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Effect of CR and DAR on ROA in Automotive and Component Companies Listed on the IDX

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Research article

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Abstract: The aim of this research is to know the effect of Current Ratio and Debt to Asset Ratio to Return on Assets on companies subsector of automotive and components listed on Indonesia Stock Exchange Period 2017-2021. The research method used is a quantitative descriptive method. This research used purposive sampling method and obtained 7 samples of companies in the automotive subsector and components listed on the Indonesia Stock Exchange Period 2017-2021. In this study the model and technique of data analysis used panel data regression approach. The selected panel data regression model is Random Effect Model. The results showed that Current Ratio partially had a negative and significant effect on Return on Assets and Debt to Assets Ratio partially had no significant effect on Return on Assets. While Current Ratio and Debt to Asset Ratio simultaneously had a significant effect on Return on Assets.

Keywords: current ratio, debt to asset ratio, return on assets

1. Introduction

A company needs to do a financial statement analysis in order to see the financial condition of the company itself. They are generally done using financial ratios because they describe the financial developments a company achieved in the past and present. Therefore, financial ratios are the basis for knowing about the company's financial health.

The development of industry 4.0 or often known as Making Indonesia 4.0, has seven sectors that are a priority, one of which is the automotive industry. However, the Covid-19 pandemic is currently happening in various parts of the world, resulting in automotive manufacturers closing their production facilities. Not only that, the demand for automobiles in Indonesia has also experienced a drastic decline in line with the weakening of people's purchasing power. According to GAKINDO, in 2020, the sales target is estimated to experience a contraction of 50% as a result of a decrease in demand in Indonesia and abroad.

Therefore, each company in Indonesia, especially in the automotive industry, is faced with conditions to be more transparent in disclosing company financial information so that interested parties can see the capabilities of a company. Thus, assessing a company's financial condition is very important for evaluating future financial capabilities.

Return on Assets describes the capacity of a company to gain profit by using its total assets, which have been determined by the costs to finance these assets—several factors, including CR and DAR, influence ROA. The Current Ratio indicates the capacity of a company

to cover its maturing short-term debt. The higher the current assets, the lower the company's profit (Kasmir, 2018). The debt to Asset Ratio indicates the amount of debt to finance the company's assets. If the DAR increases, the assets with debt will also increase. That way, a company will experience difficulties obtaining additional loans and will also find it difficult to get profits.

Table. 1 Average development of CR, DAR and ROA (in ratio)

Variable	Year				
	2017	2018	2019	2020	2021
CR	2.79	3.13	4.00	4.04	3.08
DAR	0.35	0.35	0.34	0.33	0.36
ROA	0.15	0.07	0.06	0.02	0.05

Source: Financial reports of automotive and component companies

Based on table 1, the average CR, DAR, and ROA for the 2017-2021 period indicate a fluctuating phenomenon. This indicates that profit changes every year, where if CR and DAR decrease, ROA increases. Vice versa, when CR and DAR increase, ROA decreases. The occurrence of this inequality is due to the factors examined through company size, as well as elements of liquidity, solvency, and profitability.

There is a research gap between the Current Ratio and Debt to Asset Ratio variables which affect Return on Assets. According to Thoyib (2018), CR has no significant effect on ROA, and DAR has a negative and significant effect on ROA. While Astutik & Anggraeny (2019) stated in their research that CR and DAR have a positive and significant effect on ROA. While the results of the research conducted by Ariani & Bati (2020) prove that CR has a positive and significant effect on ROA, DAR has a negative and significant effect on ROA.

2. Literature Review

2.1. Current Ratio (CR)

According to Mamduh (2016: 75), the ratio allows a company to assess its capacity to pay off its short-term obligations by using its current assets. A company is said to be not very good if the company has a CR value that is too high because this indicates that many assets will settle in the future can reduce the company's capacity to earn profits or profits (Sawir, 2017)

A company can lose the opportunity to generate additional assets because of the high assets stored to meet liquidity, so the company cannot generate profits or profits (Horne, 2012). Thus, partially CR has a negative and significant effect on ROA. This statement is directly proportional to research conducted by Hasmirati (2019) which says that partially CR has a negative and significant effect on ROA.

2.2. Debt to Asset Ratio (DAR)

DAR is the ratio of total debt to total assets. DAR focuses on debt-equity using the percentage of a company's assets that are backed by debt. Based on the measurement results, if the percentage of DAR increases, a company's capacity to obtain additional loans from creditors will decrease (Hery, 2015). In addition, if the DAR increases, it will get worse, and the assets by debt will increase. On the other hand, the smaller the DAR, the better, and the company is rich in debt (Kasmir, 2018)

Thus, DAR has a negative and significant effect on ROA. This statement is directly

proportional to research by Thoyib et al. (2018), which said that partially DAR has a negative and significant effect on ROA.

2.3. Return on Assets (ROA)

According to Hery (2016), ROA is a ratio that describes the role of assets in generating net profit, while according to Pirmatua Sirait (2017), it is a ratio that indicates the capacity of a company to obtain profits from existing resources (assets). ROA is often done to measure a company's capability to generate profits.

The high ROA indicates that the financial capability of a company is good because the return value is getting bigger. If ROA has increased, it means that a company's profitability will also have increased, and vice versa. If ROA has decreased, the total net profit derived from assets stored in total capital decreases.

3. Research Methods

The author in his research used descriptive research with a quantitative approach. In this study, the population is companies that have gone public, namely automotive and component companies on the IDX. The sample was generated using purposive sampling and then obtained from seven companies. The company's annual report is obtained through the official website of each automotive and component company for the 2017-2021 period.

3.1. Independent Variable

In the research conducted, the independent variables are:

a. Current Ratio (CR)
This ratio is a benchmark that is often used for short-term solvency because this ratio is able to measure a company's capacity to cover short-term liabilities when they fall due. The formula for CR according to Hanafi (2016) namely:

$$CR = \frac{Current\ Assets}{Current\ Liabilities}$$

b. *Debt to Asset Ratio* (DAR)
This ratio is the ratio that takes into account the size of a company's debt resulting from the ratio of total debt divided by total assets. According to Hanafi (2016), the formula for DAR is:

$$DAR = \frac{Total\ Liabilities}{Total\ Assets}$$

3.2. Dependent Variable

In this study, the dependent variable is asset returns (ROA) is the ratio used to assess a company's capacity to benefit from total assets. The following is the formula for ROA according to Hanafi (2016), namely:

$$ROA = \frac{Earning\ After\ Tax}{Total\ Assets}$$

3.3. Data analysis technique

3.3.1. Descriptive Statistical Analysis

The definition of descriptive statistical analysis is statistics that are used to analyze data by

presenting the data that has been collected without aiming to make general conclusions (Sugiyono, 2017: 232).

3.3.2. Panel Data Regression Model Determination

The best model is obtained by knowing in advance and using a panel data regression model approach, namely the *Common Effect Model*, *Fixed Effect Model,* and *Random Effect Model*. Determination of panel data regression is determined through a test, namely:

a. *Chow* test
   Assessment in determining whether the CEM model or FEM model is the best for use in estimating panel data and its assessment using a data processing program. If *the p-value* of *the chi-square cross-section* > 0.05 means that the chosen one is CEM and vice versa if *the p-value* of *the chi-square cross-section* < 0.05 means that the chosen one is FEM
b. *Hausman* test
   The study in determining which one is most appropriate to use to obtain a panel data regression *model*, whether it is FEM or REM. If *the p-value* of *the random cross-section* > 0.05 means the chosen model is REM and vice versa if *the p-value* of *the random cross-section* < 0.05 means the chosen model is FEM.
c. *Lagrange Multiplier* Test
   The study is to find out which of the two tests, namely REM, is better than FEM. If the LM statistic *value* > *Chi-Square* means the selected model is CEM and vice versa if the LM statistical value < *Chi-Square* means the selected model is REM.

3.3.3. Coefficient of Determination

The coefficient of determination aims to measure the magnitude of the dependent variable (Y) that can be explained by the independent variable (X). If the scale is small, it means that the capacity of the independent variable to describe the variation of the dependent variable is limited.

3.3.4. Panel Data Regression Analysis

This study using panel data regression analysis because the data used is a combination of time series data with a period of 5 years and cross-section data consisting of 7 automotive and component companies to know whether the independent variables (Current Ratio and Debt to Asset Ratio) affects the dependent variable (Return on Assets).

3.3.5. Hypothesis Assessment

a. Partial Test (t-test)
   This study was made to prove the influence of the independent variables used in the research on the dependent variable partially (Ghozali, 2018 p. 88)
b. Simultaneous Test (Test F)
   This study was made to prove that there is a simultaneous effect between the independent variables and the dependent variable (Sugiyono, 2017).

4. Results and Discussion

4.1. Descriptive Statistical Analysis

Table. 2 Descriptive Statistics

Variable	Minimum	Maximum	Mean	Std. Deviation
CR	0.600000	13.040000	3.433714	2.816510
DAR	0.060000	0.700000	0.349143	0.222120
ROA	-0.070000	0.710000	0.071846	0.130236

Source : *Eviews 9 output*

From the table it can be explained the following:

a. CR
The results of the 35 *observation data for* the CR variable obtained *a minimum* of 0.60, a *maximum* of 13.04, and *a mean* of 3.43 with *std. deviation* of 2.81

b. DAR
The results of the data from 35 *observations* of the DAR variable obtained *a minimum* of 0.06, a *maximum* of 0.70, and *a mean* of 0.34 with *std. deviation* of 0.22

c. ROA
The results of the data from 35 *observations* of the ROA variable obtained *a minimum* of -0.07, a *maximum* of 0.71, and *a mean* of 0.07 with *std. deviation* of 0.13

In the three variables above, it can be seen that all three obtain a standard deviation below the average value. Thus, the data used is evenly distributed and there are no gaps in the CR, DAR, and ROA variables.

4.2. Panel Data Regression Model Determination

a. Chow test

Table. 3 Chow's Test

Effects Test	Statistic	d. f.	Prob.
Cross-section F	5.097642	(6.26)	0.0014
Cross-section Chi-square	27.218185	6	0.0001

Source: Eviews output 9

The table shows that the F and Chi-square probability values are 0.0014 and 0.0001. This value is smaller than the alpha value, which is equal to 0.05, so it can be concluded that FEM is better used to do than using CEM.

b. Hausman test

Table. 4 Hausman's test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d. f.	Prob.
Cross-section random	13.392670	2	0.0012

Source: Eviews output 9

The table shows that the random cross-section probability value is 0.012 means that this value is smaller than the test level of 0.05, so it can be concluded that FEM is better to use than REM. Accordingly, the selected panel data regression model is FEM, and no need to do the LM test.

4.3. Panel Data Regression Analysis

Table 5. Fixed Effect Models

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.123471	0.193272	0.638845	0.5285
CR	-0.049388	0.014500	-3.406137	0.0022
DAR	0.337856	0.499678	0.676146	0.5049

Source: Eviews output 9

From table 5, it can be seen that the panel data regression equation using the Fixed Effect Model is as follows:

$$ROA = 0.123471 - 0.049388\ CR + 0.337856\ DAR$$

Based on the panel data regression equation above, it can be explained that the research variables are as follows:

1. The constant value is 0.1234741, which indicates that if the CR and DAR values are considered constant, the ROA will increase by 0.1234741
2. The CR coefficient has a negative sign which indicates the negative effect of CR on ROA and explains that every 1 value of CR will reduce ROA by 0.049388, assuming that the value of DAR is zero
3. The DAR coefficient has a positive sign indicating the positive influence of DAR on ROA and explains that every 1 value of DAR will increase ROA by 0.337856, assuming that the value of CR is zero.

4.4. Coefficient of Determination

Table. 6 Coefficient of Determination

R-squared	0.611582
Adjusted R-squared	0.492069
F-statistic	5.117280
Prob.(F-statistic)	0.000674

Source: Eviews 9 output

From table 6, it can be proven that the value of the coefficient of determination is 0.492069. This indicates that the capacity of the independent variables, namely CR and ROA, explains the dependent variable, namely ROA, which is 49.20%. At the same time, the remaining 50.80% explains other variables outside the research conducted.

4.5. Partial Test (t-test)

Based on the results of table 5, it can be proven that the value of the CR coefficient indicates a negative value of -0.049388 which means that CR has a negative influence on ROA. The probability value indicates 0.0022, where the value is smaller than 0.05. Thus, it can be

concluded that Ha1 is accepted and H02 is rejected. This indicates that CR has a negative and significant effect on ROA.

In addition, the DAR value indicates a positive coefficient value, which means that DAR positively affects ROA. The probability value indicates 0.5049, which is greater than 0.05. Thus, DAR does not have a significant effect on ROA.

4.6. Simultaneous Test (Test F)

Based on the results of table 6, it can be proven that the Prob (F-statistic) is worth 0.000674 where this value is lower than 0.05, so that conclusions can be drawn, namely accepting Ha and rejecting H0. This indicates that CR and DAR together have a significant influence on ROA. This means that there is a significant effect of CR and DAR on ROA, which means that every time CR and DAR increase or decrease, ROA also increases or decreases.

4.7. Effect of CR on ROA

According to Hanafi (2014: 37), if the ratio value is low, it indicates that short-term liquidity is also low. A current Ratio with a high ratio value indicates an excess in current assets. However, this has a negative impact on profitability within a company. In particular, current assets can earn a lower return or profit value than fixed assets.

Based on these results, automotive and component companies cannot optimize their assets or capital, which aims to reinvest but is used to supplement a company's liquidity needs. The results of this study are directly proportional to those conducted by Hasmirati (2019) and Wahyuni (2018), who concluded that CR has a negative and significant effect on ROA. This explains that if CR increases, ROA will decrease. Conversely, if the CR decreases, the ROA increases.

4.8. Effect of DAR on ROA

The DAR does not affect ROA because the average DAR value of each automotive and component company on the IDX is low, which indicates that the company's debt ratio is small. This resulted in no significant difference in ROA values.

The high DAR indicates that the greater the value of dependence on external parties and the impact, where more debt also causes the company to be less healthy. This can result in a less good company because it has a negative impact on profit. In the end, there will be a decrease in ROA. The results of this study are directly proportional to those conducted by Nurfianti & Wulansari (2021), who concluded that DAR had no significant effect on ROA. This explains that changes that occur in DAR will not have an impact on increasing or decreasing ROA

5. Conclusion

Based on research results that have been proven so that the writer can conclude: 1) Partially, CR has a negative and significant effect on ROA; 2) Partially, DAR has no significant effect on ROA; and 3) Simultaneously, *CR* and DAR have a significant effect on ROA .

This study has limitations regarding the number of variables and the period used by the authors. Adding other variables besides CR and DAR, such as CAR, DER, TATO, and so on, is recommended for future researchers. That way, it can describe what things will affect ROA.

References

Ariani, D., & Bati, B. (2020). Pengaruh CR, DER dan DAR Terhadap ROA pada Perusahaan Manufaktur Sub Sektor Farmasi yang terdaftar di BEI. Jurnal Manajemen, Ekonomi Sains, 1(2), 10-20.

Aristiani, N. K. P., Sukadana, I. W., & Widnyana, I. W. (2021). Pengaruh Debt to Equity Ratio (DER), Debt to Asset Ratio (DAR), dan Inventory Turnover Terhadap Profitabilitas terdaftar di Bursa Efek Indonesia. VALUES, 2(2), 363-372.

Astutik, E. F., & Anggraeny, A. N. (2019). Pengaruh Current Ratio (CR) dan Debt To Asset Ratio (DAR) Terhadap Return On Asset (ROA) Pada PT. Indocement Tunggal Prakarsa Tbk Periode 2008-2017. Jurnal SEKURITAS (Saham, Ekonomi, Keuangan dan Investasi), 3(1), 97-111.

Hanafi, M. M. (2016). Analisis Laporan Keuangan. Edisi Kelima. Yogyakarta: UPP STIM YKPN.

Hasmirati, H., & Akuba, A. (2019). Pengaruh Current Ratio Dan Debt To Equity Ratio Terhadap Return on Assets Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia. SIMAK, 17(01), 32-41

Hery. (2018). Analisis Laporan Keuangan: Integrated and Comprehensive Edition (Cetakan Ketiga). Jakarta: PT Gramedia.

Kasmir. (2018). Analisis Laporan Keuangan. Jakarta: Raja Grafindo Persada.

Sawir, A. (2017). Analisis Kinerja Keuangan dan Perencanaan Keuangan Perusahaan. Jakarta: Gramedia Pustaka Utama.

Sugiyono. (2017). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.

Thoyib, M., Firman, F., Amri, D., Wahyudi, R., & Melin, M. A. (2018). Pengaruh Current Ratio, Debt To Asset Ratio, Debt To Equity Ratio Dan Total Asset Turnover Terhadap Return on Assets Pada Perusahaan Roperti Dan Real Estate Di Bursa Efek Indonesia. Akuntanika, 4(2), 10-23.

www.idx.co.id. Laporan Keuangan Perusahaan Sub Sektor Otomotif dan Komponen yang diterbitkan pada Bursa Efek Indonesia Periode 2017-2021.

www.sahamok.com. Laporan Keuangan Perusahaan Sub Sektor Otomotif dan Komponen yang diterbitkan pada Bursa Efek Indonesia Periode 2017-2021

PT Astra International Tbk. Annual Report PT Astra International Tbk. https://www.astra.co.id/Investor-Relations/Annual-Update/Annual-Report, diunduh pada 5 Februari 2022

PT Astra Otoparts Tbk. Annual Report PT Astra Otoparts Tbk. https://www.astra-otoparts.com/PT/investorrelation, diunduh pada 5 Februari 2022

PT Gajah Tunggal Tbk. Annual Report PT Gajah Tunggal Tbk. https://www.gt-tires.com/indonesia, diunduh pada 5 Februari 2022

PT Indospring Tbk. Anuual Report PT Indospring Tbk. https://www.indospring.co.id/index.php/investor/annualreport, diunduh pada 5 Februari 2022

PT Multi Prima Sejahtera Tbk. Annual Report PT Multi Prima Sejahtera Tbk. https://www.multiprimasejahtera.net, diunduh pada 5 Februari 2022

PT Prima Alloy Steel Universal Tbk. Annual Report PT Prima Alloy Steel Universal Tbk. https://www.panther-wheels.net/?m=3&lang=ina, diunduh pada 5 Februari 2022

PT Selamat Sempurna Tbk. Annual Report PT Selamat Sempurna Tbk. http://www.smsm.co.id/annualrep.php, diunduh pada 5 Februari 2022.