

THE EFFECT ANALYSIS TOWARD LIQUIDITY, LEVERAGE ON THE COST EFFICIENCY OF CHEMICAL COMPANIES AND THE IMPACT ON THE FINANCIAL PERFORMANCE OF THE COMPANY

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Abstract

This study aims to analyze how much influence liquidity and leverage have on cost efficiency on the performance of chemical companies listed on the Indonesia Stock Exchange (BEI) from 2010 to 2017. The writing method used is quantitative. This method displays and explains how the results of the calculation of corporate financial data in the form of financial reports. The results showed that the analysis of liquidity ratios in chemical industry companies was quite good; leverage ratio is not efficient yet; cost development shows the cost efficiency is still less effective because the amount of costs incurred increases from year to year; and analysis of profitability increased but not significantly due to tighter competition by chemical industry companies. It can be concluded that partially liquidity affects cost efficiency while leverage does not affect cost efficiency. While simultaneously, liquidity and leverage do not significantly influence the cost efficiency of chemical companies. And for company performance, it is very much influenced by cost efficiency.

Keyword: liquidity, leverage, cost efficiency, profitability.

INTRODUCTION

The development of industry in Indonesia is currently taking place very rapidly along with the progress of science and technology. The process of industrialization of Indonesian society has accelerated with the establishment of diverse companies and workplaces. Unfortunately, the development experienced is not only an increase, but also a decline. Sometimes this year an increase, the following year a decline.

This research will focus on the financial performance of companies in the chemical industry sector. Why must the chemical industry not the other, because these companies are directly related to the environment and society. The sub-sector of the chemical industry involves a large workforce, high technology, and substantial investment capital. This is what makes investors interested in investing their capital in these industrial sector companies.

The company's performance can be seen from its financial reports. Financial reports show information about the state of a company that can be used as a source of information for decision making (Syafri, 2009); (Hanafi, 2010); (Fahmi, 2013); (Kasmir & Lainnya, 2010); 2012). For this study, the value of Return on Assets (ROA) which

is part of the profitability ratio of chemical companies during 2010 to 2017 can show the performance of these chemical companies. In the initial research, data from the Indonesia Stock Exchange (BEI) (2010-2017) were obtained which stated that the average value of ROA of chemical companies was still fluctuating in the period of 2010-2017.

Profitability here is the company's ability to earn profits in relation to sales, total assets and own capital (Sartono, 2001) in (Natasia & Wahidahwati, 2015). According to (Robert et al., n.d.), profitability is a primary measure of success for a company or in other words for the survival of a company. According to (Harahap, 2011), profitability illustrates the ability of companies to get profits through all capabilities, and existing sources such as sales, cash, capital, number of employees, number of branches, and so on. A company can be said to be successful if it has achieved the standards and objectives set. Positive profitability indicates that of the total assets used for the company's operations are able to provide profits for the company and vice versa, if the results are negative, then the total assets used do not provide profits for the company. Financial performance provides an assessment of the management of company assets by management

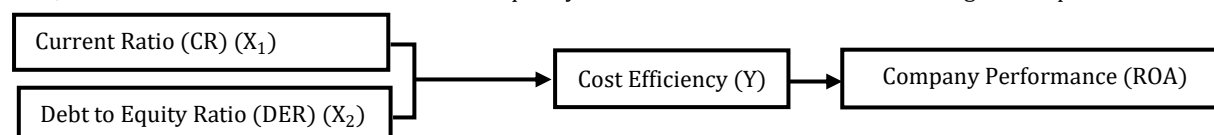
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and with this the company management is required to carry out evaluations and corrective actions on the company's unhealthy financial performance.

In addition to company profitability, this research will also focus on the Operational Income Operational Cost (BOPO) ratio. According to (Pandia, 2012) and (Widjaja, 2009): 98), the BOPO ratio, or what is often referred to as the efficiency or cost efficiency ratio, is used to measure the ability of company management to control operational costs against operating income.

Based on data from BEI (2010-2017), the average cost efficiency of chemical companies fluctuates, there is an increase there is also a decrease, depending on the policies of each company and is based on considerations of various factors. Careful and precise consideration is needed so that any plans to be implemented can be realized as expected and the possibility of the emergence of weaknesses or obstacles can be anticipated as early as possible. Using the right strategy will also support the achievement of satisfactory company performance.

This research will also discuss the effect of liquidity and leverage on cost efficiency. Liquidity ratios indicate a company's ability to pay financial obligations immediately or in the short term (Fahmi, 2011). Liquidity analysis is used to measure a company's ability to meet its short-term financial obligations, both the obligation to finance the production process and the obligation to pay corporate debt (Sunyoto, 2013). In this study, we will focus on one type of liquidity ratio, which is the current ratio (CR). Current ratio (CR) is one type of liquidity ratio that covers all components of current assets and all components of current debt without differentiating the level of liquidity. If the current assets exceed the current debt, it can be estimated that at one time liquidity is



carried out, the current assets have enough cash or can be

Figure 1. Research Framework

METHODS

This research is quantitative descriptive. There are 3 types of variables used in this study, namely the independent variables (X1 and X2), the dependent variable (Y) and the intervening variable (Z).

The population in this study were 10 chemical companies listed on the Indonesia Stock Exchange from 2010 - 2017.

Table 1. 10 chemical companies listed on the Indonesia Stock Exchange (BEI)

No	Stock Code	Company Name
1	BRPT	Barito Pacific Tbk.
2	BUDI	Budi Starch & Sweetener Tbk.
3	TPIA	Chandra Asri Petrochemical Tbk.
4	DPNS	Duta Pertiwi Nusantara Tbk.
5	EKAD	Ekadharma International Tbk.
6	ETWA	Eterindo Wahanatama Tbk.
7	SRSN	Indo Acidatama Tbk.
8	INCI	Intanwijaya Internasional Tbk.
9	TDPM	Tridomain Performance Materials Tbk

Table 3. Operational Definitions in this Research

No	Variable	indicator	Variable Definition	Formula	Scale
1	Liquidity (X1)	Current Ratio (CR)	The ratio between current assets and current debt	$CR = \frac{\text{Current asset}}{\text{Current liabilities}} \times 100\%$	Ratio

converted into cash in a short time, so that they can meet their obligations (Harahap Sofyan, 2007).

The leverage ratio (debt ratio) is the ratio used to measure how much the company is financed with debt (Fahmi, 2011). leverage is taken by management in order to obtain sources of financing for the company so that it can be used to finance the company's operational activities (Baridwan, 2004) in (Sulistiyani, 2011). A public company that has too much debt means that the company's shares are less attractive to investors. Thus, the leverage analysis is believed to be a benchmark to assess the proportion or role of corporate debt in improving the company's financial performance. The leverage ratio that will be used in this study is Debt to Equity Ratio (DER). Debt to Equity Ratio (DER) shows the amount of assets of a company funded by debt. That is, DER is related to how much debt burden borne by the company compared to its assets. DER measures the company's ability to pay all of its obligations (Harahap, 2011).

In accordance with preliminary data from the BEI (2010-2017), the average liquidity and leverage values of chemical companies in Indonesia seem to be reversed, where the liquidity graph tends to go up each year while the leverage graph tends to go down each year.

With preliminary data obtained, researchers tried to formulate the problem for this study, namely (1) how the influence of Current Ratio (CR) and Debt to Equity Ratio (DER) both partially and simultaneously on Cost Efficiency in the registered chemical industry on the Indonesia Stock Exchange in the period 2010 to 2017 and (2) how the influence of Cost Efficiency on company performance (ROA) on chemical industry companies listed on the Stock Exchange in the period 2010 to 2017.

10	INIC	Unggul Indah Cahaya Tbk.
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Source: processed from Indonesian Stock Exchange (BEI) data, 2017

Samples taken in this study were 5 companies. This sample was chosen randomly using the purposive sampling method and the results were considered to represent the existing population.

Table 2. Five Chemical Companies that Become Research Samples

No	Stock Code	Company Name
1	BRPT	Barito Pacific Tbk.
2	BUDI	Budi Starch & Sweetener Tbk.
3	TPIA	Chandra Asri Petrochemical Tbk.
4	DPNS	Duta Pertiwi Nusantara Tbk.
5	INIC	Unggul Indah Cahaya Tbk.

Source: processed from Indonesian Stock Exchange (BEI) data, 2017

The design of this study is only described in outline, while the details are described in narrative form.

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2	Leverage (X2)	<i>Debt to Equity Ratio (DER)</i>	The ratio between total debt to total equity	$DER = \frac{\text{Total debt}}{\text{Total Capital}} \times 100\%$	Ratio
3	Cost Efficiency (Y)	Operating Costs Operating Revenues	The ratio between operating costs and operating income	$BOPO = \frac{\text{Operating costs}}{\text{Operational Revenue}} \times 100\%$	Ratio
4	Company Performance (Z)	<i>Return on Asset (ROA)</i>	The ratio between net income after tax and total assets	$ROA = \frac{\text{Net Profit After Tax}}{\text{Total Assets}} \times 100\%$	Ratio

Data analysis in this study uses panel data regression method. Panel data regression method is a combination of cross section and time series data. Panel data regression model can be written as follows (Nachrowi, n.d.) in (Yudianto, n.d.) :

$$Y_{it} = \alpha + \beta X_{it} + \varepsilon_{it}; i = 1, 2, \dots, N; t = 1, 2, (1)$$

N = total observations

T = amount of time

N x T = the amount of panel data

Panel data regression analysis is different from time series or cross section data regression analysis. This is because panel data will generally produce different coefficients and intercept slopes in each company and each time period. Then it is necessary to estimate the regression equation model with panel data. There are three approaches that are commonly used, namely:

a. Common-Constant Method (Pooled Ordinary Least Square / PLS)

b. Fixed Effect Method (Fixed Effect Model / FEM)

c. Random Effects Method (Random Effect Model / REM)
From these three models, the most appropriate model will be determined to estimate the panel data regression parameters. Formally there are three types of tests that can be used, namely the Chow Test, the Hausman Test, and the Langrage Multiplier Test.

In this study, the assumption of a regression model test uses 3 types of tests, namely: (1) Heteroscedasticity Test; (2) Autocorrelation Test; and (3) Normality Test.

After testing the assumptions of the panel data regression model, the next step is to test the hypothesis. In this study the hypothesis testing used was the t test (partially), the F test (simultaneously), and the R2 test (coefficient of determination).

T test (Partial Significance Test)

Test the significance of the coefficient (β_i) is done by t statistic. This is used to test the regression coefficient partially from the independent variable (knowing whether each independent variable significantly influences the dependent variable). The basis for decision making is to do an analysis with the Eviews 9.0 program. If the significant coefficient t (β_i) < the level of significance that has been set ($\alpha = 5\%$), then partially the independent variable has a significant effect on the dependent variable, so H0 is rejected (Ghozali, 2005). The hypothesis in testing t is as follows:

H₀: Liquidity and leverage have no significant effect on company performance as proxied by (ROA).

H_a: Liquidity and leverage have a significant effect on company performance as proxied by (ROA).

From the above hypothesis the researcher determines in this study the significant level used is $\alpha = 0.05$ (5%);

1) If the significance value of the independent variable > 0.05, then Ho is accepted, which means individually, the independent variable does not affect the dependent variable.

2) If the significance value of the independent variable

<0.05, then Ho is rejected, which means individually, the independent variable affects the dependent variable.

F Test (Simultaneously)

The F test or simultaneous test is used to test the significance of the effect of all the independent variables together on the dependent variable.

The basis for decision making is to do an analysis with the Eviews 9.0 program. The test is done by comparing the significance value with the α value set (0.05) or 5%. If the significance is <0.05 then Ho is rejected, which means that the independent variables together influence the dependent variable. If significance > 0.05 or 5%, then Ho is accepted, which means that the independent variables together do not affect the dependent variable, then the regression model can be used to predict the dependent variable (Ghozali, 2001).

Determination Coefficient Test (R²)

Determination analysis is used to see the percentage of influence of independent variables on the dependent variable (Duwi, 2011) in (Yudianto, n.d.). The coefficient of determination for the regression with more than two independent variables are advised to use the adjusted R2. (Kuncoro, 2013) in (Yudianto, n.d.) states that the coefficient of determination R2 has a fundamental weakness that is biased against the number of independent variables were entered into the model. Each additional one independent variable, then its R2 will increase, no matter whether these variables significantly influence the dependent variable or not. Therefore, in this study researchers used R2 adjusted to measure the percentage of the influence of the independent variable on the dependent variable.

RESULT AND DISCUSSION

Object of Research

In this study, selected 5 chemical companies listed on the Indonesia Stock Exchange 2010-2017, became the object of research based on purposive sampling techniques.

Purposive sampling technique is a sampling technique that is determined in advance based on the aims and objectives of the study, and is chosen based on certain criteria. The company criteria for sampling this study are:

1. Chemical companies listed on the Indonesia Stock Exchange during the study period, namely in 2010-2017.
2. The chemical company published financial statements and published its financial statements in full during the study period, namely in 2010-2017.
3. The chemical company distributed dividends during the study period in 2010-2017.

Table 4. List of 5 Chemical Companies that are the Object of Research

No	Stock Code	Company Name
1	BRPT	Barito Pacific Tbk.

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2	BUDI	Budi Starch & Sweetener Tbk.
3	TPIA	Chandra Asri Petrochemical Tbk.
4	DPNS	Duta Pertiwi Nusantara Tbk.
5	INIC	Unggul Indah Cahaya Tbk.

Source:

http://web.idx.id//idid/beranda/perusahaantercatat/la_porankeuangandantahunan. BEI, Data processed by the Author, 2010-2017

Analysis of Research Results

In this study, the performance of chemical companies included on the Indonesia Stock Exchange 2010-2017 was measured by Return on Assets (ROA) for each company. As for the other variables in this study, they are Current Ratio (CR), Debt to Equity Ratio (DER), and Cost Efficiency of each company that is the object of research.

The following is a list of financial performance data of 5 chemical companies consisting of current ratio (CR), debt to equity ratio (DER), cost efficiency and return on assets (ROA) and for the period 2010-2017.

Table 5. Financial Reports of 5 Chemical Companies (CR, DER, COST EFFICIENCY, and ROA) Period 2010 - 2017

No	Emiten	Year	CR	DER	BOPO	ROA
1	BRPT	2010	144.14	103.51	106.64	0.06
		2011	188.30	115.04	105.49	14.12
		2012	152.88	118.70	100.86	4.14
		2013	98.80	128.17	102.98	1.49
		2014	140.40	121.19	104.65	0.05
		2015	141.07	88.40	110.98	0.23
		2016	133.83	77.48	132.85	7.76
2	BUDI	2010	102.93	133.21	139.38	1.24
		2011	133.20	159.58	115.87	3.81
		2012	113.16	169.24	108.99	0.19
		2013	105.95	202.09	111.70	1.85
		2014	104.59	171.20	112.54	1.14
		2015	100.10	190.34	110.98	0.62
		2016	100.14	151.66	112.40	1.16
3	TPIA	2010	100.02	140.57	116.06	1.32
		2010	213.95	49.47	106.58	2.10
		2011	186.45	48.80	105.66	8.78
		2012	143.47	67.19	100.73	0.67
		2013	185.78	76.56	103.34	1.14
		2014	139.45	122.15	105.01	0.96
		2015	141.41	110.00	111.83	1.41
4	DPNS	2016	152.56	86.51	13.43	10.16
		2017	218.34	59.02	131.05	9.58
		2010	486.91	363.41	136.30	6.76
		2011	405.06	353.45	133.92	7.29
		2012	859.23	18.59	133.14	2.30
		2013	1,375.93	46.77	125.70	2.74
		2014	1,222.81	13.89	134.48	4.43
5	UNIC	2015	1,088.97	14.59	132.98	4.39
		2016	1,190.15	12.48	133.63	0.62
		2017	1,571.01	13.76	128.05	0.41
		2010	186.90	83.43	109.91	3.33
		2011	181.70	74.93	109.86	3.75
		2012	166.97	77.67	109.08	1.36
		2013	170.60	84.49	112.29	3.93
		2014	220.10	64.09	110.44	2.35
		2015	238.41	59.83	106.99	1.58
		2016	295.49	40.78	113.84	8.60
		2017	310.07	35.03	113.64	4.28

Source: processed from BEI data, 2010-2017

Before analyzing more about the estimated effect of liquidity (CR) and leverage (DER) on cost efficiency and its implications for company performance, it is necessary to

first describe the data description of each variable used in this study. A description of the statistical data of all the variables used in this study is shown in the following table:

Table 6. Description of CR, DER, COST EFFICIECY, and ROA Statistical Data from 5 Chemical Companies on BEI for the period 2010-2017

	CR	DER	BOPO	ROA
Mean	334.7425	102.8043	113.6067	3.471293
Median	174.5350	83.96000	111.7639	2.201150
Maximum	1571.010	363.4100	139.3756	14.12340
Minimum	98.80000	12.48000	13.43430	0.049700
Std. Dev.	393.7968	77.66139	20.00299	3.366628
Skewness	2.005107	1.732344	-3.000332	1.268887
Kurtosis	5.588547	6.619823	16.86659	4.007707
Jarque-Bera	37.97067	41.84530	380.4838	12.42628

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Probability	0.000000	0.000000	0.000000	0.002003
Sum	13389.70	4112.170	4544.268	138.8517
Sum Sq. Dev.	6047960.	235220.4	15604.66	442.0331
Observations	40	40	40	40
Cross sections	5	5	5	5

Source: Eviews 9.0 panel output data results

Based on the calculation results in table 6, it can be explained that from the 5 selected sample companies, a pooled method is used in which 5 companies are multiplied by the observation year period (8 years), so that the sample in this study becomes $8 \times 5 = 40$.

The standard deviation here is to measure the dispersion or spread of data, showing fluctuating numbers. The largest standard deviation value is experienced by the current ratio (CR) variable which is equal to 393.7968 which means that the current ratio variable has a higher level of risk compared to other variables. While the ROA variable has the lowest risk

level, that is 3,366628. This shows that ROA, during the study period, experienced changes that were not too volatile.

Regression Model Test of Data Panel

The model used in this study is a panel data regression model based on three models: (1) ordinary least square model (OLS) or common effect model (CEM) method, (2) fixed effect model (FEM), and (3) the random effect model (REM).

Based on testing of the three panel data regression models, namely common effect, fixed effect, and random effect; it can be concluded as follows:

Table 7. Conclusions of Testing the Panel Data Regression Model

No	Method	Testing	Result
1.	Chow-Test	Common Effect vs Fixed Effect	common Effect Model
2.	Hausman Test	Fixed Effect vs Random Effect	Random Effect model
3.	Lanrange Multiplier (LM-test)	Common Effect vs Random Effect	common Effect model

Source: data processing.

The purposes of testing the three panel data regression models available is to strengthen the conclusions of paired testing.

And the results of this test recommend the use of the Common Effect model to be used in further analysis in this study.

Table 8. Estimation of Panel Data Regression with Common Effect Models for CR and DER Variables on Cost Efficiency

Dependent Variable: ROA				
Method: Pooled Least Squares				
Date: 01/09/19 Time: 17:42				
Sample: 2010 2017				
Included observations: 8				
Cross-sections included: 5				
Total pool (balanced) observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
BOPO	0.029032	0.004789	6.062080	0.0000
R-squared	-0.076265	Mean dependent var		3.471292
Adjusted R-squared	-0.076265	S.D. dependent var		3.366628
S.E. of regression	3.492647	Akaike info criterion		5.363879
Sum squared resid	475.7446	Schwarz criterion		5.406101
Log likelihood	-106.2776	Hannan-Quinn criter.		5.379145
Durbin-Watson stat	1.776330			

Source: Panel Data Output Results from Eview 9.0

The panel data regression estimation in table 8 above with the model proves that the independent variable Current Ratio (CR) has an F-Probability value of 0.8335

and a Debt to Equity Ratio (DER) has an F-Probability value of 0.6654, then it is simultaneously not influential and significant effect on cost efficiency.

Table 9. Summary of Panel Data Regression Estimates for the Common Effect Model

No.	Model	Adjusted R-squared	F-statistic	Prob (F-statistic) $\alpha = 0,00$	Probability $\alpha = 0,05$	
1	Common Effect	0.122417	0.8335	0.0000	CR	Not Significant
			0.6654	0.0000	DER	Not Significant

Based on the summary results of the regression estimates in table 9, the constant value is $0.05 > F$ -Statistics, and is greater than the Adjusted R-squared. Then it can be stated CR and DER affect the cost efficiency, but not significant to the cost efficiency.

Classic assumption test

After determining the panel data regression model to be used, the next step is to test and fulfill the assumptions needed to test a panel data. Problems that may occur in this model are inseparable from 4 types of classical

assumption tests, namely normality, heteroscedasticity, autocorrelation, and multicollinearity.

Normality Test

From the results of the residual normality test, the Jarque Bera (JB) value of 6.554792 was obtained, with a probability of $0.037726 < 0.05$. So, the hypothesis used in the normality test is H_0 is rejected and H_1 is accepted. It can be concluded that the data from the results of the residual fixed effect to test the effect of CR and DER on cost efficiency are not normally distributed.

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According to (Widarjono, 2013), the test that must be carried

out on panel data is the multiplicity and heteroscedacity test only, so if the data used is not normally distributed, then the data can still be used for analysis.

Autocorrelation Test

By using the Eviews 9.0 program, a Durbin Watson (DW) score of 2.255438 is obtained. Autocorrelation does not occur if the Durbin-Watson Stat (DWS) number $1 < DW < 3$. Based on this rule, it can be said that there is no autocorrelation.

Heteroscedasticity Test

In this study, the heteroscedasticity test used was

Hypothesis test

Hypothesis 1

Table 10. Effect of Current Ratio (CR) on Cost Efficiency

Dependent Variable: BOPO				
Method: Pooled Least Squares				
Date: 01/09/19 Time: 17:19				
Sample: 2010 2017				
Included observations: 8				
Cross-sections included: 5				
Total pool (balanced) observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	106.6178	4.061986	26.24770	0.0000
CR	0.020878	0.008017	2.604147	0.0140
Fixed Effects (Period)				
2010--C	8.406012			
2011--C	2.971300			
2012--C	-2.052727			
2013--C	-3.503305			
2014--C	-0.825111			
2015--C	0.994272			
2016--C	-13.20341			
2017--C	7.212965			
Effects Specification				
Period fixed (dummy variables)				
R-squared	0.261213	Mean dependent var	113.6067	
Adjusted R-squared	0.070559	S.D. dependent var	20.00299	
S.E. of regression	19.28439	Akaike info criterion	8.951577	
Sum squared resid	11528.52	Schwarz criterion	9.331574	
Log likelihood	-170.0315	Hannan-Quinn criter.	9.088972	
F-statistic	1.370087	Durbin-Watson stat	2.114206	
Prob(F-statistic)	0.248038			

Source: Results of calculation data with Eviews 9.0

Based on table 10, the probability value of Current Ratio (CR) / X1 has a positive effect on cost efficiency. Also, from this table, the probability value of Current Ratio (CR)

Breusch-Pagan-Godfrey. From the heteroscedasticity test results with the Breusch-Pagan-Godfrey test, the Prob value was obtained. F count 0.615186, and this value is greater than 0.05. Then it can be concluded based on the hypothesis test, H0 is rejected, which means there is no heteroscedasticity.

Multicollinearity Test

The results of multicollinearity test Centered VIF (X1) CR 2.411894, (X2) DER 3.398743, and (Z) COST EFFICIENCY 5.724426, where from the value of the three variables no greater than 10, it can be said that there is no multicollinearity in the two independent variables: CR (X1) and DER (X2). Thus, this model is free from multicollinearity.

/ X1 is smaller than the constant (0.0140 < 0.05). With this, it can be stated that the Current Ratio (CR) variable has a significant effect on cost efficiency (BOPO).

Hypothesis 2

Table 11. Effect of Debt to Equity Ratio (DER) on Cost Efficiency

Dependent Variable: COST EFFICIENCY				
Method: Pooled Least Squares				
Date: 01/09/19 Time: 17:22				
Sample: 2010 2017				
Included observations: 8				
Cross-sections included: 5				
Total pool (balanced) observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	112.5986	5.930371	18.98677	0.0000
DER	0.009806	0.047508	0.206410	0.8378
Fixed Effects (Period)				
2010--C	5.726284			
2011--C	0.087232			
2012--C	-2.923716			

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2013--C	-2.450835		
2014--C	-0.141401		
2015--C	1.245380		
2016--C	-12.09011		
2017--C	10.54717		
Effects Specification			
Period fixed (dummy variables)			
R-squared	0.100832	Mean dependent var	113.6067
Adjusted R-squared	-0.131212	S.D. dependent var	20.00299
S.E. of regression	21.27487	Akaike info criterion	9.148038
Sum squared resid	14031.22	Schwarz criterion	9.528036
Log likelihood	-173.9608	Hannan-Quinn criter.	9.285433
F-statistic	0.434538	Durbin-Watson stat	1.693856
Prob(F-statistic)	0.891048		

Source: Results of calculation data with Eviews 9.0

Based on table 11, the probability value of Debt to Equity Ratio (DER) / X2 is greater than a constant (0.8378 > 0.05). With this, it can be stated that the Debt to Equity

Ratio (DER) variable does not significantly influence the cost efficiency.

Hypothesis 3

Table 12. Effect of Current Ratio (CR) and Debt to Equity Ratio (DER) on Cost Efficiency.

Dependent Variable: BOPO				
Method: Pooled Least Squares				
Date: 01/09/19 Time: 17:29				
Sample: 2010 2017				
Included observations: 8				
Cross-sections included: 5				
Total pool (balanced) observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	100.1658	6.899066	14.51874	0.0000
CR	0.024081	0.008444	2.851808	0.0078
DER	0.052331	0.045356	1.153771	0.2577
Fixed Effects (Period)				
2010--C	6.459047			
2011--C	0.853588			
2012--C	-1.244752			
2013--C	-3.923811			
2014--C	-0.698498			
2015--C	1.503373			
2016--C	-11.81178			
2017--C	8.862837			
Effects Specification				
Period fixed (dummy variables)				
R-squared	0.292603	Mean dependent var		113.6067
Adjusted R-squared	0.080383	S.D. dependent var		20.00299
S.E. of regression	19.18219	Akaike info criterion		8.958160
Sum squared resid	11038.70	Schwarz criterion		9.380380
Log likelihood	-169.1632	Hannan-Quinn criter.		9.110821
F-statistic	1.378775	Durbin-Watson stat		2.255438
Prob(F-statistic)	0.241226			

Source: Results of calculation data with Eviews 9.0

Based on table 12, the value of Current Ratio (CR) and Debt to Equity Ratio (DER) together do not have a positive influence on the dependent variable or COST EFFICIENCY. With a probability value of 0.241226 which is greater than the

significant level of 0.05 (0.241226 > 0.05), then H0 is accepted and Ha is rejected. This means that the variable Current Ratio (CR) and Debt to Equity Ratio (DER) together or simultaneously have no effect and are significant to Cost Efficiency.

Hypothesis 4

Table 13. Effect of Cost Efficiency on Company Performance (ROA)

Dependent Variable: ROA				
Method: Pooled Least Squares				
Date: 01/09/19 Time: 17:42				
Sample: 2010 2017				
Included observations: 8				
Cross-sections included: 5				
Total pool (balanced) observations: 40				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
BOPO	0.029032	0.004789	6.062080	0.0000
R-squared	-0.076265	Mean dependent var		3.471292
Adjusted R-squared	-0.076265	S.D. dependent var		3.366628
S.E. of regression	3.492647	Akaike info criterion		5.363879
Sum squared resid	475.7446	Schwarz criterion		5.406101

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Log likelihood	-106.2776	Hannan-Quinn criter.	5.379145
Durbin-Watson stat	1.776330		

Source: Results of calculation data with Eviews 9.0

Based on table 13, the probability value of cost efficiency (BOPO) / Z has a positive effect on Return on Assets (ROA), then the probability value of cost efficiency (BOPO) / Z is smaller than a constant (0.0000 < 0.05). It can be stated that the variable cost efficiency has a significant effect on Company Performance (ROA).

DISCUSSION

Liquidity (CR)

Current Ratio (CR) Variable at PT. DPNS (Duta Pertiwi Nusantara Tbk), the value of the current ratio increases, this means the value of liquidity is increasing and better. Panel data with the Fixed Effect model also concluded that the current ratio (CR) variable had a positive and significant effect. The probability value is 0.0140 and this is smaller than 0.05, so the results are significant for company performance (ROA). The results of this study support the results of research conducted by (Rahim, 2010) which states that the Current Ratio has a negative effect.

Leverage (DER)

Debt to Equity Ratio (DER) is a ratio that compares the amount of debt to equity. This ratio is often used by analysts and investors to see how much the company's debt compared to the equity owned by the company or shareholders. The higher the number of Debt to Equity Ratio (DER), it is assumed that the company has a higher risk to the company's liquidity.

Debt to Equity Ratio (DER) with a number below 1.00, follows that the company has a debt that is smaller than the equity it has.

In this study, the Debt to Equity Ratio (DER) variable does not affect BOPO because it is seen from the DER value in the financial statements from 2010-2017 in table 5, the debt to equity ratio (DER) value of each chemical company is not significant and also the F-statistic value amounted to 0.8378. With a probability value of 0.8378 that is greater than 0.05% or 5%, these results indicate that the variable debt to equity ratio (DER) has no effect on cost efficiency. The results of this study support the results of research conducted by (Harjadi, 2013), which states that the variable Debt to Equity Ratio (DER) partially has no significant effect on company performance. This is because there is often a decline in company performance due to the amount of debt owned by the company, so the company has difficulty in meeting these obligations.

Cost Efficiency and Profitability

Cost Efficiency Ratio (BOPO) is one of the ratios used to measure the level of efficiency of a company. The higher the BOPO ratio, the more inefficient the company as a whole. Conversely, if the BOPO value is lower the more efficient the company is.

Based on the value of the probability of cost efficiency / Z, the value of the probability of cost efficiency / Z is smaller than the constant (0.0000 < 0.05). These results indicate that the cost efficiency variable affects the company's financial performance (ROA). The results of this study corroborate research from (Attar & Islahuddin, 2014); (Oktaviantari & Wiagustini, 2013); and (Prasetyo & Darmayanti, 2015), where the results of the study

showed that Cost Efficiency had a significant negative effect on financial performance with ROA variables.

CONCLUSION

Based on the discussion and results of research on the effect of current ratio (CR), Debt to Equity Ratio (DER), and Cost Efficiency on the company's financial performance (ROA) in chemical companies listed on the Indonesia Stock Exchange in the period 2010-2017, it can be concluded that Current Ratio (CR) influences Cost Efficiency Debt to Equity Ratio (DER) has no effect on cost efficiency ; Current Ratio (CR) and Debt to Equity Ratio (DER) simultaneously have no effect on Cost Efficiency ; and Cost Efficiency significantly influence company performance (ROA). Hence, the companies that go public are asked to always consider the debt ratio, liquidity, and company performance as the effort to maintain and increase the value of the company.

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