



The Effect of Cash Turnover and Receivables Turnover on Return on Assets (ROA) in Manufacturing Companies in The Healthcare Sector of The Pharmaceutical Industry Listed on The IDX in 2016-2020

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Published: 01/03/2022

How to cite (in APA style):

Anggarini, D. R., Safitri, D. R., Nani, D. A. (2022). The Effect of Cash Turnover and Receivables Turnover on Return on Assets (ROA) in Manufacturing Companies in The Healthcare Sector of The Pharmaceutical Industry Listed on The IDX in 2016-2020. *Jurnal Ekonomi dan Bisnis Jagaditha*, 9(1), 30-38. doi: <https://doi.org/10.22225/jj.9.1.2022.30-38>

Abstract—This study aims to examine the effect of cash turnover and accounts receivable turnover on Return on Assets (ROA) in manufacturing companies in the pharmaceutical industry health sector. The population in this study was 20 companies using a sampling technique, namely the purposive sampling technique. Based on the predetermined sampling criteria, a sample of 10 companies was obtained in 2016-2020. The research period was carried out for 5 years with a sample of 10 companies so that the total observations used were 50 data. The analytical method used is the panel data regression analysis method using the statistical tool Eviews 9.0. The results of the t-test showed that cash turnover had no significant effect on ROA, and accounts receivable turnover has a significant positive effect on ROA. Then, the results of the F test show that cash turnover and accounts receivable turnover together have a significant positive effect on ROA.

Keywords: cash turnover; receivables turnover; return on assets (ROA)

I. INTRODUCTION

The pharmaceutical industry is currently a rapidly growing industry, because the public's need for a very large supply of medicines causes the characteristics of high public consumption, especially in the types of multivitamin and immune-boosting products (Liputan6, 2021). The number of companies in the pharmaceutical sector causes very competitive competition in producing drugs to meet the needs of the community. Based on this, it is not surprising that the number of companies engaged in the pharmaceutical sector on the Indonesia Stock Exchange has increased.

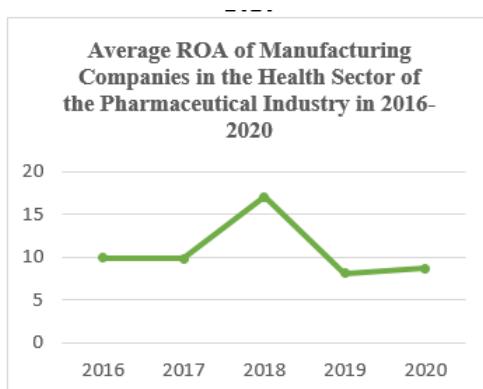
Usually, to invest in stocks, potential investors need to see profit opportunities that will be obtained, which can be seen from the level of profitability of the company.

According to Kasmir (2015), states that the profitability ratio is a ratio used to assess the company's ability to seek profits and provide a measure of the level of management effectiveness of a company which is indicated by the size of the level of profits obtained. This can be seen by the higher the profitability ratio, the higher the company's profit. It is very important for companies to evaluate the effectiveness and efficiency of company management in managing all company assets and generating profits. Profitability is important because it is one of the basics for assessing the condition of a company in an effort to maintain long-term viability because profitability shows whether a company has good prospects in the future. The company's ability to remain competitive with other companies requires companies to be able to increase profitability. Thus, every company

will always try to increase its profitability, because the higher the level of profitability of a business entity, the survival of the business entity will be more guaranteed. According to [Hery \(2017\)](#), one alternative to see the level of profitability of a company is to determine Return On Assets (ROA), because with ROA you can find out whether the company uses its assets to earn profits in operational activities.

Return on Asset (ROA) is the ability of the capital invested in overall assets to generate a net profit. ROA can be said to be a measure of the efficiency of the use of capital in a company. In general, for companies, the efficient use of working capital is more important than profit, because high profits are not a measure that the company has worked efficiently ([Hidayat & Parlindungan, 2018](#)). Return on Assets (ROA) describes asset turnover measured from sales. The bigger this ratio, the better and this shows that the assets can rotate faster and make a profit.

Based on the initial observations made by looking at the 2016-2020 Return on Assets (ROA) data, manufacturing companies in the healthcare sector of the pharmaceutical industry listed on the Indonesia Stock Exchange, the following cases were obtained:



(Source: IDX, data processed, 2021)

Figure 1. Average ROA of Manufacturing Companies in the Health Sector of the Pharmaceutical Industry in 2016-2020

Based on Figure 1 above, shows that the average Return on Assets in manufacturing companies in the health sector of the pharmaceutical industry in 2016-2020 continued to increase and decrease. It can be seen that the average ROA in 2016 was 9,95%, 2017 was 9,82%, 2018 was 16,99%, 2019 was 8,10%, and 2020 was 8,68%. A significant increase was seen in 2018 which previously amounted to 9,82% to 16,99%, this shows that the pharmaceutical industry companies are performing well so that they are able to

maximize the level of profit generation by using their assets which will increase investor confidence in the company's future prospects. The lowest decline occurred in the following year experienced by pharmaceutical industry companies in 2019 of 8,10% which indicates that the company's performance has not been maximized in maintaining the level of profit by using its assets, this will affect investor interest and lack of confidence in investors in the company to invest. Based on this, it can be said that manufacturing companies in the health sector of the pharmaceutical industry are less consistent in increasing Return on Assets during the 2016-2020 period, due to being unable to maintain their company's performance in maximizing the level of profit by using their assets within a period of 5 years.

The higher the Return on Assets owned, the more efficient the company is in using its assets, or in other words, the same number of assets can generate more profits and vice versa. From the description above, investors can use this ratio to measure the company's ability to earn profits by using its assets. The factors that affect the Return on Assets (ROA) include liquidity ratios, asset management ratios, and debt management ratios. Management ratio is a ratio that measures the effectiveness of the company in managing its assets such as cash turnover ratio, accounts receivable turnover and inventory turnover.

This study only uses cash turnover and receivables turnover as factors that can affect Return on Assets (ROA), because based on the phenomena that occur, sales of the pharmaceutical sector have increased from the previous year 2020 of Rp. 110,6 trillion to Rp. 120,2 trillion in 2021 and it is possible that this increase will continue in 2025 by 176,7 trillion and in 2030 by 297,9 trillion ([Liputan6, 2021](#)). Sales are one of the sources of the company's cash receipts, so this can affect cash turnover and receivables turnover in the pharmaceutical industry every year, and as a consideration, it is necessary to analyze cash turnover and receivables turnover from the previous year, 2016-2020.

Cash is the most liquid asset and is one of the elements of working capital with the highest level of liquidity, which means the greater the amount of cash owned by a company, the higher the level of liquidity ([Bulan, 2015](#)). Cash management is very important for the company because cash has a role in supporting the company's activities to achieve the planned goals and measure the company's financial performance. To see how

well the company is managing its cash, it can be seen on the company's cash turnover. Cash turnover is a comparison between sales and the average amount of cash. The cash turnover rate is a measure of the efficiency of cash used by the company (Kasmir, 2015). Cash turnover shows the number of times cash flows in a certain period through sales (Nurafika, 2018).



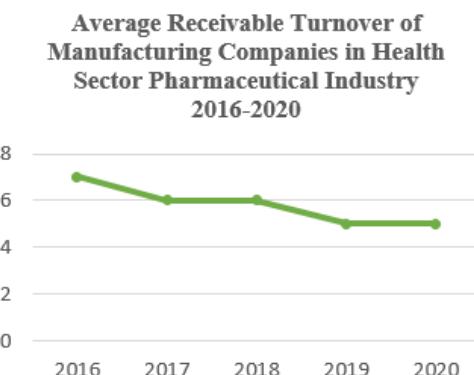
(Source: IDX, data processed, 2021)

Figure 2. Average Cash Turnover of Manufacturing Companies in Health Sector Pharmaceutical Industry 2016-2020

Based on Figure 2 above, shows that the average cash turnover of manufacturing companies in the healthcare sector of the pharmaceutical industry in 2016-2020 continues to increase and decrease. It can be seen that the average cash turnover in 2016 was 21 times, 2017 was 36 times, 2018 was 36 times, 2019 was 18 times, and 2020 was 17 times. A significant increase was seen in 2017 from 21 times to 36 times, this shows that the pharmaceutical industry companies are performing well so that they are able to maximize the level of cash turnover (the company's ability to manage cash) which will increase investor confidence in the company's future prospects. The lowest decline experienced by pharmaceutical industry companies occurred in 2020 by 17 times, which shows that the company's performance has not been maximized in maintaining its cash turnover rate, this will affect investor interest and lack of investor confidence in the company to invest. The higher the cash turnover rate, the faster the cash returns to the company and vice versa (Subramanyam, 2013). Excessive cash turnover with working capital that is too small will result in less meeting the needs of the company. However, if it is associated with the phenomenon of the decline in the level of cash turnover that occurs in the pharmaceutical industry health sector company, it shows that the lower cash turnover results in a large amount of unproductive cash

so that it will reduce the company's profitability. Based on this, it can be said that manufacturing companies in the health sector of the pharmaceutical industry are less consistent in increasing cash turnover during the 2016-2020 period because they are not able to maintain their company's performance in maximizing the cash turnover rate within a period of 5 years.

Accounts receivable turnover is also one of the factors that can affect the Return on Assets (ROA). Receivables are a form of sales made by a company whose payments are not made in cash, but are gradual. The relationship between credit sales and trade receivables is stated as Accounts Receivable Turnover. Accounts receivable turnover is the length of time it takes to convert receivables into cash (Susilowibowo, 2014). The following is the receivable turnover phenomenon that occurs in manufacturing companies listed on the IDX in 2016-2020:



(Source: IDX, data processed, 2021)

Figure 3. Average Receivable Turnover of Manufacturing Companies in Health Sector Pharmaceutical Industry 2016-2020

Based on Figure 3 above, it shows that the average receivables turnover of manufacturing companies in the healthcare sector of the pharmaceutical industry in 2016 - 2020 continues to decline. It can be seen that the average receivables turnover in 2016 was 7 times, 2017 was 6 times, 2018 was 6 times, 2019 was 5 times, and in 2020 the receivables turnover rate was stabilized by 5 times. The lowest decline experienced by pharmaceutical industry companies occurred in 2019 and 2020 by 5 times, which indicates that the company's performance has not been able to maximize its receivables turnover rate (the company's ability to manage receivables), this will affect investor interest and lack of investor confidence in companies to invest. The higher the receivables turnover ratio, shows that the

working capital invested in receivables is low. Conversely, if it is associated with the phenomenon of the decline in the level of receivables turnover that occurs in the pharmaceutical industry health sector company, it shows that if the receivables turnover ratio is lower, it means that there is over-investment in receivables which will reduce the company's profitability (Susilowibowo, 2014). Based on this, it can be said that manufacturing companies in the healthcare sector of the pharmaceutical industry are less consistent in managing receivables turnover during the 2016-2020 period because they are not able to maintain their company's performance in maximizing the receivables turnover rate within a period of 5 years so that it continues to decline.

This research is a replication of previous research, namely research Nurafika (2018) with the title "The Influence of Cash Turnover, Accounts Receivable Turnover, And Inventory Turnover Towards Profitability In Cement Companies". There are several differences between this study and previous research, including the variables, research objects, and data analysis tools. In previous studies, the independent variables used were cash turnover, accounts receivable turnover and inventory turnover, while this study used independent variables in the form of cash turnover and receivables turnover. In previous studies, the object of research used was a cement company, while this study used the object of research in the form of a manufacturing company in the health sector of the pharmaceutical industry. As well as in previous studies, the data analysis tool used was in the form of the SPSS statistical program, while this study uses the statistical program eviews 9.0.

The research on the effect of cash turnover and receivables turnover on Return On Assets (ROA) had previously been conducted such as Nurafika (2018) in her study that shows that cash turnover and inventory turnover have an effect on ROA, but accounts receivable turnover has no effect on ROA. The results of this study are different from the research of Hidayat & Parlindungan (2018) which shows that cash turnover has a significant effect on ROA and accounts receivable turnover has a significant effect on ROA. There are differences in this study, so it is necessary to conduct a re-examination of the effect of cash turnover and receivables turnover on Return On Assets (ROA). Based on the phenomena and background that have

been described, this study aims to examine the effect of cash turnover and accounts receivable turnover on Return on Assets (ROA) in manufacturing companies in the pharmaceutical industry health sector.

II. CONCEPTS AND HYPOTHESIS

Effect of Cash Turnover on Return On Assets (ROA)

Several studies have been conducted to see the relationship between cash turnover and ROA using financial ratios. If you manage cash flow effectively, it will have a positive impact on profitability (ROA). Cash turnover shows the number of times cash flows in a certain period through sales (Nurafika, 2018). The effect of cash turnover is positive, that is, if high cash turnover describes a company that is performing well or the company is able to maximize its ability to manage cash so that cash returns are faster to the company, if cash turnover is low, it illustrates that the company has not maximized its capabilities which resulted in a lot of unproductive cash so that will reduce the profitability of the company. A high cash turnover indicates a good company's financial performance. If the company's financial performance in managing cash is good, it shows that cash can spin faster and earn profits so that it can increase investor interest in the company (Hidayat & Parlindungan, 2018). So it can be concluded that cash turnover has a positive and significant effect on ROA.

Effect of Accounts Receivable Turnover on Return On Assets (ROA)

Several studies have been conducted to examine the relationship between receivables turnover and ROA. If you manage receivables turnover effectively, it will have a positive impact on profitability (ROA). Accounts receivable turnover shows the length of time it takes to convert receivables into cash (Nurafika, 2018). The effect of receivables turnover is positive, if high receivables turnover describes a company that is performing well or the company is able to maximize its ability to manage receivables, it shows that the working capital invested in receivables is low, which means the company is able to convert receivables into cash in a short time, if low receivables turnover illustrates the company has not maximized its capabilities, which means there is over investment in receivables so that it will reduce the company's profitability. A high receivables turnover indicates a good company's financial

performance. If the company's financial performance in managing receivables is good, shows that receivables can rotate faster and can be converted into cash in a short time and make a profit so that it can increase investor interest in the company. Accounts receivable turnover can provide a good indication of guarantees to investors, which means the company has the ability to manage its receivables to make a profit (Hidayat & Parlindungan, 2018). So it can be concluded that receivables turnover has a positive and significant effect on ROA.

Effect of Cash Turnover and Accounts Receivable Turnover on Return On Assets (ROA)

Return on Assets (ROA) can be influenced by several factors, namely cash turnover and receivables turnover. The higher the cash turnover, the better the financial performance of the company or the company is able to maximize its ability to manage cash so that the faster cash returns to the company (Hidayat & Parlindungan, 2018). While the higher accounts receivable turnover indicates the company is able to maximize its ability to manage receivables, it shows that the working capital invested in receivables is low, which means the company is able to convert receivables into cash in a short time, so as to increase investor interest in the company (Hidayat & Parlindungan, 2018). So it can be concluded that cash turnover and accounts receivable turnover have a positive and significant effect on ROA.

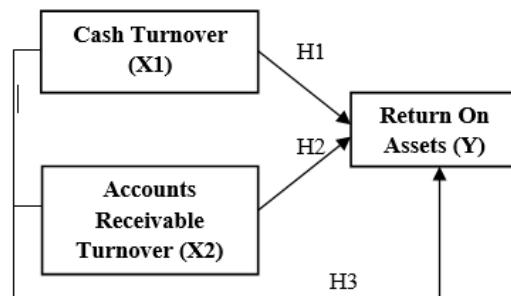


Figure 4. Framework

III. METHOD

In this study, the analytical method used is the panel data regression analysis method. Panel data (panel pooled data) is a combination of time series data and cross-section data (Widarjono, 2018). The selection of panel data is due to the fact that this study uses a time span of several years and also many companies. First, the use of time series data is intended because the study uses a span

of five years, namely from 2016 to 2020. Then, the use of cross-sections is because this study obtains data from many companies consisting of 10 manufacturing companies in the pharmaceutical industry health sector which are used as research samples. This study uses Eviews 9.0 and Microsoft Excel as data analysis tools. The sampling method uses the purposive sampling technique which is carried out by taking samples based on predetermined criteria and obtaining as many as 50 observational data.

IV. RESULT AND DISCUSSION

Best Model Selection Test

To determine the best model for panel data management, the determination of the correct model must be tested first and divided into several tests as follows:

Chow test

Table 1. Chow Test Results

Redundant Fixed Effects Tests

Equation: Untitled

Test cross-section fixed effects

Effects Test	Statistics	df	Prob.
Cross-section F	7.706511	(9.38)	0.0000
Cross-section Chi-square	51.929425	9	0.0000

Source: Eviews 9.0 (data processed, 2021)

Based on Table 1, it can be seen that the cross-section probability F of $0,0000 < 0,05$, so the correct model to be used in this study is the fixed effect model.

Hausman test

Table 2. Hausman Test Results

Correlated Random Effects - Hausman Test

Test cross-section random effects

Test Summary	Chi-Sq. Statistics	df	Chi-Sq. Prob.
Random cross-section	3.78966 8	2	0.1503

Source: Eviews 9.0 (data processed, 2021)

Based on Table 2, it can be seen that the Chi-square probability result is $0,1503 > 0,05$, so the right model to be used in this study is the random effect model.

Lagrange Multiplier (LM) Test

Table 3. LM Test Results

Lagrange Multiplier Tests for Random Effects

	Hypothesis Test			
	Cross-section	Time	Both	
Breusch-Pagan	24.27581 (0.0000)	0.183262 (0.6686)	24.45907 (0.0000)	
Honda	4.927049 (0.0000)	-0.428091 --	3.181243 (0.0007)	
King-Wu	4.927049 (0.0000)	-0.428091 --	2.376841 (0.0087)	
Standardized Honda	5.809708 (0.0000)	-0.154696 --	0.861518 (0.1945)	
Standardized King-Wu	5.809708 (0.0000)	-0.154696 --	0.089080 (0.4645)	
Gourieroux, et al.*	--	--	24.27581 (< 0.01)	

Source: Eviews 9.0 (data processed, 2021)

Based on Table 3, it can be seen that the probability value of Pagan Breusch is $0,0000 < 0,05$, so the right model to be used in this study is the random effect model.

After passing the best model selection test, the model used in this study is the Random Effect Model (REM).

Panel Data Regression Analysis

Panel data regression is a combination of time series and cross-section data, which aims to determine the effect of the independent variable on the dependent variable. The results of panel data regression analysis are as follows:

Table 4. Panel Data Regression Test Results
Random Effect Model

Dependent Variable: LOG(Y)
Method: Panel EGLS (Cross-section random effects)

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	0.962646	0.564790	1.704430	0.0949
LOG(X1)	-0.557591	0.307637	-1.8124940.0763	
LOG(X2)	1.304946	0.388239	3.361192 0.0015	

Source: Eviews 9.0 (data processed, 2021)

With panel data regression test, the equation model is obtained according to table 4 as follows:

$$ROA = 0,962646 - 0,557591 CT + 1,304946 ART + \epsilon$$

Description :

ROA = Return On Assets
(Dependent Variable)

CT = Cash Turnover

ART = Accounts Receivable Turnover

β = intercept

ϵ = Error

Based on the above equation, it can be seen that the independent variable shows a relationship with the dependent variable as follows:

If it is assumed that the value of the independent variable, namely cash turnover and receivables turnover, is constant or equal to 0, then the value of the dependent variable, namely ROA, is 0,962646.

Cash turnover has a regression coefficient value of -0,557591 which indicates that every 1-time change in the cash turnover variable will experience a decrease in ROA of 0,557591 with the assumption that the value of the other independent variables remains.

Accounts receivable turnover has a regression coefficient of 1,304946 which indicates that every 1-time change in the receivables turnover variable will experience an increase in ROA of 1,304946 assuming the value of other independent variables remains constant.

Coefficient of Determination Test (R^2)

Table 5. Coefficient of Determination Test Results (R2)

R-squared	0.248980	Mean depend- ent var	0.584683
Adjusted R- squared	0.217021	SD dependent var	1.230766
SE of regres- sion	1.089057	Sum squared resid	55.74407
		Durbin- Watson stat	1.177702
F-statistics	7.790762	Prob(F- statistic)	0.001196

Source: Eviews 9.0 (data processed, 2021)

Based on Table 5, it can be seen that the results of the R-squared value of 0,248980 indicates a positive relationship between the independent variable and the dependent variable. The results of the Adjusted R-squared value of 0,217021 or 21,70% means that the ability of the independent variable to explain the dependent variable in this study is 21,70%, then the remaining 78,30% is explained by residual variables, namely variables outside the model that do not include in the model.

Hypothesis testing

t Test

Table 6. t test results

Dependent Variable: LOG(Y)
Method: Panel EGLS (Cross-section random effects)

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	0.962646	0.564790	1.704430	0.0949
LOG (X1)	-0.557591	0.307637	-1.812494	0.0763
LOG (X2)	1.304946	0.388239	3.361192	0.0015

Source: Eviews 9.0 (data processed, 2021)

Based on Table 6 shows that the results for each t-statistic value with t table df: 0,05 (50-3) is 1,678. The following is an explanation of the results of the t-test of each independent variable on the dependent variable:

Effect of Cash Turnover on Return On Assets (ROA)

Based on Table 6, the t_{count} value of cash

turnover is $-1,812494 < t_{table}$ 1,678 with significant value $0,0763 > 0,05$ then H_0 is accepted. This means that cash turnover has no significant effect on Return on Assets (ROA). This study does not support H_1 which is "cash turnover has a positive and significant effect on Return On Assets (ROA)". The results of the study illustrate that the cash turnover of the company in achieving profit cannot explain the level of cash return to the company that will be received by investors. This can happen because pharmaceutical industry health sector companies that are able to maximize their high cash turnover rate in the same period are not followed by a fast cash return. It can be seen from the movement of the graph in 2017, cash turnover has increased by 36 times, but the rate of return of cash in achieving profit has decreased by 9,82%, plus the problems that occur are the increasing consumption of drugs is not in line with the declining sales, as in PT Kalbe Farma Tbk, which is one of the pharmaceutical industry companies, experienced a slowdown in sales growth in 2016-2017 by 4,5% from 14,7% (Kompas.com, 2018). Companies that experience high cash turnover but low cash returns illustrate that the company has not been able to maximize its capabilities resulting in a large amount of unproductive cash embedded in assets so that it will reduce the company's profitability, or it can be said that there is a negative relationship so that this causes cash turnover no significant effect on ROA.

The results of this study are in line with previous research conducted by Yuesti et al. (2019), Betariatisna (2019), and Lismana et al. (2021) found that cash turnover had no significant effect on Return On Assets (ROA).

Effect of Accounts Receivable Turnover on Return On Assets (ROA)

Based on Table 6 the value of t count accounts receivable turnover is $3,361192 > t_{table}$ 1,678 with significant value $0,0015 < 0,05$ then H_2 is accepted. This means that receivables turnover has a significant positive effect on Return on Assets (ROA). This study supports H_2 , namely "receivable turnover has a positive and significant effect on Return On Assets (ROA)". A high level of receivables turnover indicates that the company is performing well or is able to maximize receivables management so that the working capital invested in receivables is low, which means the company is able to convert receivables into cash in a short time and earn a profit.

This is in line with previous research conducted by [Hidayat & Parlindungan \(2018\)](#), [Kamila \(2019\)](#), [Moon \(2015\)](#), [Wajo \(2021\)](#), found that accounts receivable turnover is partially positive and significant effect on ROA. The higher the receivables turnover, the higher the company's ability to convert receivables into cash, and vice versa, the lower the receivables turnover, the longer the cash return rate to make a profit.

F Test

Table 7. F Test Results

R-squared	0.248980	Mean dependent var	0.584683
Adjusted R-squared	0.217021	SD dependent var	1.230766
SE of regression	1.089057	Sum squared resid	55.74407
F-statistics	7.790762	Durbin-Watson stat	1.177702
Prob(F-statistic)	0.001196		

Source: Eviews 9.0 (data processed, 2021)

Based on Table 7 the Fcount results are 7,790762, with F table obtained from df: 0,05, (3-1), (50-3) which is 3,20 which means the Fcount value is $7,79 > 3,20$ and significant value is $0,001196 < 0,05$. This shows that H3 is accepted, which means that the independent variable consisting of cash turnover and accounts receivable turnover simultaneously has a significant positive effect on Return On Assets (ROA). If cash turnover and receivables turnover are managed effectively, cash can rotate faster, working capital invested in assets and receivables is low so that they are able to make a profit. This does not rule out the company's ROA is increasing every year.

This is in line with previous research conducted by [Nurafika \(2018\)](#), [Hidayat & Parlindungan \(2018\)](#), and [Wajo \(2021\)](#), which indicates that there is a significant positive effect simultaneously or jointly between cash turnover and receivables turnover on ROA. This happens if the company can manage working capital efficiently, can rotate cash back into the company and be able to collect receivables smoothly, it can generate profits that increase profitability.

V. CONCLUSION

Based on the results of hypothesis testing conducted through panel data regression, it can be concluded that cash turnover has no significant effect on Return On Assets (ROA), Accounts re-

ceivable turnover has a significant positive effect on *Return On Assets* (ROA), Cash turnover and accounts receivable turnover simultaneously (together) have a significant effect on *Return On Assets* (ROA). Some of the limitations that underlie the results of this study so that they can be used as development material for further research, the suggestions that the author can give are: It is hoped that further researchers can add other variables such as inventory turnover or others that are included in the asset management ratio, in this study the company's profitability value is measured through *Return On Assets* (ROA), it is hoped that further researchers can measure the profitability value using *Return On Equity* (ROE). In this study, the object of research is carried out in manufacturing companies in the health sector of the pharmaceutical industry which are listed on the Indonesia Stock Exchange, and it is hoped that further researchers will be able to examine various different research objects, such as companies in the financial sector.

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