

Solvability, Liquidity on Financial Distress

(Case study on cable sub sector on IDX 2016-2017)

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Abstract—The purpose of this study is to study the effect of solvency and liquidity on financial distress in the Cable Sub Sector in the Indonesia Stock Exchange. The population of this study is the pharmaceutical sub-sector company that is listed on the Indonesia Stock Exchange which is supported by 6 companies with an observation period of 2 years, namely in 2016-2017. The method used in this research is a descriptive method, with DTA, CR for independent variable and Altman model and Springate model for dependent variables. Descriptive analysis, significant test, regression linear analysis is used in the analysis data. The results showed that there was a significant relationship between Solvency and liquidity towards financial distress of Altman Model in the Cable Sub Sector in the Indonesia Stock Exchange seen a significant value of $0.000 < 0.05$.

Keywords—*solvability; liquidity; financial distress*

I. INTRODUCTION

One of the purposes of a company is to maximize its profit. By doing so, company is expected to improve also its welfare and maximize the wealth of its owners and shareholders. However, the opposite could happen where the company was not able to gain profit but face financial distress. Sometimes there are times where the company faces a decrease in their financial performance. The condition stated is called financial distress [1]. According to Sartono, a manager must be able to find out whether the company is headed in a healthy or unhealthy state [2]. Using comparable financial statements, including data on changes that occur in the amount of rupiah, percentages, and trends, the analyst realizes that several ratios will individually help in analyzing and interpreting the financial position of a company [3]. Financial distress is the stage of the decline in financial conditions that occur in a company before the occurrence of bankruptcy or liquidation. A company can be categorized as experiencing financial distress or financial difficulties if the company shows a negative number on operating income, net income and book value of equity and the company merges [4]. In year 2015 for instance, in Indonesia, there are companies that experiencing poor financial performance and moreover, almost bankrupt [5]. A case stated in Kompas (2018) reported that PT Unilever Indonesia Tbk (UNVR) officially sells spreads business assets. The sale has been approved by an extraordinary general shareholders meeting (EGM). In this study, the research will examine the various sub sectors of manufacturing sector, namely the Cable sub-sector. Is Cable Company able to cope

with the situation of financial distress? What cause it, is it because of their liquidity issue or their solvability issue? This study uses liquidity ratios and solvency ratios to measure financial distress conditions that occur in the cable sub-sector companies [6].

II. HYPOTHESIS OF THE STUDY

A. H1: There is a Relationship between Solvability and Financial Distress

Debt Ratio is the ratio used to determine between the levels of debt of a company. Previous study suggests that there is no significant relationship between debt ratio to financial distress [7]. Gunathilaka suggest that the solvency test does not discriminate solvent and insolvent firms meaningfully [8]. The Altman's and Springate's Z-score models yield similar predictive power. On the other hand, Bardia suggest for improving the solvency position of the selected companies and also to be stay away from bankruptcy or financial distress [9]. And in recent research by Aisya et al., suggest that solvency is show significant impact on financial distress [10], as suggest also by previous studies [11,12].

B. H2: There is a Relationship between Liquidity and Financial Distress

The level of company's distress is often related with the ability of company to pay its debt. The higher the debt gives probability of the higher the risk that the company cannot pay its due payment and thus can face financial distress. Previous study suggests that there is no significant relationship between solvency and financial distress [13]. And in recent research Dissanayke et al. suggest that solvency is show significant impact on financial distress [14], as suggest also by previous studies [11].

C. H3: There is a Relationship between Solvability, Liquidity and Financial Distress

The level of company's distress is often related to the debt level of company and the ability of company to pay its current obligation. Current ratio is liquidity ratio that measures the ability of company to pay its current liabilities and debt to asset is used to measure the level of debt the company currently have. Previous study suggests that there is no significant relationship between solvability and liquidity toward financial

distress [13]. Furthermore, in recent study, Yanti suggest in here study that financial ratios capable to predicting financial distress [15]. Aisya et al, also shows that leverage is significantly correlated to financial distress [10].

III. METHOD OF THE STUDY

This study uses panel data from six cable companies listed on the Indonesia Stock Exchange from 2016 to 2017. The data used are secondary data derived from the financial statements of the Cable Sub-Sector Manufacturing Company from 2016 to 2017. The samples used in this study were 6 companies listed on the Indonesia Stock Exchange from the Cable Sub Sector namely Sumi Indo Kabel (IKBI), Jembo Cable Company (JECC), KMI Wire and Cable (KBLI), Kabelindo Murni (KBLM), Supreme Cable Manufacturing and Commerce (SCOO), Voksel Electric (VOKS).

Analysis of the variables using formula for:

A. Dependent Variable (Y) Generally

Companies with financial difficulties experience a decline in growth, profitability, and fixed assets, as well as increases in inventory levels relative to healthy companies. Altman model and Springate model of financial distress is shown as follows:

1. Altman Model: $Z = 1.2X1 + 1.4 X2 + 3.3 X3 + 0.6 X4 + 1.0 X5$
2. Springate Model: $S = 1.03X1 + 3.07X2 + 0.66 X3 + 0.4X4$

B. Independent Variabel (X)

1) *Solvability*: the formula used is Debt To Asset to measure the level of corporate debt and the standard specified for DTA is < 30%.

2) *Liquidity*: the formula used is the Current Ratio to measure the company's ability to pay short-term liabilities and the standard specified for CR is > 1.

The statistical analysis on the of Cable companies is done using Descriptive statistics of Mean, Standard Deviation, Minimum and Maximum, Correlation Matrix, Regression analysis, F-test, t-test. The economic model is used to develop a model of a company firm value. The variable proposed for the model includes the following functional equation:

$$ZSCORE_{it} = \beta_0 + \beta_1 DTA + \beta_2 CR + e_i + u_{it} \quad (1)$$

$$SSCORE_{it} = \beta_0 + \beta_1 DTA + \beta_2 CR + e_i + u_{it} \quad (1)$$

Where:

Y_{it} = The financial distress of the company i year t with

ZSCORE and SSCORE as its model

A = Constants

$\beta_1 \beta_2 \beta_3$ = Regression coefficient

DTA_{it} = Solvability Liquidity of the company i year t

CR_{it} = Liquidity of the company i year t

IV. RESULT OF THE STUDY

A. Descriptive Statistic

Based on the result of the study the results show that the research variables have good average results. The average yield for DTA is 45% which is above the standard <30% for minimum debt in Indonesia. The average CR yield is 2.19 which is above 1 which indicates that the Cable company is able to pay short-term obligations. On the other hand, the springate method indicates that the mean result is 1.35 that shows that the Cable company is said to be solvent because it is above the standard, which is 0.862. Furthermore, the Altman method also shows that the Cable sub sector companies are solvent with mean result of 3.13 above 2.99 standards given.

B. Correlational Analysis

Result of the study illustrates that the existence of debt is associated negatively with Springate and Altman bankruptcy potential model and the level of company's liquidity is associated positively with both Altman and Springate distress model. Furthermore, the results suggest a negative association of debt to asset is associated with Altman distress model at 1% level of significant. It is worth mentioning that the correlation matrix has been considered as a limited analysis because it ignores the interrelationships among the variables.

C. Regression Model

For the first regression model using Altman model of financial distress, the table below provides the results of the hypothesis testing. It shows that the coefficient of determination (R2) for Altman is equal to 89 percent. The adjusted R2 is 86%. Table also shows that the model is significant with F-test 35.38 with a p-value 0.000 < 0.05. Altman model bankruptcy potential with regression model:

$$ALTMAN = 3.12 - 2.10 DTA + 0.44CR$$

TABLE I. REGRESSION MODEL 1 & 2

Variables	Expected Sign	Coefficient	Expected Sign	Coefficient
(Constant)	+	3.12	+	.79
DTA		-2.10		.21
CR		.44		.21
R2	0.89		0.35	
Adj. R ²	0.86		0.20	
Model F-stat.	35.38		2.37	
p-value	0.000		0.149	
No. of Observation	12		12	

For the second regression model using Springate financial distress model, the table provides the results of the hypothesis testing. However, the model is not significant with F-test 2.37 with a p-value 0.149 > 0.05.

V. DISCUSSION

There are two models given for financial distress, they are Altman and Springate. However, only the first model explains how changes in solvency and liquidity affect financial distress. These interactions result in an Altman adjusted R² of 86% with a significant test value of 0.002. The positive sign shows that the increase in liquidity and the increase in debt ratio could affect the possibility of the company's distress which leads to the company's potential to be bankrupt. Studies emerge such as Gryglewicz that corporate financial decision is eminent in solving this matter [16]. Gunathilaka in his research in Srilanka pointed out that Altman and Springate have predictive power of the company's solvency. For manager, liquidity of the company is essential since for certain project need immediate funding, the higher this value indicates that the company is far from distress. This is in reality is very essential and manager must find ways to have fund for their working capital [17]. On the other the use of debt indicates that the higher the risk of being distress as shown in the first model which is significant. This make the manager to rethink and manager the company's debt well, and use the necessary debt to optimize the financial performance of the company and avoid getting distress. This study is essential since many companies suffer from competition and must aware in their performance to manage the company's well and avoid distress as shown in previous studies [18].

VI. CONCLUSION

This study aims to determine the effect of solvency and liquidity on financial distress in the cable sub-sector listed on the Indonesia Stock Exchange in 2016-2017. Based on the results of the investigation, conclusions can be made that the cable sub sector companies generally have manageable debt at average of 45% with good liquidity average in 219%. The result also indicates that they are not in financial distress condition based on Altman and Springate model. Furthermore, the result shows that for Altman model, H1 is accepted at 0.10 and H2 is accepted at 0.05, and H3 is accepted that there is significant effect between DTA and CR to Financial Distress for Altman model. However, the hypothesis is not accepted for Springate Model for H1, H2 and H3. Thus, for Altman model, the result concluded that there is significant effect of DTA and CR to Financial distress with CR as the leading factor of cable company's distress and solvency with regression model: **ALTMAN= 3.12 – 2.10 DTA + 0.44CR.**

VII. RECOMMENDATION

From the conclusions and discussion of the results of the research, the research suggest that the cable sub-sector companies listed on the Indonesia Stock Exchange look upon the factors of financial distress describe in Altman model with ratio consist of company's net working capital, company's retained earnings, company's ability to gain profit, company equity and liability structure and asset management ratio that need to be managed well by their management since these ratios can determine their distress level, based on Altman

model. Further, significant result means that the company need to evaluate and monitor their liquidity and debt level in order to avoid distress condition.

REFERENCES

- [1] K. Sadgrove, *Complete Guide to Business Risk Management*. United Kingdom: Gower, 2005.
- [2] A. Sartono, *Manajemen Keuangan Teori dan Aplikasi*. Edisi4. Yogyakarta: BPFE, 2012.
- [3] S. Munawir, *Analisis Informasi Keuangan*. Yogyakarta: Liberty, 2012.
- [4] R. Brahmana, "Identifying financial distress condition in Indonesia manufacture industry," *Journal of accounting*, pp. 5-51, 2007.
- [5] M.A. Khumaini, *Puluhan Perusahaan di Karawang Alami Krisis*. [Online]. Retrieved from: <http://bogor.antaranews.com/berita/13340/puluhan-perusahaan-di-karawang-alami-krisis>, 7 Juni 2015.
- [6] Kompas, reported that PT Unilever Indonesia Tbk (UNVR) officially sells spreads business assets, 2018.
- [7] E.I Hapsari, "Kekuatan Rasio Keuangan dalam Memprediksi Kondisi Financial Distress Perusahaan Manufaktur di BEI," *Jurnal Dinamika Manajemen*, vol. 3, no. 2, 2012.
- [8] C. Gunathilaka, "Financial Distress Prediction: A Comparative Study of Solvency Test and Z-Score Models with Reference to Sri Lanka," *IUP Journal of Financial Risk Management*, vol. 11, no. 3, 2014.
- [9] S.C. Bardia, "Predicting Financial Distress and Evaluating Long-Term Solvency: An Empirical Study." *IUP Journal Of Accounting Research & Audit Practices*, vol. 11, no. 1, 2012.
- [10] N.N. Aisyah, F.T. Kristanti and D. Zultilisa, "Pengaruh Rasio Likuiditas, Rasio Aktivitas, Rasio Profitabilitas, dan Rasio Leverage Terhadap Financial Distress," *E-Proceeding of Management*, vol. 4, no. 1, 2017.
- [11] N.W.K.A. Putri and N.K.L.A. Merkusiwati, "Pengaruh Mekanisme Corporate Governance, Likuiditas, Leverage, Dan Ukuran Perusahaan Pada Financial Distress," *E-Jurnal Akuntansi Universitas Udayana* 7.1 pp. 93-106, 2014.
- [12] M. Triwahyuningtias and H. Muharam, *Analisis Pengaruh Struktur Kepemilikan, Ukuran Dewan, Komisaris Independen, Likuiditas Dan Leverage Terhadap Terjadinya Kondisi Financial distress (Studi Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia Periode Tahun 2008-2010)* (Doctoral dissertation, Fakultas Ekonomika dan Bisnis), 2012.
- [13] R. Fauza, *Pengaruh Likuiditas, Profitabilitas, Dan Struktur Modal Terhadap Financial Distress*. Bandung: Universitas Pendidikan Indonesia, 2015.
- [14] T.D.S.H. Dissanayke, H.M.D.N. Somathilake, D.M.J. Madushanka, N.H.K. "Cooray, Board Configuration on Financial Distress," *GSJ*, vol. 5, 2017.
- [15] I. Yanti, M. Asnawi and A.M. Simanjuntak, "Mekanisme Internal Dan Eksternal Corporate Governance Dalam Memitigasi Financial Distress," *Jurnal Akuntansi dan Keuangan Daerah*, vol. 13, no. 1, pp. 1-15, 2018.
- [16] S. Gryglewicz, "A theory of corporate financial decisions with liquidity and solvency concerns," *Journal of Financial Economics*, vol. 99, no. 2011, pp. 365-384, 2010.
- [17] P.A.D.H.N. Gunathilaka, R.M.N.S. Ranundeniya, M.M.M. Najim and S. Seneviratne, "A determination of air pollution in Colombo and Kurunegala, Sri Lanka, using energy dispersive X-ray fluorescence spectrometry on *Heterodermia speciosa*," *Turkish Journal of Botany*, vol. 35, no. 4, pp. 439-446, 2011.
- [18] O. Andre and S. Taqwa, "Pengaruh Profitabilitas, Likuiditas, dan Leverage Dalam Memprediksi Financial Distress (Studi Empiris Pada Perusahaan Aneka Industri yang Terdaftar di BEI Tahun 2006-2010)," *Wahana Riset Akuntansi*, vol. 2, no. 1, 2014.