

Financial Ratio Relationship in Altman Z Score Model

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ABSTRACT

This study aims to see whether there is a relationship between the 5 financial ratios contained in the Altman Z-score model. Data analysis techniques used in this study is a simple technique of simple regression multiple regression. Companies in the sample are as many as 26 companies listed on the Stock Exchange, and taken at random for the year ending 2014. From the results of studies that have been carried out in the opinion that with the proposed model there are 2 variables of the ratio altman z score Models that have a significant influence, while using the first model is not one that significantly influence the variable financial ratios altman model z score.

Keywords: Financial Ratio, Altman Z-Score, Relationship, Altman Z-Score, Multiple Regression.

I. INTRODUCTION

Financial statement analysis includes a review of the relationship and trends or trends to determine whether the financial circumstances, results of operations, and financial progress of the company are satisfactory or unsatisfactory. The analysis is done by measuring the relationship between the elements of financial statements and how the changes of the elements from year to year to know the direction of its development.

In analyzing the financial statements each party has its own interests. Differences of importance will make a difference in how to analyze financial statements and differences in the pressures given to the analysis. In other words, the interpretation of the results of the analysis of a company's financial statements will depend on the position and importance of each party to the company concerned.

From a management point of view, what matters is that the earnings achieved are high, the work is efficient, the assets are safe and well maintained, the capital structure is healthy, and the company has a good plan on the future both in finance and in business or operation. For the purposes of such analyzes, for management that is an internal party of

the company, complete and detailed information will be available.

II. LITERATURE REVIEW

Harahap (2008, p. 190) defines that the financial report is to describe the posts of financial statements into units of information that are smaller and look at the relationship that are significant or that have a meaning from each other between the quantitative data as well as the non-quantitative With the aim of knowing the deeper financial conditions that are essential in the process of producing the right decision. The analysis of financial statements is calculated by comparing one item with other financial statements individually or jointly to determine the relationship between certain items, either in the balance sheet or income statement. Purpose of Financial Statement Analysis

Harahap (2008, p. 195) explains that there are 10 objectives of financial statement analysis, among others:

1. Can provide information that is wider, deeper than that contained from the regular financial statements.
2. Can explore the invisible information (explicit) of a financial statement or that is behind the financial statements (implicit).

3. Can know the errors contained in the financial statements.
4. Can disassemble inconsistent matters in relation to a financial report whether associated with internal components of financial statements or relation to information obtained from outside the company.
5. Knowing the nature of the relationship that eventually can give birth to models and theories that exist in the field such as for prediction, improvement (rating).
6. Can provide information desired by decision makers. In other words what is meant by a financial statement is the purpose of analysis of financial statements as well.
7. Can rank companies according to certain criteria that are well known in the business world.
8. Can compare company situation with other company with previous period or with normal industry standard or ideal standard.
9. Can understand the situation and financial condition experienced by the company, both the financial position, business results, financial structure and so forth.
10. Can also predict what potential companies may experience in the future.

Limitations of Financial Statement Analysis

Hanafi (2009, p.78) points out that although the analysis of financial statements is very useful, there are some limitations to consider, including:

1. The data recorded and reported by the financial statements are based on the acquisition cost.
2. Improvement efforts may be done by the management to improve the financial statements so that the financial statements look good.
3. Many companies have several divisions or subsidiaries engaged in some business (industrial), which resulted in difficult analysts in choosing a comparison company because the company is engaged in several industries.
4. Inflation or deflation will affect the financial statements especially related to long-term accounts such as long-term investments.
5. Average industry is the average of companies in the industry. There are some bad companies used in the industry average calculations. Companies that want to be successful usually have to be above the industry's average ratio, rather than the industry

average. Vice versa, a lower number than the industry average is also not necessarily bad. There are many things to consider before determining the good of a number.

III. RESEARCH METHODS

Model Analysis

The Altman Z-score is calculated as follows:

$$\mathbf{Z\text{-Score} = 1.2A + 1.4B + 3.3C + 0.6D + 1.0E}$$

Where:

A = working capital / total assets

B = retained earnings / total assets

C = earnings before interest and tax / total assets

D = market value of equity / total liabilities

E = sales / total assets

NYU Stern Finance Professor Edward Altman, developed the Altman Z-score formula in 1967, and it was published in 1968. In 2012, he released an updated version called the Altman Z-score Plus that can be used to evaluate public and private companies, and used to evaluate corporate credit risk.

Technique Analysis Data

The data analysis method used in this study is by adding the multiplication variable between the independent variable and the moderating variable, so the general equation is as follows: $Y = a + b_1 X_1 + b_2 X_2 + b_3 X_1 X_2$ with Y and X1 up to X4 is the ratio Finance found on the Altman z-score. The hypothesis of this study simultaneously looks at how the X1 X2 X3 X4 variable has a significant influence on Y,

regardless of whether X1, X2, X3 and X4 have an effect on Y or not.

IV. RESULT AND DISCUSSION

The following results are analyzed for the altman model proposed in this study:

Table 1 : Result analisys regression model 1

Dependent Variable: WC_TA				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.584439	10.79433	0.054143	0.9573
BVE_BVL	3.600037	2.803313	1.284208	0.2131
EBIT_TA	-0.385907	0.246369	-1.566381	0.1322
RE_TA	0.074075	0.053057	1.396127	0.1773
S_TA	0.190669	0.217254	0.877635	0.3901
R-squared	0.200763	Mean dependent var	12.79615	
Adjusted R-squared	0.048527	S.D. dependent var	23.16270	
S.E. of regression	22.59370	Akaike info criterion	9.244261	
Sum squared resid	10719.99	Schwarz criterion	9.486203	
Log likelihood	-115.1754	Hannan-Quinn criter.	9.313931	
F-statistic	1.318763	Durbin-Watson stat	1.640169	
Prob(F-statistic)	0.295513			

Source : Proceed by author by Eviews 8

To see whether a free variable has a significant / can not be seen from the value of t or from its significance. If a dependent variable has a sig smaller than 0.1 or 10% then it can be said that the independent variable is significant at the level of 10%, if smaller than 0.05 or 5% then it can be said that independent variables are significant at level 5 %, If it has a sig that is smaller than 0.01 tau 1% then it can be said that the variable is significant at 1% level. If stated significant then the hypothesis that we have formulated can be accepted.

Table 1 : Result analisys regression model 2

Dependent Variable: WC_TA				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.254522	9.640336	0.441325	0.6637
BVE_BVL	2.901293	2.491415	1.164516	0.2579
EBIT_TA	-0.527427	0.224278	-2.351668	0.0290
RE_TA	0.109975	0.048837	2.251855	0.0357
S_TA	0.040326	0.200335	0.201292	0.8425
BVE_BVL*EBIT_TA*				
RE_TA*S_TA	0.000134	5.090005	2.625627	0.0162
R-squared	0.405637	Mean dependent var	12.79615	

Adjusted R-squared	0.257046	S.D. dependent var	23.16270
S.E. of regression	19.96503	Akaike info criterion	9.025016
Sum squared resid	7972.052	Schwarz criterion	9.315346
Log likelihood	-111.3252	Hannan-Quinn criter.	9.108621
F-statistic	2.729896	Durbin-Watson stat	1.322882
Prob(F-statistic)	0.048847		

Source : Proceed by author by Eviews 8

In the same way as t test, we can see from the sig value. Since the value of F arithmetic is 2.729896 which has a sig level of 0.6637 which is greater than 5% (it can be 10%, use the closest if the sig value of 0.07 is significant at the 10% level) then we can conclude that All independent variables together have no significant effect on the dependent variable and the hypothesis is rejected. This is reflected in the model proposed in Table 1 and 2.

V. CONCLUSIONS

From the study that has been done, by proposing 2 models for multiple regression analysis, the data is given the opinion that all independent variables together do not have a significant effect for the regression model 1 in the proposed, while for the second multiple regression model in the proposal There are 2 variable financial ratios of significant altman z score models, as presented in Table 1 and 2

VI. REFERENCES

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