Financial Ratio to Predicting the Growth Income (Case Study: Pharmaceutical Manufacturing Company Listed on Indonesia Stock Exchange Period 2012 to 2016)

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ABSTRACT

Increasing business competition causes companies to compete in order to improve their production to develop the company. Funding becomes one of the important factors. Before making a decision to invest. Therefore, investors need various information as a guide to decide the investment in capital market. Profit is one the potential information contained in the financial statement that is mostly used to determine the success or failure of corporate management. The variables in this research consist of current ratio (CR), debt to equity ratio (DER) and net profit margin (NPM) as independent variable and profit growth as the dependent variable. The sample used is a pharmaceutical manufacturing company listed in the Indonesia Stock Exchange which has a complete annual financial report during the observation period (2012-2016). The analysis used is descriptive quantitative method, through descriptive statistical analysis, classical assumption test, multiple linear regression test and hypothesis test. Based on the test result, it is proven that the CR, DER and DER influence the prediction of the profit growth of 33.80% simultaneously. Partially, CR has no effect on predicting profit growth, DER and DER has positive effect on predicting earnings growth.

Keywords: Current Ratio, Manufacturing Company, Profit Growth
JEL Classification: G140

1. INTRODUCTION

Business competition in the pharmaceutical industry is getting tougher. Each pharmaceutical company will compete to increase its production to improve the company. Funding becomes one of the important factors to face the competition. Source of funding can come from internal and external company. Internal source of funds can be obtained from retained earnings and depreciation, while external source of funds can be obtained from investment, loans or debt.

Before making a decision to make an investment, the investors are faced with a desire to obtain maximum return on investment value and risk level. Therefore, investors require various information as a guidance in order to decide the investment in capital market. The measure that is often used to determine the success or failure of company management is the profit earned by the company.

Profit is one of the potential information contained in the financial statement and which is very important for internal and external parties of the company. Thus, the main target of financial reporting is information about the company's achievements presented through the measurement of profit and its components and by doing financial ratio analysis.

Current ratio (CR) is a measure used to determine the ability of a company to meet its short-term liabilities, as this ratio indicates how far the demands of short-term creditor will be able to meet the assets expected to become cash in the same period as the maturity.

Debt to equity ratio (DER) is the ratio of debt to capital. This ratio measures how far the company is funded by the debt, where the higher this ratio illustrates symptoms that are not beneficial for the company.

Net profit margin (NPM) is a ratio that measures a company's ability to generate net income against total net sales achieved by the company.

2. LITERATURE REVIEW

2.1. Definition of Accounting
Some of the definitions of Accounting defined by the experts, among others are:

According to Jusup (2011), "Accounting is an accounting information system that measures business activity, processes data into reports, and communicates the results to decision makers, Accounting is "business language" because most of the business information is communicated through accounting."

Martani (2012. p. 4) said that accounting summarizes transaction that occur in an entity then processes and presents it in the form of reports provided to users of economic activity and condition of a company.

2.2. The Understanding of Financial Management
Financial management is the company activity concerned with the effort to obtain or allocate the funds as efficiently as possible.

According to Riyanto (2010. p. 4) financial management or business finance is a whole activity concerned with the effort to obtain funds and to use or allocate these funds.

The function of Financial Management by Riyanto (2010. p. 6) basically consists of:
1) The function of using or allocating funds where the financial manager should take the decision on the choice of investment alternative or investment decision in the implementation.
2) The function of obtaining of funds or financing function in which the financial manager must decide on the choice of alternative funding or financing decision.

2.3. The Understanding of Financial Ratio
According to Hanadi in the Riana and Diyani (2016) the financial ratio is a merger that shows the relationship between one element with other elements in the financial statement, the relationship between elements of the report is expressed in a simple mathematical form.

According to Riyanto (2010. p. 329) the ratio is a tool used to explain the relationship between two kinds of financial data. There are many types of ratio because the ratio can be made according to the needs of the analyser.

2.4. The Understanding of Profit
Profit is the surplus of revenue over expenses in return for turnover of goods and/or services during one accounting period.

According to Harahap (2011. p. 267) profit is the difference between the realizations of income derived from the company's transaction in a certain period minus the expenses incurred to earn the income.

Subramanyam and Wild in the Devi and Lucia journal (2016. p. 24) argue that profit is the difference between income and profit after deducting expenses and losses. Profit is one measure of operating activity and is calculated based on accrual accounting. Profits are used to assess company performance. Profit change is an increase or decrease in earnings in a period of financial statements. Changes in profits can be used to predict future corporate earnings.

3. RESEARCH METHODOLOGY

3.1. Research Methods
This research uses quantitative descriptive method that will be associated with existing problems in the object of the research on the influence of financial ratio in predicting the profit growth in pharmaceutical manufacturing company listed in the Indonesia Stock Exchange period 2012 to 2016.

3.2. Research Instruments
The research instrument is used scala ratio dependent variable (X) and independent variable (Y), independent variable consist of CR, debt equity ratio, net profit margin, while dependent variable consist of profit growth. (Table 1).

4. RESEARCH AND DISCUSSION RESULT

4.1. Company Profile
The research object used is pharmaceutical manufacturing company listed in Indonesia Stock Exchange during the period 2012-2016 selected based on purposive sampling method. Summary of sample selection procedures can be seen in Table 2.

Based on Table 2 it is known that the number of samples in this study as many as 8 companies. The companies are as follows:
1. DVLA (Darya Varia Laboratoria Tbk)
2. INAF (Indofarma Tbk)
3. KAEF (Kimia Farma Tbk)
4. KLBF (Kalbe Farma Tbk)
5. MERK (Merck Tbk)
6. PYFA (Pyridam Farma Tbk)
7. SQBI (Taisho Pharmaceutical Indonesia Tbk)
8. TSPC (Tempo Scan Pasific Tbk).

4.2. Research Results and Discussion
4.2.1. Research Result
Based on the research conducted on 8 samples of pharmaceutical manufacturing companies for the period of 2012-2016 obtained the value of profit growth, CR, DER and DER presented in Figure 1.
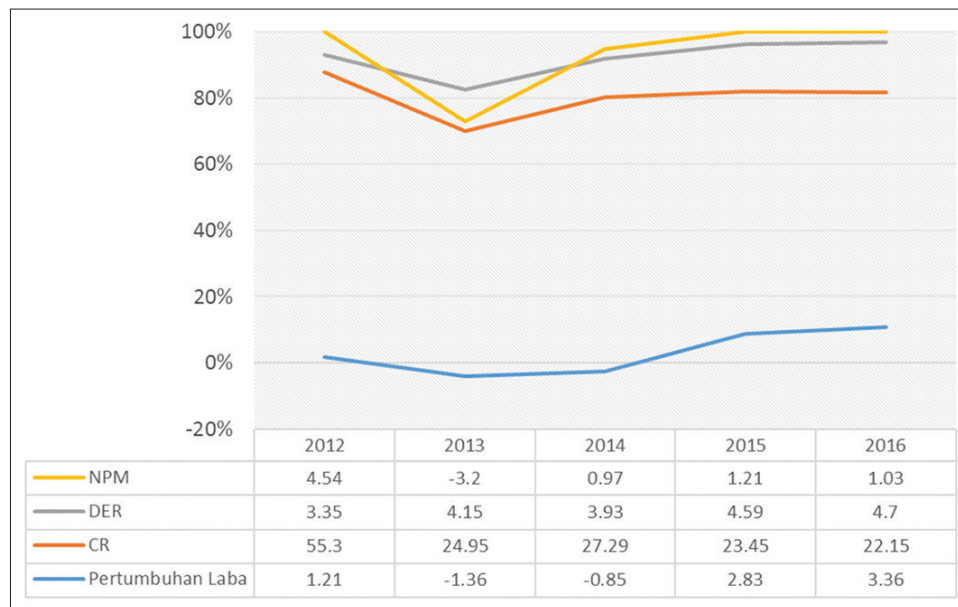
Based on Figure 1 we can see that the value of profit growth tends to be fluctuative and followed by financial ratios consisting of CR, DER and DER which also tend to be fluctuative.

4.2.2. Descriptive analysis of research variables

Descriptive statistics

	N	Minimum	Maximum	Mean±SD
Profit growth	40	−2.28	2.64	0.1298±0.70178
CR	40	0.64	30.92	3.8285±4.59653
DER	40	0.19	1.64	0.5180±0.35521
NPM	40	−4.05	3.67	0.1138±0.88288

Figure 1: Profit growth, current ratio, debt to equity ratio and net profit margin pharmaceutical company for the period of 2012-2016

	2012	2013	2014	2015	2016
NPM	4.54	-3.2	0.97	1.21	1.03
DER	3.35	4.15	3.93	4.59	4.7
CR	55.3	24.95	27.29	23.45	22.15
Pertumbuhan Laba	1.21	-1.36	-0.85	2.83	3.36

Source: Secondary data processed, 2017

Table 1: Research instrument

Variable	Variable definition	Scale	Measurement
Independent variable (X) CR	Variables that are affected or the result of independent variables Ratio between current assets against current debt	Ratio	$\dfrac{AL}{UL}$
Debt to equity ratio	Ratio between total debt with equity	Ratio	$\dfrac{\text{Total debt}}{\text{Equity}}$
Net profit margin	The proportion between net income after tax and net sales of a company	Ratio	$\dfrac{EAT \times 100\%}{\text{Net sales}}$
Dependent variable (Y) Profit growth	Variable that affects or causes the change or the incidence of dependent variable The current profit gap with the previous period profit divided by the profit in the previous period ratio	Ratio	$\dfrac{Yt - Yt - 1}{Yt - 1}$

Source: Riyanto (2010). CR: Current ratio

Valid N (listwise)	40

Source: SPSS 20 Output, secondary data (processed). CR: Current ratio, DER: Debt equity ratio, NPM: Net profit margin

4.2.3. Normality test

This test aims to test whether the dependent variable and the independent variable both have a normal distribution or not in the regression model. This research used Kolmogorov-Smirnov Test and normal chart of probability plot approach. The normality detection is done by viewing the spread of data (dots) on the diagonal axis of the graph. Test results of normality data obtained as follows in Table 3.

The Influence of financial ratios in predicting growth of pharmaceutical companies' profit earnings for the period of 2012-2016
a. Test distribution is Normal
b. Calculated from data

From the table above shows that the absolute value $D_{count} = 0.202$, while the value of D_{table} for $\alpha = 0.05$ and $n = 40$ is 0.210. Since the value of $D_{count} < D_{table}$ and the value of sig is greater (>) than 0.05, then the hypothesis stating that the data which comes from the normally distributed population is accepted. Thus, the parametric statistical test in this study using regression analysis can be used. The normal graphic image can be seen as follows in Figure 2.

From the above figure it can be seen that the observed value of the standardized residue spreads around the diagonal line and follows the direction of the diagonal line so it can be concluded that the assumption of normal distributed data has been fulfilled.

4.2.4. Classic assumption test
4.2.4.1. Heteroscedasticity test
The heteroscedasticity test aims to test whether in the regression model there is a variance inequality of the residual from one

Table 2: Sample selection procedure

Description	Number of company
Pharmaceutical company population	10
Pharmaceutical company that do not provide complete financial statement	1
Pharmaceutical company that has negative earnings respectively	1
The selected company to be the sample	8
	Number of observations
Period 2012-2016 8 companies × 5 years	40 observations

Source: Secondary data processed, 2017

Table 3: One-Sample Kolmogorov-Smirnov test

	Unstandardized residual
N	40
Normal parameters[a,b]	
Mean	0.0000000
Standard deviation	0.57101091
Most extreme differences	
Absolute	0.202
Positive	0.142
Negative	−0.202
Kolmogorov-Smirnov Z	1.278
Asymption Sig. (2-tailed)	0.076

Figure 2: Normal P-Plot regression standardized residual dependent vaiable: Pertumbuhan Laba

Source: SPSS Output 2

Figure 3: Scatterplot dependent variable: Pertumbuhan Laba

Source: SPSS 20 Output

observation to another observation. If the variance from one residual to another observation stays the same, then it is called homoscedasticity or heteroscedasticity does not occur. Based on calculations conducted using SPSS program, it is obtained the data as follows in Figure 3.

Based on the above scatterplot output it can be seen that:
1. The data points spread above and below or around the 0
2. The points do not gather only at above or below
3. The spread of data points do not form wavy patterns, they are widen then narrowed and widen again
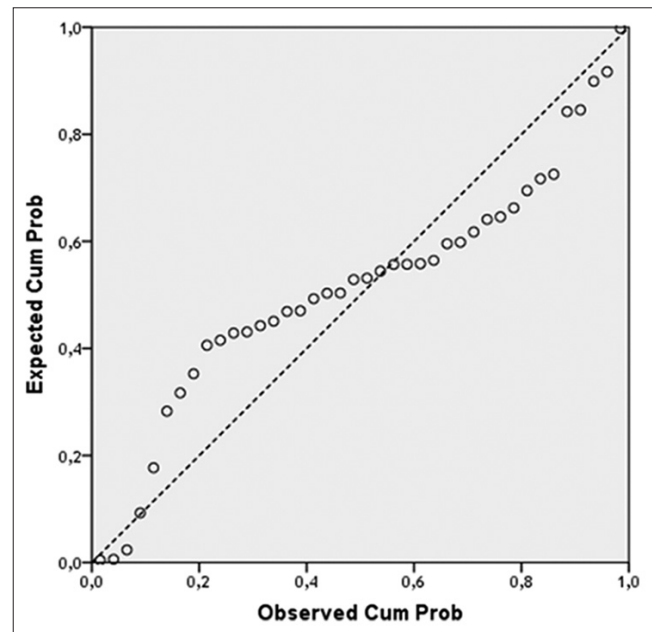4. Distribution of data points are not patterned.

Therefore, it can be concluded that there is no heteroscedasticity in this regression model.

4.2.4.2. Multicollinearity test
Multicollinearity test aims to test whether the regression model has found a correlation between independent variables. According to Frish in the Suharyadi and Purwanto book (2013. p. 231) state that multicollinear may not occur in multiple regression because it will cause the regression coefficient of independent variables cannot be determined and the standard error is infinite. The multicollinearity test results can be seen in the Table 4.

Based on the results of the calculations above, from the above table we can see that the VIF value for variables X1, X2 and X3 have a value of magnitude below 10, that the VIF value is in the range of 1.023 to 1.088. This value is less than 10. Based on that, it can be concluded that there is no multicollinearity symptoms among independent variables in the regression model, because no high collinearity between independent variables in the regression equation obtained.
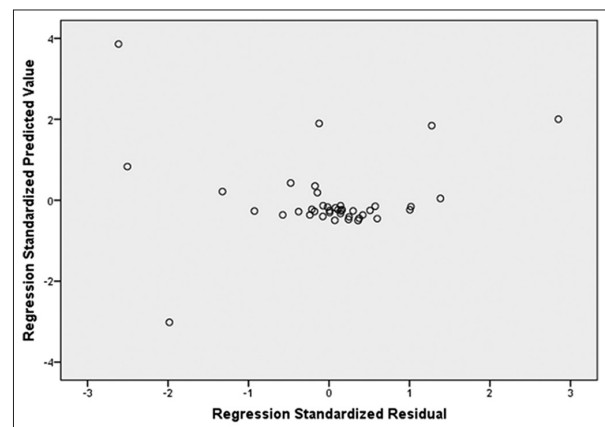
4.2.4.2. Autocorrelation test
The autocorrelation test aims to test whether there is a correlation between the confounding error in period t with the error in the previous period in the regression model. There is an autocorrelation problem if correlation occurs. The following table can be used to see the existence of the autocorrelation of observation data (Table 5).

Detecting autocorrelation by using Durbin Watson value compared to Durbin Watson table (dl and du). The criteria if du<d count <4-du then there is no autocorrelation. Based on the table, it can be seen that the dw value is 2.106. The durbin watson value in the table can be seen from the watbin durbin table (k, n) so (3.40) (k is the number of independent variable and n is the number of sample) it is obtained by the value of du equal to 1.6589. Then the autocorrelation value between 1.6589 <2.106 <2.3411 it means that there is no autocorrelation.

4.2.5. Multiple linear regression analysis

Multiple regression analysis is an analysis used to analyse the size of the relationship and the influence of independent variables with more than two in total (Suharyadi and Purwanto, 2013. p. 210). Based on the calculation that has been done, it is obtained the following results (Table 6).

Based on the calculation of SPSS program, it can be obtained an equation with the model estimation as follows:

Profit Growth = −0.420+0.032CR+0.734DER+0.394NPM

Based on the model of regression equation, it can be interpreted as follows:

1. A = Constant value −0.420 indicates profit growth (Y), if there is assumption of independent variable that is CR (X1), DER (X2) and DER (X3) equal to zero hence the profit growth equal to -0,420. The value of negative constant is not a problem as long as the tested regression model have met the classical, normality and X1, X2 and X3 assumptions which cannot be equal to 0 because it is not possible to be done. Since basically regression is used to predict Y on the value of change of X, then the concern should be its X. This also occurs in a study conducted by Riana (2016. p. 33) which produces a negative constant value, with regression equation

$Y = -8.287 - 0.204CR + 0.533QR + 2.993WCTA + 6.162DR + 0.140DER - 0.079LTDER + 16.766NPM + 2.140GPM - 19.162ROA + 3.316ROE + 2.678TAT + 0.137RT - 0.193IT - 0.030FAT + 0.005WCT$

2. CR (X1) = Regression coefficient of 0.032 indicates any change of CR (X1) of 1 unit, then profit growth will increase by 0.032 unit if other factors do not change.

3. DER (X2) = Regression coefficient of 0.734 shows any change of DER of 1 unit, then profit growth will increase by 0.734 unit if other factors do not change.

4. DER (X3) = Regression coefficient of 0.394 shows any change in DER of 1 unit, then profit growth will increase by 0.394 unit if other factors do not change.

4.2.6. Coefficient of determination

The coefficient of determination (R^2) is used to determine the size of the contribution or influence given by the independent variable (X) to the dependent variable (Y). Here is the coefficient of determination Table 7.

Table results can be seen from the output of SPSS program showing the correlation coefficient (R) of 0.581. By squaring the value of the correlation coefficient or from the coefficient of determination (R^2), it is known that the value is 0.338.

Table 4: Multicollinearity coefficientsa

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.	Collinearity statistics	
	B	Standard error	Beta			Tolerance	VIF
1							
(Constant)	−0.420	0.211		−1.990	0.054		
CR	0.032	0.022	0.213	1.505	0.14 1	0.919	1.088
DER	0.734	0.282	0.372	2.601	0.013	0.900	1.111
NPM	0.394	0.109	0.496	3.615	0.001	0.977	1.023

a. Dependent variable: Profit growth. Source: Outputs SPSS 20. CR: Current ratio, DER: Debt equity ratio, NPM: Net profit margin

Table 5: Autocorrelation

Model summaryb					
Model	R	R square	Adjusted R square	Standard error of the estimate	Durbin-Watson
1	0.581a	0.338	0.283	0.59433	2.106

aPredictors: (Constant), net profit margin, current ratio, debt to equity ratio. bDependent variable: Profit growth

Table 6: Multiple regression analysis

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Standard error	Beta		
1					
(Constant)	−0.420	0.211		−1.990	0.054
CR	0.032	0.022	0.213	1.505	0.141
DER	0.734	0.282	0.372	2.601	0.013
NPM	0.394	0.109	0.496	3.615	0.001

aDependent Variable: Profit Growth Source: SPSS output 20, secondary data (processed). CR: Current ratio, DER: Debt equity ratio, NPM: Net profit margin

Table 7: Coefficient of determination

Model summaryb					
Model	R	R square	Adjusted R square	Standard error of the estimate	Durbin-Watson
1	0.581a	0.338	0.283	0.59433	2.106

a. Predictors: (Constant), NPM, CR, DER, b. Dependent variable: Profit growth Source : SPSS 20 Output

4.2.6.1. Test F (simultaneous testing)

Figures (R^2) of 0.338 indicate that 33.80% of variation in profit growth is influenced by CR (X1), DER (X2) and DER (X3). This means that these variables affect the profit growth of 33.80% simultaneously and the rest of 66.20% is influenced by other factors not measured in this study.

Based on the results of the whole test, it is known that the value of F_{count} = 6,126 is greater than F_{table} = 2.87 at the 95% significance level ($\alpha = 5\%$) and the degree of freedom (df = 3; 36), so that in accordance with the testing criteria, if $F_{count} > F_{table}$ or with probability of $0.002 < \alpha$, so significant. Then Ha is accepted and H0 is rejected. This means that the CR (X1), DER (X2) and DER (X3) of 2012-2016 simultaneously have an influence on profit growth with the coefficient of determination of 0.338. This means that the realization of profit growth (Y) 0.338 is determined by the variable CR (X1), DER (X2) and DER (X3) in 2012-2016.

The result of significant research based on communality test (F test) shows that the company's financial performance shown by profit growth is influenced by CR, DER and DER. The coefficient value of determination in this study amounted to 0.338. This means that CR, DER and NPM simultaneously influence the predicting of the profit growth of 33.80% and the rest of 66.20% influenced by other variables of inflation, government policy which is not examined in this study.

4.2.7. T-test (partial test)

From the statistical calculation of t test, there are 3 independent variables, namely CR (X1), DER (X2) and DER (X3) which play a significant role in predicting the future earnings growth.

Decision criteria

Method 1

Table 8: F-test (simultaneous)

Model	Sum of squares	Df	Mean square	F	Sig.
1					
Regression	6.491	3	2.164	6.126	0.002[b]
Residual	12.716	36	0.353		
Total	19.207	39			

a. Dependent variable: Proft growth b. Predictors: (Constant), NPM, CR, DER. CR: Current ratio, DER: Debt equity ratio, NPM: Net profit margin

If sig > 0.05: H_0 is accepted (Researcher's hypothesis rejected)
If sig < 0.05: H_0 is rejected (Researcher's hypothesis is accepted).

Method 2

IF $-t$ table < t count < t table then H_0 is accepted
If t count < $-t$ table and t count > t table then H_0 is rejected.

From the data, it can be obtained.

4.2.7.1. The Influence of CR in predicting the profit growth

Hypothesis:
H_0: CR has no effect on profit growth
H_a: CR has an effect on profit growth.

Based on the data, it can be obtained sig value of 0.141, t count of 1.505 and t table of 2.026. Therefore, it is known that:
Sig > 0,05: H_0 is accepted
$-2,026 < 1,505 < 2,026$: Ho is accepted.

Thus, the hypothesis that the CR has no effect on predicting the growth of profit is accepted. It means that the researcher's hypothesis is rejected. The higher the company's ability to pay off its short-term debt is not always followed by the improvement of the company's performance which is indicated by the growth of the increase of the company's profit. This is not in line with the research by Ifada, Puspitasari (2015) and Nyoman (2012) who state that the CR has the effect on predicting the profit growth.

4.2.7.2. The effect of DER in predicting the profit growth

H_0: *DER* has no effect on profit growth
H_a: *DER* has an effect on profit growth.

Based on the obtained data, the sig value of 0.013, t count of 2.601 and t table of 2.026. It is found that:
Sig < 0.05: H_0 is rejected
$2.601 > 2.026$: H_0 is rejected

Thus, the hypothesis stating that the DER has no effect on predicting the profit growth is rejected. It means that DER has the effect on predicting the profit growth. The rising DER has a positive effect on predicting the profit growth due to the company's ability to manage its debt. This is in line with the research by Nyoman (2012) and Fauzi (2016) that DER has an effect on predicting the profit growth.

Table 9: T-test (coefficients[a])

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.	Collinearity statistics	
	B	Standard error	Beta			Tolerance	VIF
1							
(Constant)	−0.420	0.211		−1.990	0.054		
CR	0.032	0.022	0.213	1.505	0.141	0.919	1.088
DER	0.734	0.282	0.372	2.601	0.013	0.900	1.111
NPM	0.394	0.109	0.496	3.615	0.001	0.977	1.023

a. Dependent variable: Profit growth. CR: Current ratio, DER: Debt equity ratio, NPM: Net profit margin

4.2.7.3. The effect of DER in predicting the profit growth

H_0: *DER* has no effect on profit growth
H_a: *DER* affects profit growth.

Based on the obtained data, the sig value of 0.001, t count of 3.615 and t table of 2.026. It is found that:
Sig < 0.05: H_0 is rejected
3.615 > 2.026 : H_0 is rejected.

Thus, the hypothesis stating that DER has no effect in predicting Profit Growth is rejected. The value of NPM shows the company's ability to produce net profit. The greater the NPM, the higher the company's ability to earn profit. This is in line with research by Luluk and Tiara (2015) that DER has the effect on predicting profit growth but this result is not line with the research by Raningsih (2010) and Raina (2016) that DER has no effect on predicting profit growth.

4.2.7.4. The dominant variable between CR, DER and NPM in predicting profit growth in pharmaceutical manufacturing companies listed on BEI period 2012 to 2016

Based on t test of the data, it is known that among the three studied variables there are 2 variables that have significant effect on predicting the profit growth. The variables are DER and DER. The most significant variable in predicting profit growth is net progit margin as evidenced by the sig value of 0.001. This means that DER can be said to be effective in predicting the profit growth.

Based on the research, the overall financial ratios in predicting profit growth are still relevant to previous studies as well as existing theories.

5. CONCLUSION AND SUGGESTION

5.1. Conclusion

Based on the results of research on pharmaceutical manufacturing companies listed on the Indonesia Stock Exchange period 2012 to 2016, it can be concluded that:

a. Indonesia Stock Exchange for the period 2012-2016 shows the movement of profit growth and quite volatile financial ratios.

b. Based on the research, all of the independent variables in this study simultaneously have a significant effect on profit growth as dependent variable. All the variables in this study only show as much as 33.80% of the total independent variables that should exist as seen in the value of adjustment R2. This means that there are still 66.20% of other independent variables that have not been studied scientifically that affect the profit growth. This is because research only takes into account the fundamental factors of the company without considering the macroeconomic conditions that may affect the profit growth

c. Based on the research conducted on the three financial ratios, there are two financial ratios that have a positive and significant effect that is DER and DER. While it is proven that the variable CR does not significantly affect the profit growth.

d. Based on research, dominant variable in predicting profit growth is DER with significant value of 0.001.

5.2. Suggestion

a. This research focuses only on pharmaceutical manufacturing companies listed in Indonesia Stock Exchange period 2012 to 2016, so this research is only used as a reference for pharmaceutical companies only. Therefore, it is suggested to the future researcher to develop a wider range of researches on different types of companies to improve the generalizability of the research.

b. Based on research on CR variable, DER and DER simultaneously have the effect on predicting profit growth of 33.80% and 66.20% is influenced by other variables such as inflation, interest rate and government subsidy which are not examined in this study. Therefore, it is suggested to the future researcher to include these variables in the future research.

c. Based on the research conducted, only two variables of the three variables of studied financial ratios that have an effect on predicting profit growth. Therefore, it is suggested to the future researcher to include the variables from other financial ratios to his or her research.

d. The dominant variable in predicting profit growth is DER, but financial ratio can predict the profit growth equal to 33,80% simultaneously. Therefore, it is advisable for the investors in buying the stocks in capital market not only using fundamental analysis, but also perform technical analysis in the form of monitoring the stock price in market.

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