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## Bankruptcy Assessment of Construction & Building Sub-Sector Companies for the 2019-2021 Period Using the Altman Z-Score Method

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The research was conducted on construction and building sub-sector companies listed on the IDX for the 2019-2021 period. The purpose of the study is to determine and analyze how much bankruptcy potential is in construction and building sub-sector companies listed on the IDX for the 2019-2021 period. The population was 22 companies and the sampling in the study was 10 construction and building sub-sector companies with purposive random sampling techniques. Data analysis method using Altman Z-Score Modifikasi. The results of the study are that there are 2 companies that are predicted to experience bankruptcy or financial distress, namely PT. Adhi Karya (Persero) Tbk (ADHI) and PT. Waskita Karya Tbk (WSKT). PT. Housing Development (Persero) Tbk (PTPP) is a company that is experiencing financial problems and has the potential to go bankrupt. For 7 other companies are in safe zone conditions which means there is no potential for bankruptcy. Research suggestions should be that companies that are predicted to experience failure conduct an objective business evaluation. As well as for PT. Pembangunan Perumahan (Persero) Tbk (PTPP), which is predicted to experience financial problems and potentially go bankrupt, should optimize its performance and always control risks both internal and external that can affect the company's liquidity which can cause financial difficulties.

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## 1. Introduction

Basically \_ objective main from report finance is give information related performance company to interested party \_ For taking decision . Related error with condition finance company which is part from report finance . Report finance is an important medium For evaluate performance and condition entity . Something company If No notice its performance so will experience difficulty financial (financial distress) which ultimately experience bankruptcy . Report finance considered has a very important meaning Because inside it expressed how company obtain source power , where and how source Power the used and how much effective use source Power the . This is what makes it party management must give information about problems that occur in company with see results analysis report finance . Profit created on results from Income or sale reduced company \_ costs incurred by the company , usually company use profit earned \_ For develop and maintain sustainability company . If the profit target No capable obtained , then will impact Serious for company . In period short Can just No too influential , however if company experience quite a loss big , deep period long can result Lots loss , for example possibility company will reduce amount power Work or maybe more \_ critical that is company experience bankruptcy Because No capable finance his activities .

Inability company in anticipate development of the business world will result a decrease in the volume of business that will occur impact on earnings profit and ultimately company experience bankruptcy . Bankruptcy is very disturbing problem for every company , because problem This can happens to companies \_ \_ when it 's not suspected (MA Z-score, Melia, and Deswita 2020). Bankruptcy can concluded as something circumstances or situation in matter This company fail or No capable Again fulfil obligations to debtor Because company experience shortage and insufficiency of funds for operate or continue his business so that objective the economy wants achieved by the company No can achieved namely profit, cause with profit earned \_ company Can used For return loan , finance operation company and its obligations \_ fulfilled Can closed with profit or assets owned ( Lukviarman 2009. ). Bankruptcy something company usually be marked with difficulty financial (Financial Distress) which is characterized by the presence of uncertainty profitability in the future coming ( Nofitasari 2021).

Financial Distress is considered as stage decline condition financial happenings \_ before bankruptcy or liquidation (Carolina and Pratama 2017). Several test models has made For predicting financial distress, especially the Altman Z-Score model, Springate , Zmijewski , Grover and Ohlson models. There are some researchers who have do study moreover formerly about accuracy forecast financial distress problems with using existing models developed the . Financial distress can happen anticipated a number of moment before company fail . Therefore \_ that , financial distress is not can recognized in period very short time . Time used generally two up to five years as limit resilience decline performance For identify possibility the occurrence of financial distress something company .

Sector construction and buildings is holding sector \_ role important in field development and economy Indonesia . Sector This be one \_ indicator in evaluate development economy a country because be one \_ alternative that investors are interested in invest period long and become assets multipurpose that can be used by the company as guarantee because \_ That construction building own high capital structure . In development of the business world moment this , a lot companies experiencing \_ tight market competition . Circumstances This Of course demand readiness and resilience company For strengthen management fundamentals and use various method in marketing strategy them , p This done so that it remains can compete with other companies . There are about 22 companies subsector construction and buildings listed on the Indonesian Stock Exchange .

Viewed from the accessed data via the website [www.idx.co.id](http://www.idx.co.id), that There is a number of companies experiencing \_ decline profit and even There is a number of companies experiencing \_ profit negative in a few year . One of them is PT Totalindo Eka Persada Tbk (TOPS) which experienced profit negative for 2 years successively \_ \_ that is in 2019, 2020 amounting to IDR (192,977,027,759), and IDR (135,279,511,457). There is also PT Surya Semesta Internusa Tbk (SSIA) which experienced profit negative in 2020 and 2021 amounting to IDR (77,287,251,636 ) and IDR (191,172,298,121). As well as some companies experiencing \_ decline profit for 2 years final such as PT Pembangunan Perumahan (Persero) Tbk (PTPP), PT Adhi Karya (Persero) Tbk (ADHI), PT Waskita Karya (Persero) Tbk (WSKT), PT Pratama Widya Tbk (PTPW) and PT Total Bangun Prasada Tbk (TOTL) and PT Wijaya Karya (Persero) Tbk (WIKA).

Can be said that companies experiencing \_ profit negative or decline

profit in a few year in a way consecutive will experiencing financial distress because financial distress is condition Where company experience profit clean negative during a number of year . Financial distress is also a problem condition Where existing cash flow more small than portion of term debt length that will be maturity , existence dismissal power work , or If for 2 years experience profit clean operation negative and during more from One year No do payment dividends .

In total debt acquisition company , some company experience increase in total debt by 2 years final that is in 2020 and 2021 , such as PT Adhi Karya (Persero) Tbk (ADHI) amounting to Rp. 32,519,078,179,193 and Rp. 34,242,630,632,194, also PT Wijaya Karya (Persero) Tbk (WIKA) experienced increase in total debt in 2020 and 2021 amounting to IDR 51,451,760,142 and IDR 51,950,168,634. Whereas 8 companies other namely PT Waskita Karya ( Persero ) Tbk (WSKT), PT Wijaya Karya Gedung (Persero) Tbk (WEGE), and PT Pratama Widya Tbk (PTPW ) experienced fluctuating total debt , where 2019 total debt company experience enhancement but in 2020 the debt reduce Then return will increase in 2021. Elmabrok , et al (2012) stated that bankruptcy happen when obligation exceed mark reasonable assets \_ or when obligation moment This exceed assets moment This .

Subsector companies Construction and Building is the most vulnerable sector in industry macro to fluctuation ethnic group interest , inflation and value exchange. Company subsector Construction and building currently experience slowdown growth during a number of year successively caused by various \_ factor economics , politics and global competition . A number of company subsector construction and building experience decline results sales caused by delays \_ a number projects and lack thereof availability of funds up to liberation land . Several subsector companies Construction and building experience increase in total debt in a way Keep going continuously a number of year final . Several subsector companies Construction and building experience decline profit even someone has experienced it profit negative .

Based on description on can withdrawn A formulation problem in study This that is How much big potency bankruptcy or financial distress in sub- sector companies construction and buildings listed on the IDX for the 2019-2021 period with use Altman Z-Score method .

## 2. Research Method

Study This is study descriptive used explain predictions bankruptcy sub- sector companies construction and building with use Altman method . In study This used data from report finance company subsector construction and buildings listed on the IDX for the 2019 – 2021 period . Population in study This is sub- sector companies construction and buildings \_ registered on the IDX, ie as many as 22 companies (2019 – 2021). Data collection techniques used in study This is documentation and studies statutory . Documentation in study This is form collect and search report data finance from companies created \_ \_ \_ as object study . Data analysis model , namely with use 1984 Modified Altman Z-Score approach .

## 3. Result and Discussion

### Analysis Result of Altman Z-Score

Altman Z-score analysis results for the company subsector Constructions and buildings listed on the IDX are visible experience fluctuations and even tend experience downward trend . \_ Every company own level fluctuations are different for each the year . Based on research on companies Construction and Building \_ registered on the IDX for the 2017 – 2021 period obtained results calculation use method with the modified Altman Model Z-Score equation  $X = 6.56 X_1 + 3.26 X_2 + 6.72$  mark *cut - off*  $X < 1.1$  means company predicted potential experiencing financial distress and  $X 1.1 <$  company No predicted or No potential For experience *financial distress* .

Table 1 Data from Altman Z-Score calculation results

NO	NAME COMPANY	PERIOD	Z- SCORE	STATUS
1	BUCK	2019	3.6	<i>Safe Zone</i>
		2020	3.9	<i>Safe Zone</i>
		2021	4.5	<i>Safe Zone</i>
	Average		4.0	<i>Safe Zone</i>
2	WIKA	2019	3.7	<i>Safe Zone</i>
		2020	0.7	<i>Distress Zone</i>
		2021	0,4	<i>Distress Zone</i>
	Rata-Rata		1,6	<i>Grey Area</i>
3	TOTL	2019	3,3	<i>Safe Zone</i>
		2020	3,4	<i>Safe Zone</i>
		2021	3,9	<i>Safe Zone</i>
	Rata-Rata		3,5	<i>Safe Zone</i>
4	SSIA	2019	4,5	<i>Safe Zone</i>
		2020	3,4	<i>Safe Zone</i>
		2021	3,4	<i>Safe Zone</i>

	Rata-Rata		3,8	<i>Safe Zone</i>
5	PTPP	2019	3,1	<i>Safe Zone</i>
		2020	1,0	<i>Distress Zone</i>
		2021	0,9	<i>Distress Zone</i>
	Rata-Rata		1,7	<i>Grey Area</i>
6	ADHI	2019	1,6	<i>Grey Area</i>
		2020	0,5	<i>Distress Zone</i>
		2021	0,2	<i>Distress Zone</i>
	Rata-Rata		0,8	<i>Distress Zone</i>
7	WSKT	2019	0,8	<i>Distress Zone</i>
		2020	-0,8	<i>Distress Zone</i>
		2021	1,0	<i>Distress Zone</i>
	Rata-Rata		0,3	<i>Distress Zone</i>
8	TOPS	2019	4,2	<i>Safe Zone</i>
		2020	2,8	<i>Safe Zone</i>
		2021	2,9	<i>Safe Zone</i>
	Rata-Rata		3,3	<i>Safe Zone</i>
9	WEGE	2019	3,8	<i>Safe Zone</i>
		2020	2,7	<i>Safe Zone</i>
		2021	2,9	<i>Safe Zone</i>
	Rata-Rata		3,1	<i>Safe Zone</i>
10	PTPW	2019	7,2	<i>Safe Zone</i>
		2020	13,6	<i>Safe Zone</i>
		2021	8,9	<i>Safe Zone</i>
	Rata-Rata		9,9	<i>Safe Zone</i>

Sumber : data diolah, 2023

Based on results Z-Score calculation in the table above , PT. Bukaka Teknik Utama Tbk (BUKK) in 2019-2021 has a higher Z-Score big of 2.6 which means company the No is in condition No bankrupt . On average, the Z Score value is 4.0 > 2.6 in this condition No bankrupt . Can concluded on average, PT . Bukaka Teknik Utama Tbk (BUKK) is predicted is at conditions that are not experience bankruptcy or *non-financial distress* .

PT. Wijaya Karya ( Persero) Tbk (WIKA) in 2019 the Z-Score value was 3.7 > 2.6 in the condition No bankrupt . In 2020 the Z-Score value of 0.7 < 1.1 is in condition bankruptcy . In 2021 the Z-Score value of 0.4 < 1.1 is in condition bankruptcy . The average Z-Score value obtained of 1.6 > 1.1 and 1.6 < 2.6 are condition *gray area*. Can concluded that PT. Wijaya Karya (Persero) Tbk (WIKA) predicted experience problem financial and potential will bankrupt .

PT. Total Build Prasada Tbk (TOTL) in 2019 the Z-Score value of 3.3 > 2.6 is in the condition No bankrupt . In 2020 the Z-Score value was 3.4 > 2.6 on condition No bankrupt . In 2021 , the Z-Score value will be 3.9 > 2.6 on condition No bankrupt . On average, the Z-Score value is 3.5 > 2.6 on condition *safe zone*. Can concluded PT . Total Build

Prasada Tbk (TOTL) predicted No experience bankruptcy or *non-financial distress*.

PT. Solar Universe Internusa Tbk (SSIA) on In 2019 the Z-Score value was  $4.5 > 2.6$  on condition No bankrupt . In 2020 the Z-Score value was  $3.4 > 2.6$  on condition No bankrupt . In 2021 the Z-Score will be  $3.4 > 2.6$  on condition No bankrupt . On average, the Z-Score is  $3.8 > 2.6$  on condition *safe zone* . Can concluded PT. Solar Universe Internusa Tbk (SSIA) predicted No experience bankruptcy or *non-financial distress*.

PT. Housing Development (Persero) Tbk (PTPP) in 2019 Z -Score value of  $3.1 > 2.6$  is in the condition No bankrupt . In 2020 the Z-Score value of  $1.0 < 1.1$  is in condition bankruptcy . In 2021 the Z-Score value of  $0.9 < 1.1$  is in condition bankruptcy . The average Z-Score value obtained of  $1.7 > 1.1$  and  $1.7 < 2.6$  are condition *gray area*. Can concluded that PT. Housing Development (Persero) Tbk (PTPP) is predicted experience problem financial and potential will bankrupt .

PT. Adhi Karya (Persero) Tbk ( ADHI) on in 2019 the Z-Score value of  $1.6 > 1.1$  and  $1.6 < 2.6$  is in the condition difficulty finances and there are potency bankruptcy . In 2020 the Z-Score value of  $0.5 < 1.1$  is in condition experience bankruptcy . In 2021 a Z-Score of  $0.2 < 1.1$  is in condition experience bankruptcy . On average, the Z-Score is  $0.8 < 1.1$  in this condition *distress zone* . Can concluded PT. Adhi Karya (Persero) Tbk (ADHI) predicted experience bankruptcy or *financial distress* .

PT. Waskita Work Tbk (WSKT) in 2019 the Z-Score value was  $0.8 < 1.1$  in the condition bankruptcy . In 2020 the Z-Score value of  $-0.8 < 1.1$  is in condition experience bankruptcy . In 2021 the Z-Score of  $3.3 < 1.1$  is in condition experience bankruptcy . On average, the Z-Score is  $0.8 < 1.1$  in this condition *distress zone* . Can concluded PT. Adhi Karya (Persero) Tbk (ADHI) predicted experience bankruptcy or *financial distress* .

PT . Totalindo Eka Persada Tbk (TOPS) on In 2019 the Z-Score value was  $4.2 > 2.6$  on condition No bankrupt . In 2020 , the Z-Score value was  $2.8 > 2.6$  on condition No bankrupt . In 2021 the Z-Score will be  $2.9 > 2.6$  on condition No bankrupt . On average, the Z-Score is  $3.3 > 2.6$  on condition *safe zone* . Can concluded PT . Totalindo Eka Persada Tbk (TOPS) predicted No experience bankruptcy or *non-financial distress* .

PT. Wijaya Karya Gedung (Persero) Tbk (WEGE) in 2019 the Z-Score value was  $3.8 > 2.6$  in the condition No bankrupt . In 2020 the Z-Score value was  $2.7 > 2.6$  on condition No bankrupt . In 2021 the Z-Score will be  $2.9 > 2.6$  on condition No bankrupt . On average, the Z-Score is  $3.1 > 2.6$  on condition *safe zone* . Can concluded PT. Wijaya Karya Gedung (Persero) Tbk (WEGE) predicted No experience bankruptcy or *non-financial distress* .

PT. Primary Widya Tbk (PTPW) in 2019 the Z-Score value of  $7.2 > 2.6$  is in the condition No bankrupt . In 2020 the Z-Score value was  $13.6 >$



2.6 on condition No bankrupt . In 2021 the Z-Score is  $8.9 > 2.6$  on condition No bankrupt . On average, the Z-Score is  $9.9 > 2.6$  on condition *safe zone* . Can concluded PT. Primary Widya Tbk (PTPW) predicted No experience bankruptcy or *non-financial distress* .

#### 4. Conclusion

Based on results analysis and discussion above , then can withdrawn conclusion that mark altman Z-Score on Sub Sector Companies Construction and Buildings Listed on the IDX for the 2019-2021 period . There are 2 companies predicted will experience bankruptcy or financial distress , namely PT. Adhi Karya (Persero) Tbk ( ADHI) and PT. Waskita Work Tbk (WSKT). PT. Housing Development (Persero) Tbk (PTPP) is a company that is experiencing problem financial and potential experience bankruptcy . For 7 other companies , they are in a significant safe zone condition No There is potency bankruptcy .

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