth or economic resources owned by the company which is expected to provide benefits in the future. The greater the number of fixed assets of a company, the easier it will be for the company to obtain loans. According to Aamir et al. (2013), to measure the value of the asset structure is using the ratio of fixed assets to total assets .

6. Company Size

Choriliyah et al., (2016), states that the size of the company is a scale where the size of the company can be classified according to various ways (total assets, log size, stock market value, and others). Firm size variable is measured by the natural logarithm (Ln) of total assets. This is because the total assets of each company are different and even have a large difference, which can cause extreme values. To avoid abnormal data, it is necessary to Ln the total assets (Kartini & Arianto, 2008). However, in addition to using natural logarithms, to avoid abnormal data, total assets can be divided by trillion rupiahs (the amount of data in the annual financial statements of companies listed on the Indonesia Stock Exchange) which is formulated as follows:

3.2. Descriptive Analysis

The descriptive analysis method is used by taking into account each variable with a predetermined formula, then the description of the variables will explain a clear picture of each variable to get an initial picture of the problem that is the object of this study.

3.3. Panel Data Regression Analysis

Testing the hypothesis in this study using the panel data regression analysis method. Regression analysis is used to find out how the dependent variable can be predicted through individual variables. The regression equations used in this study are:

$$Y_{it} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon_{it} \tag{1}$$

Whereas,
Yit   = Capital Structure (Debt to Equity Ratio)
β 0   = Constant
β 1, β 2, β 3, β 4, β 5, β 6 = Regression coefficient of independent variables
X1   = Interest Rate
X2   = Inflation Rate
X3   = GDP Growth
X4   = Profitability
X5   = Asset Structure
X6   = Company Size
ε   = Error of term
t   = Time
i   = Company

3.4. Panel Data Regression

Panel data is collected by cross section and at a certain time. Because panel data is a combination of cross-section and time series data, the number of observations becomes very large. Therefore, a technique is needed to overcome the panel data model. There are several techniques offered, namely:

1. Common Effect Model or Pooled Least Square
   This technique is almost similar to regression with a cross-section or time series. However, for panel data, before making a regression or cross-section, time series data must be combined first.
2. Fixed Effect Model
   The fixed effect approach considers the possibility that the researcher encounters committed variables, which may lead to changes in the intercept time series or cross-section.
3. Random Effect Model (Random Effect Model)
   The random effect approach improves the efficiency of the least squares process by considering errors from the cross-section and time series. The random effect model is a variation of the generalized least square (GLS) estimate.

The steps in selecting the panel data model are as follows:
a. Estimation with Common Effect Model or Pooled Least Square.
b. Estimation with Fixed Effect Model.
c. Chow Test (Common Effect Model or Fixed Effect Model)

The Chow test is a test to compare the standard effect model with the fixed effect (Widarjono, 2017). The Chow test in this study used the Eviews program. The hypotheses formed in the Chow test are as follows:

H0: The CEM model is better than the FEM model.
H1: The FEM model is better than the CEM model.
With decision-making criteria:
Accept H0 if p-value > significant value (0.05) and reject H0 (accept H1) if p-value < significant value (0.05).

1. Estimation with Random Effect Model.
2. Hausman test (Random Effect Model or Fixed Effect Model)
   This test compares the fixed effect model with random effects in determining the best model to be used as a panel data regression model (J. Gujarati, 2012). The Hausman test uses a program like the Chow test, namely the EVIEWS program. The hypothesis formed in the Hausman test is as follows:

   H0: REM model is better than FEM model.
   H1: The FEM model is better than the REM model

With the following decision criteria: Accept H0 if p-value > significant value (0.05) and reject H0 (accept H1) if p-value < significant value (0.05).

3. Lagrange Multiplier Test (Common Effect Model or Random Effect Model) The Lagrange Multiplier Test is a test to compare the common effect model with random effects. The Lagrange Multiplier test in this study uses the EVIEWS program. The hypothesis formed in the Lagrange Multiplier test is as follows:

   H0: CEM model is better than REM model.
   H1: The REM model is better than the CEM model

With the following decision criteria: Accept H0 if p-value > significant value (0.05) and reject H0 (accept H1) if p-value < significant value (0.05).

3.5. Classical Assumption Test

Classical assumption test is done if the selected model is Common Effect Model (CEM) or Fixed Effect Model (FEM). If the chosen model is the Random Effect Model (REM), then there is no need to test the classical assumption because the equation that meets the classical assumption only uses the Generalized Least Square (GLS) method. In reviews, the estimation model that uses the GLS method is only REM, while FEM and CEM use Ordinary Least Square (OLS). Thus, whether or not the classical assumption test is necessary for this study depends on the results of the estimation method selection. If based on the selection of the appropriate estimation method for the regression equation is REM, then there is no need to test the classical assumption. On the other hand, if the regression equation is more suitable for using CEM or FEM (OLS), it is necessary to test the classical assumption. (D. Gujarati & Porter, 2010). The classical assumption requirements that the multiple regression model must meet before the data are analyzed are as follows:

3.5.1. Normality Test

According to Ghozali (2013), the purpose of the normality test is as follows: "The normality test aims to determine whether each variable is normally distributed or not. The normality test is needed because it tests other variables by assuming that the residual value follows a normal distribution. If this assumption is violated, the statistical test becomes invalid and parametric statistics cannot be used.

A good regression model is a model that has normal residuals. If the residual is normal, then the research results can be generalized. In using EVIEWS, the residual normality test can be done using the Jarque-Berra Test (JB test) with the following hypothesis:
   H0: Residual is normally distributed.
   H1: residuals are not normally distributed.
By using a significant level (5%. If the p-value> level real (α), then H0 is accepted, meaning that the residual data is usually distributed. On the other hand, if the p-value < significant level (α), then H1 is accepted, meaning that the residual data is not normally distributed.

3.5.2. Heteroscedasticity Test

According to Ajija et al., (2011), Heteroscedasticity is a condition in which all disorders that appear in the population regression function do not have the same variance. Heteroscedasticity test can be done in this way.
1. See the residual pattern from the regression estimation results. If the residual moves are constant, then there is no heteroscedasticity. However, if the residuals form a particular pattern, there is an indication of heteroscedasticity.

2. To prove the suspicion on the heteroscedasticity test, a White Heteroscedasticity test is carried out which is available in the Eviews program. The results observed from this test are the values of F and Obs*R-Squared. If the value of Obs*R- Squared is smaller than X2 table, then there is no heteroscedasticity, and vice versa. Testing the heteroscedasticity hypothesis is as follows:
    H0: there is no heteroscedasticity.
    H1: heteroscedasticity occurs.
With decision-making criteria: If the p-value Obs*R-square < , then H0 is rejected and H1 is accepted, which means that there is no heteroscedasticity problem.

3.5.3. Autocorrelation Test

According to Ajija et al.,(2011), Autocorrelation (or autocorrelation) shows the correlation between members of a series of observations ordered by time or space. To detect an indication of autocorrelation, the following are things that can be done.
1. Pay attention to the value of t-statistics, R2, F test, and Durbin Watson (DW) Statistics.
2. Perform the LM test (Bruesch Godfrey method). This method is based on F and Obs*R-Squared values, where if the probability value of Obs*R-Squared exceeds the confidence level, then H0 is accepted. This means that there is no autocorrelation problem.
    Testing the autocorrelation hypothesis:
    H0: there is no serial correlation (serial correlations)
    H1: serial correlations occur.
With the decision criteria: If the p-value Obs*R-square < α, then H0 is rejected, which means no correlation problem exists.

3.5.4. Multicollinearity Test

Multicollinearity means a perfect or definite linear relationship among some or all variables that explain the regression model. The presence or absence of multicollinearity symptoms can be known or seen from the correlation coefficient of each independent variable. If the correlation coefficient between each independent variable is greater than 0.8, then multicollinearity occurs (Ajija et al., 2011).

3.6. Hypothesis Testing

The regression model that has met the classical assumptions will be used to analyze a calculation so that it is called statistically significant if the value of the statistical test is in the critical area (the area where H0 is rejected). On the other hand, it is called insignificant if the statistical test is in the area where H0 is accepted. The test model carried out is the F test and t test.

3.7. Coefficient of Determination (R^2)

The coefficient of determination is a value coefficient that shows the amount of variation in the dependent variable (dependent variable) which is influenced by variations in the independent variable. The measurement of the percentage of truth from the regression test can be seen through the coefficient of determination of multiple R Square. If the R Square value is a regression (close to one), the better the regression is and the closer it is to zero, then the independent variable cannot explain the dependent variable. Adjusted R Square is used to see how much influence the factors caused by the independent variables have on the dependent variable.

4.   Results and Discussion

4.1. Statistic Descriptive Analysis

The descriptive analysis provides an overview of the phenomena or characteristics of the data. The goal is to make reading the data more accessible and understanding its meaning. The results of the processed data in the form of descriptive statistics will display the characteristics of the sample used in this study, including the number of samples (N), sample average (mean), minimum and maximum values, and standard deviation for each research variable. The description in this study consists of six variables: Capital Structure (DER), Interest Rates, and Inflation, GDP, Profitability (ROA), Asset Structure (TAN), and Firm Size (SIZE) are presented in Table 2 below:

Table 1. Result of Descriptive Statistics

	Y	X1	X2	X3	X4	X5	X6
Mean	0.888298	4.500000	2.602000	3.376000	0.095484	0.495029	15.64100
Median	0.753310	4.250000	2.720000	5.020000	0.072580	0.524620	15.30890
Maximum	2.966400	6.000000	3.610000	5.170000	1.020040	0.834210	19.00488
Minimum	0.087680	3.500000	1.680000	-2.070000	0.000100	0.055110	13.26553
Std. Dev.	0.673719	0.911678	0.736857	2.786969	0.110160	0.210201	1.498347
Skewness	0.904056	0.550482	-0.001500	-1.367908	5.245284	-0.361873	0.276386
Kurtosis	3.036293	1.893939	1.459828	3.047024	40.33292	2.287540	1.963462
Jarque-Bera	18.39705	13.69964	13.69964	42.11382	8458.868	5.801668	7.762310
Probability	0.000101	0.001060	0.001060	0.000000	0.000000	0.054977	0.020627
Sum	119.9202	607.5000	607.5000	455.7600	12.89035	66.82896	2111.535
Sum Sq. Dev.	60.82232	111.3750	111.3750	1040.805	1.626115	5.920717	300.8358
Observations	135	135	135	135	135	135	135

Table 2 shows that the amount of data used in this study is as many as 27 data samples taken from the Indonesia Stock Exchange which are accessed through the website www.idx.co.id. The capital structure variable (DER) with 135 observational data has an average value of 0.888298, a minimum value of 0.087680, owned by the company Indofood Sukses Makmur Tbk. in 2017, this is because this company has a minimal amount of debt while the total equity is considerable. The maximum value of 2.966400 is owned by the company FKS Multi Agro Tbk. in 2018, this is because it has a much larger total debt than its total equity. This causes the company's capital structure (DER) is relatively high. The standard deviation of the company's DER is 0.673719. The interest rate variable with 135 observational data has an average of 4.500000. The minimum value is 3.500000, where the lowest interest rate during the five-year study period is in 2021, this is due to an increase in inflation in 2021 which causes interest rates to fall. The maximum value is 6,000000, where the highest interest rate occurs in 2018. This is due to a decrease in the value of inflation in 2018, so interest rates increased. The standard deviation of the company's interest rate is 0.911678. The inflation variable with 135 observational data has an average of 2.602000. The minimum value is 1.680000, which is the lowest inflation rate during the five-year study period, namely in 2020. Low inflation is influenced by domestic demand that has not been strong due to the COVID-19 pandemic in 2020. The maximum value is 3.610000, where the interest rates the highest occurred in 2017, this was due to rising prices and a high amount of money in circulation that year. On the other hand, when viewed from data from 2016 to 2017, there was a decrease in interest rates due to an increase in inflation in 2017. The standard deviation of company inflation is 0.736857.

The GDP variable with 135 observational data has an average of 3.376000. The minimum value is -2.070000, the lowest GDP level during the five-year research period that occurred in 2020. GDP reached a negative or minus value in 2020, influenced by the impact of the COVID-19 pandemic which also damaged the economy. The maximum value is 5.170000, with the highest GDP in 2018. The standard deviation of the company's GDP is 2.786969. The variable profitability (ROA) with 135 observational data has an average of 0.095484. The minimum value of 0.000100 is owned by the company Sawit Sumbermas Sarana Tbk. in 2019, this is due to the company's ability to use its assets to generate profits is still very low. Where in 2019, the net profit value of the company Sawit Sumbermas Sarana Tbk. decreased drastically compared to the previous year, so in 2019 the company had to use debt as a source of capital which made the company's DER value increase from 2018, which was 1.77602 to 1.91139 in 2019. The maximum value of 1.020040 is owned by the company Akasha Wira International Tbk. in 2019, this was due to the increase in the company's ability to use its assets for the company's operations in generating profits which can be seen in 2019 the net profit value of the company Akasha Wira International Tbk. much increased compared to the previous year. Basically, very profitable companies do not need a lot of financing using debt, thus causing the company's DER value to decrease from 0.82870 in 2018 to 0.44800 in 2019. The standard deviation of the company's ROA is 0.110160.

Asset Structure Variable (TAN) with 135 observational data has an average value of 0.495029. The minimum value of 0.055110 is owned by the company Tigaraksa Satria Tbk. in 2018, this shows that the company Tigaraksa Satria Tbk. has the smallest proportion of fixed assets from its total assets compared to other companies. In other words, this company has the smallest fixed asset investment during the study period. The maximum value is 0.834210, owned by Astra Agro Lestari Tbk. in 2019, where this company has the largest fixed asset investment percentage of its total assets during the study period. Value of debt to the company Astra Agro Lestari Tbk. increased in 2019 because external parties believed in providing loans to companies with fixed asset values on a large scale as debt guarantees which made the DER value of this company increase from 2018 of 0.37908 to 0.42130 in 2019. The standard deviation of TAN is 0.210201.

Company Size Variable (SIZE) with 135 observational data has an average value of 15.64100. The minimum value of 13.26553 is owned by the company Buyung Poetra Sembada Tbk. in 2017 due to the low total asset value

which is the return on the low amount of cash and net receivables which is much lower than other companies. Small company sizes tend to be more difficult to gain trust or confidence from creditors to provide loans, making the company's DER value the lowest in 2017 of 0.21216 in the five-year research period of this company. The maximum value of 19.00488 is owned by Indofood Sukses Makmur Tbk. in 2021, where the company's total assets have the highest value compared to other food and beverage companies. Large company size means that companies have more stable cash flows and have greater access to external funding sources through debt from creditors. This is related to the level of trust creditors give to large companies, so the DER value for these companies increases from 1.06142 in 2020 to 1.07032 in 2021. The standard deviation of SIZE is 1.498347.

4.2. Panel Data Regression

4.2.1. Chow Test

Determining the estimation model between the Common Effect Model (CEM) and Fixed Effect Model (FEM) can be done with the Chow test. The hypotheses tested are as follows:
H0: The CEM model is better than the FEM model.
H1: The FEM model is better than the CEM model.
    The rules for making decisions on hypotheses are as follows:
    a.   If the probability value of the fixed effects cross-section <0.05, then H0 is rejected and H1 is accepted.
    b.   If the probability value of cross-section fixed effects is 0.05, then H0 is accepted, and H1 is rejected.

    In Table. 3 below, it can be seen the results based on the Chow test using Eviews 12.

Table 2. Result of Chow Test

Redundant Fixed Effects Tests
Equation: FEM
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	34.883567	(26,102)	0.0000
Cross-section Chi-square	309.381551	26	0.0000

Table 3 shows the result of Chow test. The result indicates that the probability value is 0.0000. Because the probability value < 0.05, then H0 is rejected and H1 is accepted. In other words, the estimation model used is FEM.

4.2.2. Hausman Test

Determining the estimation model between Random Effect Model (REM) and Fixed Effect Model (FEM) can be done by Hausman Test. The hypotheses tested are as follows:
H0: REM model is better than FEM model.
H1: The FEM model is better than the REM model.
    The rules for making decisions on hypotheses are as follows:
    a.   If the probability value of chi square p-value <0.05, then H0 will be rejected and H1 will be accepted.
    b.   If the probability value of chi square p-value 0.05, then H0 will be accepted and H1 will be rejected.

    In Table 4. below, it can be seen the results based on the Hausman test using Eviews 12.

Table 3. Result of Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	6	1.0000

Table 4 shows the probability value is 1.0000. Because the probability value is > 0.05, then H1 is rejected and H0 is accepted or in other words the estimation model used is REM or Random Effect Model. From the Hausman test results, the selected model is a random effect model. The Lagrange multiplier test was not carried out because the Hausman test had obtained the best model, namely the random effect model. The random effect approach improves the efficiency of the least squares process by considering errors from the cross-section and time series. The random effect model is a variation of the generalized least square (GLS) estimate. Because the chosen model is the Random Effect Model (REM), there is no need to test the classical assumptions because the only equations that meet the classical assumptions are those that use the Generalized Least Square (GLS) method. In reviews, the estimation model that

uses the GLS method is only REM, while FEM and CEM use OLS. (D. Gujarati & Porter, 2010). Because the result of selecting the appropriate estimation method for the regression equation is REM, it is not necessary to test the classical assumption.

4.2.3. Panel Data Regression Analysis

This analysis is used to determine the effect of Interest Rate (X1), Inflation (X2), GDP (X3), ROA (X4), TAN (X5), and SIZE (X6) variables on DER (Y) in food manufacturing companies. and beverages on the Indonesia Stock Exchange. Panel data model regression testing was conducted to find the relationship between the independent and dependent variables. The regression results can be seen in Table 5 below:

Table 4. Result of Random Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Interest Rate	0.032459	0.026971	1.203447	0.2310
Inflation	0.085666	0.044033	1.945484	0.0539
GDP	-0.006380	0.010811	-0.590078	0.5562
ROA	-0.430468	0.240118	-1.792735	0.0754
TAN	0.088813	0.268128	0.331234	0.7410
SIZE	0.229403	0.060641	3.782998	0.0002
C	-3.050092	1.023119	-2.981169	0.0034
		Effects Specification		
		S.D.	Rho	
Cross-section random		0.616628	0.8844	
Idiosyncratic random		0.222969	0.1156	
Weighted Statistics				
R-squared	0.166922	Mean dependent var	0.141804	
Adjusted R-squared	0.127872	S.D. dependent var	0.237886	
S.E. of regression	0.222157	Sum squared resid	6.317256	
F-statistic	4.274522	Durbin-Watson stat	1.318920	
Prob (F-statistic)	0.000584			
Unweighted Statistics				
R-squared	0.150783	Mean dependent var	0.888298	
Sum squared resid	51.65133	Durbin-Watson stat	0.161312	

Table 5 indicates that constant of -3.050092 means that without considering the independent variables, the level of capital structure is -3.050092. The coefficient of interest rates is 0.032459, meaning that each addition to the Interest Rate variable is 1 unit, assuming other variables are held constant, which will reduce the level of capital structure by 0.032459. The coefficient of inflation is 0.085666, meaning that every 1 unit addition to inflation, assuming other variables are held constant, will increase the level of capital structure by 0.085666. The coefficient of GDP is -0.006380, meaning that every time there is an addition to the GDP variable by 1 unit, assuming other variables are held constant, it will increase the level of capital structure by -0.006380. The ROA coefficient is -0.430468, meaning that every time there is an addition to the ROA of 1 unit, assuming other variables are considered constant, it will reduce the level of capital structure by -0.430468. The coefficient of TAN is 0.088813, meaning that every 1 unit addition to the TAN, assuming other variables are held constant, will reduce the level of capital structure by 0.088813. The SIZE coefficient is 0.229403 which means that every time there is an addition to the SIZE of 1 unit, assuming other variables are considered constant, it will reduce the level of capital structure by 0.229403.

4.2.4. Hypothesis Testing

In testing the hypothesis, the partial regression coefficient significance test will be carried out as a whole or simultaneously (F test), the individual partial regression coefficient significance test (t test) and analysis of the coefficient of determination will be carried out. The statistical values of the F test, t test and the coefficient of determination can be seen in Table 6:

Table 5. Statistical value of F-Test, t-test and Coefficient of Determination

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Interest Rate	0.032459	0.026971	1.203447	0.2310
Inflation	0.085666	0.044033	1.945484	0.0539
GDP	-0.006380	0.010811	-0.590078	0.5562
ROA	-0.430468	0.240118	-1.792735	0.0754
TAN	0.088813	0.268128	0.331234	0.7410
SIZE	0.229403	0.060641	3.782998	0.0002
C	-3.050092	1.023119	-2.981169	0.0034
Effects Specification				
		S.D.		Rho
Cross-section random		0.616628		0.8844
Idiosyncratic random		0.222969		0.1156
Weighted Statistics				
R-squared	0.166922	Mean dependent var		0.141804
Adjusted R-squared	0.127872	S.D. dependent var		0.237886
S.E. of regression	0.222157	Sum squared resid		6.317256
F-statistic	4.274522	Durbin-Watson stat		1.318920
Prob (F-statistic)	0.000584			
Unweighted Statistics				
R-squared	0.150783	Mean dependent var		0.888298
Sum squared resid	51.65133	Durbin-Watson stat		0.161312

Table 6 shows that the probability value of the F test (Prob (F-statistic)) is 0.000584. Because the probability value, which is 0.000584, is smaller than the significance level, which is 0.05, then H0 is rejected and H1 is accepted. So, it can be concluded simultaneously, Interest Rates, Inflation, GDP, ROA, TAN, and SIZE significantly affect the capital structure of manufacturing companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange. Also, this study found that the independent variable Interest Rate coefficient value is 0.032459, which is positive. This value can be interpreted that the Interest Rate variable positively affects the capital structure (DER). The probability value of the Interest Rate variable is 0.2310, which is 0.05, then the Interest Rate variable has no significant effect on the capital structure (DER) at a significance level of 5%. The coefficient value of the independent variable Inflation is 0.085666, which is positive. This value can be interpreted as the inflation variable positively affecting the capital structure (DER). The probability value of the inflation variable is 0.0539, which is 0.05, the inflation variable has no significant effect on capital structure (DER) at a significance level of 5%. However, the inflation variable is 0.0539 < 0.1, so the inflation variable has a significant effect on capital structure (DER) at a significance level of 10%. The coefficient value of the independent variable GDP is -0.006380, which is negative. This value can be interpreted as the GDP variable negatively affecting the capital structure (DER). The probability value of the GDP variable is 0.5562, which is 0.05, then the GDP variable has no significant effect on the capital structure (DER) at a significance level of 5%.

The coefficient value of the independent variable ROA is -0.430468, which is negative. This value can be interpreted as the ROA variable negatively affecting the capital structure (DER). The probability value of the ROA variable is 0.0754, which is 0.05, then the ROA variable has no significant effect on the capital structure (DER) at a significance level of 5%. However, the ROA variable is 0.0754 < 0.1, then the ROA variable has a significant effect on the capital structure (DER) at a significance level of 10%. The coefficient value of the independent variable TAN is 0.088813, which is positive. This value can be interpreted that the TAN variable positively affects the capital structure (DER). The probability value of the TAN variable is 0.7410, which is 0.05, then the TAN variable has no significant effect on capital structure (DER) at a significance level of 5%. The coefficient value of the independent variable SIZE is 0.229403 which is positive. This value can be interpreted that the SIZE variable positively affects the capital structure (DER). The probability value of the SIZE variable is 0.0002, which is <0.05, then the SIZE variable has a significant effect on the capital structure (DER) at a significance level of 5%.

4.2.5. Coefficient of Determination Analysis

The coefficient of determination (R2) is a value (proportion value) that measures how much the ability of the independent variables is used in the regression equation to explain the variation of the dependent variable. The value of the coefficient of determination ranges between 0 and 1. The small value of the coefficient of determination R2 (close to zero) means the ability of the independent variables together to explain the variation of the dependent variable is very

limited. The value of the coefficient of determination R2 which is close to one means that the independent variables provide almost all the information needed to predict the variation of the dependent variable. The Adjusted R-Squared value is 0.127872. This value can be interpreted as Interest Rates, Inflation, GDP, ROA, TAN, and SIZE are able to influence/explain the level of the capital structure together by 12.78%, so that 87.22% is influenced by other factors not described in this research.

4.3. Discussion

4.3.1. The Effect of Interest Rates on Capital Structure

This study shows that the interest rate variable has a positive and insignificant effect on capital structure. These results align with research conducted by Yulianto (2017), but this contradicts the proposed theory. The results show that with a positive influence, the company continues to use external funding sources to finance its activities, namely in the form of debt. This can happen because rising interest rates will encourage people to save and are lazy to invest in the real sector. The increase in interest rates will be borne by investors, namely in the form of an increase in interest costs for the company. People do not want to risk making investments with high costs, as a result investment will not develop. It means that increasing interest rates will reduce investor interest because stock returns will decrease. It will allow the company to choose debt as a funding source to overcome the decline in the level of investment so that the company can survive and run its operations. This is what makes when interest rates increase, the level of capital structure through debt also increases. According to Sudana (2011), the company's decision to use debt is based on a balance in tax savings and the cost of financial difficulties. Trade-off theory states that companies exchange tax benefits from funding gains through debt with higher interest rates and bankruptcy costs (Brigham & Houston, 2011). Trade-off theory, states that the optimal level of debt is achieved when tax savings reach the maximum amount against the cost of financial distress, meaning that there is a balance between benefits and sacrifices arising from the use of debt.

On the other hand, loan credit is higher than deposit interest, therefore, the cost burden borne by entrepreneurs who use debt in their capital structure is also high. The high-interest expense and the obligation to pay installments are a burden for the company's cash flow. However, interest costs will reduce the company's income before taxes, so the greater the interest costs will result in greater savings in income tax payments, in real terms the interest costs paid are smaller than the tax payments. In addition, financial specialists argue that interest rates are the cost of allotment of capital over time; monetarists use interest rates as a significant tool to attract more frugality because rising interest rates prevent organizations from issuing liabilities. Financing costs are substantial because they control the development of cash in the economy. Expansion of controlling high-interest rates, but also hampering the economy. Low-interest rates animate the economy but can encourage swelling.

4.3.2. Effect of Inflation on Capital Structure

The results of the study indicate that the inflation rate has a positive and significant effect at a significance level of <10% on the capital structure, this is in line with the results of research by Yulianto (2017) and Pepur et al., (2016) Although higher interest rates and monetary risk caused by inflation are said to reduce firm leverage, inflation pushes up the monetary value of firm assets (Booth et al., 2001). This positive association is not in line with what has been explained. Companies use internal funding sources during periods of high inflationary pressure because inflation increases the cost of obtaining external funding sources in the form of long or short-term debt. Moreover, with rising inflation, consumers' purchasing power may decrease, which will have a significant impact on the company's income. This condition also affects the value of net income because the company will be at risk of funding the company's activities using debt due to the limited amount of retained earnings. Inflation is a generally perceived macroeconomic indicator. High inflation negatively affects both the level of financing obligations and the utilization of long-term development obligations (Demirgüç-Kunt & Maksimovic, 1999). The positive effect of inflation on leverage is consistent with the trade-off theory. When a country experiences high inflation, what happens is the cost of raw materials goes up. Indirectly, the company's operational costs will also increase. The company needs large funds to finance its operational activities with the increased operational costs. One of the efforts that can be done to obtain these funds is to use debt in the capital structure. With increasing debt, the company will experience tax savings, this is based on the Trade-off Theory.

4.3.3. Effect of GDP on Capital Structure

The real GDP growth rate was found to have a negative and insignificant impact on the capital structure. The results of this study are in line with research conducted by Seftianne & Handayani (2011) and Pepur et al., (2016). A negative relationship between GDP growth rate and capital structure can be expressed as firms with higher GDP levels reducing their capital structure to support future ventures using internal sources. That is, when real GDP growth is high, it indicates that the company's profitability is high due to the increasing number of net sales, which utilize internal

funding sources to capitalize on investments in future growth opportunities. To help with this result, the Pecking-Order Theory explains why firms with high profits have low levels of debt. Pecking-Order Theory states that managers prefer funding from within the company rather than from outside. In short, this theory states that companies prefer internal funding from the company's operating results in the form of retained earnings to fund their projects.

4.3.4. Effect of Profitability (ROA) on Capital Structure

High return on assets (ROA) reflects the company's level of efficiency in using its assets to generate high profits for the company itself and shareholders (Hadianto, 2008). Companies that have good financial conditions will borrow less money, in line with the Pecking Order Theory which states that companies will tend to use internal funding sources as much as possible before using debt (Myers & Majluf, 1984). So, profitability has a negative effect on the company's capital structure. This research is in line with the research conducted by Yulianto (2017) and Chen et al. (2014), that profitability has a negative effect on capital structure. These results show that profitability is closely related to capital structure, namely the higher the profitability, the lower the capital structure. This is because the company wants to develop its company with high profitability potential but avoid or reduce debt risk by reducing funding from debt and increasing funding sources according to the pecking order theory by using retained earnings from the previous year's accumulated profits. On the other hand, companies with low profitability will experience difficulties and need external funds such as debt, because the fixed costs that occur in the company will continue to run, so the company will need additional external funds to cover these costs.

4.3.5. Effect of Asset Structure (TAN) on Capital Structure

Asset structure is a comparison between total net fixed assets that can be used as collateral for debt, with total assets. According to Brigham & Houston (2011), the company's assets will influence the company and its relationships with other parties. Assets are one of the guarantees that can convince other parties to be able to provide loans to the company. This shows that the higher the value of tangible fixed assets owned by the company, the greater the possibility of obtaining large loans. In this study, the TAN variable partially showed a positive but insignificant effect on DER. This is also supported by the opinion of the trade-off theory, which states that the more asset structure of a company, the more collateral assets (collateral) to obtain external sources of funds in the form of debt, because creditors will ask for collateral assets as a guarantee of the company's ability to pay debts (Brealey et al., 2008). Therefore, the more asset structure the company has, the higher the confidence of creditors in approving credit for the debts proposed by the company. This study's results align with research conducted by Agustini & Budiyanto (2015) and Denziana & Yunggo (2017), that asset structure has a positive effect on capital structure.

4.3.6. The Effect of Firm Size (SIZE) on Capital Structure

The results showed that firm size had a positive and significant effect on capital structure at a significance level of <5%. Large-scale companies will find it easier to get loans than small companies. Therefore, investors will speculate more for large companies with the hope of large returns (Solechan, 2009). It is believed that larger companies can generate more profits. Following the signal theory, according to Brigham & Houston (2006), an action taken by the company's management gives instructions to investors about how management views the company's prospects. Published company information will give a signal to investors in making investment decisions. Based on signaling theory, companies that can generate profits will tend to increase the amount of debt, because additional interest payments will be offset by profit before tax (Sudana, 2011). According to this theory, the more successful a company is, the more likely it is to increase its debt. The addition of debt is done to reduce taxes on company profits. In other words, a rational company will increase debt if the additional debt can increase profits. This shows that firm size has a positive effect on capital structure. The results of this study are in line with research conducted by Denziana & Yunggo (2017), Seftianne & Handayani (2011), Chen et al. (2014) and Arifin et al. (2015), which state that partially the size of the company has a positive and significant effect on capital structure.

5. Conclusions

This study examines the effect of Interest Rates, Inflation, GDP, ROA, TAN, and SIZE on DER of manufacturing companies in the food and beverage sub-sector on the Indonesia Stock Exchange. After selecting the panel data model, the panel data model Random effect model (REM) is selected. From the results of testing the REM model, this study concludes that interest rates have a positive and insignificant effect on the capital structure of the food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange. Inflation has a positive and significant effect on the capital structure of the food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange. GDP has a negative and insignificant effect on the capital structure of manufacturing companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange. Return on Assets (ROA) has a negative and

significant effect on the capital structure of manufacturing companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange. Asset structure (TAN) has a positive and insignificant effect on capital structure in food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange. Company Size (SIZE) has a positive and significant effect on the capital structure of manufacturing companies in the food and beverage sub-sector listed on the Indonesia Stock Exchange. Interest Rates, Inflation, GDP, ROA, TAN, and SIZE simultaneously have a significant effect on the DER variable in the food and beverage sub-sector manufacturing companies listed on the Indonesia Stock Exchange.

5.1. Managerial Implications

The findings of the study imply that GDP and ROA have a negative relationship with DER. As GDP and ROA increase, the DER level will decrease. From the research results, ROA has a significant effect on capital structure. Therefore, managers should pay more attention to this variable. They are encouraged to avoid using debt, especially long-term debt when GDP and ROA are high in their capital structure decisions. The sale is a picture of a company's performance. By increasing sales, the company can increase its profitability. The higher the sales, the higher the company value and the higher the company's stock price. Investors usually buy stocks when they believe the price will be higher and expect a high return (from dividends and stock price). In addition, high income can increase market confidence not only in the company's current performance but also in the company's prospects in the future. Steps that companies can take to increase sales are expanding Business Targets The most straightforward thing a company can do to increase sales and gain significant profits is to expand the business. Creating new products or services that are more innovative can increase consumers' desire to buy and impact sales.

Research a new product or service, choose a target market and set a price. If the company does the research correctly, the company will get increased sales and profits. Focus on product or service quality affects the company's integrity, and product quality greatly influences sales figures. Ensure product or service quality is maintained. Until now, quality has become the basis and reference for every human being to determine the price of a product or service. Consumers appreciate products or services that have good quality. The higher the quality of the product or service offered, the more likely a customer will get a positive review and repeat purchases. Reviewing the Prices of Products or Services For the stability of sales, evaluating the prices of products or services is essential. Research with sales surveys that have been conducted, for example, how the public responds to products or services that have been sold, whether the price offered is too high or cheap, and the prices of similar products on the market. If production costs are too low, companies can raise prices and educate about the potential benefits, such as improved customer service, better warranties, improved quality of ingredients used, and fairer regulation.

When the profitability level is high, the company can generate income from its own assets/equity. Increasing their net profit will provide a higher amount of retained earnings, which can be used as company capital for the next period. The high amount of retained earnings can prevent companies from financing their activities through debt issuance because they already have large internal revenues. The company has an obligation to pay dividends to its shareholders. High income will result in higher dividends being paid to the company's shareholders. If stakeholders are satisfied, it will improve company performance, which will increase company value.

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