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The effect of Liquidity, Capital Structure and Sales Level on the Gross Profit Margin Partially and Simultaneously at PT. Nusantara III Plantation (Persero) Medan

Laelis Neni & Nurlela [a*]

[a]Accounting Departement, (Politeknik LP3I Medan)

Abstract

The main goal of a company is to get the maximum possible profit from the sale or sale of services, and the profits obtained maximally. The specific purpose of this study was to determine the effect of Liquidity, Capital Structure and Sales Level on the Gross Profit Margin Partially and Simultaneously at PT. Perkebunan Nusantara III (Persero) Medan Year 2012-2016.The research method used primary and secondary data, with independent profit research variables, namely Y = Gross Profit Marign (GPM) and Dependent Variable Liquidity (X1 = Cash Ratio), Capital Structure (X2 = Debt to Equity Ratio (DER)) and X3 = Sales and research design using quantitative descriptive and data collection techniques using observation, documentation and interviews. And the data analysis technique the author uses descriptive statistics, namely simple linear regression equation and multi regression using Classical Assumption Test, T Test, F Test and determination using SPSS tools. The results of this study are that the cash ratio (CS), capital structure (DER) and sales do not partially affect earnings (GPM) with a significant value of CS of 0.067 and DER of 0.052 and Sales of 0.86 and simultaneously have an effectively significant with a significant value of 0.50

Keyword: Liquidity, Capital Structure, Sales, Gross Profit Margin

1. INTRODUCTION

The primary purpose of a company is obtaining maximum profit either from the sale or services. Kasmir said that the maximum profit derived from the company's target and will be distributed to the welfare of the owner, employees, and improve its product quality also for new investments. Kasmir also stated that while running a business, sometimes the company was having some obstacles such as unable to pay its obligations that must be paid before the due date.

However, through gain the profit, the company would be able to manage all expenses and investment of the company as well as managing its capital structure. Capital structure is a combination of long-term funding sources used in the company. The main factors of capital structure are its capital and long-term debt obtained from the external factor of the company. Based on Iskandar's research (2014) with the title "The Effect of Working Capital, Capital Structure and Liquidity on the Profitability of Industrial & Chemical Companies on the Indonesia Stock Exchange" resulted that Working Capital Turn Over has no effect on ROA. Therefore the company's ability to meet medium and long-term obligations (DER) has a negative and significant effect on profitability (ROA), Furthermore, the Liquidity (CR) has a positive but not significant effect on profitability (ROA)

Below the data collected from the company that has been compiled:

Table.1.1: Financial Report of PTPN III (Persero)

Description	2012	2013	2014	2015	2016
Cash	1.773.611.4	1.454.138.12	1.172.308.85	827.081.535	545.764.352
	49.243	6.456	3.516	887	615
Gross profit	2.404.444.9	1.861.441.85	2.246.948.49	1.800.533.82	2.425.893.94
	90.882	0.559	7.504	8.422	9.572
Net sales	5.946.518.7	5.708.476.62	6.232.179.22	5.363.366.03	5.847.818.78
	23.390	3.603	7.727	4.203	5.012
Total Debt	5.460.345.5	6.187.277.30	6.359.462.62	7.907.765.13	8.140.460.14
	75.583	7.525	0.086	6.030	9.392
Amount of Capital	4.741.047.8	4.849.193.58	18.532.723.8	36.836.792.1	37.834.370.0
	22.708	7.827	42.179	73.404	78.331

Source : Financial Report of PTPN III (Persero)

Based on table 1.1, it can be seen that the cash has declined in the past five years, from 2012 to 2016. Gross Profit experienced a fluctuation due to the unstable sales which sales increased in 2014 but then declined in 2015-2016. Based on these descriptions, the authors are interested in examining the "Effect of Liquidity, Capital Structure and Sales Level on Gross Profit Margin at PT. Perkebunan Nusantara III (Persero) ". As the above problems, the authors formulated the problems: Does Liquidity, Capital Structure and Sales Level of Gross Profit Margin affect both partially and simultaneously on PT. Perkebunan Nusantara III (Persero) Medan in 2012-2016

The objectives of this study are as follows:

a. Determine the effect of liquidity, capital structure and level of sales on Gross Profit Margin partially at PT. Perkebunan Nusantara III (Persero) Medan in 2012-2016

b. Determine the effect of liquidity, capital structure and level of sales on Gross Profit Margin simultaneously at PT. Perkebunan Nusantara III (Persero) Medan in 2012-2016

2. LITERATURE REVIEW

2.1 Definition of Liquidity

Weston in Kasmir (2013: 129) defined the liquidity as the ratio of a company's ability to pay off its short-term obligations (debt). It means that the company was able to pay off its short-term obligations in the due date. Kasmir also defined the liquidity ratios as ratios that measure how liquid a company is, by comparing accounts on the balance sheet, both total current assets and total current liabilities (short-term debt). Furthermore, Halim (2009: 77) said that the measurement of liquidity ratios used in research as follows:

Cash ratio (CR)

Hermanto (2012: 172) said that cash ratio is a comparison of current items within current assets, namely cash on hand, cash in bank and securities compared to the amount of current debt.

Herewith the formula :

$$\text{Cash Ratio (CR)} = \frac{\text{(Cash+cash equivalent)}}{\text{Current liabilities}} \times 100\%$$

2.2 Definition of Capital Structure

Weston and Copelan (2010) defined capital structure as fixed financing, which has a long-term obligation, preferred share capital and shareholder capital. The book value of the shareholder's capital contained shares, paid-in capital or surplus capital and accumulated retained earnings if the company owns preferred shares then the shares will be added to the shareholder capital. Then Riyanto (2013: 296) said that capital structure is a comparison between foreign capital (long-term) and owner's equity. From the above definitions, it can conclude that capital structure has an essential role for the company because its fluctuation capital structure will impact on the company's financial position. Herewith the capital structure is measured by DER (debt to equity ratio). If the debt increases, then the risk level of interest payments will increase automatically.

Herewith the formula:

$$\text{Debt to Equity Ratio (DER)} = \frac{\text{(Total Debt)}}{\text{Owner's equity}} \times 100\%$$

2.3 Definition of Sales

Hery (2017: 11) said that sales are the total amount given to the customers for the sale of the merchandise sold by the company either on credit or cash.

2.4 Definition of Gross Profit Margin

Hermanto (2015: 118) defined the Gross Profit Margin Ratio measured by dividing gross profit with sales so that it earns profit for every rupiah of sale . This ratio used to measure the percentage of gross profit on net sales. This ratio is measured by reducing net sales to cost of goods sold.

Herewith the formula:

$$\text{Gross Profit Margin (GPM)} = \frac{\text{(Gross Profit)}}{\text{Sales}} \times 100\%$$

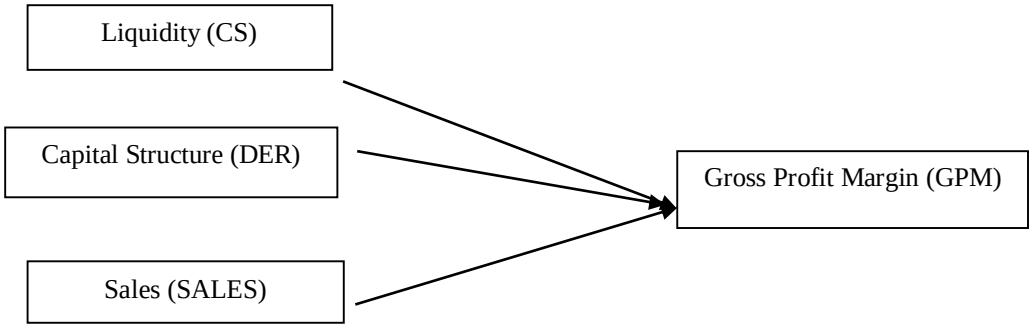
3. RESEARCH METHOD

3.1 Research Site

The object of the research is PT. Perkebunan Nusantara III (Persero) in Jl. Sei Batang Hari No. 02 Simpang Tanjung, Medan Sunggal.

3.2 Model of Research

The research model can be described as follows:



Picture 3.1 Model of Research

The model and method used in this study is a descriptive method using multiple linear regression equations with the following formula:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X3 + \varepsilon$$

Information :

Y = GPM
X1 = CS
X2 = DER
X3 = SALES
α = Constanta
ε = Error

3.3 Research Design

This research design uses quantitative descriptive

3.4 Data Collection Technique

This study uses the following data collection techniques:

1. Observation: by direct observations on the object of research.
2. Documentation: by financial statement obtained from the company.
3. Interview: by interviewing the company's finance department.

3.5 Operational Definition and Variable Measurement

No	STAGE	EXPLANATION
01	**STAGE OF PREPARATION**	In this stage there are several activities, namely: 1. Identify and formulate problems 2. Gather theory for literature review 3. Determine and Arrange Research Instruments 4. Make a research budget 5. Develop a research schedule 6. Establish output targets: journal and blueprint
02	**STAGE OF DATA COLLECTION**	Data collection consists of: 1. Primary Data: the Company's Financial Statements (Time Series) 2. Secondary Data: Literature, Journals and others. 3. Determine the Research Variables, such as: a. Independent Variable (X = CS, DER, SALES) b. Dependent Variable (Y = GPM) 4. Determine the research design: descriptive quantitative 5. Determine the data collection techniques by observation, documentation and interviews
03	**STAGE OF DATA ANALYSIS**	The data analysis technique used is descriptive statistics, namely simple linear regression and multi regression using the Classic Assumption Test, T-Test, F-Test and data determination using SPSS tools and the results are analyzed and interpreted in the discussion chapter.
04	**STAGE OF ORGANIZING**	The results of the data processing are analyzed, and the discussion begins with a background summary, literature review and methods, outcomes and targets, budget plans, schedules and references.
05	**STAGE OF REPORTING**	The final stage of the research is reporting the research in the form of research results and followed with the output in the form of journals and blueprints.

3.5.1 Dependent Variable

The dependent variable used in this study is Gross Profit Margin (GPM) which measured by dividing gross profit with sales so that it earns a profit for each sale in Rupiah. This ratio is used to measure the percentage of gross profit on net sales. It also measured by reducing the net sales to cost of goods sold

Herewith the formula:

$$\text{Gross Profit Margin (GPM)} = \frac{\text{(Gross Profit)}}{\text{Sales}} \times 100\%$$

3.5.2 Independent Variable

The independent variables in this study consisted of:

a. *Cash ratio (CR)*

Hermanto (2012: 172) stated that cash ratio is a comparison of current items contained in current assets namely cash on hand, cash in the bank and cash equivalent compared to the amount of current debt .

Herewith the formula:

$$\text{Cash Ratio (CS)} = \frac{\text{(Cash + cash equivalent)}}{\text{Current liabilities}} \times 100\%$$

b. Then Riyanto (2013: 296) also said that capital structure is a comparison between foreign capital (long-term) and owner's equity .

Herewith the formula:

$$\text{Debt to Equity Ratio (DER)} = \frac{\text{(Total Debt)}}{\text{Owner's equity}} \times 100\%$$

c. Sales

Hery (2017: 11) defined sales as the total amount given by the customers for the sale of the company's product either on credit or cash.

3.7 Technique of Data Analysis

This study uses a quantitative analysis approach and also uses descriptive statistics with multi regression, namely the Classical Assumption Test, hypothesis testing with multiple linear regression, t-test, f-test, determination and data processing using SPSS software.

4. RESULTS AND DISCUSSION

4.1 Research Samples

The research sample was obtained from financial statement obtained from the financial department of PT. Perkebunan Nusantara III (Persero) from 2012-2016 using time series data

4.2 Descriptive Statistics

Tabel 1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CS	5	14.74	16.20	15.5254	.58736
DER	5	5.88	7.76	6.9998	.70182
SALES	5	17.34	17.49	17.4202	.06062
GPM	5	3.70	5.08	4.7561	.59191
Valid N (listwise)	5				

The descriptive table above shows a statistical description of the variables used in this study. The number of observations in this study was five observations which sales as the variable reached the most maximum value of 17.49. Meanwhile, the smallest minimum value is in the DER variable of 5.88. The average value for the independent variable is the CS variable of 15.5254, DER variable is 6.9998, and SALES variable is 17.4202. Also, for the dependent variable, namely GPM has an average of 4.7561.

4.3 Classical Assumption Testing

4.3.1 Normality test

The normality test in this study used non-parametric statistical test of Kolmogorov-Smirnov (K-S). Kolmogorov-Smirnov (K-S) value of 0.783 and its significance at 0.783 was higher than α (0.05). Then, it can be concluded that this study has a normal distribution.

Tabel 2 One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		5
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.02327079
Most Extreme Differences	Absolute	.293
	Positive	.293
	Negative	-.180
Kolmogorov-Smirnov Z		.656
Asymp. Sig. (2-tailed)		.783

a. Test distribution is Normal.
b. Calculated from data.

4.3.2 Multicollinearity Test

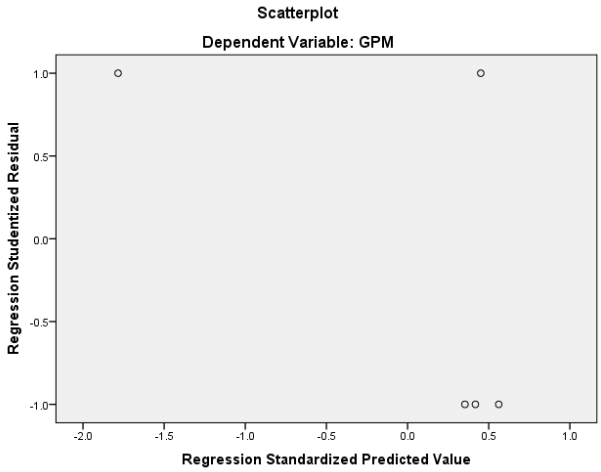
In the Multicollinearity Test, researchers used Variance Inflation Factor (VIF). Based on the results from table 3 shows that the data do not experience multicollinearity if the VIF value <10 and the Tollerance value> 0.10 where the Tollerance value for DER is 0.605> 0.10, SALES 0.532> 0.10 and CS 0.449> 0.10. The value of VIF variables were as follows: DER 1,652 <10, SALES 1,880 <10 and CS 2,227 <10.

Table 3: Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	DER	.605	1.652
	SALES	.532	1.880
	CS	.449	2.227

4.3.3 Heteroscedasticity Test

This test is made by looking at the scatterplot graphs. Based on the results of testing as shown in figure 4.1, it can be seen that the plot distribution does not form a specific pattern and is spread above and below the number 0 on the Y-axis. It can be concluded that all variables in this study are free from the heterocedasticity assumption.



Picture 4.1 Heteroscedasticity Test

4.3.4 Hypothesis Test

4.3.4.1 Analysis of the Coefficient of Determination

If we see from table 4, we know the value of R Square is 0.577. It means that DER, SALES and CS can explain external factors of the research variable explain 5.77% of the variable GPM and the remaining 94.23%.

Table 4 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.760[a]	.577	-.692	.01961

a. Predictors: (Constant), CS, DER, SALES

b. Dependent Variable: ABS

4.3.4.2 Effect of Liquidity, Capital Structure and Sales on Gross Profit Margin Partially at PTPN III (Persero) Medan in 2012-2016

Table 5 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-57.879	8.438		-6.859	.092
	DER	.524	.043	.621	12.285	.052
	SALES	3.886	.526	.398	7.385	.086
	CS	-.563	.059	-.558	-9.515	.067

a. Dependent Variable: GPM

The Regression Equation built in this hypothesis is:
Y = -57,879 - 0,563 X1 + 0,524 X2 + 3,886 X3

From the above table, it can be concluded as follows:

1. Effect of Liquidity = CS (X_1) on GPM (Y) of -9.515 with sig 0.067> 0.05, meaning CS (X_1) has no influence on GPM (Y).
2. Effect of Capital Structure = DER (X_2) on GPM (Y) with sig 12,285 with sig 0.052> 0.05 means DER (X_2) has no influence on GPM (Y).
3. Effect of SALES = (X_3) on GPM (Y) of 7.385 with sig 0.086> 0.05 means SALES = (X_3) has no influence on GPM (Y)

4.3.4.3 Effects of Liquidity, Capital Structure and Sales of Simultaneously Gross Profit Margin at PTPN III (Persero) Medan in 2012-2016

Table 6 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.399	3	.466	215.327	.050[b]
	Residual	.002	1	.002		
	Total	1.401	4			

a. Dependent Variable: GPM
b. Predictors: (Constant), CS, DER, SALES

Based on table 6 above, it can be seen that there is a simultaneous effect of Liquidity, Capital Structure and Sales on Gross Profit Margin with a sig value of 0.050 where α = (0.05)

4.4 Discussion

From the results of statistical tests, it can be seen that partially Liquidity, Capital Structure and Sales do not affect on Gross Profit Margin. The results of this study are comparable to the research of Susi Susanti (2018) [8], (Alimuddin 2016) [9], (Novita Sari Putri, Ervita Safitri, Trisnadi Wijaya, 2015) [10], (Ima Andriyani, 2015) [11], (Supanji Setyawan, Susilowati, 2018, for the variable of working capital) [12] where Working Capital, Liquidity and Company Size had no impact on the profitability. Those research were inversely proportional to the research of Diney Aila Rahmadani Simatupang (2018) [13], (Ellyn Octavianty and Defi Jumadil Syahputra 2015) [14], (Asti Asita 2017) [15], (Supanji Setyawan, Susilowati, 2018, for the sales variable) [12] where Liquidity influences Profitability and Simultaneously Liquidity, Capital Structure and Sales affected the Gross Profit Margin. The results of this study are comparable to Diney Aila Rahmadani Simatupang (2018) [13], (Asti Asita 2017) 18) [15], (Novita Sari Putri, Ervita Safitri, Trisnadi Wijaya, 2015) [10], (Ima Andriyani, 2015) [11], (Tenie Yulianti Putri, 2015) [16]. However, the results of those studies are inversely proportional to the research of Susi Susanti (2018) [8] where Working Capital, Liquidity and Firm Size had no impact on the Profitability

Other results of this study can be seen from the Multiple Linear Regression equation. It shows a CS with a negative mark of 0.563, which means a CS increase of 1% is expected to decrease GPM by 0.563 with the assumption that CS is unchanged and comparable to Susi Susanti's research (2018) [8] and Diney Aila Rahmadani Simatupang (2018) [13]. While Multiple Linear Regression Equation shows a positive DER of 0.524, which means an increase in DER of 1% is expected to increase GPM by 0.524, assuming the DER is unchanged. The results of this study are comparable to those of Susi Susanti (2018) [8] but inversely proportional to the research of Diney Aila Rahmadani Simatupang (2018) [13]. As well as the Regression Equation of Multiple Linear Regression which shows a positive sign SALES of 3.886 which means an increase of SALES by 1% is expected to increase GPM by 3.886 assuming SALES has not changed. The results of this study are comparable to those of Susi Susanti (2018) [8]

5. Conclusion

This research conducted by assessing the Effect of Liquidity, Capital Structure and Sales against the Gross Profit Margin through the observations at PTPN III (Persero) Medan in 2012-2106. It can be concluded that:
1. Partially Liquidity, Capital Structure and Sales do not affect on Gross Profit Margin
2. Simultaneously Liquidity, Capital Structure and Sales affect Gross Profit Margin with sig 0.050 where α = 0.05
There are some missing or incomplete data in this research. Therefore, it is needed by taking broader and more complete data samples.

The recommendations from this research are:

1. PTPN III (Persero) Medan should continue to increase its income or sales so that working capital also rises and the ability to pay off debt is being much better, both for short-term and long-term debt

2. By increasing the sales, the company can invest in securities.
3. The company should improve its financial performance to avoid Financial Distress.
4. Companies must improve their internal control functions in the financial sector

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