

Research article

The Role of Interest Rate Moderation on The Effect of Leverage, Asset Growth, and Liquidity on Profitability in The Agricultural Sector In 2017-2022

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Abstract: The aim of this research is to determine The Role of Interest Rate Moderation on The Effect of Leverage, Asset Growth, and Liquidity on Profitability in The Agricultural Sector In 2017-2022. This type of research is an associative type. The population in this research is all 43 Agricultural Sector Companies listed on the Indonesia Stock Exchange. The sample in this study was 14 companies x 6 years of research = 84 financial reports of Agricultural Sector Companies listed on the Indonesian Stock Exchange. The type of data used in this research is quantitative data with secondary data sources. The data collection technique used by researchers is the technique of collecting data with documentation. The data collected was tested using validity and reliability tests, classical assumption tests, multiple linear regression, and hypothesis testing using WarpPLS software. The results of this research show that profitability is influenced by leverage negatively and significantly. Profitability is influenced by Asset Growth positively and significantly. Profitability is influenced by liquidity positively and significantly. Profitability is influenced by interest rates negatively and significantly. Interest rates are unable to moderate the influence of leverage on profitability. Interest rates are able to moderate the influence of asset growth on profitability. Interest rates are able to moderate the influence of liquidity on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange.

Keywords: Leverage, Asset Growth, Liquidity, Profitability, Interest Rates

INTRODUCTION

Indonesia is widely recognized as an agricultural country, with the agricultural sector playing a pivotal role in supporting the nation's economy and ensuring food security. To meet domestic food needs, the government has implemented programs aimed at boosting food production. However, the agricultural sector faces challenges stemming from economic fluctuations, climate change, technological advancements, and market dynamics. These factors necessitate adequate financing to allow companies to invest, grow, and enhance profitability.

Profitability, a key indicator in financial management, reflects a company's efficiency in generating profits relative to its resources and expenses. Effective financial management not only supports short-term performance but also ensures long-term financial health. Return on Assets (ROA) is commonly used as a profitability ratio to measure a company's effectiveness in utilizing its assets to generate returns. However,

data from 2017–2022 reveal that 69.04% of agricultural companies have ROA values below the standard of 5.98%, with an average of only 3.59%. These figures, which fluctuate annually, indicate poor financial performance that falls short of both investor and management expectations.

Given these challenges, it becomes critical to investigate the factors influencing profitability in the agricultural sector. Prior studies have identified several determinants, including leverage, asset growth, liquidity, and interest rates. Leverage, or the use of external funding, can either positively or negatively impact profitability, as demonstrated by Kartikasari and Merianti (2016), Ariyasa et al. (2019), and Kamsari and Setijaningsih (2020). Similarly, asset growth has shown mixed effects on profitability, with findings from Afrianti and Purwaningsih (2022), Inrawan et al. (2021), and Ariyasa et al. (2019) offering varied perspectives.

Liquidity, which determines a company's ability to meet short-term obligations, also exhibits contrasting relationships with profitability, as reported by Afrianti and Purwaningsih (2022), Nurfadilah et al. (2023), and Kamsari and Setijaningsih (2020). Moreover, interest rate fluctuations—often driven by national economic policies—can further complicate profitability outcomes. Studies by Nurfadilah et al. (2023), Putra et al. (2023), and Khairunnisa (2021) highlight differing impacts of interest rates on company performance.

The inconsistent findings in prior research regarding the influence of leverage, asset growth, liquidity, and interest rates on profitability underscore the need for further investigation. This study aims to bridge the gap by analyzing the extent to which these factors affect profitability in the agricultural sector, as measured by Return on Assets (ROA). By addressing this issue, the research contributes to a deeper understanding of financial performance in agricultural companies and offers insights for improving their profitability.

Based on the background of the problem and previous research GAP, the researcher is interested in taking the title " The Role of Interest Rate Moderation on The Effect of Leverage, Asset Growth, and Liquidity on Profitability in The Agricultural Sector In 2017-2022".

LITERATURE REVIEW

Musthafa (2017), financial management encompasses several critical decisions that must be addressed, including investment decisions, financing decisions to fulfill funding requirements, and policy-related decisions. The objectives of financial management can be categorized into two main approaches: the profit and risk approach, and the profitability and liquidity approach. The profit and risk approach is maximum profit, minimal risk, obtaining maximum profit and minimal risk, maintaining business flexibility. The profitability liquidity approach is maintaining liquidity and profitability, financial managers ensure that cash is always available to meet financial obligations immediately, and financial managers strive to obtain company profits, especially for the long term.

The Effect of Leverage on Profitability

Leverage or debt structure is a reflection of the amount of debt used by a company to finance its operational activities (Setiadewi and Purbawangsa, 2014). Halim (2015), Leverage is a ratio that describes the level of debt funding sources in the company's

capital structure used to finance the company's assets. The use of relatively high debt will incur fixed costs in the form of interest expenses and principal installments of loans that must be paid, the greater the fixed costs can have an impact on the company's profits. Companies that fund their assets with debt, their profitability will decrease because the company must meet the burden that must be paid from the use of the debt (interest). In addition, the company has a high financial risk because the company does too much asset funding from debt. As with the risk of default, the costs that must be incurred by the company to overcome this problem are getting bigger. In the research of Ariyasa, et al (2019), leverage has a negative and significant effect on profitability.

H1: Leverage has a negative and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange.

The Effect of Asset Growth on Profitability

Sartono (2016), companies with high Asset Growth will finance their productivity with the assets owned by the company. When productivity is good, the company will get high profits. Kasmir (2019), Profit is also influenced by asset growth, when assets increase, profits will also increase, but if asset growth decreases, it will affect the profits that will be received. The results of research by Isgiyarta and Ariyani (2019), Asset growth has a positive and significant effect on return on assets

H2: Asset growth has a positive and significant effect on profitability in agricultural sector companies listed on the Indonesia Stock Exchange.

The Effect of Liquidity on Profitability

Nainggolan (2019), high profitability indicates the company's greater ability to meet its short-term obligations or its liquidity is getting better. A higher level of liquidity can increase the company's credibility which causes a positive reaction from investors to provide their capital that can be used by the company for investment in its profitability efforts. So, if liquidity is higher, it will increase the company's profitability. Afrianti and Purwaningsih (2022), liquidity has a positive and significant effect on profitability.

H3: Liquidity has a positive and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange.

The Effect of Interest Rate on Profitability

Interest rates are a risk influenced by the rise and fall of interest rates in the market which can have an impact on the company's income (Fahmi, 2015). Higher interest rates make companies get more expensive loans from creditors. This situation causes the company's profit margin to be lower. When interest rates rise, consumers tend to have less income because of the reduction in money circulating in the community, resulting in decreased demand for a product, decreased sales at the company, which ultimately reduces income for the company and ultimately reduces the company's profitability. Putra, et al (2023), interest rates have a negative and significant effect on profitability.

H4: Interest rates have a negative and significant effect on profitability in agricultural sector companies listed on the Indonesia Stock Exchange.

Interest Rates are Able Moderate the Effect of Leverage on Profitability

Elwisam (2022), The company's investment decisions are driven by interest rate conditions determined by the marginal product of capital or perhaps short-term monetary policy that affects the company's investment financing so that it ultimately affects the

company's condition. On the other hand, increasing loan interest rates will also affect the company's expansion plans because debt financing costs become more expensive so that they will increase.

H5: Interest rates are able to moderate the influence of leverage on profitability in agricultural sector companies listed on the Indonesia Stock Exchange.

Interest Rates are Able Moderate the Effect of Asset Growth on Profitability

Kasmir (2019), Profit is also influenced by asset growth, when assets increase profit will also increase but if asset growth decreases it will affect the profits to be received. Noerirawan and Muid (2012), the interest rate on a company that tests the relationship between investment decisions and the size of a company provides evidence that companies measured by asset growth have a significant positive influence on the company's profitability.

H6: Interest rates are able to moderate the influence of Asset Growth on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange.

Interest Rates are Able Moderate the Effect of Liquidity on Profitability

High profitability indicates the company's greater ability to meet its short-term obligations or its liquidity is getting better (Nainggolan, 2019). Good interest rates will provide profitability value to the company and make the company able to collect reserves and increase capital for the opportunity to get loans more widely so that the company has better credibility (Syarif, 2022). A high level of liquidity can also increase the credibility of the company which causes a positive reaction from investors to provide their capital that can be used by the company for investment in an effort to increase its profitability (Nainggolan, 2019).

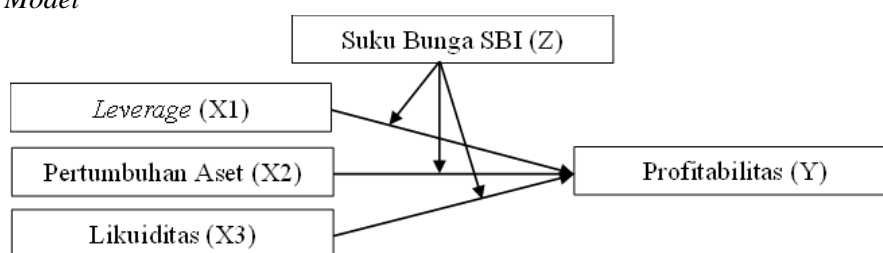
H7: Interest rates are able to moderate the influence of liquidity on profitability in agricultural sector companies listed on the Indonesia Stock Exchange.

Research Model

The research model developed in this research can be seen in Figure 1

Figure 1

Research Model



METHOD

Data Types and Sources

The study uses associative research with quantitative data, which is appropriate for analyzing causal relationships between variables. However, the authors could clarify the rationale behind selecting financial report data from Agricultural Sector companies listed on the IDX for the 2017-2022 period. Further, the authors could elaborate on why secondary data sources, such as financial reports, are ideal for addressing the research

questions. They might also discuss any limitations associated with using secondary data, such as potential biases or data inconsistencies.

Population and Sample

The population in this study is all Agricultural Sector Companies listed on the Indonesia Stock Exchange as many as 43 Companies. The sampling technique used in this study is non-probability sampling. The criteria for companies that are used as samples in the study include:

- a. Agricultural Sector Companies listed on the Indonesia Stock Exchange.
- b. The company uses rupiah and dollar currencies in its financial statements.
- c. The company indicates complete financial statements/annual reports throughout 2017-2022

So that 14 companies were obtained that could be researched throughout 2017-2022 (6 years of research), so the sample in this study was 14 companies x 6 years of research = 84 financial reports of Agricultural Sector Companies listed on the Indonesia Stock Exchange.

Data collection technique

The use of documentation for data collection is standard, but the authors should explain why this method is appropriate for their study. They could also discuss any potential challenges in accessing or interpreting the financial reports, such as data quality issues or inconsistencies in reporting formats.

Data analysis method

Descriptive Statistical Analysis

Ferdinand (2014) descriptive statistics is an analysis that is useful for describing and describing empirical things from data that has been obtained and collected in research in the form of average values (mean), standard deviation, maximum, minimum, variance, sum, range, kurtosis and skewness (distribution skewness).

Inferential Analysis

- a. Outer Model, According to Ghazali & Latan (2020), the Outer model is often also called the outer relation or measurement model defining how each indicator relates to its latent variables, including the significance of the weight value and multicollinearity.
- b. Inner Model, According to Ghazali & Latan (2020), the Inner Model, namely the inner model or structural model testing is carried out to see the model fit, Regression, Partial Test, Moderation Test, R-square, Q-Square, and Effect Size for path coefficient estimates.

Hypothesis Testing Techniques and Partial Least Square (PLS) Analysis

Testing in this study was conducted by partial hypothesis testing and moderation testing. The results of the Formative Measurement Model (outer Model) evaluation test in the form of Significance of Weight Values in this study produced significance values for independent variables and moderation variables. The Interest Rate variable here is a factor that strengthens or weakens the influence of leverage, Asset Growth, and liquidity on profitability. Moderation variables can be identified from the influence of two-way interactions between independent variables and moderation variables in predicting

dependent variables. An example of a relationship equation model in moderation regression analysis (Ferdinand, 2014) is as follows:

$$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 Z_1 + \beta_5 X_1Z_1 + \beta_6 X_2Z_1 + \beta_7 X_3Z_1 + \epsilon$$

RESULT

Table 1

Descriptive statistics analysis

Information	Profitability	Leverage	Asset Growth	Liquidity	Rate Interest
Mean	3.59	58.16	5.08	258.52	4.51
Standar Deviasi	10.88	38.38	22.31	463.78	0.70
Minimum	(58.25)	0.04	(90.30)	6.01	3.52
Maximum	49.30	231.19	118.43	3,988.33	5.63
Median	3.45	55.16	3.14	135.58	4.41
Skewness	(1.11)	2.09	0.93	6.44	0.24
Exc.Kurtosis	14.66	6.45	11.45	48.18	(1.07)

Structural Equation Modelling (SEM)

Figure 2

Data Processing Result Framework

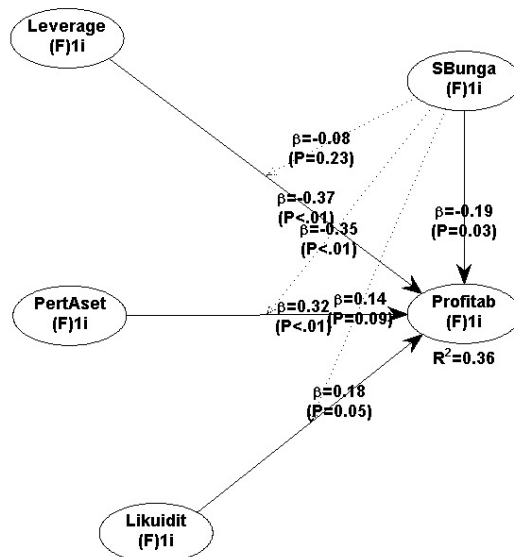


Table 2

Outer Model (Evaluation of Measurement Model)

Variable	Prof	Lev	Asset Growth	Liquid	Rate Int	Rate Int *Lev	Rate Int *Asset Growth	Rate Int *Likui	Type (a)	SE	P value	VIF
Profitability	1	0	0	0	0	0	0	0	Formati	0.081	<0.001	0
Leverage	0	1	0	0	0	0	0	0	Formati	0.081	<0.001	0
Asset Growth	0	0	1	0	0	0	0	0	Formati	0.081	<0.001	0
Liquidity	0	0	0	1	0	0	0	0	Formati	0.081	<0.001	0
Rate Int	0	0	0	0	1	0	0	0	Formati	0.081	<0.001	0

Based on the attached table, it shows that the outer weight (for convergent validity with formative indicators) is all significant at the 99% confidence level (seen from the p

value <0.0001) and there is no multicollinearity (VIF value) and the formative indicators are relevant to the theory, so it can be stated that the model and its indicators are suitable for use (evaluation of the measurement model is suitable) and this research can be continued with an evaluation of the structural model.

Table 3
Multicollinearity Test

Profitability	Leverage	Asset Growth	Liquidity	Rate Interest
1.961	1.67	1.318	4.053	1.311

From the table results show that full collinearity VIF is the result of a full collinearity test that includes vertical and lateral multicollinearity. The criteria for the full collinearity VIF test is that the value must be lower than 3.3. The output above shows the full collinearity vif value on the Profitability variable of 1.961, Leverage of 1.67, Asset Growth of 1.328, and Interest Rate of 1.311 less than 3.3 (ideal) so that the model is free from vertical and lateral multicollinearity problems. While the Liquidity variable is worth 4.053 less than 5 (accepted) so there is no multicollinearity problem in the research data.

Table 4
Structural Model Evaluation (Inner Model): Interpretasi Model Fit

Information	Index	P-Value	Condition	Result
Average path coefficient (APC)	0.233	0.006	p<0.05	Fit
Average R-squared (ARS)	0.365	0.001	p<0.05	Fit
Average block VIF (AVIF)	1.636		acceptable if <= 5, ideally <= 3.3	Ideal
Average full collinearity VIF (AFVIF)	2.209		acceptable if <= 5, ideally <= 3.3	Ideal
Tenenhaus GoF (GoF)	0.604		small >= 0.1, medium >= 0.25, large >= 0.36	Large

Table 5
Direct effect: Results of Regression and Parsial Tests

Variabel	Path Coefficients	P-Value	Effect Size Coefficients	Result
Leverage → Profitabilitas	-0.367	<0.001*	0.212	Negative and Significant
Asset Growth → Profitabilitas	0.321	<0.001*	0.171	Positive and Significant
Variabel	Path Coefficients	P-Value	Effect Size Coefficients	Result
Liquidity → Profitabilitas	0.177	0.046**	0.073	Positive and Significant
Rate Interest → Profitabilitas	-0.194	0.031**	0.069	Negative and Significant

Table 6
Results of Moderation Tests

Variabel	Path Coefficients	P-Value	Effect Size Coefficients	Result
Rate Interest * Leverage	-0.08	0.227	0.047	Negative and Not

→ Profitability					Significant
Rate Interest* Asset growth	-0.347	<0.001*	0.164		Negative and
→ Profitability					Significant
Rate Interest* Liquidity	0.144	0.086***	0.044		Positive and
→ Profitability					Significant

Note:

* Signifikan with alpha 5%

** Signifikan with alpha 5% Significant with alpha 5%

*** Signifikan with alpha 5% Significant with alpha 10%

Based on the data processing in the table, it shows that the equation at the start of the multiple regression research is:

$$Y = -0,367 X_1 + 0,321 X_2 + 0,177 X_3 - 0,194 Z - 0,008 ZX_1 - 0,347 [ZX]_2 + 0,144 [ZX]_3$$

The following is a summary table of the results of the research data analysis compared to the hypothesis which is then used as the basis for discussion.

R-Square

Table 7

R-Squared	Adjusted R-Squared
0.365	0.306

Source: Processed data by WarpPLS (2024)

Table 8

Q-Square Coefficients

Profitability
0.781

Source: Processed data by WarpPLS (2024)

Table 9

Effect Size For Path Coefficients

Variable	Profitability	Leverage	Asset Growth	Liquidity	RateInt	RateInt * Leverage	RateInt * Asset Growth	RateInt * Liquidity
Profitability		0.212	0.171	0.073	0.069	0.047	0.164	0.044

Source: Processed data by WarpPLS (2024)

DISCUSSION

The Effect of Leverage on Profitability

H1 is accepted, which means that Leverage has a negative and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange. Leverage has a negative and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange. If the leverage value is higher, it will decrease the profitability value of the company, and vice versa.

The implications of the research results show that the higher Leverage in a company, the lower the value of Profitability. The greater the Leverage value, the greater the percentage difference with Profitability, and vice versa. The benefits of significant results can encourage company management to consider a more conservative strategy in managing their debt and perhaps seek other alternatives to increase profitability, such as operational efficiency or increased sales. Another benefit is that it increases the

company's growth potential and Leverage can provide companies with greater financial flexibility by allowing company management to access capital quickly and easily. This can help companies take advantage of unexpected opportunities and overcome difficult financial situations.

Based on this, the average value of all Leverage data in this study is 58.16%, where the company is still able to manage its debt efficiently in order to gain profit for the company. However, when the company has too much debt and cannot manage it properly, the company will get a larger interest on the debt, thus reducing the company's profit, so that the results of the study have a negative impact on agricultural sector companies in the period 2017-2022.

The Effect of Asset Growth on Profitability

H2 is accepted, which means that Asset Growth has a positive and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange. Asset Growth has a positive and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange. If the Asset Growth value increases, it will increase the profitability value. Likewise, if the Asset Growth value decreases, it will decrease the profitability value in the company.

The implications of the research results have a positive effect, meaning that if the company's Asset Growth increases, it will be followed by an increase in the company's profitability, in this case net profit from the use of the company's assets. This can be seen in the average Asset Growth value which has increased as seen from the increase in profitability in the Agricultural Sector companies listed on the Indonesia Stock Exchange.

The benefits of significant relationships allow companies to focus on asset growth strategies to improve company profitability. Investments in fixed assets, such as land, buildings, and equipment, and current assets, such as inventory and receivables, can help improve operational efficiency and the ability to generate revenue. Investments in new assets, such as more modern machinery and technology, can improve a company's operational efficiency. This can lead to reduced production costs, improved product quality, and reduced time required to complete tasks. These increased efficiencies can improve profitability by increasing profit margins.

More assets in a company can increase production capacity and reach more customers. This can increase sales and increase revenue. This makes investors want to own shares in the company. This investment can be done by adding new assets to increase the company's operational efficiency (adding production equipment and shortening the company's production time). Asset growth can help companies diversify their businesses and reduce risk (companies that invest in new products or markets can reduce their dependence on one product or market, making them more resilient to economic fluctuations) such as the Covid-19 condition which actually increases income from agricultural companies.

The Effect of Liquidity on Profitability

H3 is accepted, which means that Liquidity has a positive and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange. The implications of Liquidity have a positive and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange. If the Liquidity value increases, it will increase the profitability value of the company. A higher level of liquidity is generally beneficial for the company, this directly results in a substantial

increase in profitability in Agricultural Sector companies on the Indonesia Stock Exchange.

The benefits of the positive and significant influence of liquidity on profitability are that high liquidity is able to enable companies to access business opportunities that ultimately provide profits to the company more quickly in the future. Companies with high liquidity are able to contribute to production in the agricultural sector companies such as adding fertilizer, seeds, and other operational needs. Companies with high liquidity are also able to coordinate better with suppliers, customers and creditors according to the company's needs. This allows the company to get better price offers for input and output, increase profit margins and reduce the company's operational costs. High liquidity shows investors that the company is able to meet its obligations and has financial prospects that can be controlled in the future. This condition can increase investor confidence and increase opportunities to get new potential investors again.

So, it can be seen that Liquidity is optimal in providing a good influence on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange, which is Liquidity and profitability showing the same direction of change according to the theory that has been expressed, so that Liquidity partially has a positive and significant influence on profitability.

The Effect of Interest Rates on Profitability

H4 is accepted, which means that Interest Rates have a negative and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange. Interest Rates have a negative and significant effect on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange. The implication of the research results is that if the Interest Rate value increases, it will decrease the profitability value of the company. And vice versa, if it is low, it will increase the company's profitability.

The benefits of significant research results encourage agricultural sector company management to consider the influence of interest rates in financial decision making. Adjustment of financial strategies to manage interest rate risk may be necessary to maintain the stability of the company's profitability. With the negative influence of interest rates on profitability, companies must consider hedging strategies or the use of other financial instruments to protect themselves from interest rate fluctuations that can be detrimental. Company management can also use this information to plan a more adaptive and responsive financial strategy to changing market conditions and interest rates.

The average interest rate value in the study fluctuated throughout 2017-2022. This should affect the profits obtained by Agricultural Sector Companies listed on the Indonesia Stock Exchange. Because when interest rates decrease, people will spend less, thus avoiding inflation in the value of the money. However, in 2020-2022, people prioritize spending on health, thereby reducing tertiary spending and prioritizing spending on food, especially in Agricultural Sector companies listed on the Indonesia Stock Exchange. However, with low interest rates, the company will experience excess profits. Likewise, if interest rates are high, the company will pay higher interest costs, thereby reducing the company's return. This has a negative and significant impact on profitability in Agricultural Sector companies listed on the Indonesia Stock Exchange in 2017-2022.

The average interest rate is the same as using the BI 7dayrate, from here it can be seen that the company's condition has increased and decreased following national and

global economic conditions. One of the conditions is because the Russia-Ukraine War which began in February 2022 has had a significant impact on various global sectors, including trade and food security. Indonesia, as an importer and exporter of agricultural products, is not immune from the effects of this conflict. Russia and Ukraine are major suppliers of wheat, corn, and sunflower oil to the global market. Disruptions in supply due to the war have caused a spike in the prices of these commodities, which has an impact on increasing import prices in Indonesia. Global logistics disruptions can also complicate the export of Indonesian agricultural products, so it is necessary to seek alternative, more efficient logistics solutions. As it should be, interest rates have a close relationship with economic conditions. Central banks, such as Bank Indonesia (BI), use interest rate policies to influence various aspects of the economy, such as inflation, economic growth, and exchange rate stability.

This study is in line with the research of Putra, et al (2023), where the results of the study showed that interest rates had a negative and significant effect on profitability. However, it is different from the research of Nurfadilah, et al (2023), where the results showed that interest rates had a positive and significant effect on profitability. Likewise with the research of Khairunnisa (2021), where the results showed that interest rates had a positive and insignificant effect on profitability.

The Moderating Role of Interest Rates on the Effect of Leverage on Profitability

H5 is rejected, indicating that interest rates are unable to moderate the effect of leverage on profitability in agricultural sector companies listed on the Indonesia Stock Exchange. In this study, interest rates were hypothesized to moderate the effect of leverage on profitability; however, the study results show that this moderating effect is negative and insignificant. This implies that interest rates do not have a strong or significant impact on altering the relationship between leverage and profitability.

The inability of interest rates to moderate the effect of leverage on profitability may be attributed to several factors. First, companies may have anticipated interest rate costs when making decisions related to leverage, so changes in interest rates do not alter the effect of leverage on profitability. Second, the characteristics of agricultural sector companies often involve business cycles that are highly dependent on external factors such as weather conditions, global commodity prices, and government policies, which can reduce the sensitivity of the company's profitability to interest rate fluctuations. As a result, the relationship between leverage and profitability is not significantly influenced by interest rates. Third, if leverage is not used productively for investments that generate returns higher than interest costs, then interest rates, whether high or low, will not significantly affect the relationship between leverage and profitability. In other words, if debt is used to cover losses or operational expenses, the effect of interest rates as a moderator will not be significant.

The profitability of agricultural companies may also be more influenced by other factors such as commodity prices, production costs, and operational efficiency rather than the cost of debt. This means that even if interest rates change, the impact on the effect of leverage on profitability remains minimal. Given these conditions, management should focus on the productive use of debt rather than solely paying attention to interest rate fluctuations. Companies should consider other risk management strategies such as product diversification, improving operational efficiency, and controlling costs to enhance profitability.

The results of this study on agricultural companies indicate that interest rates do

not have a significant moderating role in the effect of leverage on profitability. This means that agricultural companies may not need to be overly concerned about the impact of interest rate changes on the effect of leverage on profitability.

The Moderating Role of Interest Rates on the Effect of Asset Growth on Profitability

H6 is accepted, indicating that interest rates can moderate (weakens) the impact of asset growth on profitability for agricultural companies listed on the Indonesia Stock Exchange. This is considered a quasi-moderator, a variable that moderates the relationship between independent and dependent variables, where it can interact with the independent variable while also acting as an independent variable.

Interest rates act as a moderating variable that negatively and significantly affects the relationship between asset growth and profitability in agricultural sector companies listed on the Indonesia Stock Exchange. This means that although asset growth generally contributes positively to profitability, higher interest rates tend to weaken this positive effect, indicating that increasing interest rates can reduce a company's profitability even when assets are growing.

High interest rates increase the borrowing costs borne by the company, which can be burdensome, especially if asset growth is financed through debt. This can reduce margins or profits, thereby negatively impacting or weakening the effect of asset growth on profitability. Conversely, when interest rates are lower, companies are more likely to invest, as cheaper loans increase opportunities for asset development and ultimately enhance profitability. Interest rates also influence consumption levels and demand for products; lower interest rates can boost purchasing power, which positively impacts sales and profitability in the agricultural sector.

Therefore, the management of agricultural sector companies needs to be mindful of interest rates when expanding assets. For instance, when interest rates are high, companies may need to exercise caution in taking on debt for expansion or scaling up their business operations. Companies must develop investment strategies that consider interest rates to maximize profitability. When interest rates are low, accelerating asset growth through external financing may be more advantageous. A deeper understanding of interest rates and their effects can help companies plan more effectively for expansion and sustainably increase profitability.

The Moderating Role of Interest Rates on the Effect of Liquidity on Profitability

H7 is accepted, indicating that interest rates can moderate (strengthens) the impact of liquidity on profitability for agricultural companies listed on the Indonesia Stock Exchange.

Interest rates not only directly affect but also enhance the relationship between liquidity and profitability in agricultural sector companies. This means that when interest rates act as a moderator, the positive effect of liquidity on profitability becomes stronger, and in this case, interest rates are also referred to as quasi-moderators. Higher interest rates can encourage companies to manage liquidity more carefully and efficiently. Companies with good liquidity tend to use current assets to invest in businesses or assets that offer returns higher than the loan interest rates, thereby increasing profitability. Additionally, companies with strong liquidity can avoid high financing costs because they do not need to incur additional debt. This allows them to use liquidity to support operations and investments without the burden of high-interest costs, ultimately enhancing profitability.

It is important for companies to strategically utilize liquid assets, especially when interest rates are high, to capitalize on investment opportunities that can generate higher returns than the cost of loans, thereby strengthening the effect of liquidity on profitability. Understanding how interest rates can enhance the relationship between liquidity and profitability enables agricultural sector companies to engage in better financial planning by considering the costs and benefits of maintaining a certain level of liquidity. By effectively managing liquidity, particularly in high-interest rate environments, agricultural sector companies can improve their ability to achieve higher profitability. Appropriate financial management strategies, including efficient working capital and investment management, will be crucial in optimizing this impact.

CONCLUSION

- a. Profitability is negatively and significantly affected by leverage This shows that if the leverage value is higher, the profitability value of the company will decrease.
- b. Profitability is positively and significantly affected by Asset Growth. This shows that if the Asset Growth value is higher, it will increase the profitability value, and vice versa. If the Asset Growth value is lower, it will decrease the profitability value.
- c. Profitability is positively and significantly affected by Liquidity in Agricultural Sector value of the company.
- d. Profitability is negatively and significantly affected by interest rates in Agricultural Sector Companies Listed on the Indonesia Stock Exchange. This shows that if the interest rate value is higher, the company's profitability will decrease.
- e. Interest rates are unable to moderate the effect of Leverage on profitability in Agricultural. This indicates that interest rates do not strengthen the effect of leverage on profitability in these companies.
- f. Interest rates are able to moderate the effect of Asset Growth on profitability. This shows that Interest rates are able to weaken the effect of Asset Growth on profitability in Companies.
- g. Interest rates are able to moderate the effect of liquidity on profitability in Agricultural Sector Companies listed on the Indonesia Stock Exchange. This shows that Interest rates are able to strengthen the effect.

Policy Implication

Policymakers should encourage agricultural companies to adopt conservative debt management strategies, as high leverage negatively impacts profitability. This can be supported by offering incentives for lower debt levels and improving access to alternative financing options. Leverage can provide financial flexibility, so policies should facilitate access to low-cost capital, enabling companies to capitalize on growth opportunities. Given the significant influence of interest rates on asset growth and profitability, policymakers should stabilize rates or offer subsidies during high-rate periods. Additionally, providing accessible, long-term financing options and financial support during uncertain times, such as pandemics, will help companies manage risks and avoid excessive debt reliance.

Limitation and Future Direction

The limitation of researchers in this study is only looking at it from the perspective of the agricultural sector. The addition of other sectors will be a variation in further

research so as to support increased profitability in companies listed on the IDX. The scope of the year is throughout 2017-2022, so that further researchers can add years of research over time. Issuers need to understand the complex relationship between interest rates, leverage, and profitability to make the right strategic decisions in a dynamic economic environment. Conduct sensitivity analysis to understand how changes in interest rates can affect borrowing costs, leverage, and issuer profitability. Issuers can manage the moderating relationship between interest rates, leverage, and profitability more effectively, improve their financial resilience, and achieve long-term strategic goals.

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