Determinant Of The Sustainable Growth Rate

Nining Ika Wahyuni
University of Jember
E-mail: nining.fe@unej.ac.id

Nova Victor Geral Dino
University of Jember
E-mail: novht.gdine@gmail.com

ABSTRACT

This study was conducted to analyze the determinant factors of the sustainable growth rate. Cash Adequacy, Intellectual Capital and Nonfinancial Distress based on Alman Z-score are the three variables which are expected to be determinants of Sustainable Growth Rate. The population used in this research are manufacturing companies listed on the Indonesia Stock Exchange in 2012-2014. Using Purposive sampling, 40 companies meet criteria and used as samples. The regression analysis showed that Intellectual Capital and Dummy (NonFinancial Distress) have significant effects on the Sustainable Growth Rate. While Cash Adequacy has no significant effect on the Sustainable Growth Rate.

Keywords: Cash Adequacy; Intellectual Capital; Financial Non Distress; Dummy; Sustainable Growth Rate.

1. Introduction

The company's financial growth prospects become very important role in assessing company. There are a simply way using profit as the main instrument in the investment decision. But, the use of earnings as financial decision makers is considered very risky because many disadvantages. According Sambharakreshna (2011), the accounting profit has several drawbacks, including: (1) Accounting profit fails to recognize the unrealized increase in the value of assets held in a given period with the application of historical cost and realization principles. (2) The dependence of profit on the principle of historical cost accounting makes comparisons difficult, (3) The principle of historical cost and conservatism may produce data that are misleading and misunderstood or irrelevant data to the user.

Because weakness of profits as a basic of measurement, investors need other instruments that can also be used to measure a company's financial
capability, which can then be used in considering company condition. The instrument is intended sustained growth or Sustainable Growth Rate (SGR). According to Lockwood and Prombutr (2010) Sustainable Growth Rate is a metric multifaceted that can be divided into separate components that reflect the retention policy of the company (retention rate), the ability of retaining fees (net profit margin), the efficiency of the use of assets (asset turnover), and the financing strategy (financial leverage).

The main reason Sustainable Growth Rate is considered very useful because it combines elements of the operation (profit margin and asset efficiency) and an element of finance (capital structure and retention rates) into one comprehensive measure (Amouzesh, et al., 2011). This concept was originally developed by C. Higgins.

Giacomino and Mielke (1998) in Leonie Jooste (2004), explains that the cash flow ratio can be used to assess the company's financial performance, which in turn will lead to the Sustainable Growth Rate. It is also explained by Fonseka (2012) which states that the Cash Adequacy (Cash Sufficiency Rate), which is one part of the cash flow ratio analysis has a positive influence on the Sustainable Growth Rate company.

Intellectual Capital (intellectual capital) is also indicated as variable that affect the Sustainable Growth Rate of the company. Intellectual Capital (IC) is knowledge and information that can create efficiencies to generate wealth for the company (Stewart, 1997), Rodriguez (2004) found a positive relationship between the components of Intellectual Capital as measured by VAIC on the performance of hospitals. Tan (2007), which examines the relationship between the IC with the financial performance of 150 companies listed on the Singapore Exchange in 2000-2002 also in line with Rodriguez finding.

Another instruments that can be used to measure the sustainability of the business is through the Altman Z-Score Model. This method uses specific ratios in order to predict the risk of bankruptcy of a company. Bankruptcy or Nonbankruptcy of the company itself has a direct relationship to the Sustainable Growth Rate. Fonseka (2012) explains that the company which is classified in
Non Distress category measured by Altman Z-Score model, has a positive influence on the Sustainable Growth Rate.

Based on the previous studies, this research was conducted to analyze the determinant factors of the sustainable growth rate. Cash Adequacy, Intellectual Capital and Nonfinancial Distress based on Alman Z-score are the three variables which expected to be determinant of Sustainable Growth Rate. Intellectual Capital measured use method of VAIC, and Financial Non Distress use the Altman Z-Score Model as basic measurement. Calculation of the Sustainable Growth Rate use Van Horne method.

2. Methods

2.1 Research design

Based on the background and the formulation of the problem, the characteristics of the issues examined in this study can be classified as an explanatory research or confirmatory research, the research describes the relationship of causality and examined the association between multiple variables through some hypothesis or research explanations (Singrimbun and Effendi, 1995). Researchers conducted a study to test the correlation (influence) Cash Adequacy, Intellectual Capital and Non Financial Distress of the Sustainable Growth Rate.

2.2 Population and Sample

The population in this study are all manufacturing companies listed in Indonesia Stock Exchange (IDX). The selected sample of the population study using targeted sample selection methods (purposive sampling), with the following criteria:

1) Included in the manufacturing sector during the three years from 2012 through 2014 in accordance with the classification in the Indonesian Capital Market Directory (ICMD).
2) Publish the financial statements and annual reports for three consecutive years, namely 2012, 2013, and 2014.
3) Has a December 31 fiscal year end. It should be equalized in each company in the sample so that research data can be compared.
4) Using the exchange rate of the Rupiah.

5) Companies that loss excluded from the sample. In the concept of growth requires the company must make a profit in order to obtain the value of Sustainable Growth Rate positive.

6) Not doing right issues, mergers and acquisitions during the study period. In the concept of Sustainable Growth Rate assumed the company just acquired additional new capital coming from new loans or profit incorporated into retained earnings. This is because it is assumed that the owner of the company still wants to keep the company's shareholder structure.

2.3 Operational Definition of Variables

2.3.1 Sustainable Growth Rate

Sustainable Growth Rate (SGR) is the maximum rate of sales growth of companies that can be acquired without external equity financing. Formulated according to Van Horne (1987; 2007) as follows:

\[
SGR = \frac{b \left( \frac{NP}{S} \right) \left( 1 + \frac{D}{E} \right)}{\left( \frac{A}{S} \right) - b \left( \frac{NP}{S} \right) \left( 1 + \frac{D}{E} \right)}
\]

By:
- \(\frac{D}{E}\) = Debt to Equity
- \(\frac{A}{S}\) = Total Assets to Sales
- \(b\) = Retention Rate
- \(\frac{NP}{S}\) = Profit Margin.

2.3.2 Cash Adequacy

According to Fonseka (2012), Cash Adequacy measure the level of a company's ability to generate sufficient cash from operations to cover expenditure on long-term debt, the purchase of fixed assets, and dividend payments. Calculation of the adequacy of cash flows is to compare funds generated by
operating activities in the cash outlay for the acquisition of fixed assets, debt repayments and dividend payments. With the following formula:

\[
CA = \frac{AKBAO}{PAT + PU + PD}
\]

By: CA = Cash Adequacy
AKBAO = Net Cash Flows Operating Activities
PAT = Purchase of Fixed Assets
PU = Debt Payments
PD = Dividend

2.3.3 Intellectual Capital

Intellectual Capital is the result of an intellectual and human creations. Edvinson and Malone (1997) defines IC as knowledge that can be converted into a value. Sveiby (1997) Intellectual capital classifies into three areas are intangible: (1) human capital; (2) structural capital; and (3) customer capital.

According Pulic (2000), Intellectual Capital can be measured by using model Value Added Intellectual Coefficient (VAIC) which is a coefficient that consists of HCE, SCE, and CEE. company. The components of VAIC used to measure intellectual ability of the company. Calculations:

\[
VAIC = HCE + SCE + CEE
\]

- Human Capital

Variables measured by the Human Capital Efficiency (HCE), namely:

\[
HCE = \frac{VA}{HC}
\]

By: VA = Gross Profit - Operating Expenses are Outside The Personal Cost
HC = Human Capital (Wages and Salaries in a Company)

- Structural Capital

Structural variables measured by the Structural Capital Efficiency (SCE), namely:

\[
SCE = \frac{SC}{VA}
\]

By: SC = Structure Capital (VA-HC)
• Capital Employed

Variables measured by Capital Employed Efficiency (CEE), namely:

\[ \text{CEE} = \frac{VA}{CA} \]

By: \( CA = \) The Book Value of The Net Assets of a Company.

2.3.4 Financial Non Distress

Altman Z-Score analysis is one statistical technique used to predict bankruptcy (Distress) and growth (Non Distress) company. Altman method was developed by Edward I. Altman in mid 1960, and revised in 1983 (Kurniawanti, 2012). Mathematically the equation Altman Z-Score can be formulated as follows:

\[ Z = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.42X_4 + 0.998X_5 \]

By: \( Z = \) Z-score

\( X_1 = \) Net Working Capital to Total Asset

\( X_2 = \) Retained Earnings to Total Asset

\( X_3 = \) Earnings Before Interest and Taxes to Total Assets

\( X_4 = \) Market Value of Equity to Book Value of Debt

\( X_5 = \) Sales to Total Assets.

With the assessment criteria if the value of \( Z > 2.9 \) then the company does not have serious financial problems (Non Distress), when \( 1.23 < Z < 2.9 \), the company falls into the category of vulnerable (Grey), and if \( Z < 1.23 \) then the company suffered serious financial problems (Distress).

2.4 Types and Sources of Data

In this study, the type of data used is quantitative data, the data of manufacturing company financial statements 2012-2014. Sources of data in this research is secondary data obtained from the Indonesia Stock Exchange website is

[http://www.idx.co.id](http://www.idx.co.id)
2.5 Method of Analysis

To find out if there is a significant influence of the independent variable on the dependent variable, we used multiple linear regression model *(multiple linear regression method)*, which is defined by the following equation:

\[
SGR = \alpha + \beta_1 CA + \beta_2 IC + \beta_3 DUM + e
\]

Description:
- \( \alpha \) = Constant
- \( \beta \) = Regression Coefficient
- \( SGR \) = Sustainable Growth Rate
- \( CA \) = Cash Adequacy
- \( IC \) = Intellectual Capital
- \( DUM \) = Dummy variable is set to 1 for companies that fall into the category of Non Distress and the value 0 for companies that fall into the category of Non Non Financial Distress (Grey Area and Distress).
- \( e \) = Error variable.

3. Research result

3.1 Results Analysis

3.1.1 Descriptive statistics

The results of statistical data processing descriptive study variables can be seen in the following table:

<table>
<thead>
<tr>
<th>Table 1 Descriptive Statistics</th>
<th>Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>SGR</td>
<td>120</td>
</tr>
<tr>
<td>CA</td>
<td>120</td>
</tr>
<tr>
<td>IC</td>
<td>120</td>
</tr>
<tr>
<td>DUMMY</td>
<td>120</td>
</tr>
<tr>
<td>Valid N (listwise)</td>
<td>120</td>
</tr>
</tbody>
</table>

Based on the analysis in Table 1 above, indicated that for the variable CA has an average value of 0.8077 with a standard deviation of 1.21883. Variable IC has an average value of 5.3970 with a standard deviation of 4.07913. DUMMY
variable has an average value of 0.1333 with a standard deviation of 0.34136. Of the three independent variables (CA, IC, and DUMMY), the variables that have the highest average value is the IC at 5.3970. As for the independent variable (SGR) has an average value of -0.0442 with a standard deviation of 0.64206.

### 3.1.2 Multiple Linear Regression Analysis

The results of multiple linear regression analysis in this study can be seen in the following table:

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-.283</td>
<td>.100</td>
</tr>
<tr>
<td>CA</td>
<td>.026</td>
<td>.047</td>
</tr>
<tr>
<td>IC</td>
<td>.030</td>
<td>.014</td>
</tr>
<tr>
<td>DUMMY</td>
<td>.417</td>
<td>.166</td>
</tr>
</tbody>
</table>

According to the table 2 above, the regression model in this study are:

\[
\text{SGR} = -0.283 + 0.026CA + 0.030IC + 0.417DUMMY
\]

The constant of -0.283 means if CA (X 1), IC (X 2) and DUMMY (X 3) is 0, then the SGR (Y) will be worth -0.283. The regression coefficient CA (X 1) of 0.026 means if CA increased by 1, then the SGR will increase by 0.026. CA coefficient is positive, meaning there is a unidirectional relationship between CA and SGR, the greater the value of CA, the higher the value of SGR.

IC regression coefficient (X 2) of 0.030 means if the IC increased by 1, then the SGR will increase by 0,030. IC coefficient is positive, meaning there is a unidirectional relationship between the IC and the SGR, the greater the value of the IC, the higher the value of SGR. DUMMY regression coefficient (X 3) of 0.417 means if DUMMY increased by 1, then the SGR will increase by 0.417. DUMMY coefficient is positive, which means that there is a unidirectional
relationship between DUMMY and SGR, the greater the value the higher the value DUMMY SGR.

3.2 Hypothesis Testing

3.2.1 T Test

T tests were used to test the significance of the relationship between Cash Adequacy (CA), Intellectual Capital (IC), and Non Financial Distress (DUMMY) to the Sustainable Growth Rate (SGR) partially (separately). The results of the t test is shown in the following table.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-.283</td>
<td>.100</td>
<td>-2.822</td>
<td>.006</td>
</tr>
<tr>
<td>CA</td>
<td>.026</td>
<td>.047</td>
<td>.049</td>
<td>.553</td>
</tr>
<tr>
<td>IC</td>
<td>.030</td>
<td>.014</td>
<td>.191</td>
<td>2.153</td>
</tr>
<tr>
<td>DUMMY</td>
<td>.417</td>
<td>.166</td>
<td>.222</td>
<td>2.505</td>
</tr>
</tbody>
</table>

Based on Table 3 above, the results are as follows:

1) Variable CA has a significance level of 0.581 and a regression coefficient of 0.026. This indicates that the CA has significance value greater than 0.05 and the regression coefficient is positive, so it can be concluded that the variables CA partially no significant effect on SGR.

2) Variable IC has a significance level of 0.033 and a regression coefficient of 0.030. This indicates that the IC has a significance value less than 0.05 and the regression coefficient is positive, so it can be concluded that the IC variable partially significant effect on SGR.

3) DUMMY variables have a significance level of 0.014 and a regression coefficient of 0.417. This shows that the DUMMY have a significance value less than 0.05 and the regression coefficient is positive, so it can be concluded that the variable DUMMY partially significant effect on SGR.
3.2.2 F Test

F test used in this study to test the accuracy of the model (goodness of fit), which aims to determine whether the predicted value of the regression equation was able to describe the actual condition. Test the accuracy of the model (goodness of fit) is done by comparing the F calculated and F table. The regression equation is expressed well (good of fit) when the predicted value of the regression equation was able to describe the actual condition. F test results shown in the following table:

<table>
<thead>
<tr>
<th>Table 4</th>
<th>Results of F Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ANOVA</td>
</tr>
<tr>
<td>Model</td>
<td>Sum of Squares</td>
</tr>
<tr>
<td>Regression</td>
<td>16.109</td>
</tr>
<tr>
<td>Residual</td>
<td>32.811</td>
</tr>
<tr>
<td>Total</td>
<td>48.920</td>
</tr>
</tbody>
</table>

Based on Table 4 above, F calculated value of 13.992, while the value of F table for N = 120 with the number of independent and dependent variable 4 is of 2.450. This indicates that the value of F count > F table, which means that the regression model revealed good of fit.

3.3 Coefficient of Determination ($R^2$)

Coefficient of determination ($R^2$) essentially measures how far the ability of the model to explain variations in the dependent variable. The coefficient of determination is between zero and one. The results of the analysis for the coefficient of determination shown in Table 5 below:
Table 5
Results of Coefficient of Determination

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.307a</td>
<td>.095</td>
<td>.071</td>
<td>.61882</td>
<td></td>
<td>.095</td>
<td>4.036</td>
<td>3</td>
<td>116a</td>
<td>.009</td>
</tr>
</tbody>
</table>

Coefficient of determination (R^2) Essentially measures how far the ability of the models to explain variations in the dependent variable. The coefficient of determination is between zero and one. The results of the analysis for the coefficient of determination shown in Table 4 below. Berdasarkan Table 5 the coefficient of determination (R^2) of 0.095. This means the dependent variable (SGR) is influenced by three independent variables (CA, IC, and DUMMY) of 9.5%, while the rest (100% - 9.5% = 90.5%) affected by variables outside the model. As for the Standard Error of Estimate (SEE) is approximately 0.61882.

4. Discussion, Conclusions and Limitations

4.1 Discussion

4.1.1 The Effect of Cash Adequacy of the Sustainable Growth Rate

Based on the results of multiple linear regression analyzes were performed with the help of statistical program SPSS, it is known that the variable Cash Adequacy (CA) has a regression coefficient of 0.026 with a significance level of 0.581. This indicates that the Cash Adequacy has a positive regression coefficient and a significance level greater than 0.05; so it can be concluded that the variable Cash Adequacy partially no significant effect on the Sustainable Growth Rate. Under these conditions, H 1 which states that the Cash Adequacy positive effect on the Sustainable Growth Rate, rejected.

The results of this study are not consistent with research conducted by Fonseka (2012) which states that the Cash Adequacy affect the company's Sustainable Growth Rate. Not sejalannya results of this study with previous studies because most, almost all companies in the research samples allocate
substantial funds for the acquisition / purchase of fixed assets. This then causes the value of the Cash Adequacy be relatively small. Of the existence of these things, in other words it can be concluded that the value of the Sustainable Growth Rate company more influenced by the contributions of other asset classes, rather than the company's current assets are in the form of cash. It is also made clear by the statement Higgins (1981) which states that the concept of Sustainable Growth Rate assumes that the company is not issuing new capital, with most of retained earnings and debt invested in assets. These assets helped boost sales, which in turn can increase its profit. Assets intended by Higgins refer to the total assets. In this study, the type of assets that have the greatest contribution is fixed assets and current assets beyond cash.

4.1.2 The Effect of Capital Intellectual the Sustainable Growth Rate

Based on the results of multiple linear regression analyzes were performed with the help of statistical program SPSS note that the independent variables Intellectual Capital has a regression coefficient of 0.030 with a significance level of 0.033. This indicates that the Intellectual Capital has a positive regression coefficient and a significance level of less than 0.05; so it can be concluded that the Intellectual Capital variable partially significant effect on the Sustainable Growth Rate. Under these conditions, H 2 which states that the positive effect on the Intellectual Capital in the Sustainable Growth Rate, accepted.

The results are consistent with research conducted by Kujansivu and Lonnqvist (2004) which states that there is a positive correlation between the performance and efficiency of Intellectual Capital, as well as research conducted by Cabrita and Jorge (2005), which proves that the Intellectual Capital affect performance, which further drove the company to the Sustainable Growth Rate. Hasil penelitian ini sejalan dengan penelitian yang dilakukan oleh Kujansivu dan Lonnqvist (2004) yang menyatakan bahwa terdapat korelasi positif antara kinerja dan efisiensi Intellectual Capital, sebagaimana juga penelitian yang dilakukan oleh Cabrita dan Jorge (2005) yang membuktikan bahwa Intellectual Capital
berpengaruh terhadap kinerja, yang selanjutnya mengantarkan perusahaan pada Sustainable Growth Rate.

4.1.3 The Effect of Non Financial Distress the Sustainable Growth Rate

Based on the results of multiple linear regression analyzes were performed with the help of statistical program SPSS note that the independent variable Non Financial Distress has regression coefficient with a positive value of 0.417 with a significance level of 0.014. This indicates that the Non Financial Distress positive effect (unidirectional) of the Sustainable Growth Rate. Under these conditions, H3 which states that the Non Financial Distress positive effect on the Sustainable Growth Rate, accepted. The significance level of 0.014 indicates that the Non Financial Distress affect significantly the Sustainable Growth Rate.

The results are consistent with research conducted by Fonseka (2012) which states that there is a positive relationship Non Financial Distress and the Sustainable Growth Rate. Companies that do not have any difficulty (particularly serious difficulties), have a tendency to not bankrupt because of the adequacy of economic resources at their disposal that can be used to finance operating activities and other activities that are beneficial to their finances. This makes the increase profitability, and ultimately improve the Sustainable Growth Rate. Companies in Distress Non conditions will have a Z-Score is high at more than 2.9. Accordingly, the value of the Sustainable Growth Rate she made was also becomes high.

4.2 Conclusions

This study aimed to analyze the effect of Cash Adequacy, Intellectual Capital and Non Financial Distress of the Sustainable Growth Rate in companies listed on the Stock Exchange 2012-2014. From the description in the discussion can be concluded:

1) Cash Adequacy partially no significant effect on the Sustainable Growth Rate, so that H1 is rejected.
2) *Intellectual Capital* partially positive and significant effect on the *Sustainable Growth Rate*, so that $H_2$ is received.

3) *Non Financial Distress* partially positive and significant effect on the *Sustainable Growth Rate*, so that $H_3$ accepted.

### 4.3 Limitations

This study has several limitations, including:

- the low value of the correlation coefficient which just shows the value of 9.5%. That is as much as 90.5% (100% - 9.5%) affected by variables outside the model. This happens because basically investigators did want to find other variables (outside the constituent variables in the calculation of the SGR). For further research is expected to apply for other variables that affect the *Sustainable Growth Rate* indicated through the combining of different variables. Using variables *moderating* or *intervening* variables if deemed necessary.

- Period of three years of research for the 3rd period of observation, the numbers are equally large when compared with the number of independent variables that proxy (CA, IC, and DUMMY). The limited number of samples and this could be a period of observation may explain why not all the variables from the regression results significant. In contrast to Fonseka (2012) who conducted research for the 9-year period of observation with a sample of 15 377 companies. He found significant results for all of the variables that he proposed. For further research is expected to extend the observation period of over 5 years and expand the scope of the company that became the study population.

- This study uses only one model of the *Sustainable Growth Rate*, which is the model Van Horne. For further research is expected to use measurements of other models to the *Sustainable Growth Rate* it, like Higgins or Ross models.
REFERENCES


[http://www.idx.co.id](http://www.idx.co.id)