

THE EFFECT OF LIQUIDITY AND SALES GROWTH ON CAPITAL STRUCTURE WITH PROFITABILITY AS A MODERATING VARIABLE

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Abstract

This study aims to test and analyze the influence of liquidity and sales growth on capital structure with profitability as a moderating variable. The research object used in this study is a manufacturing companies listed in the Indonesia Stock Exchange period 2018-2022. The number of samples selected using the purposive sampling method was 394 data from 160 companies. This study used Moderated Regression Analysis (MRA) supported by Eviews 12 software. Based on the result of the study, it was found that liquidity has a significant negative effect on capital structure, sales growth has a significant positive effect on capital structure, profitability cannot moderate the effect of liquidity on capital structure, and profitability cannot moderate the effect of sales growth on capital structure.

Keywords : Liquidity, Sales Growth, Profitability, Capital Structure.

INTRODUCTION

The development of manufacturing companies and current economic conditions have led to increased competition in the business world (Kemenperin.go.id, 2023). This will create opportunities, challenges and threats for the company, and efforts are needed to anticipate how to deal with this situation, so that manufacturing companies can survive and be competitive (Setiawati & Veronica, 2020). To be able to achieve its goals, a company certainly needs capital for its business activities. In this case, the company needs a strong foundation, especially in the financial aspect. One of the challenges for companies is how to achieve and manage capital structure properly so that company goals can be achieved optimally.

Theoretically, the optimal capital structure can be determined, but empirically determining the optimal capital structure is difficult to determine. Michalak, A. (2013) states that financial theory cannot yet establish a general formula for the optimal capital

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structure for a company. This allows for differences in determining the size of the capital structure. Differences in capital structure preparation have been investigated by Rahmatillah, I., & Prasetyo, A. D. (2016). Mallisa, M., & Kusuma, H. (2017), Suyono, E., et. all (2017), Ramli, N. A., Latan, H., & Solovida, G. T. (2019), Utami, E. S. (2019, October).

Differences in determining the capital structure of each company may be caused by consideration of other aspects of management. According to Weston & Brigham (1991), there are factors that can influence capital structure, namely asset structure, sales stability, growth rate, operational elasticity, taxes, profitability, market conditions, management attitude, control, creditor attitude, and internal conditions. company Meanwhile, according to Siswanto (2021:90), there are factors that influence capital structure, including sales growth, sales stability, industry characteristics, asset structure, company management attitude, and lender attitude. Apart from that, company size, profitability, and liquidity can also influence capital structure. (Liang & Natsir, 2019). However, this research will focus more on factors such as liquidity, sales growth and profitability.

RESEARCH METHOD

Research Object

Manufacturing company listed on the Indonesia Stock Exchange (BEI) for the 2018-2022 period. The company criteria that can be sampled in research are:

1. Companies listed on the Indonesia Stock Exchange (BEI) for the 2018-2022 period.
2. Companies that publish complete annual financial reports for the 2018-2022 period.
3. Companies that publish annual financial reports in rupiah for the 2018-2022 period.
4. Companies that earn net profits for the 2018-2022 period.
5. Companies that experience positive sales growth for the 2018-2022 period.

Data collection technique

The documentation method is the use of data obtained from available documents as information. Data was collected via the Indonesia Stock Exchange (BEI) website which publishes financial reports of manufacturing companies via the official website www.idx.co.id.

Operational definition

Dependent Variable

1. Capital Structure

Capital structure is a combination or comparison between funding through long-term debt and equity (Riyanto, 2001:22). Capital structure measurement uses the long term debt to equity ratio (LDER).

$$LDER = \frac{\text{Total Long term Debt}}{\text{Total Equity}}$$

Independent Variable

1. Liquidity

Liquidity is the company's ability to meet short-term debt through current assets (Hanafi 2016:37). Liquidity measurement can be calculated using the current ratio (CR).

$$CR = \frac{\text{Current asset}}{\text{Current Liabilities}}$$

2. Sales Growth

Sales growth is the rate of change in the number of sales over time in a company (Kasmir 2016:107). Measuring sales growth uses sales growth (GS).

$$\text{Sales Growth} = \frac{\text{Sales}_t - \text{Sales}_{(t-1)}}{\text{Sales}_{(t-1)}}$$

Moderating Variables

1. Profitability

Profitability is the ability of a company to make a profit with total assets (Hanafi 2016:42). Profitability measurement can be calculated using return of assets (ROA)

$$ROA = \frac{\text{Earning after tax}}{\text{Total Asset}}$$

Analysis Tools

The analysis technique used in this research is Moderated Regression Analysis (MRA). Moderated Regression Analysis (MRA) is a regression analysis that links moderating variables in the relationship model (Solimun et al., 2019). The data processing program uses Eviews version 12. According to Ghazali (2011:229), the regression equation used is:

$$LDER = a + b_1CR + b_2SG + e \dots\dots\dots (1)$$

$$LDER = a + b_1CR + b_2SG + b_3ROA + b_4(CR * ROA) + b_5(SG * ROA) e \dots\dots\dots (2)$$

Where:

LDER : Capital stucture

a : Konstanta

b_1, b_2, b_3, b_4, b_5 : Regression coefficient

CR : Liquidity

SG : Sales growth

ROA : Profitability

CR*ROA : Interaction between liquidity and profitability

SG*ROA : Interaction between sales growth and profitability

e : Error term

RESULTS AND DISCUSSION

General Description of Research Objects

The objects in this research are manufacturing companies listed on the Indonesia Stock Exchange (BEI) for the 2018-2022 period. Data in the form of financial reports collected from the website www.idx.co.id. Sample selection used purposive sampling technique and obtained 394 data from 160 companies.

Descriptive statistics

Table 1 describes the results of descriptive statistical analysis of research variables

Table 1
Descriptive Statistical Analysis

	LDER	CR	SG	ROA
Mean	0.231458	2.386489	0.207968	0.073436
Median	0.127302	1.929686	0.145373	0.055600
Maksimum	2.317664	7.859388	1.273016	0.466601
Minimum	0.000411	0.601094	0.000548	0.000247
Std.Dev.	0.280728	1.458056	0.204640	0.068035
Observations	394	394	394	394

The results of the descriptive analysis show that the capital structure variable (LDER) with a total sample of 394 has an average value of 0.231458 and a median value of 0.127302. Then the maximum value is 2.317664 for the company PT Pyridam Farma Tbk (PYFA), while the minimum value is 0.000411 for the company PT Semen Baturaja Tbk (SMBR). Apart from that, the standard deviation value is 0.280728 so it is greater than the average value, meaning the data is heterogeneous or spreads across the average value. The results of the descriptive analysis show that the liquidity variable (CR) with a total sample of 394 has an average value of 2.386489 and a median value of 1.929686. Then the maximum value is 7.859388 for the company PT Emdeki Utama Tbk (MDKI), while the minimum value is 0.601094 for the company PT FKS Food Sejahtera Tbk (AISA). Apart from that, the standard deviation value is 1.458056 so it is smaller than the average value, meaning the data is homogeneous or centered on the average value.

The results of the descriptive analysis show that the sales growth (SG) variable with a total sample of 394 has an average value of 0.207968 and a median value of 0.145373. Then the maximum value is 1.273016 for the company PT Pyridam Farma Tbk (PYFA), while the minimum value is 0.000548 for the company PT Siantar Top (STTP). Apart from that, the standard deviation value is 0.204640 so it is smaller than the average value, meaning the data is homogeneous or centered on the average value. He results of the descriptive

analysis show that the profitability variable (ROA) with a total sample of 394 has an average value of 0.073436 and a median value of 0.055600. Then the maximum value is 0.466601 for the company PT Unilever Indonesia Tbk (UNVR), while the minimum value is 0.000247 for the company PT Mustika Ratu Tbk (MRAT). Apart from that, the standard deviation value is 0.068035 so it is smaller than the average value, meaning the data is homogeneous or centered on the average value.

Selection of Panel Data Regression Models

a. Test Chow

Table 2. Chow Test Results

Equation 1			Equation 2		
<i>Cross-section Chi-square</i>	<i>Statistic</i>	<i>Prob.</i>	<i>Cross-section Chi-square</i>	<i>Statistic</i>	<i>Prob.</i>
<i>Cross-section Chi-square</i>	475.575783	0.0000	<i>Cross-section Chi-square</i>	483.635526	0.000

In table 2 it can be seen that for equation 1 the cross-section chi-square value of the probability part is $0.0000 < 0.05$ so that the selected and appropriate model is the fixed effect model (FEM). Meanwhile, in equation 2, the random cross-section value of the probability part is $0.0657 > 0.05$ so that the selected and appropriate model is the random effect model (REM).

a. Test Hausman

Table 3. Hausman Test Result

Persamaan 1			Persamaan 2		
<i>Test Summary</i>	<i>Chi-Sq. Statistic</i>	<i>Prob.</i>	<i>Test Summary</i>	<i>Chi-Sq. Statistic</i>	<i>Prob.</i>
<i>Cross-section random</i>	5.445766	0.0657	<i>Cross-section random</i>	8.802677	0.1172

In table 3 it can be seen that for equation 1 the Test Summary value for the probability part is $0.0657 > 0.05$ so that the selected and appropriate model is the random effect model (REM) (FEM). Meanwhile, in equation 2 Test Summary the probability part is $0.1172 > 0.05$ so that the selected and appropriate model is the random effect model (REM) (FEM)

Classic assumption test

When the random effect model (REM) model was chosen in equations 1 and 2, the classical assumption test was not carried out because the REM model uses the generalized least square (GLS) method which is capable of producing the best linear unbiased estimation (BLUE) properties, which is a method used to overcome violations.

autocorrelation and homoscedasticity tests so that the GLS method has BLUE which does not require classical assumption tests (Gujarati & Poster, 2009).

Hypothesis testing

Table 4 below summarizes the regression results in equation 1 and equation 2.

Table 4 Regression Results for equation 1 and equation 2

	Coef. b	Std. error	Prob.
Equation 1			
CR	-0.044566	0.010250	0.0000
SG	0.136181	0.059971	0.0237
F Value	0,000		
Equation 2			
CR	-0.043559	0.014809	0.0035
SG	0.235431	0.078452	0.0029
ROA	-0.343590	0.395042	0.3850
CR*ROA	0.034457	0.137622	0.8024
SG*ROA	-1.250033	0.656348	0.0576
F Value	0,000		

Var, Dependent: LDER

Based on table 4, we can see the results of hypothesis testing 1 to 4

1) Effect of liquidity on capital structure (H₁)

The liquidity regression coefficient is -0.044566 (negative) with a probability value of 0.0000 < 0.05. So it can be concluded that liquidity has a negative and significant effect on capital structure (H₁ is accepted)

2) Effect of sales growth on capital structure (H₂)

The sales growth regression coefficient is 0.136181 (positive) with a probability value of 0.0237 < 0.05. So it can be concluded that sales growth has a positive and significant effect on capital structure (H₂ is accepted)

3) Profitability moderates the effect of liquidity on capital structure (H₃)

The results of the regression coefficient for the interaction of liquidity and profitability are 0.034457 (positive) with a probability value of 0.8024 > 0.05. So profitability cannot moderate the effect of liquidity on capital structure (H₃ is rejected)

4) Profitability moderates the effect of sales growth on capital structure (H₄)

The regression coefficient result of the interaction of sales growth with profitability is -1.250033 (negative) and has a significant probability value of 0.0576 > 0.05. So it can be concluded that profitability cannot moderate the effect of sales growth on capital structure (H₄ is rejected)

Moderation Classification

The type of moderation in equation 2 is potential moderation or moderation homologiser, namely variables b_2 and b_3 do not interact. profitability does not interact with liquidity and profitability does not interact with sales growth, and does not have a significant effect on capital structure.

Discussion

1. The effect of liquidity on capital structure

Based on the research results, the data shows that liquidity has a negative and significant effect on capital structure. This means that if liquidity increases, the capital structure will decrease and vice versa. Companies that have high liquidity means their ability to pay off short-term debt through current assets is also higher (Maradiaponto & Tjakwawala, 2023). High liquidity means the more liquid the company's current assets. This refers to changes in current assets which can be internal cash flows such as cash equivalents, marketable securities, receivables, sales of unproductive inventory. So companies with high liquidity will have large internal cash flows. This will of course be used by the company to pay off its debts. This will reduce the use of long-term debt because the company has internal funds for its operations and investments so it does not depend on debt (Wulandari et al., 2019). As a result, the use of long-term debt will decrease, resulting in a decrease in capital structure. This is in accordance with the pecking order theory, which explains that companies will prioritize internal funds over external funds (Hanafi, 2016: 313). In accordance with research by Saragih & Hariani (2023), Ali et al (2022), Czerwonka & Jaworski (2021), Henrique et al (2021), stated that liquidity has a negative and significant effect on capital structure.

2. The effect of sales growth on capital structure

Based on the research results, the data shows that sales growth has a positive and significant effect on capital structure. This means that if sales growth increases, the capital structure will increase and vice versa. High sales growth will show the strength of a company. The company will use this to use larger long-term debt. This happens because when a company has high sales growth, it means that sales volume, production capacity and investment requirements are higher.

This increase certainly requires large amounts of funds, where internal funds are insufficient so the company will need external funding, namely in the form of debt. High sales growth will certainly make it easier to obtain long-term debt because it will be able to provide confidence to investors or creditors in bearing the burden of loans. Therefore, investors or creditors will see a company's high sales as a positive signal because it means the company has good performance and will be able to pay off its debts. This increase in debt will certainly have an impact on increasing the capital structure. This is in accordance with the pecking order theory, which explains that companies with high sales growth will use external funds. This is also supported by the signaling theory, that sales growth can be

a positive signal in providing loans. In accordance with research conducted by Muyasaroh et al (2023), Chandra & Sutan (2023), Annisa & Nurmadi (2022), stated that sales growth has a positive and significant effect on capital structure.

3. The effect of liquidity on capital structure is moderated by profitability

Based on the research results, the data shows that profitability cannot moderate the effect of liquidity on capital structure. This means that the level of profitability will not strengthen or weaken the influence of liquidity on capital structure, so it can be concluded that the third hypothesis is rejected. Companies that have high profitability tend to have high internal funds through retained earnings, thereby strengthening the influence of liquidity on capital structure. However, the results of this research are not in accordance with this statement because companies with high profitability will not always use their profits as a source of internal funds or operational capital for the company. Companies will have other alternatives in using these profits, such as when the company plans to invest long term or the profits can be used to distribute to pay dividends (Suherman et al., 2019) Where the average of the data tested shows that many companies choose to distribute dividends. Apart from that, through descriptive analysis, the average profitability in manufacturing companies is also low. So, companies will pay more attention to capital structure through the additional funding required. So profitability cannot moderate the effect of liquidity on capital structure. The results of this research are in accordance with research by Andy & Subiakto (2022) and Siregar (2023), who say that profitability cannot moderate the effect of liquidity on capital structure.

4. The effect of sales growth on capital structure is moderated by profitability

Based on the research results, the data shows that profitability cannot moderate the effect of sales growth on capital structure. This means that the level of profitability will not strengthen or weaken the influence of sales growth on capital structure, so it can be concluded that the fourth hypothesis is rejected.

Profitability can be a positive signal for investors or creditors in providing debt to fulfill sales growth which requires external funds. However, in this study, the results did not match this statement. Profitability cannot moderate the effect of sales growth on capital structure because the company has other alternatives for utilizing the profits earned. The company will not only focus on the needs of sales growth or company development but will also focus on shareholder prosperity. Profitability will be distributed as dividends to shareholders (Buhaenah & Pradana, 2022). It is proven that the average of the data tested shows that many companies choose to distribute dividends. Apart from that, through descriptive analysis, the average profitability of manufacturing companies is also low. Thus, profitability cannot moderate the effect of sales growth on capital structure. The results of this research are in line with research by Nur'aini, etc (2020), Lubis & Arief (2022) and Meilani & Wahyudin (2021), which say that profitability cannot moderate the influence of sales growth on capital structure.

CONCLUSIONS, SUGGESTIONS AND RESEARCH LIMITATIONS

Conclusion

This research aims to test and analyze the effect of liquidity and sales growth on capital structure moderated by profitability variables in manufacturing companies listed on the Indonesia Stock Exchange (BEI) for the 2017-2022 period. The samples used were 394 samples from 160 companies. Based on the analysis and discussion that has been carried out, the conclusions obtained from this research are as follows:

1. Liquidity (CR) has a negative and significant effect on capital structure (LDER).
2. Sales growth (SG) has a positive and significant effect on capital structure (LDER).
3. Profitability (ROA) cannot moderate the influence of liquidity (CR) and sales growth (SG) on capital structure (LDER). This means that the size of profitability cannot strengthen or weaken the influence of liquidity and sales growth on capital structure.

Suggestion

1. For companies and investors

Before making funding and investment decisions, companies and investors need to consider factors that influence capital structure such as liquidity and sales growth.

2. For future researchers

Increasing the number of periods to expand the sample, adding independent or moderating variables other than those in this research, and using objects other than manufacturing.

limitations,

This research has several limitations that must be considered, namely:

1. that the research period is only five years, namely 2018-2022
2. The objects used are limited to manufacturers listed on the IDX
3. The variables used are limited to liquidity, sales growth, profitability, causing the adjusted r square to be low.

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