Factors that affect Financial Distress: An Evidence from Jakarta Stock Exchange Listed Companies, Indonesia

Yoyo Sudaryo, Mohd Hassan Che Haat, Jumadil Saputra,
Mohd Yusoff Yusliza and Zikri Muhammad
Faculty of Business, Economics and Social Development
Universiti Malaysia Terengganu
21030 Kuala Nerus, Terengganu, Malaysia
y.sudaryo2@gmail.com, hassan@umt.edu.my, jumadil.saputra@umt.edu.my,
yusliza@umt.edu.my , zikri@umt.edu.my

Abstract

Financial distress is a state under which the organisation's financial position is unstable yet has not gone bankrupt. Many manufacturing companies in Indonesia experienced corporate financial instability, revenues from manufacturing companies continued to fluctuate, and some companies experienced negative operating profits. It creates a significant effect on financial distress, where it is not just the business that will incur losses but also the stakeholders. Thus, the present study attempts to analyse the factors (i.e., liquidity, profitability, leverage, company size, and interest rates) that affect financial distress in Jakarta Stock Exchange-listed companies, Indonesia. This study uses secondary data collected from two sources, i.e., the Central Bureau of Statistic and Financial Services Authority website for 2012 to 2018. The data analysed using multiple linear regression by assisting with econometric software, namely Eviews-10. This study found that liquidity, profitability, leverage, and interest rate significantly affect financial distress. Besides that, firm size does not affect financial distress. The results showed that, from the independent variables studied, it was proven that the liquidity variable and the interest rate had a negative effect on financial distress. Meanwhile, the variables of profitability and leverage have a positive effect on financial distress. It means that company leaders must consider liquidity, profitability, leverage, company size and interest rates to avoid financial distress. However, it is also necessary to pay attention to the Economic Stimulus, which can moderate these variables' relationships.

Keywords
Liquidity, profitability, leverage, company size, and interest rates, financial distress, Jakarta Stock Exchange, panel regression approach

1. Introduction

Financial distress can be identified when the company has a negative net income and its operating conditions deteriorate. Thus, it leads to a heavy financial burden on the firm, resulting in its inability to pay both secured, preferential and unsecured creditors (xxxxx). Liquidity ratios show the ability to meet its short-term liabilities. The value of these ratios' weakness indicates that the organisation may face difficulties in meeting short-term financial liabilities (Durrah et al., 2016). Brigham and Houston (2010) in Dai (2016) argued that the ratio of profitability is a group that shows the ratio of the combination of the effects of liquidity, asset management, and debt on operating results. From the above definition, a ratio provides information on a company's ability to benefit by utilising the resources available within the company.

A leverage ratio is a ratio that measures the ratio of funds provided by the owner of funds borrowed from creditor companies. This ratio shows its ability to meet its financial obligations, both short and long term (Abdul, 2013; Makiwan, 2018). In this study, leverage is measured by a debt asset ratio (DAR). The debt asset ratio (DAR) is the ratio of debt to total assets called the debt ratio (debt ratio), measuring the large percentage of funds originating from debt. The company's debt is all debts owed by the company, both short term debt and long term debt. Creditors

prefer a lower debt ratio because security is getting better (Sutrisno, 2012). Firm Size is the scale to determine the size of a company that can be proxied in several ways, including total assets and total sales (Saemargani, 2015) (Wufron, 2017). The company's size can also show how much information it contains and reflect management's awareness about the importance of information, both for external parties and for internal parties. The bigger the company size, the more information it contains.

The interest rate is the cost of borrowing and is usually a percentage of the amount borrowed. In Indonesia, the interest rate is determined by Bank Indonesia as the central bank. The interest rate strategy implemented by Indonesia Bank to stabilise the rupiah exchange rate cannot be implemented continuously, considering that banks need to carry out the banking intermediary function more freely with low-interest rates. In several manufacturing companies listed on the IDX for the 2014-2020 period, there was a decrease in the company's operating profit, and some companies even had a negative operating profit. The following shows the profit of the manufacturing company each year for seven years.

Table 1. The net profit of the manufacturing company from 2014 to 2020

Index	Net Profit						
	2014	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**
ADMG	2.819	34.437	10.863	(611)	(25.491)	(22.886)	(22.309)
ARGO	(244.579)	(241.058)	(138.823)	415.265	(30.333)	(11.021)	(25.344)
BATA	4.601	4.272	5.233	3.348	5.264	9.727	3.172
ESTI	111	582	(4.667)	(6.671)	(6.389)	(10.485)	3.127
HDTX	4.287	1.293	232	(16.354)	(7.746)	(26.601)	(29.436)
IMAS	33.582	80.927	66.193	60.083	597	(671)	(746)
INDR	26.000	8.000	1.000	1.600	(200)	10.100	1.500
INTA	6.213	8.991	929	(18.596)	(5.762)	(23.126)	(14.445)
LPIN	1.056	846	1.241	639	(704)	(1.359)	(4.789)
MASA	13.158	6.943	320	3.601	(311)	(27.120)	(6.483)
PRAS	2	529	3.091	6.500	8.297	3.698	(2.286)
SRSN	732	1.787	1.263	1.192	1.088	1.155	823

Source: www.idx.co.id (in thousand USD)

Table 1 shows a decrease in operating profit in several manufacturing companies. A total of 12 from 30 companies experienced a decrease in operating profit at the end of 2016. There were eight (8) manufacturing companies including negative operating profits, including PT Polychem Indonesia (ADMG), PT Indo Acidatama Tbk (ARGO), PT Panasia Indosyntec Tbk (HDTX), PT Indo Mobil Sukses International Tbk (IMAS), PT Intraco Penta Tbk (INTA), PT Multi Prima Sejahtera Tbk (LPIN), PT Multstrada Prima Sarana Tbk (MASA), and PT Prima Alloy Steel Tbk (PRAS). As experiencing financial distress, a categorised company is if the company experiences negative operating income for two consecutive years.

2. Methodology

For achieving the research objective, this study uses secondary data collected from two sources, i.e., the Central Bureau of Statistic and Financial Services Authority website for 2012 to 2018. The data analysed using regression analysis by assisting with econometric software, namely Eviews-10.

3. Results and Discussion

Using multiple regression analysis, this study found that Liquidity, Profitability, Leverage, Size and Interest Rate have a significant relationship with financial distress. The value of F-stat is 4.568 and significant at the level 1 per cent (0.001). Then, the coefficient determination (R square) is 0.459. It means that 45.9 per cent of Liquidity, Profitability, Leverage, Size and Interest Rate could explain its relationship with financial distress. The remaining 54.1 per cent is explained by other variables, which not study in this investigation. In details, the results of multiple regression analysis, as seen in Table 2 below:

Table 2. Results of Multiple Regression Analysis

Model	B	t-test		Coefficient	F-test	
		t stat	Sig	R^2	F stat	Sig

(Constant)	0.793	3.733	0.000			
Liquidity	-0.517	-2.253	0.003			
Profitability	0.152	3.619	0.037	0.459	4.568	0.001[b]
Leverage	0.562	3.346	0.001			
Size	0.230	1.861	0.095			
Interest Rate	-0.197	-2.735	0.004			

Further, we also identify the results of each variable in influencing financial distress with t-stat. The result shows that liquidity has a significant negative effect on financial distress with the beta value is 0.517, t stat is 2.253 and significant at the level 1 per cent (e.g. 0.003). Profitability has a significant positive on financial distress, with the beta value is 0.152, t stat is 3.619 and significant at the level 5 per cent (e.g. 0.037). Leverage has a significant positive t on financial distress with the beta value is 0.562, t stat is 3.346 and significant at the level 1 per cent (e.g. 0.001). Interest Rate has a significant negative on financial distress, with the beta value is 0.197, t stat is 2.73 and significant at the level 1 per cent (e.g. 0.004). However, this study indicated that firm size has no significant effect on financial distress. We also test the classical assumption for compliance with the OLS approach and found that all of the requirements are achieved. The data is the normal distribution and fulfil linearity—no multicollinearity, heteroscedasticity and autocorrelation issues.

4. Conclusion

This study found that liquidity, profitability, leverage, and interest rate significantly affect financial distress. Meanwhile, firm size does not affect financial distress. The results showed that, from the independent variables studied, it was proven that the liquidity variable and the interest rate had a negative effect on financial distress. Meanwhile, the variables of profitability and leverage have a positive effect on financial distress. It means that company leaders must consider liquidity, profitability, leverage, company size and interest rates to avoid financial distress. This implication is considered very important because it can be used to make decisions related to financial distress in companies by considering financial ratios such as liquidity, profitability, leverage, company size, and interest rates against conditions driven by economic stimulus. However, it is also necessary to pay attention to the Economic Stimulus, which can moderate these variables' relationships. This study's results are expected to contribute policy implications to company management, investors and potential investors, and other related parties.

References

Ahmad, S., Zhang, L., Ahmad, A., & Ahmad, A. (2020). *Effect of financial distress on firm' s performance of non-financial firms registered with Pakistan Stoke Exchange Effect of financial distress on firm' s performance of non -financial firms registered with Pakistan Stoke Exchange . School of Management*. *May*.

Altman, E. I., Iwanicz-Drozdowska, M., Laitinen, E. K., & Suvas, A. (2017). Financial Distress Prediction in an International Context: A Review and Empirical Analysis of Altman's Z-Score Model. *Journal of International Financial Management and Accounting*, *28*(2), 131–171. https://doi.org/10.1111/jifm.12053

Brunelli, S., Carlino, C., Castellano, R., & Giosi, A. (2020). Going concern modifications and related disclosures in the Italian stock market: do regulatory improvements help investors in capturing financial distress? In *Journal of Management and Governance* (Issue 0123456789). Springer US. https://doi.org/10.1007/s10997-020-09537-7

Creed, P. A., Sawitri, D. R., Hood, M., & Hu, S. (2020). Career Goal Setting and Goal Pursuit in Young Adults: The Role of Financial Distress. *Journal of Career Development*, 1–16. https://doi.org/10.1177/0894845319897136

Dai, R. M. (2016). *Analysis of Financial Performance through Profitability Approach at Culinary Center in Cimahi City*. *5*(2), 364–370.

Dirman, A. (2020). Financial distress: The Impacts of Profitability, Liquidity, Leverage, Firm Size, and Free Cash Flow. *International Journal of Business, Economics and Law*, *22*(1), 17–25.

Disemadi, H. S., & Shaleh, A. I. (2020). Banking credit restructuring policy amid COVID-19 pandemic in Indonesia. *Jurnal Inovasi Ekonomi*, *5*(02), 63–70. https://doi.org/10.22219/jiko.v5i3.11790

Dro, D. (2016). *Durham Research on-line*. *44*(0), 0–19. https://doi.org/10.1108/JIABR-12-2019-0223.Alternative

Durrah, O., Aziz, A., Rahman, A., Jamil, S. A., & Ghafeer, N. A. (2016). *Exploring the Relationship between Liquidity Ratios and Indicators of Financial Performance : An Analytical Study on Food Industrial Companies Listed in Amman Bursa*. *6*(2), 435–441.

Fredrick, I. (2019). Firm specific determinants of financial distress: Empirical evidence from Nigeria. *Journal of Accounting and Taxation*, *11*(3), 49–56. https://doi.org/10.5897/jat2019.0333

Gregova, E., Valaskova, K., Adamko, P., Tumpach, M., & Jaros, J. (2020). Predicting financial distress of slovak enterprises: Comparison of selected traditional and learning algorithms methods. *Sustainability (Switzerland)*, *12*(10). https://doi.org/10.3390/SU12103954

Hasan, M. I. (2008). *Analisis Data Penelitian dengan Statistik*. PT. Bumi Aksara.

Hassan Al-Tamimi, H. A. (2012). The effects of corporate governance on performance and financial distress: The experience of UAE national banks. *Journal of Financial Regulation and Compliance*, *20*(2), 169–181. https://doi.org/10.1108/13581981211218315

Kakinuma, Y. (2020). Return premium of financial distress and negative book value: Emerging market case. *Journal of Asian Finance, Economics and Business*, *7*(8), 25–31. https://doi.org/10.13106/JAFEB.2020.VOL7.NO8.025

Kaplan, G., Violante, G. L., & Kaplan, G. (2020). *the Great Lockdown and the Big Stimulus :*

Liang, D., Tsai, C. F., Lu, H. Y. (Richard), & Chang, L. S. (2020). Combining corporate governance indicators with stacking ensembles for financial distress prediction. *Journal of Business Research*, *120*(December 2019), 137–146. https://doi.org/10.1016/j.jbusres.2020.07.052

Lin, F., Liang, D., Yeh, C. C., & Huang, J. C. (2014). Novel feature selection methods to financial distress prediction. *Expert Systems with Applications*, *41*(5), 2472–2483. https://doi.org/10.1016/j.eswa.2013.09.047

Lin, T. H. (2009). A cross model study of corporate financial distress prediction in Taiwan: Multiple discriminant analysis, logit, probit and neural networks models. *Neurocomputing*, *72*(16–18), 3507–3516. https://doi.org/10.1016/j.neucom.2009.02.018

Lord, J., Landry, A., Savage, G. T., & Weech-Maldonado, R. (2020). Predicting Nursing Home Financial Distress Using the Altman Z-Score. *Inquiry (United States)*, *57*. https://doi.org/10.1177/0046958020934946

Makiwan, G. (2018). Analisis Rasio Leverage Untuk Memprediksi Pertumbuhan Laba Perusahaan Manufaktur Sub Sektor Makanan Dan Minuman. *Bisnis*, *15*(2), 147–172.

Mangena, M., Priego, A. M., & Manzaneque, M. (2020). Bank power, block ownership, boards and financial distress likelihood: An investigation of Spanish listed firms. *Journal of Corporate Finance*, *64*(April). https://doi.org/10.1016/j.jcorpfin.2020.101636

Manzaneque, M., Priego, A. M., & Merino, E. (2016). Corporate governance effect on financial distress likelihood: Evidence from Spain. *Revista de Contabilidad-Spanish Accounting Review*, *19*(1), 111–121. https://doi.org/10.1016/j.rcsar.2015.04.001

Olilingo, F. Z., & Putra, A. H. P. K. (2020). How Indonesia economics works: Correlation analysis of macroeconomics in 2010-2019. *Journal of Asian Finance, Economics and Business*, *7*(8), 117–130. https://doi.org/10.13106/JAFEB.2020.VOL7.NO8.117

Olivier Coibion, Yuriy Gorodnichenko, & Weber, M. (2019). HOW DID U.S. CONSUMERS USE THEIR STIMULUS PAYMENTS? *Journal of Chemical Information and Modeling*, *53*(9), 1689–1699.

Oz, I. O., & Yelkenci, T. (2017). A theoretical approach to financial distress prediction modeling. *Managerial Finance*, *43*(2), 212–230. https://doi.org/10.1108/MF-03-2016-0084

Paul, A., & Rakshit, D. (2020). Earnings Management and Financial Distress : An Analysis of Indian Textile Companies. *Journal of Economics and Public Policy*, *V*(3), 40–53.

Resosudarmo, B. P., Abdurohman, Yusuf, A. A., & Hartono, D. (2020). Spatial impacts of fiscal stimulus policies during the 2009 global financial crisis in Indonesia. *Asia-Pacific Journal of Regional Science*, *0123456789*. https://doi.org/10.1007/s41685-020-00176-2

Sari, W. P. (2020). The Effect of Financial Distress and Growth Opportunities on Accounting Conservatism with Litigation Risk as Moderated Variables in Manufacturing Companies Listed on BEI. *Budapest International Research and Critics Institute (BIRCI-Journal) : Humanities and Social Sciences*, *3*(1), 588–597. https://doi.org/10.33258/birci.v3i1.812

Souri, M. E., Sajjadian, F., Sheikh, R., & Sana, S. S. (2018). Grey SERVQUAL method to measure consumers' attitudes towards green products - A case study of Iranian consumers of LED bulbs. *Journal of Cleaner Production*, *177*, 187–196. https://doi.org/10.1016/j.jclepro.2017.12.105

Sugiyono. (2014). *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif, dan R&D*. Alfabeta.

Sutrisno. (2012). *Manajemen Keuangan Teori, Konsep dan Aplikasi (8th.)*. Ekonisia.

Thim, C. K., Choong, Y. V., & Nee, C. S. (2011). Factors affecting financial distress: The case of Malaysian public listed firms. *Corporate Ownership and Control*, *8*(4 D), 345–351. https://doi.org/10.22495/cocv8i4c3art3

Wu, L., Shao, Z., Yang, C., Ding, T., & Zhang, W. (2020). The impact of CSR and financial distress on financial performance-evidence from chinese listed companies of the manufacturing industry. *Sustainability*

(Switzerland), *12*(17). https://doi.org/10.3390/SU12176799

Wufron. (2017). Pengaruh Ukuran Perusahaan Terhadap Kinerja Keuangan Serta Implikasinya Terhadap Nilai Perusahaan Pada Perusahaan Manufaktur yang Terdaftar di Bursa Efek Indonesia. *Jurnal Wacana Ekonomi*, *16*(3), 022–033.

Yan, D., Chi, G., & Lai, K. K. (2020). Financial distress prediction and feature selection in multiple periods by lassoing unconstrained distributed lag non-linear models. *Mathematics*, *8*(8). https://doi.org/10.3390/MATH8081275

Biographies

Yoyo Sudaryo is a PhD student from the Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu, Malaysia. He is also a lecturer at the Indonesian College of Economic Development, Bandung, Indonesia. He was born on December 9, 1969, Ciamis, Indonesia. He studied from Elementary School to Senior High School in West Java and completed his studies in 1988. Subsequently, he continued his Bachelor degree at the Faculty of Economics, Department of Accounting at Nusantara Islamic University and completed his degree in 2007. He continued his studies for Masters. Master of Information Systems at STMIK LIKMI, Bandung and completed his studies in 2019. At the end of September 2020, he registered for a PhD program in the field of Social and Economic Development, Field Study; Accounting at Universiti Malaysia Terengganu, Malaysia. He researches the field of Financial Distress.

Mohd Hassan Che Haat holds a PhD degree from Edith Cowan University, Perth, Western Australia, and MBA and Accounting & Financial Management degree from Buckingham University, United Kingdom. Over the past 5 years, she has taught several accounting and finance courses, including Financial Management, Investment Analysis, Business Accounting, and Corporate Finance. Her main research interest is in the areas of personal finance. One of her completed research is Retirement Savings Behaviour: Evidence from Malaysia. She is also interested in pursuing research interest in Islamic Finance.

Jumadil Saputra is a PhD holder and works as a senior lecturer in the Department of Economics, Faculty of Business, Economics, and Social Development, Universiti Malaysia Terengganu, Malaysia. He has published 125 articles Scopus/ WoS indexed. As a lecturer, he has invited as a speaker in numerous universities, the examiner (internal and external), the reviewer for article journal and proceeding, the conference committee, journal editorial board, and others. He is a professional member of the International Business Information Management Association (IBIMA), Ocean Expert: A Directory of Marine and Freshwater Professional, and Academy for Global Business Advancement (AGBA). His research areas are Quantitative Economics (Microeconomics, Macroeconomics, and Economic Development), Econometrics (Theory, Analysis, and Applied), Islamic Banking and Finance, Risk and Insurance, Takaful, i.e., financial economics (Islamic), mathematics and modeling of finance (Actuarial). His full profile can be accessed from https://jumadilsaputra.wordpress.com/home-2/.

Mohd Yusoff Yusliza graduated with a B.B.A in human resource management from Universiti Putra Malaysia in 1999, before pursuing an MBA at Universiti Sains Malaysia in 2005, and finally obtaining her PhD in administrative science from Universiti Teknologi MARA in 2009. From 2009 to 2016, she was a lecturer at the Graduate School of Business in Universiti Sains Malaysia. In 2016, she became an associate professor at the Faculty of Business, Economics & Social Development of Universiti Malaysia Terengganu. She is the author of more than 100 articles, with a H-index of 9 in both Scopus and Web of Science. Her research interests include organisational and behavioural studies, human resource management (HRM), green HRM, international HRM (international students' adjustment), electronic HRM, line managers' involvement in HRM, empowerment, and human resource roles and competencies.

Zikri Muhammad was born in Terengganu, Malaysia. He received the Bachelor's degree in business administration from Universiti Putra Malaysia in 1999, the M.A. degree from Universiti Sains Malaysia, and the Ph.D. degree in geography from Universiti Kebangsaan Malaysia. From 2012 to 2016, is a Senior Lecturer with the School of Humanities, Universiti Sains Malaysia for five years. He is currently a Senior Lecturer with the Faculty of Business, Economics and Social Development, Universiti Malaysia Terengganu. His research interests include urban geography, sustainable development, quality of life, and local government.