



## Relationship of Asset Structure, Capital Structure, Asset Productivity, Operating Activities and Their Impact on the Value of Manufacturing Companies Listed on the Indonesia Stock Exchange

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### **Abstract**

This study examines the relationship between asset structure, capital structure, asset productivity, and operating activities and their impact on firm value. This research was conducted because so far many studies have been conducted in a partial nature, and generally only examined the effect of capital structure on company financial performance or on firm value, the effect of financial performance on firm value. In company operations, the function of financial management, namely investment decisions, funding decisions, asset management to achieve financial management objectives cannot be separated and influences each other. The research object is a manufacturing company listed on the Indonesia Stock Exchange from 2010 to 2018. The number of samples studied was 109 companies with a total of 981 data. The research variables are asset structure (FATA), capital structure (TDR), asset productivity (FATO), operating activities (ROI), and firm value (Tobin's q). The data analysis tool is path analysis using structural equation modeling (SEM). The test results show that FATA has a positive effect on Tobin's q with TDR, FATO, and ROI as the mediating variables.

**Keywords:** *Investment Decisions; Funding; Company Performance; Firm Value*

### **Introduction**

The company's goal is to maximize net income from the price set. Maximizing profit is closely related to the optimal combination of product output and input in the form of factors related to the product creation process (Cyert & March, 1963). Three main factors that cannot be separated from successful company management, namely having quality human resources on all fronts, having broad and good relationships with organizations outside the scope of the company, and having sufficient funding sources (Brigham & Ehrhardt, 2008). A very sensitive issue in managing a company is related to the management of company finances. Funding sources can be used optimally, if well planned and implemented. Therefore, decisions in financial management are very important.

Financial management decisions are related to financial management functions, namely investment decisions, funding decisions, and dividend policies (Sartono, 2000). Martono and Harjito (2003) add asset management to financial management function. Lako (2014) adds operational decisions in the financial management function. From several opinions expressed, it can be concluded that two key functions of financial management are investment decisions and funding decisions.

Investment decisions are related to the selection of the types of assets used in the company's operations. This investment can be in the form of real asset investment or financial assets (Martono & Hardjito, 2003). Real assets are tangible physical assets such as buildings, vehicles, machinery, or goods. Investment decisions are the most important decisions of financial management decisions because they are directly related to the return on investment and the company's future cash inflows.

Funding decisions relating to the selection of sources of funds is to finance investment. Sources of company funds can be in the form of external sources of funds (debt and issuance of new shares) or internal sources of funds. The decision to choose a funding source will have an impact on the company's financial performance.

Company performance is the determination of certain measures that can measure the success of the organization or company in generating profits. Performance measurement is carried out to evaluate the effectiveness and efficiency of company management in managing investment and corporate funding sources. Measuring the company's financial performance is very beneficial for various parties, such as investors, creditors, analysts, financial consultants, governments, brokers, and management itself (Martono & Harjito, 2003). Performance reports submitted by company management are responded to by users of financial statements. The response given can be a positive response, but it can also be a negative response. A positive response can increase company value and vice versa.

Many studies conducted so far have focused on managing funding sources in relation to the company's financial performance. Various theories of capital structure are put forward, such as the tradeoff theory (Myers, 2001) which shows a positive relationship between capital structure and firm value. The free cash flow theory put forward by Jensen (1986) states that the use of debt can motivate management to work more efficiently. Harris & Raviv (1990) found a positive relationship between firm capital structure and profitability. Ross (1997) suspects that there is a positive relationship between capital structure and asset productivity. Previous studies have shown a positive relationship between capital structure and asset productivity, financial performance, and firm value. Boroujeni et al. (2013) found a positive relationship between capital structure and asset productivity. Nickell and Nicolitsas (1999) found a positive relationship between increased debt and increased productivity. Their research results are in accordance with the free cash flow theory. Chen (2002) found a positive relationship between capital structure and firm value.

Research related to capital structure and company investment in company assets, and its relation to asset productivity, and firm value is still rare. The existing research is research on the influence of capital structure on company performance. In this study, referring to several previous studies. Research by Antoniou, Guney, and Paudyal (2002) found a positive effect of asset structure on capital structure in German companies. Filbeck and Gorman (2001) examined the effect of capital structure on investment activities as measured by fixed asset turnover. In this study, investment activities are classified as asset productivity. Safieddine and Titman (1977) examined the effect of capital structure on operating activities as measured by profit margins. This study measures the effect of capital structure on operating activities as measured by the rate of return on investment. This study also developed an examination of the effect of asset structure on operating activities with capital structure and asset productivity as mediating variables and their impact on firm value.

This article is divided into five sections consisting of an introduction, theoretical study, research methods, results, and discussion, and the last section is the conclusions and recommendations as well as research limitations.

### ***Literature Review***

The company's investment decisions are reflected in the number and composition of the assets it owns. The company's investment decision is reflected in the statement of financial position (Harjito and Martono, 2013). Asset structure describes the composition of assets consisting of short-term assets (working capital) and long-term assets (non-current assets) (Harjito & Martono, 2013). Short-term assets for operational activities should use short-term sources of funds (Harjito & Martono, 2013). Long-term assets such as property, plant, and equipment, and other non-current assets (Harjito & Martono, 2013). Non-current assets should be financed with long-term sources of funds, for example, long-term debt or equity (Harjito & Martono, 2013). Management's ability to choose and make decisions on investment is very influential in operational activities. Errors in decision making have a long impact on company activities. Investments in fixed assets must be able to produce a positive net present value (Harjito & Martono, 2013). In this research, the asset structure is measured by fixed Assets to Total Assets.

### **Capital structure**

Company funding decisions are related to the choice of funding sources. Sources of company funding can be seen in the statement of financial position, the section on liabilities, and equity (Harjito & Martono, 2013). The use of debt and equity in company operations forms the company's capital structure (Harjito & Martono, 2013). According to the pecking order theory, companies that consistently earn high profits tend to use less debt. The use of debt is only to cover the lack of internal sources of funds (Ross et al, 2015). The problem of capital structure has received very broad attention. Various theories of capital structure are put forward by experts. The first theory of capital structure put forward by Modigliani and Miller (1958), is known as irrelevance theory. Modigliani and Miller assume the market is in a very efficient condition, there are no taxes, and bankruptcy costs, and the presence of asymmetric information. This opinion received broad criticism, which was later corrected by Modigliani and Miller (1963), known as the MM theory with taxes. According to Modigliani and Miller, companies should use debt, because it can save taxes. After MM, several theories about capital structure emerged.

*Tradeoff theory* Myers (2001) stated that the company will continue to use debt as long as the benefits of tax savings due to the use of debt are greater than the cost of financial distress. Financial distress can be in the form of agency costs, bankruptcy costs, and reorganization costs. namely (1) companies with higher risk tend to use less debt than companies with lower risk. (2) Companies that have tangible fixed assets with high market value such as real estate can borrow more than companies that have intangible fixed assets, for example, patents, goodwill. (3) Companies that pay taxes at a higher rate and which will continue in the future will have the opportunity to use larger debt than companies that pay taxes on lower rates. Basically, Company can determine the optimum capital structure by maximizing firm value and minimizing the weighted average cost of capital (Brigham and Gapenski, 1997). Damodaran (1997) also explains that there are two advantages related to the use of debt, namely tax savings that are obtained due to cash flow to pay loan interest, and second, the use of debt can make managers more disciplined.

Companies that consistently earn high profits tend to reduce the use of external sources of funds because their funding needs can be met with their internal sources of funds. This argument is in accordance with the explanation of the pecking order theory put forward by Donaldson (1961). Referring to Donaldson's explanation, there is no such thing as an optimum capital structure in a company. Specifically, companies have a hierarchy in the use of sources of funds, namely (1) internal sources of

funds, (2) external sources of funds consisting of debt with low-interest rates, hybrid securities, namely bonds, preferred stock, and finally common stock. Pecking order theory can explain why companies that have high levels of profit actually have low levels of debt (Cavezzali et al., 2012). In reality, there are companies that use funds for their investment needs not according to the hierarchical scenario mentioned in the pecking order theory. Companies in developing countries in funding their companies prefer to issue shares rather than debt Singh and Hamid (1992). Myers and Majluf (1984) state that assuming asymmetric information in the pecking order theory predicts that companies will follow pecking orders as an optimal funding strategy.

Free cash flow, according to Jensen (1986), is excess cash flow for funds needed to finance all projects that have a positive net present value. The free cash flow owned by the company must be distributed to shareholders because the company is unable to invest it in projects that have a positive NPV. Excess cash paid back to shareholders causes the funds that are under the manager's control to decrease and limit management's ability to grow the company. The reduced free cash flow encourages management to use a larger source of external funds (debt) to expand. Faced with these conditions, management will tend to hold the excess cash flow and try to invest it in projects that have a negative NPV. Companies with large free cash flow can maintain company growth, even though the company's growth does not increase firm value.

The role of information as a consideration in deciding an investment is an important element for investors and business people. Basically, information provides information, notes, or descriptions for both the past, present, and future conditions. The role of information is very important for the survival of a company. If the announcement issued by the company (manager) contains positive values, it is expected that the market will react when the announcement is received by the market. Market participants who receive the information submitted will study and analyze as well as interpret and analyze the information as good news or bad news. Signaling theory explains why companies have the urge to provide financial statement information to external parties. The incentive for companies to provide information is because there is information asymmetry between the company and outsiders because the company knows more about the company and its future prospects than outsiders (investors, creditors).

### **Asset productivity**

Productivity is related to the company's ability to produce the products needed to meet the needs of many people. Productivity is associated with the output produced using a number of inputs used by Heyzer and Render (2006). Productivity measures the effectiveness and efficiency of using resources such as capital, raw materials, energy, and other assets. Heyzer and Render (2006). The effectiveness of the use of company assets can be measured using the activity ratio. The activity ratio measures the company's ability to manage its assets to generate sales Martono and Harjito (2003). The high ratio indicates that the assets owned by the company have been used very effectively, resulting in high sales.

### **Operating activities**

The company's business operating activities are the responsibility of the company's management in managing investment activities and financing activities. In its operating activities, management is required to carry out policies with the aim of increasing operating profit. The operating profit obtained can be optimal if management can properly utilize and allocate existing funding sources as well as effectively and efficiently in using the assets owned. Business operation activity policies include policies in the fields of production, costs, promotion, human resources, and distribution by Harjito and Martono (2013). The effect of the policy on business operating activities is indicated by an increase in profit margin. A high-profit margin shows that the company is efficient in using its assets and sources of funds.

An increase in profit margin will increase the rate of return on investment (return on investment). Good business operation activities show good company performance Riyanto (2013).

Companies that have real fixed assets have the opportunity to obtain more loans. This is because the assets owned can be used as collateral to obtain additional debt (Brigham and Gapenski, 1999). Companies that have real assets such as land, buildings, and equipment have a wider opportunity to obtain additional debt because their real assets can be used as collateral or collateral to obtain additional debt. Thus it can be concluded that an increase in asset structure will affect an increase in the debt structure. Antoniou, Guney, and Paudyal (2002) found that companies in Germany show that fixed asset ratios have a positive effect on leverage. This explains that banking in Germany is very much based on the availability of fixed assets as collateral for obtaining loans. Bandyopadhyay and Barua (2013) show that companies with high fixed assets tend to use larger debt. Jaramillo and Schiantarelli (2002) found that 30 percent of companies in Ecuador have long-term debt secured by fixed assets that come from debt. Harc (2015) found a positive relationship between asset structure and capital structure in small and medium companies in Croatia. Harc's research results show that current assets are positively related to short-term debt, while fixed assets are positively related to long-term debt. Zare, Farzanfar, and Boroumand (2013), Khrawish, and Khraiwesh (2010) found the same thing. Based on the description above, it can be concluded that the asset structure has a positive effect on the capital structure. Therefore, the hypothesis put forward is:

H1: Asset structure has a positive effect on capital structure.

Increasing demand and open market opportunities are an opportunity for companies to expand (Sartono, 2000: 249-250). Expansion can be done by adding production facilities or by expanding the production area. Expansion takes advantage of open opportunities there are times when the company cannot be implemented properly. due to limited funding sources. The choice is to use debt to finance the expansion of production facilities. The expansion of production facilities is expected to increase sales and meet consumer demand. Thus, an increase in investment in debt-financed company assets will increase the company's productivity (Harjito and Martono, 2013).

Filbeck and Gorman (2001) report that capital structure as measured by total debt to book value of equity has a positive effect on sales to fixed assets. The same result was stated by Jaramillo and Schiantarelli (2002) who found that in Ecuador, companies that use long-term debt in their operations have a positive impact on increasing productivity. Based on the above arguments, the capital structure has a positive effect on asset productivity. Therefore, the hypothesis put forward is:

H2: Capital structure has a positive effect on asset productivity.

Increasing demand encourages companies to increase output. Limited asset capacity requires companies to increase investment. The decision to add or expand is the first function of financial management, namely investment decisions (Harjito and Martono, 2013). The decision to increase investment to meet increasing consumer demand has an impact on the company's profitability (Harjito and Martono, 2013). The increase in sales obtained due to additional investment will ultimately have an impact on the increase in company operating profits. The greater the level of sales the company succeeds in obtaining, the more operating profit the company receives (Brigham & Houston, 2006; Olatunji & Adegbite, 2014; Muritala, 2012; Mursalim et al (2015) found that asset structure has a positive effect on operating activities. In the above description, it can be concluded that the asset structure has a positive effect on operating activities. Therefore, the hypothesis proposed is:

H3: Asset structure has a positive effect on operating activities.

Investments in assets aim to increase sales and meet growing demand. The company expands and adds assets when market demand increases and there is an opportunity Damodaran (2015). Asset productivity measures how much sales the company's assets can generate. The higher the level of asset productivity, the greater the sales generated Ross et al (2015). Thus, increased investment is expected to increase asset productivity that is higher than the percentage increase in investment. Based on the description above, it can be concluded that the asset structure has a positive effect on asset productivity. Therefore, the hypothesis put forward is:

H4: Asset structure has a positive effect on asset productivity.

Business expansion requires a lot of additional funds. Limited internal sources of funds require companies to seek additional external sources of funding (debt). The use of debt as explained by the trade-off theory states that as long as the company has not reached the point of optimal capital structure, any additional debt in operations will provide tax benefits for Harjito and Martono (2013). An increase in the debt ratio in the capital structure will increase the profit earned by the company until the limit of increased profit is eroded by an increase in debt costs and agency costs Ross et al (2015). The results of studies by Boroujeni et al (2013), Chaganti and Damanpour (1997), Mursalim et al. (2015) show that capital structure has a positive effect on operating activities. Based on this description, the hypothesis is:

H5: Capital structure has a positive effect on operating activities

Asset productivity describes the effectiveness of the company in utilizing its assets to generate sales. Asset productivity illustrates the accuracy of the company in choosing the type of assets to invest. The accuracy of investment selection is manifested by the increase in sales obtained by Sartono's company (2000). Any increase in asset productivity will have an impact on the increase in operational returns by Harjito and Martono (2013). Research conducted by Warrad and Al Omari (2015), Muritala (2012) found that asset productivity as measured by asset turnover has a positive effect on operating activities as measured by return on assets. Therefore, the research hypothesis is as follows:

H6: Asset productivity has a positive effect on operating activities.

The free cash flow theory proposed by Jensen (1986) states that the use of debt by companies can force managers to work more effectively and discipline. Managers in their operations must be selective in choosing the investment assets used in operations. The accuracy of fixed asset investment is indicated by increased sales, which shows that the productivity of the company's assets is very good. Asset productivity tends to increase, it is a positive signal for investors that the company has made good use of its assets. Investors who received positive signals felt that the company had good prospects for future development. Thus the company is worthy of investment. Research by Bhullar (2017) shows that asset productivity has a positive effect on firm value in the fast-moving consumer goods sector, while Choudhury and Chowdhury (2010) who examined companies listed on the Bangladesh Exchange found asset productivity has no effect on firm value. Based on the explanation above, the hypothesis that is built is:

H7: Asset productivity has a positive effect on firm value.

Firm value is highly dependent on investor (market) expectations of company performance. The company's performance is reflected in the final results of operating activities. The final results of operating activities can be traced to the company's financial statements. If the published financial statements show a very good company's financial performance, which is marked by increasing company profits, and bright future prospects for the company, investors will respond by investing in the company's shares. Investors will react positively to the company's good performance, thus the company's value will

increase. Research by Bhullar (2017), Sudiyatno, Elen, and Andika (2012), Mursalim et al (2015) found that operating activities have a positive effect on firm value. Therefore the hypothesis that is built is:

H8: Operating activities have a positive effect on firm value.

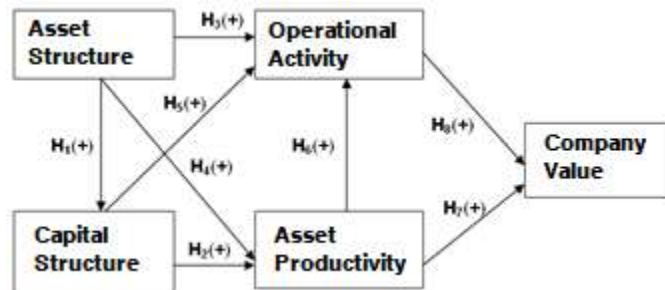


Figure 1. Research conceptual framework

**Methods**

This study uses a causal relationship approach. In this study, the authors tried to examine the relationship between asset structure, capital structure as an independent variable on asset productivity and operating activities as well as firm value as the dependent variable. This research uses quantitative research with the method of documentation, where the data used in this study can only be observed without requiring a response from other parties. This is because the data used is data that has occurred in the past and is restated in the form of financial reports.

The population of this research is all manufacturing companies listed on the Indonesia Stock Exchange as of December 31, 2018, with the criteria that companies registered before 2010 have never been delisted or relisted. With the specified criteria, the sample selected was 109 companies with the research period 2010 - 2018.

Research variables: asset structure is measured by fixed assets to total assets, capital structure is measured by total debt ratio, asset productivity is measured by fixed assets turnover, operating activities is measured by return on investment, and firm value is measured by Tobin's q.

The data analysis tool uses path analysis. Path analysis is a development technique of multiple linear regression. Path analysis can be developed with a structural equation model (SEM). The equation of the direct influence path that is built is as follows:

$$\begin{aligned}
 \text{TDR} &= \beta_1 \text{FATA} + \varepsilon_1 \dots\dots\dots(1), \\
 \text{FATO} &= \beta_2 \text{FATA} + \beta_3 \text{TDR} + \varepsilon_2 \dots\dots\dots(2). \\
 \text{ROI} &= \beta_4 \text{FATA} + \beta_5 \text{TDR} + \beta_6 \text{FATO} + \varepsilon_3 \dots\dots\dots(3). \\
 \text{Tobin's } q &= \beta_7 \text{FATO} + \beta_8 \text{ROI} + \varepsilon_4 \dots\dots\dots(4).
 \end{aligned}$$

Hypothesis assessment criteria:

- H0 is rejected if  $\beta$  standardized < 0
- Ha is accepted if  $\beta$  standardized > 0

The indirect effect and the total effect of the free variable (FATA) on firm value (Tobin's q) with TDR, FATO, and ROI as intermediate variables. For that the path to be tested is:

TDR → FATO → ROI  
 FATA → TDR → FATO  
 FATA → TDR → FATO → ROI  
 TDR → FATO → ROI → Tobin's q  
 FATO → ROI → Tobin's q  
 FATA → TDR → FATO → ROI → Tobin's q

## Results and Discussion

Table 1 presents descriptive data from the object of research, with the number of companies 109, 8 years of financial data, and the number of 981 data as follows:

**Table 1. Descriptive Statistics of Manufacturing Companies (2010 - 2018)**

Variable	N	Minimum	Maximum	Mean	Std Deviation
FATA	981	0,0008	0,9658	0,3842	0,2127
TDR	981	0,0063	3,5933	0,5755	0,5233
FATO	981	0,0036	33,3895	5,3021	20,3873
ROI	981	-0,0582	0,4134	0,0501	0,1438
Tobin's q	981	0,2331	11,0669	1,8611	2,4402

Source: Processed Data 2019

Table 1 data shows that the average value for the FATA variable, TDR is above the standard deviation value, which means that the data for both variables are evenly distributed and normally distributed. The FATO, ROI, and Tobin's q variables mean that they are below the standard deviation value, which indicates that the data for these three variables are not normally distributed. The problem of normality can be ignored because of the very large amount of data (Gujarati & Porter, 2009), (Greene, 2012).

Table 2 shows the results of testing the direct effect of the variables FATA, TDR, FATO, ROI on Tobin's q. In H1 testing, the effect of FATA on TDR results in a coefficient of -0.171 with a p-value of 0.00 <1% significance level, which means rejecting H1. H2 testing the effect of TDR on FATO resulted in a coefficient of 7.6505 with a p-value of 0.00 <1% significance level. The test results received H2. H3 testing the effect of FATA on ROI produces a coefficient of 0.0724 with a p-value of 0.00 <1% significance level. The test results received H3. Testing H4 the effect of FATA on FATO produces a coefficient of -15.0368 with a p-value of 0.00 <1% significance level, rejecting H4. Next, testing H5, the effect of TDR on ROI, produces a coefficient of -0.0714 with a p-value of 0.00 <1% significance level, rejecting H5. Testing H6 of the effect of FATO on ROI produces a coefficient of 0.0005 with a p-value of 0.031 <5% significance level, accepting H6. Next, the H7 test for the effect of FATO on Tobin's q produces a coefficient of 0.0022 with a p-value of 0.486 > a significance level of 10%, indicating that FATO has no significant effect on Tobin's q and is not in accordance with H7. Finally, testing H8 on the effect of ROI on Tobin's q results in a coefficient of 6.079 with a p-value of 0.00 <1% significance level, accepting H8.



**Table Manufacturing Company Model Structure**

Hypothesis	Lane	Standardized Coefficients	Sd. Error	Z	p-value
H1	FATA → TDR	-0,171	0,0474	-3,61	0,000***)
H2	TDR → FATO	7,6505	1,3526	5,66	0,000***)
H3	FATA → ROI	0,0724	0,0143	5,06	0,000***)
H4	FATA → FATO	-15,0368	2,0198	-7,44	0,000***)
H5	TDR → ROI	-0,0714	0,0095	-7,53	0,000***)
H6	FATO → ROI	0,0005	0,0002	2,16	0,031**)
H7	FATO → Tobin's q	0,0022	0,0031	0,70	0.486
H8	ROI → Tobin's q	6,0679	0,4563	13,30	0,000***)
R <sup>2</sup> <sub>1</sub> = 0,0131	Adj. R <sup>2</sup> <sub>1</sub> = 0,0121	R <sup>2</sup> <sub>3</sub> = 0,0911	Adj. R <sup>2</sup> <sub>3</sub> = 0,0892		
R <sup>2</sup> <sub>2</sub> = 0,0825	Adj. R <sup>2</sup> <sub>2</sub> = 0,0797	R <sup>2</sup> <sub>4</sub> = 0,1529	Adj. R <sup>2</sup> <sub>4</sub> = 0,1512		

Source: Processed Data 2019

\*) significance level 10%, \*\*)5%, \*\*\*)1%

Furthermore, table 2 data shows the Goodness of fit Model in Path analysis is carried out using the Total Determination Coefficient ( $R_m^2$ ). The results of the Goodness of fit Model are calculated by utilizing the values R<sub>21</sub>, R<sub>22</sub>, R<sub>23</sub>, and R<sub>24</sub> in table 2 through the formula:

$$\begin{aligned}
 R_m^2 &= 1 - (1 - R^2_1) (1 - R^2_2) (1 - R^2_3) (1 - R^2_4) \\
 &= 1 - (1 - 0.0131) (1 - 0.0825) (1 - 0.0911) (1 - 0.1529) \\
 &= 1 - 0.6972 \\
 &= 0.3028 \text{ or } 30.28\%
 \end{aligned}$$

The results of the calculation of the model provision of 30.28% explained that the ability of the model to explain the structural relationships of the five variables studied was 30.28%. While the remaining 69.72% is explained by the structure of other variables that are not involved in this research model.

The H1 test results disagree with Harrir & Raviv (1991) which states that debt will increase along with the increase in fixed assets, and do not support the research results of Antoniou, Guney, and Paudyal (2002), Bandyopadhyay and Barua (2013), Jaramillo and Schiantarelli (2002), Harc (2015) who found a positive relationship between asset structure and capital structure. A negative test result shows that the fixed assets owned by the manufacturing company have a high depreciation rate, and become an internal source of funds to finance investment. Thus the company reduces the use of debt. This result is in accordance with the prediction of the pecking order theory.

H2 test results support the research results of Filbeck and Gorman (2001), Jaramillo, and Schiantarelli (2002) and are in accordance with the free cash flow theory which explains that an increase in debt will encourage managers to work more effectively and efficiently. The results of the H3 test support the results of the research of Olatunji & Adegbite (2014), Muritala (2012), and Muritala et al (2015). The test results that reject H4 are contradicting the opinions expressed by Damodaran (2015) and Ross et al (2015). The increase in fixed assets, which was not followed by a significant increase in sales, is thought to be due to the downward trend in Indonesia's economic growth, which causes people's purchasing power to decline. The test results that reject H5 contradict the results of research from Boroujeni et al (2013), Chaganti and Damanpour (1997), Mursalim et al (2015) which found a positive effect of TDR on ROI. This result also contradicts the tradeoff theory put forward by Myers (2001). The

negative test results suggest that manufacturing companies listed on the Indonesia Stock Exchange have reached optimal debt so that additional debt will actually reduce operating results (reduce profits). Testing that received H6 supports the results of research by Warrad and Al Omari (2015), and Muritala (2012) which found a positive effect of FATO on ROI. The results of the H7 test resulted in a non-significant positive effect supporting the results of the research of Bullar (2017), Choudhury, and Choudhury (2010) which found a positive effect of FATO on Tobin's q. The results of this test are in accordance with the predictions of the free cash flow theory put forward by Jensen (1986). The last test that received H8 is in line with research by Bhullar (2017), Sudiyatno, Elen, and Andika (2012), Li and Shun (2017), and Mursalim et al (2015) who found ROI had a positive effect on Tobin's q. The results of this test are in accordance with the prediction of the signaling theory which states that the positive performance reported by the company in the financial statements is a positive sign or signal for investors, which is then responded positively by investors by investing in the company. This investment will trigger an increase in the price and value of the company's shares.

The next table shows the results of testing the indirect effect and total effect of the FATA variable on Tobin's q with the TDR, FATO, and ROI variables as the mediating variables.

**Table 3. Indirect effect test and the total effect of manufacturing company sectors**

Lane	Indirect effect			Total effect		
	Std. Coef.	Z	P-value	Std. Coef.	Z	P-value
<b>FATA → TDR → FATO</b>	-1,3059	-3,04	0,0020***	-16,3454	-8,02	0,0000***
<b>TDR → FATO → ROI</b>	0,0036	5,66	0,0000***	-0,6772	-7,13	0,0000***
<b>FATA→TDR→FATO→ROI</b>	0,0044	0,89	0,3720	0,0768	5,4	0,0000***
<b>TDR → FATO → ROI →Tobin's q</b>	-0,3942	-6,81	0,0000***	-0,3942	-6,81	0,0000***
<b>FATO→ROI→Tobin's q</b>	0,0029	2,16	0,0310**	0,0051	1,49	0,1370
<b>FATA→TDR→FATO→ROI →Tobin's q</b>	0,4305	4,05	0,0000***	0,4305	4,05	0,0000***

**Significance level: \*)10%, \*\*) 5%, \*\*\*) 1%**

The next test is to test the indirect effect and the total effect. Table 3 shows the first path, the effect of FATA on FATO with TDR as a mediating variable with a coefficient of -1.3059 on testing the indirect effect and -16.3454 on the total effect, the p-value of 0.002 and 0.00 <1% significance level indicates that there is an effect of FATA on FATO with TDR as the mediating variable. A negative sign on the coefficient indicates that FATA has a negative effect on FATO. Path 2 testing, the indirect effect of TDR on ROI with FATO as a mediating variable produces an indirect effect coefficient of 0.0036 with a p-value of 0.00 <1% significance level, meaning that there is a positive effect of TDR on ROI with FATO as the mediating variable, but at Total effect testing resulted in a coefficient of -0.6772 with p-value <1% significance level, which means that TDR has a negative effect on ROI with FATO as the mediating variable.

The third path test, the indirect effect of FATA on ROI with TDR and FATO as the mediating variable produces a coefficient of 0.0044 with a p-value of 0.372 > a significance level of 10%, which means that FATA has a positive and insignificant effect on ROI with TDR and FATO. The results of this test indicate that TDR and FATO are not able to mediate the relationship between FATA and ROI. In testing the total effect of the coefficient is 0.0768 with a p-value of 0.00 <1% significance level, which means that there is a positive effect of FATA on ROI with the TDR and FATO variables as mediation. The four-way test, the indirect effect, and the total effect of TDR on Tobin's q with FATO and ROI as the mediating variables resulted in a coefficient of -0.3942 with a p-value of 0.00 <1% significance level. The test results show that TDR has a negative effect on Tobin's q with FATO and ROI as the mediating variables.

Testing the fifth pathway for the indirect effect of FATO on Tobin's q with ROI as the mediating variable produces a coefficient of 0.0029 with a p-value of 0.031 <5% significance level, which means that ROI is able to mediate the positive effect of FATO on Tobin's q. In testing the total effect, it produces a coefficient of 0.0051 with a p-value of 0.137 > a significance level of 10%, which means that ROI cannot mediate the relationship between FATO and Tobin's q. The last path test of the indirect effect and total effect of FATA on Tobin's q with TDR, FATO, and ROI as the mediating variable produces a coefficient of 0.4305 with a p-value of 0.00 <1% significance level, which means that the TDR, FATO, and ROI variables are able to be a mediating variable for the positive influence of FATA on ROI.

## Conclusion

From the results of data testing, it is suspected that manufacturing companies investing in fixed assets do not have a positive impact on changes in asset productivity so that the results of activities are not optimal and even have decreased. The negative effect on asset productivity which is marked by an increase in sales that is not maximal could be due to macroeconomic conditions, where Indonesia's economic growth since 2010 has continued to decline from before, which was around 6% more, continued to decline, only 5.17% in 2018. In measuring the effect of capital structure on operating activities, the use of debt actually has a negative impact on operating activities as measured by ROI. These results indicate that the use of debt in manufacturing companies for the last nine years has exceeded the appropriate limit so that the additional debt will make the additional burden greater than the benefits obtained. From the overall test, both the direct path test and the indirect effect test show that the entire process of management decision making in financial matters, such as investment decisions, funding decisions, asset management decisions and operational decisions in manufacturing companies is implemented properly, so that one decision with other decisions affecting each other, which in turn has an impact on firm value, it is evident in the P-value of all sectors which measures the effect of asset structure on firm value with capital structure, asset productivity and operational activities of 0.

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