

THE EFFECT OF ASSET STRUCTURE, COMPANY SIZE AND PROFITABILITY ON CAPITAL STRUCTURE IN BASIC AND CHEMICAL INDUSTRY SUB-SECTOR MANUFACTURING COMPANIES LISTED ON IDX 2014-2017 PERIOD

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Abstract

The purpose of this study is to test and determine the results of the effect of asset structure, company size and profitability on capital structure in basic industrial and chemical sub-sector companies listed on the Indonesia Stock Exchange for the period 2014-2017. In this research, the method used is the quantitative approach method with descriptive research type and the nature of the research is descriptive explanatory, the data is taken indirectly through the website www.idx.co.id. Where the population used is 64 companies resulting in 22 sample companies using purposive sampling technique based on certain criteria. The data analysis method used is multiple linear regression analysis. So that the results of the research that has been done on the hypothesis show that partially the Asset Structure and Company Size have no and insignificant effect on Capital Structure, and Profitability has a negative and significant effect on Capital Structure and simultaneously that the three variables have a positive effect on Capital Structure with the coefficient determination of 19.1%.

Keyword : Asset Structure, Company Size, Profitability and Capital Structure (Debt to Equity Ratio).

INTRODUCTION

In today's era of globalization, every company must do various ways in order to develop its business by looking for internal and external sources of funds that the company needs. Where internal sources of funds can be obtained from the results of the company's operational activities, while external sources of funds are obtained from outside the company which consists of investors, banks and the capital market [1]. Capital structure includes a determinant of how much the company's ability to pay its debts because the good and bad capital structure of the company will greatly affect the development of the company itself. Asset

structure is the ratio between fixed assets and total assets which can determine how much the allocation of funds for each asset component [2]. Company size is a description of the company itself which can be seen from the total value of its assets. Where the larger the size of a company, the company will undergo a good structural development and get bigger profits. [3] Profitability is the ability of a company to seek company profits. Where this profitability will be a benchmark for investors in investing in a company. Therefore the company must be able to maintain stable profitability every year. Return On Assets is a calculation to find out how much profit the company gets [4].

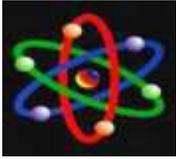


Table 1 Phenomenon (in Rupiah)

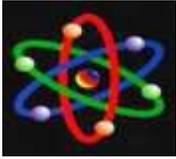
No	Emiten	Tahun	Aktiva Tetap	Total Aktiva	Laba Bersih	Hutang
1	INTP	2014	12.798.200	28,884,973	5,274,009	4,100,172
		2015	14.504.506	27,638,360	4,356,661	3,772,410
		2016	15.725.958	30,150,580	3,870,319	4,011,877
		2017	15.980.602	28,863,676	1,859,818	4,307,169
2	WTON	2014	1.486.859.814.874	3,841,436,864,056	3,841,436,864,056	1,720,809,313,184
		2015	2.001.188.584.887	4,456,097,502,805	4,456,097,502,805	2,192,672,341,480
		2016	2.222.382.865.586	4,662,319,785,318	4,662,319,785,318	2,171,844,871,665
		2017	2.716.598.920.664	7,067,976,095,043	7,067,976,095,043	4,320,040,760,958
3	INAI	2014	252.903.555.905	897,281,657,710	22,058,700,759	751,439,553,825
		2015	374.793.340.985	1,330,259,296,537	28,615,673,167	1,090,438,393,880
		2016	364.749.963.114	1,339,032,413,455	35,552,975,244	1,081,015,810,782
		2017	353.167.285.545	1,213,916,545,120	38,651,704,520	936,511,874,370

Based on the results of the financial statements of the manufacturing company in the Basic Industry and Chemical Sub-Sector, it can be seen in 2015 the Fixed Assets of PT[5]. Indocement Tunggal Prakarsa Tbk experienced an increase of Rp. 1,706,306 or 13.3% from the previous year, however total debt decreased by Rp. 327,762 or 7.9% from the previous year. In 2016, the company PT Wijaya Karya Beton Tbk, Total Assets increased by Rp.206,222,282,513 or 21.5% from the previous year, however total debt decreased by Rp.20,827,469,815 or 0.9% from the previous year. In 2015, the company PT Indal Aluminum Industry Tbk, Net Profit increased by Rp.6,556,972,408 or 29.7% from the previous year, but total debt increased by Rp. 338,998,840,055 or 45.1% from the previous year[6].

METHOD

The approach used in this research is quantitative methods. Meanwhile, according to Sugiono (2010: 13), quantitative research is research based on the philosophy of positivism, which is used to examine the population and sample of companies. The population in this study were all industrial and chemical sub-sector manufacturing companies listed on the Indonesia

Stock Exchange for the 2014-2017 period. According to Sugiyono (2010: 115), population is an area consisting of objects / subjects that have certain qualities and characteristics that have been determined by researchers and then produce conclusions. Where the population of this study consisted of 64 companies in the 2014-2017 period. Meanwhile, according to Sugiyono (2010: 116), the sample is the result obtained from the number and characteristics of the population by using a purposive sampling technique.



Some of the criteria used as samples for this study, manufacturing companies in the basic industry and chemical subsectors listed on the Indonesia Stock Exchange in 2014-2017. Basic Industry and Chemical sub-sector companies that publish their financial reports in a row for the year 2014-2017. Basic Industry and Chemical sub-sector companies that did not experience a loss in 2014

Table 3. Criteria for sampling research

NO	Kriteria	Jumlah Sampel
1	Perusahaan sub sektor Industri Dasar dan Kimia yang terdaftar di Bursa Efek Indonesia tahun 2014-2017	64
2	Perusahaan sub sektor Industri Dasar dan Kimia yang tidak mempublis laporan keuangannya secara berturut-	(13)

turut tahun 2014-2017	
3	Perusahaan sub sektor Industri Dasar (29) dan Kimia yang mengalami kerugian tahun 2014-2017
Jumlah perusahaan yang terpilih menjadi sampel penelitian	22
Total sampel (4 x 22)	88

RESULT

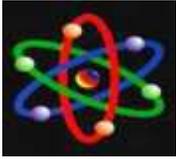
The total number of data from a research sample on manufacturing companies in the basic industry and chemical sub-sector on the Indonesia Stock Exchange for the 2014-2017 period was 88 data.

Table 4. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
SA	88	.136	.808	.45580	.170134
UP	88	13.670	29.590	24.22795	4.553024
ROA	88	.001	.264	.06643	.051260
SM	88	.077	5.152	.82392	.925371
Valid N (listwise)	88				

Based on table 4 above, it can be seen that the Asset Structure variable shows a minimum value of 0.136 which is obtained from the company PT. Champion Pacific Indonesia Tbk in 2014 with a maximum value of 0.808 obtained from the company PT. Semen Baturaja (Persero) Tbk in 2016 where the mean obtained was 0.45580 with a standard deviation of 0.170134 [5]. Company size obtains a minimum value of 13.67 which is obtained from the company PT. Emdeki

Utama Tbk in 2017 and the maximum value was 29.59 which was obtained from the company PT. Wijaya Karya Beton Tbk in 2017 where the mean obtained was 24.22795 with a standard deviation of 4.553024. Profitability has a minimum value of 0.001 59 which is obtained from the company PT. Tjiwi Kimia Tbk Paper Factory in 2015 and the maximum value is 0.26459 which is obtained from the company PT. Emdeki Utama Tbk in 2016 where the mean

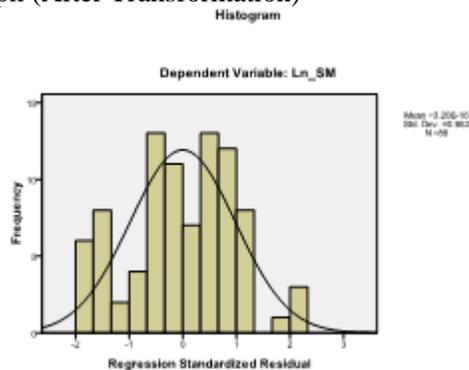


obtained was 0.06643 with a standard deviation of 0.051260 [6].

The capital structure gets a minimum value of 0.077 which is obtained from the company PT. Semen Baturaja (Persero) Tbk in 2014 and the maximum value of 5,152 obtained from the company PT. Indal Aluminum Industry Tbk in 2014 where the mean obtained was 0.82392 with a standard deviation of 0.925371 [7].

The purpose of the normality test is to test whether confounding variables have a normal distribution in the regression model. This study used the Histogram, Scatterplot and Kolmogorov-Smirnov tests. Where the normality test with the Probability Plot can be seen from the results of the distribution of points on the graph and the Kolmogorov-Smirnov Test can be proven through the One-Sample Kolomorov-Smirnov Test. So that the data is said to be normal if the significant value is > 0.05 [8].

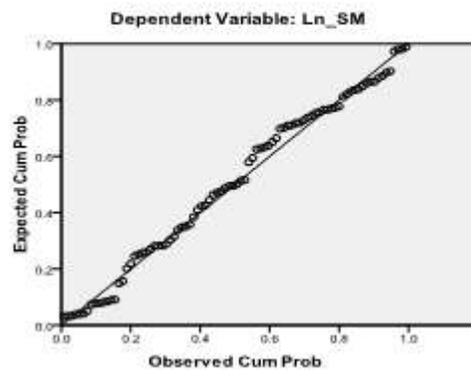
Image 1. Histogram Normality Test Graph (After Transformation)



From the graphic image above, it can be seen that the histogram of the data that has been transformed follows a normal curve, so it can be concluded that the distribution of data in this test is normally distributed.

Image 2. P-Plot Normality Test Graph (After Transformation)

Normal P-P Plot of Regression Standardized Residual



Based on the P-Plot Normality graph above, it can be seen that the points spread around the diagonal line or do not experience a spread far from the diagonal line so it can be said that the data distribution is normally distributed.

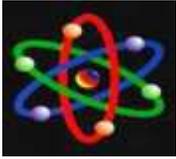


Table 5 Graph of the Kolmogorov-Smirnov Normality Test (After Transformation)

		Ln_RES1
N		37
Normal Parameters ^{a,b}	Mean	-1.1712
	Std. Deviation	1.33301
Most Extreme Differences	Absolute	.122
	Positive	.116
	Negative	-.122
Kolmogorov-Smirnov Z		.744
Asymp. Sig. (2-tailed)		.637

a. Test distribution is Normal.

b. Calculated from data.

The results of the Kolmogorov Smirnov statistical test in Table 5 show that the significant value obtained is 0.637 where the number is greater than 0.05, so the data used in this research method is normally distributed.

The multicollinearity test aims to test whether the regression model found a correlation between independent (independent) variables. A good regression model should not have a

correlation between the independent variables[8].

Multicollinearity test is to test whether there is a correlation between independent (independent) variables. If the VIF value is <10 and Tolerance > 0.10, it can be concluded that there is no correlation between the variables studied.[9]

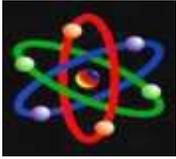
Table 6 Multicollinearity Test (After Transformation)

Coefficients ^a		
Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Ln_SA	.819	1.220
Ln_UP	.893	1.120
Ln_ROA	.871	1.148

a. Dependent Variable: Ln_SM

Based on Table 6, it can be seen that the tolerance value obtained for each variable after transform is greater than 0.10 and the VIF value

obtained is also less than 10. So it can be concluded that the variables of Asset Structure



(X1), Company Size (X2), and Profitability (X3) Multicollinearity does not occur.

confounding error in period t with confounding error on period t-1 (previous). If this happens then there is an autocorrelation problem[11].

Autocorrelation test is to test whether the linear regression model has a relationship between

Table 7.Autocorrelation Test (After Transformation)

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.468 ^a	.219	.191	.88210	.516

a. Predictors: (Constant), Ln_ROA, Ln_UP, Ln_SA

b. Dependent Variable: Ln_SM

It can be seen in Table 7, the Durbin-Watson value after being transformed is 0.516

does not meet the good Durbin-Watson criteria, namely $dU < d < 4 - dU$. So the run test is carried out as follows:

Table 8. Test Run Test

Runs Test	
	Ln_RES1
Test Value ^a	-1.23
Cases < Test Value	18
Cases \geq Test Value	19
Total Cases	37
Number of Runs	16
Z	-.997
Asymp. Sig. (2-tailed)	.319
a. Median	

Based on Table 8, it can be seen that the significant value is $0.319 > 0.05$ so it can be

concluded that there is no autocorrelation in this study. The Heteroscedasticity test according to Ghazali (2016: 134) aims to test whether in the regression model there is an inequality of variance from one observation to another. Because a good regression model does not occur heteroscedasticity.

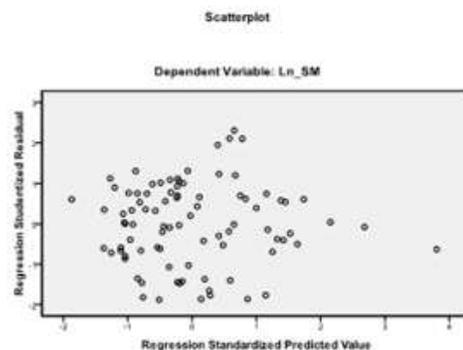
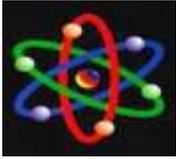


Image 3.Heteroscedasticity Test Graph (After Transformation)



Based on Figure 3, it can be seen that there is no clear pattern, and the dots spread above and below the number 0 on the Y axis. Thus it can be concluded that there is no heteroscedasticity.

Table 9. Multiple Linear Regression Equations Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
1 (Constant)	-1.984	1.537	
Ln_SA	-.084	.254	-.035
Ln_UP	-.056	.473	-.012
Ln_ROA	-.462	.100	-.477

a. Dependent Variable: Ln_SM

Can be seen in table 9 above, the regression equation obtained is

$$Y = -1.984 - 0.084X_1 - 0.056X_2 - 0.462X_3$$

Table 10. The coefficient of determination

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.468 ^a	.219	.191	.88210	.516

a. Predictors: (Constant), Ln_ROA, Ln_UP, Ln_SA

b. Dependent Variable: Ln_SM

In Table 10, the value of the adjusted R Square coefficient of determination obtained is 0.191 or 19.1%. Where this value indicates that the asset structure, company size and profitability can explain its relationship to the Capital Structure

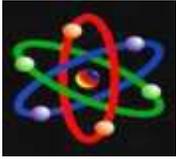
From the regression equation above, it can be concluded that the constant obtained is -1.984, which means that the three variables are constant, so the capital structure will remain at -1.984. The regression coefficient for the asset structure is known to be -0.084, where if there is an increase in each unit, the capital structure will decrease by 0.084. The coefficient of company size is -0.056, where if there is an increase in each unit, the capital structure will decrease by 0.056. The profitability coefficient is -0.462 where if there is an increase in each unit, the capital structure will decrease by 0.462.

Hypothesis Determination Coefficient

According to Ghazali (2016: 95), the coefficient of determination (R²) essentially measures how far the model's ability to explain variations in the dependent variable.

and the value of 80.9% can be explained from other factors outside the variables studied such

as sales growth, Earning Per Share and management attitudes..



Simultaneous Hypothesis Testing (Test F)

independent variables on the dependent variable simultaneously (together).

Simultaneous test is carried out to analyze whether there is an influence between the

Table 11. Statistical Test F

ANOVA ^b						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.350	3	6.117	7.861	.000 ^a
	Residual	65.360	84	.778		
	Total	83.710	87			

a. Predictors: (Constant), Ln_ROA, Ln_UP, Ln_SA
 b. Dependent Variable: Ln_SM

Based on Table 11, $F_{count} > F_{table}$ is $7,861 > 2.71$ with a significant value of $0.000 < 0.05$ so it can be concluded that all variables have an effect on the capital structure.

Partial Hypothesis Testing (t test)

Partial test is used to analyze whether there is an effect of independent variables on the dependent variable partially.

Table 12 Statistical Test t

Coefficients ^a				
Model		Standardized Coefficients		Sig.
		Beta	t	
1	(Constant)		-1.291	.200
	Ln_SA	-.035	-.332	.740
	Ln_UP	-.012	-.118	.906
	Ln_ROA	-.477	-4.616	.000

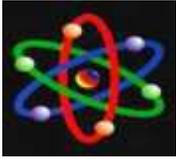
a. Dependent Variable: Ln_SM

It can be seen in table 12 that the significant value of each variable where the profitability variable gets a significant value that does not exceed 0.05, so in this study it can be concluded that the capital structure is influenced by profitability. As for the variable asset structure and firm size, the significant values of the two variables are 0.740 and 0.906, which means that the value has exceeded 0.05, so it can be

concluded that the two variables have no effect on the capital structure.

CONCLUSION

The results showed that the Asset Structure and Company Size partially had no and insignificant effect on the structure with a significant value of 0.740 and 0.906. Partial profitability had a negative and significant effect on the capital structure where the low level of profitability



caused investors to withdraw their funds. As for the company itself, profitability can be used as an evaluation of the effectiveness of the management of the business entity so that a high rate of return will affect the company's internal fund needs. In the research results simultaneously it is known that the Asset Structure, Company Size, and Profitability have a positive effect on the structure with a determination coefficient of 19.1%.

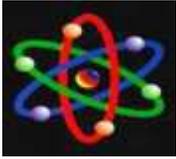
Issuers should pay attention to factors that have or do not have a significant impact on the capital structure. It is intended that companies can determine the use of their own debt and equity properly in order to provide optimal benefits for their respective companies. And for the next researcher, it is expected to increase the time period of the study by using a different type of company industry in order to compare the factors that can affect the company's capital structure.

THANK YOU

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REFERENCE

- [1] Atmaja, Lukas Setia. 2008. **Teori dan Praktik Manajemen Keuangan**. Ed. 1, Yogyakarta: CV. Andi Offset.
- [2] Augustine, Yvonne dan Robert Kristaung. 2013. **Metodologi Penelitian Bisnis dan Akuntansi**. Jakarta: PT Dian Rakyat.
- [3] Hery. 2015. **Pengantar Akuntansi Comprehensive Edition**. Jakarta: PT. Grasindo.
- [4] Jumingan. 2014. **Analisis Laporan Keuangan**. Cetakan Kelima, Jakarta: PT Bumi Aksara.
- [5] Kasmir. 2012. **Analisis Laporan Keuangan**. Ed. 5, Bandung: PT Rajagrafindo Persada.
- [6] Ghozali, Imam. 2016. **Aplikasi Analisis Multivariete dengan Program IBM SPSS 23**, Cetakan Kedelapan, Semarang: Badan Penerbit Universitas Diponegoro.
- [7] Hery. 2015. **Analisis Laporan Keuangan Pendekatan Rasio Keuangan**. Cetakan 1, Yogyakarta: CAPS (Center for Academic Publishing Service).
- [8] Munawir, S. 2016. **Analisa Laporan Keuangan**. Edisi 4, Yogyakarta: Liberty.
- [9] Prastowo, Dwi. 2014. **Analisis Laporan Keuangan Konsep dan Aplikasi**. Edisi Ketiga, Cetakan Kedua, Yogyakarta: Unit Penerbit dan Percetakan Sekolah Tinggi Ilmu Manajemen YKPN.
- [10] Rodoni, Ahmad dan Herni Ali. 2014. **Manajemen Keuangan Modern**. Jakarta: Mitra Wacana Media.
- [11] Sitanggang, J.P. 2013. **Manajemen Keuangan Perusahaan Lanjutan Dilengkapi Soal dan Penyelesaian**. Edisi Pertama, Jakarta: Mitra Wacana Media.
- [12] Sudana, I Made. 2011. **Manajemen Keuangan Perusahaan Teori dan Praktik**. Jakarta: Erlangga.
- [13] Sugiono, Arief dan Edy Untung. 2016. **Panduan Praktis Dasar Analisa Laporan Keuangan**. Jakarta: PT Grasindo.



- [14] Sugiyono. 2016. **Metode Penelitian Kuantitatif, Kualitatif, dan R&D**. Cetakan Ke-23, Bandung: Penerbit Alfabeta.
- [15] Sugiyono. 2010. **Metode Penelitian Bisnis (Pendekatan Kuantitatif, Kualitatif, dan R&D)**. Cetakan ke-15, Bandung: CV. Penerbit Alfabeta.
- [16] Syamsuddin, Lukman. 2011. **Manajemen Keuangan Perusahaan, Konsep Aplikasi dalam: Perencanaan, Pengawasan dan Pengambilan Keputusan**. Jakarta: PT Rajagrafindo Persada.