The Influence of ROE and DER to Stock Price Automotive and Components Companies Listed on Indonesian Stock Exchange Between 2010 – 2020

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Abstract

This study aims to examine the effect of Return On Equity (ROE) and Debt to Equity Ratio (DER) on Stock Prices in Automotive and Component Companies listed on the IDX for the 2010-2020 period, this analysis uses 2 (two) independent variables, namely Return On Equity (ROE) and Debt to Equity Ratio (DER) and 1 (one) dependent variable, namely Stock Price. This research uses data panel. The results are that the best model of this research is random effect. ROE has not a significant effect but DER has a significant effect and negative partially. ROE and DER have a significant effect on Stock Prices simultaneously.

Keywords *: Return On Equity* (ROE); *Debt to Equity Ratio* (DER); Stock Price; Automative and Component Companies

JEL Classification: G30; G32

Introduction

The rapidly growing economy and increasing competition in the global market are both a challenge and an opportunity for companies to develop their business. The capital market for automotive and component companies in Indonesia is currently growing rapidly. Marked by the number of automotive and component companies that go public in Indonesia.

The automotive and components industry is the design, manufacture, market and sale of motor vehicles. With this, automotive and component companies must pay attention to quality by doing their best. Developing the motor vehicle industry must continue to be done because the company has a very broad relationship with economic development to support the economy and has a large enough domestic market potential.

Stock price refers to the current price that a share stock traded for on the market. The stock price ideall reflects the company value itself. The changing of stock price can be from deman and supply, management changes, mention company name in news and social media the economy, changes among industries, political occurence, war, and environmental alteration. The fact of stock price automotive companies between 2010-2020 is that there are fluctuation price between.

Table 1. Stock Prices of The Six Automotive and Component Companies between 2010 and 2020

| Companies Name	Stock Prices										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PT Astra Internasional Tbk	5445,00	7400,00	7600,00	6800,00	7425,00	6000,00	8275,00	8300,00	8225,00	6925,00	6025,00
PT Astra Otopart Tbk	2675,54	3260,51	3548,20	3650,00	4200,00	1600,00	2050,00	2060,00	1470,00	1240,00	1115,00
PT Indo Kordsa Tbk	2400,00	2150,00	3000,00	2250,00	4005,00	4680,00	6675,00	7375,00	6100,00	10800,00	5100,00
PT Goodyear Indonesia Tbk	1250,00	955,00	1230,00	1900,00	1600,00	2725,00	1920,00	1700,00	1910,00	2000,00	1420,00
PT Gajah Tunggal Tbk	2300,00	3000,00	2225,00	1680,00	1425,00	530,00	1070,00	680,00	650,00	585,00	655,00
PT Indospring Tbk	1244,51	1472,00	2472,96	3360,00	3360,00	3360,00	810,00	1260,00	2220,00	2300,00	2000,00
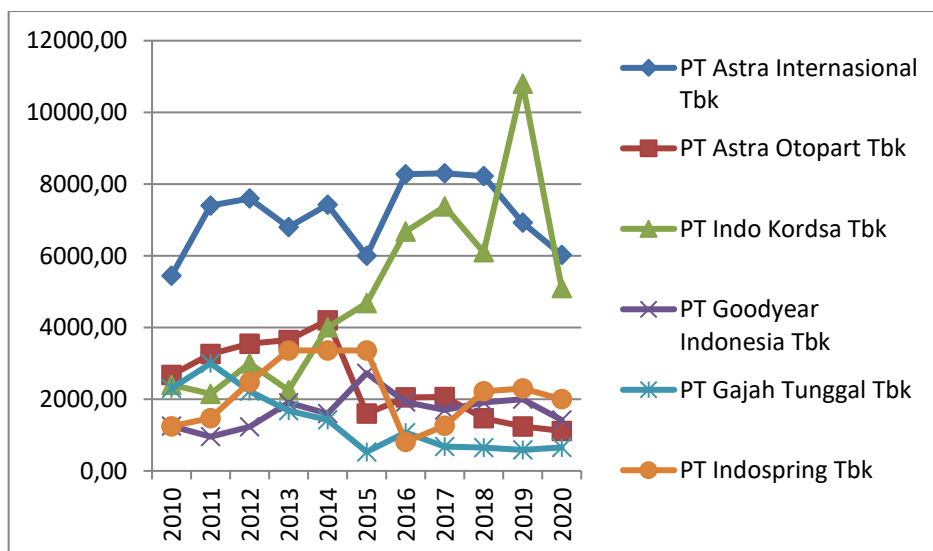
Figure 1. The Stock Price of Six Automotive and Component Companies listed on Indonesian Stock Exchange between 2010 and 2020

Not only above but also the financial ratios could explain the stock price. Previous studies investigated financial ratios to explain the stock price. ROA, ROE, an net profit for industrial sector and ROA, ROE, EPS, and P/E for investment sector (Arkan, 2016). The DER, ROI, ROE and ROI were not clear (Pražák & Stavárek, 2017). For Indonesia Aset Growth and ROA affect under one percent(Jermsittiparsert et al., 2019). This research investigates the effect ROE and DER to stock price six companies in automotive and component subsector.

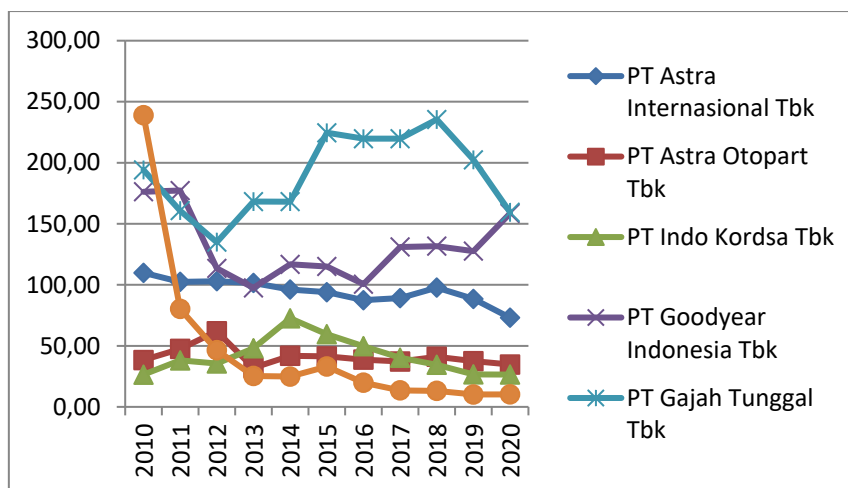**Table 2. The ROE of Six Automotive and Component Companies between 2010 and 2020**

Companies Name	ROE										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PT Astra Internasional Tbk	29,13	27,79	25,32	21,00	18,39	12,34	13,12	14,82	15,70	14,25	9,50
PT Astra Otopart Tbk	29,56	23,32	20,71	11,07	9,44	3,18	4,59	5,09	6,04	7,01	-0,34
PT Indo Kordsa Tbk	12,51	5,91	13,29	3,40	8,89	6,87	11,28	11,32	8,79	6,61	-1,94
PT Goodyear Indonesia Tbk	16,04	4,57	10,64	8,24	4,74	-0,20	2,94	-1,67	0,93	-0,50	-1,58
PT Gajah Tunggal Tbk	23,55	15,43	20,67	2,10	4,51	-5,81	10,71	0,79	-1,27	4,32	4,65
PT Indospring Tbk	31,28	19,05	11,80	8,42	6,98	0,10	2,40	5,30	5,04	3,94	2,29
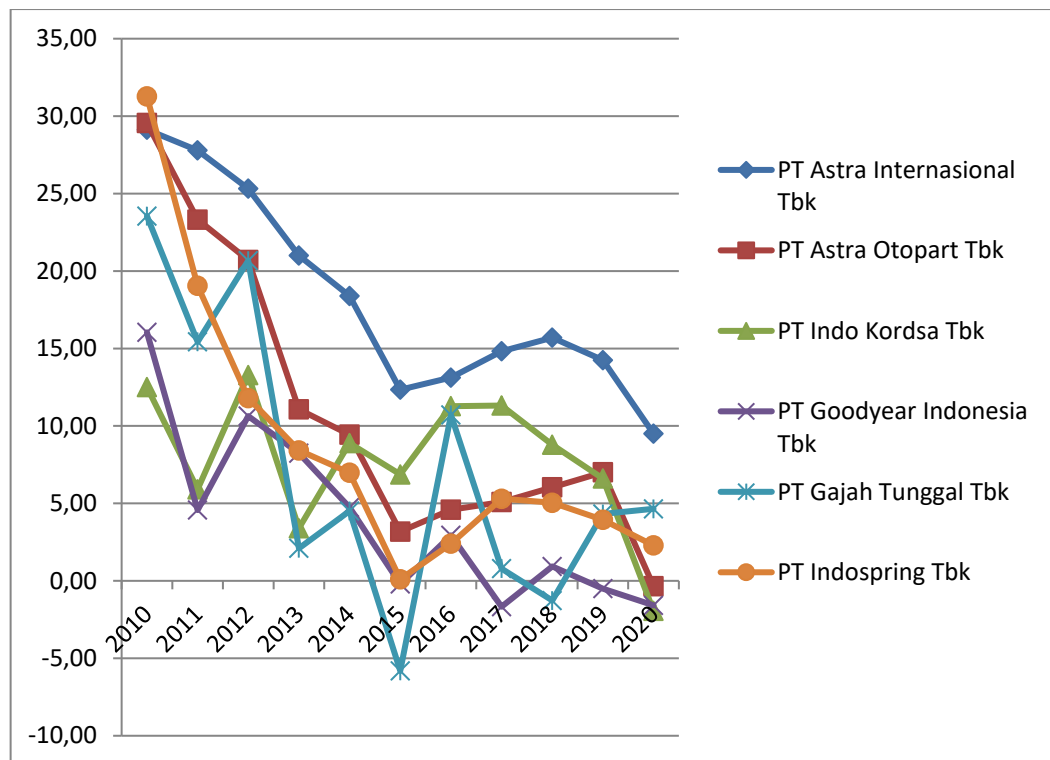
Figure 2. The Six of ROE Automotive and Component Companies listed on Indonesian Stock Exchange between 2010 and 2020

Table 3. The DER of Six Automotives and Component Companies between 2010 and 2020

Companies Name	DER										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
PT Astra Internasional Tbk	109,85	102,43	102,95	101,52	96,15	93,97	87,41	89,12	97,70	88,45	73,03
PT Astra Otopart Tbk	38,40	47,46	61,92	32,00	41,87	41,36	38,68	37,21	41,07	37,47	34,69
PT Indo Kordsa Tbk	26,46	38,14	35,56	48,00	72,57	59,53	49,72	40,27	34,51	26,66	26,48
PT Goodyear Indonesia Tbk	176,23	177,27	113,48	97,50	116,76	115,05	100,51	131,00	131,67	127,61	158,46
PT Gajah Tunggal Tbk	194,10	160,77	134,92	168,17	168,13	224,60	219,72	219,73	235,47	202,39	159,39
PT Indospring Tbk	238,97	80,26	46,47	25,31	24,85	33,08	19,79	13,51	13,13	10,19	10,24

Figure 3. The DER of Six Automotive and Component Companies Listed on Indonesian Stock Exchange between 2010 and 2020

Table 1 and Figure 1 show that the stock price of PT Astra Internasional Tbk was the highest between 2010 and 2020 among six companies except stock price's PT Indo Kordsa Tbk in 2019. contrary, PT Gajah Tunggal was the lowest from 2015 to 2020. Table 2 and figure 2 show that all companies ROE decreased between 2010 and 2020. The highest ROE was PT Astra Internasional Tbk but the lowest ROE is PT Gajah Tunggal Tbk in 2015. Table 3 and figure 3 show that The highest DER was PT Gajah Tunggal Tbk between 2013 and 2019 but the lowest was PT Indospring Tbk between 2013 and 2020.

Literature Review

Liquidity, pofitability and growth do not affect stock price significantly but market value does it(Puspitaningtyas, 2017). ROA, ROE, and net profit for industrial sector and ROA, ROE, EPS, and P/E for investment sector (Arkan, 2016). The DER, ROI, ROE and ROI were not clear (Pražák & Stavárek, 2017). For Indonesia Aset Growth and ROA affect under one percent(Jermsittiparsert et al., 2019).

ROE and DER were insignificant effects on the ten of Individual Stock Price Index (IHSI) Automotive and Component Companies in 2014-2018 (Salim, 2020). DER was a positive and a significant but ROE was an insignificant on the nine stock prices Automotive and Component companies in 2015-2019(ROE & YANG, 2021). DER was a significant on ROE in ten automotive and component companies (Efendi et al., 2019). DER has partial

effect on twelve automotive and component companies' stok prices(Rachman et al., 2020)(Yusena et al., 2019).

Return On Equity has a positive effect on stock prices. The higher the Return On Equity generated by the company, the more effective the company is in managing shareholder equity. Of course, investors will be interested in the ROE generated by the company. In addition, a high value on Return On Equity indicates a high rate of return that will be received by investors. This of course will attract investors to buy shares, and because of this high level of demand will cause stock prices to rise(Nordiana & Budiyanto, 2017).

According to Kasmir (Kasmir, 2013) the solvency ratio is the ratio used to measure the extent to which the company's assets are financed by debt. This means how much debt burden is borne by the company compared to its assets. Debt to Equity Ratio (DER) is one kind of solvency ratio. This ratio shows the total cost of assets whose financing comes from total debt. The greater the DER number, the higher the risk the company has in covering all of its debts. Investors will think long about investing in companies that have high DER numbers, because the dividends that will be distributed to investors will be reduced first by the company's debt. If the debt is large, the dividends distributed to investors are minimal or not even distributed. Large debt will have an impact on reducing investor confidence in investing so that the demand for shares decreases and stock prices will also decline.

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To find out the relationship between the independent variable and the dependent variable used in this study, it can be seen in the following figure:
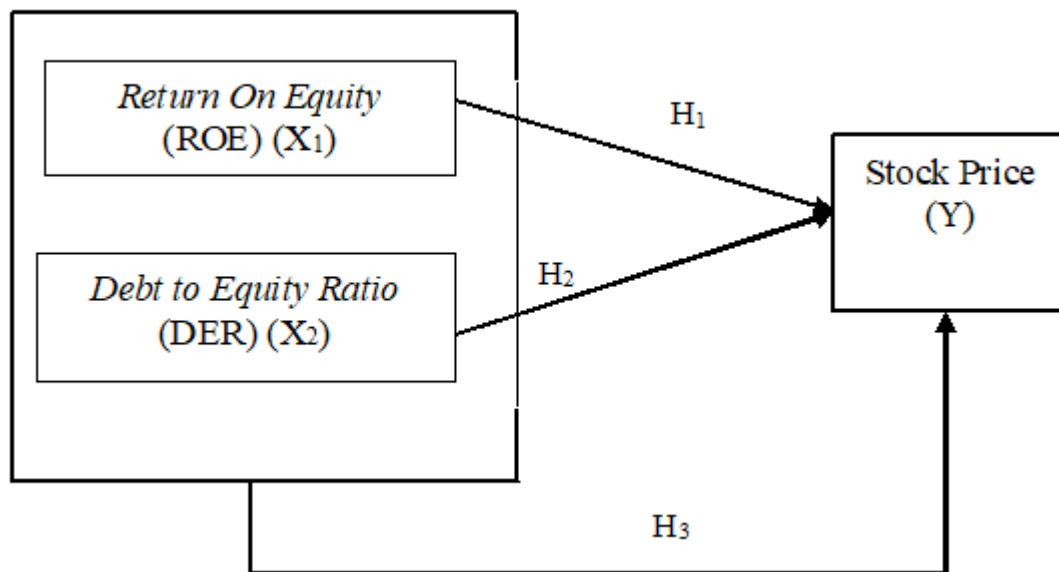
Figure 4. ROE and DER on Stock Price Framework

Based on the above framework, the research hypotheses proposed in this study are as follows:

H1: It is suspected that there is an effect of Return On Equity (ROE) on Share Prices in Automotive and Component Companies listed on the IDX.

H2: It is suspected that there is an influence of the Debt to Equity Ratio (DER) on the Stock Price of the Automotive and Component Companies listed on the IDX.

H3: It is suspected that there is an effect of Return On Equity (ROE) and Debt to Equity Ratio (DER) together on the Stock Price of Automotive and Component Companies listed on the IDX.

Research Methods

The type of research used in compiling this research is quantitative descriptive. This research relates to the object of research, namely the company with a certain time size by collecting information data related to the company and adjusted to the author's goals. The meaning of this descriptive research is intended to provide an overview and explain the state of the company which is reflecting in the financial statements and using a quantitative approach because the data in this study is expressed in the form of numbers.

According to Sugiyono(Sugiyono, 2017) what is meant by descriptive analysis method is: "Descriptive analysis method is a statistic used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to the general public or generalizations". Meanwhile associative research is: "It is research that aims to determine the relationship between two or more variables. With this research, a theory can be built that can function to explain, predict, and control a symptom.

This research uses six automotive and component companies between 2010 and 2020. ROE and DER are independent variables and stock price is dependent variables. Panel data is used in this research.

Table 4. The Automotive and Component Companies Listed on IDX

No	Codes	Company Names
1	ASII	Astra International Tbk
2	AUTO	Astra Otoparts Tbk
3	BOLD	Garuda Metalindo Tbk
4	BRAM	Indo Kordsa Tbk
5	GDYR	Goodyear Indonesia Tbk
6	GJTL	Gajah Tunggal Tbk
7	IMAS	Indomobil Sukses International Tbk
8	INDS	Indospring Tbk
9	LPIN	Multi Prima Sejahtera Tbk
10	MASA	Multistrada Arah Sarana Tbk
11	NIPS	Nipress Tbk
12	PRAS	Prima Alloy Stell Universal Tbk
13	SMSM	Selamat Sempurna Tbk

Source: www.idx.co.id

Table 5. Sampling Methods

	13
Automotive and Component Companies Listed	

on IDX between 2010 and 2020

Financial Reports have not been published   (3)

Financial Reports use foreign currency   (4)

Samples   6

Source: Self-processed

Table 6. Automotive and Component Companies Samples

No	Codes	Companies Names
1	ASII	PT Astra Internasional Tbk
2	AUTO	PT Astra Otopart Tbk
3	BRAM	PT Indo Kordsa Tbk
4	GDYR	PT Goodyear Indonesia Tbk
5	GJTL	PT Gajah Tunggal Tbk
6	INDS	PT Indospring Tbk

Source: Self-processed

Results and Discussions

Results

Table 7. Common Effect with Stock Price as Independent Variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3258.787	540.6425	6.027619	0.0000
ROE	117.8639	30.95245	3.807901	0.0003
DER	-12.00518	4.157352	-2.887698	0.0053

R-squared	0.259775	Mean dependent var	3289.299
Adjusted R-squared	0.236276	S.D. dependent var	2463.174
S.E. of regression	2152.600	Akaike info criterion	18.23113
Sum squared resid	2.92E+08	Schwarz criterion	18.33066
Log likelihood	-598.6273	Hannan-Quinn criter.	18.27046
F-statistic	11.05464	Durbin-Watson stat	0.407275
Prob(F-statistic)	0.000077		

Source: Self-processed

Table 7 shows common effect that ROE and DER have positive and negative significant effect with prob. 0.0003 and 0.0053 under 0.05 partially. ROE and DER has a significant effect with prob. 0.000077 under 0.05 simultaneously. The R-squared is 0.259775.

Table 8. Fixed Effect with Stock Price as Independent Variables

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3900.402	495.9800	7.864029	0.0000
ROE	36.16295	23.72749	1.524095	0.1329
DER	-10.50701	5.443780	-1.930094	0.0585
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.740867	Mean dependent var		3289.299
Adjusted R-squared	0.709593	S.D. dependent var		2463.174
S.E. of regression	1327.391	Akaike info criterion		17.33303
Sum squared resid	1.02E+08	Schwarz criterion		17.59844
Log likelihood	-563.9900	Hannan-Quinn criter.		17.43791
F-statistic	23.68907	Durbin-Watson stat		1.052222
Prob(F-statistic)	0.000000			

Source: Self-processed

Table 8 shows fixed effect that ROE and DER have no significant effect.partially. The probabilities are 0.1329 and 0.0585. However, ROE and DER have a significant with prob. (F-statistic) 0.000000 simultaneously.

Table 9. Chow Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	21.535936	(5,58)	0.0000
Cross-section Chi-square	69.274476	5	0.0000

Source: Self-processed

Table 9 shows that chow test prob. Cross-section Chi-square 0000. It means that fixed effects is better than common effects.

Table 10. Random Effects with Stock Price as Independent Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3894.783	829.3567	4.696149	0.0000
ROE	42.95015	23.15390	1.854986	0.0683
DER	-11.15586	4.978484	-2.240814	0.0286

Effects Specification		S.D.	Rho
Cross-section random		1675.646	0.6144
Idiosyncratic random		1327.391	0.3856
Weighted Statistics			
R-squared	0.091862	Mean dependent var	764.1461
Adjusted R-squared	0.063033	S.D. dependent var	1389.937
S.E. of regression	1345.418	Sum squared resid	1.14E+08
F-statistic	3.186375	Durbin-Watson stat	0.943531
Prob(F-statistic)	0.048059		
Unweighted Statistics			
R-squared	0.190776	Mean dependent var	3289.299
Sum squared resid	3.19E+08	Durbin-Watson stat	0.337162

Source: Self-processed

Table 10 shows random effect that ROE has not a significant effect but DER has a significant effect to stock price. The partial probability ROE and DER are 0.0683 and 0.0286. The ROE and DER have significant effect on stock price about prob. (F-test) 0.048 simultaneously

Table 11. Hausman test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.722749	2	0.1555

Source: Self-processed

Table 11 shows that probability hausman test is 0.1555 over 0.05. It means that random effect model is better chosen than fixed effect.

Table 12. Lagrange Multiplier Test for Random Effects

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	92.70277 (0.0000)	0.001230 (0.9720)	92.70400 (0.0000)
Honda	9.628228 (0.0000)	-0.035067 --	6.783389 (0.0000)
King-Wu	9.628228 (0.0000)	-0.035067 --	7.841169 (0.0000)

Standardized Honda	12.55416 (0.0000)	0.245344 (0.4031)	5.054363 (0.0000)
Standardized King-Wu	12.55416 (0.0000)	0.245344 (0.4031)	6.669972 (0.0000)
Gourierioux, et al.* Source: Self-processed	--	--	92.70277

Breusch-Pagan is under 5 percent. It shows that the random effect is better than common effect.

Discussions

The results above are that the model random effect is the best model. The chow test shows that the fixed effect is better than common effect. The hausman test shows that the random effect is better than fixed effect. It shows that the DER has a significant effect and negative but ROE has no significant and positive.

The results in this research disagree to Arkan (2016) about ROE on stock price for industrial manufacture. However, the ROE & YANG (2021) , Rachman et al (2020) dan Yusena et al (2019) have similar result eventhough the number of samples and the data years are different.

Conclusion

All in all, this research shows that ROE has not a significant effect on stock price but DER has a significant effect on stock price partially. ROE and DER have significant effect on stock price simultaneously. This resesarch has drawbacks such as the repitition of DER and ROE several studies previous in similar industry make the results going no where.

Acknowledgement

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