

## ANALYSIS OF DETERMINANT FACTORS AFFECTING INVESTMENT OPPORTUNITY SET AND AUTOMOTIVE INDUSTRY STOCK RETURN ON THE TOKYO STOCK EXCHANGE

Intan Riandani <sup>1</sup>, Herman Karamoy <sup>2</sup>, Joubert B. Maramis <sup>3</sup>

Master of Management Program, Faculty of Economics and Business  
Sam Ratulangi University, Indonesia

E-mail: <sup>1</sup> intan.riandani@gmail.com , herman.karamoy@unsrat.ac.id ,  
[joubertmaramis@unsrat.ac.id](mailto:joubertmaramis@unsrat.ac.id)

### Abstrak

This study aims to analyze the relationship between capital structure, profitability, and dividend policy on stock returns with investment opportunity set as an intervening variable in companies listed on the Tokyo Stock Exchange Transportation Equipment Sub-Sector and members of the Japan Automobile Manufacturers Association in 2015-2024. This study uses a lag time treatment on the Capital Structure, Profitability and Dividend Policy variables with the aim of finding a stronger and more significant correlation on the variables studied, the data collection technique used is the documentation technique processed using the Path Analysis method using SPSS Amos software. 26. The results of the study indicate that the influence between Capital Structure, Profitability, and Dividend Policy on Investment Opportunity Set is not significant. The influence between Capital Structure, Profitability, and Dividend Policy on Stock Returns through Investment Opportunity Set as an intervening variable is not significant. While the influence between Investment Opportunity Set on Stock Returns is significant.

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### Kata Kunci

*Capital Structure, Profitability, Dividend Policy, Investment Opportunity Set, Stock Return*

## INTRODUCTION

The financial objective of establishing a company is to obtain optimal profits, increase sales, maximize share value and increase shareholder welfare.(Wiweko et al., 2019). The purpose of investors investing their money is to gain profit (Return), and there are several factors that can affect the high or low stock returns, including the company's performance related to the company's fundamentals. According to Gaspersz in(Nurdin, 2017): "To measure a company's performance, investors usually look at financial performance reflected in various ratios". These ratios are stated in the company's financial statements, so that financial statements are an important medium in the decision-making process.(Wahyuningsih, Karamoy and Afandy, 2018).

The Japanese automotive industry is the most prominent and largest industry in the manufacturing sector today.(Rahman and Alam, 2022). The top five car companies in Japan are Toyota, Honda, Nissan, Mitsubishi, and Mazda. These companies are included in the Japan Automobile Manufacturers Association (JAMA) along with several other large companies. This association handles the manufacture and distribution of vehicle parts worldwide. The companies that are members of JAMA control a large market share in the United States, Europe, and many other developing countries.(Japan Automobile Manufacturers Association, 2024).Over the past few years, the performance of these companies has fluctuated, because in 2020 the Japanese economy declined due to the COVID-19 pandemic and the government declared a national emergency in April, which disrupted the supply chain and business including the automotive

sector. The decline in sales and production of goods also affected the performance of companies that are members of the Japan Automobile Manufacturers Association.

**Table1. Average ROA, DER, DPR values of companies affiliated with JAMA**

Year	DER	ROA	DPR	Return	Year	DER	ROA	DPR	Return
2015	135.4%	5.6%	22.5%	1.8%	2020	128.8%	2.5%	43.4%	-3.7%
2016	134.6%	6.0%	26.5%	-1.1%	2021	138.7%	0.0%	33.2%	4.1%
2017	130.4%	3.4%	23.6%	1.5%	2022	128.7%	4.0%	24.6%	-0.3%
2018	121.2%	5.5%	25.4%	1.4%	2023	128.6%	5.1%	23.3%	0.6%
2019	123.3%	4.7%	37.2%	-1.2%	2024	123.4%	4.9%	28.1%	1.7%

*Source: Processed data (2024)*

During the period 2015-2024, the DER, ROA, DPR values fluctuated, the DER value tended to fluctuate between 121% -138% with an inconsistent pattern towards the company's stock returns. The ROA value is in the range of 0.0% - 6.0%, but with an inconsistent pattern towards the return value, such as a decrease in ROA in 2021 to 0.0% but followed by the highest return value of 4.1%. While the DPR value is in the range of 23% -43% with its influence on returns varying. Previous research related to the relationship between DER, ROA, and DPR on stock returns showed inconsistent results, so in this study the Investment Opportunity Set was used as an intervening variable to clarify the influence of these variables on stock returns. Based on signaling theory, companies that have high investment opportunities (IOS) can provide signals to investors about the company's prospects, with the hope of increasing profits through the company's operational perturbations.

### Research purposes

This study aims to analyze the relationship between capital structure, profitability, and dividend policy on stock returns with investment opportunity set as an intervening variable in companies listed on the Tokyo Stock Exchange and members of the Japan Automobile Manufacturers Association.

## LITERATURE REVIEWS

### Theoretical basis

#### Signaling Theory

*Signaling theory* based on the assumption of an information gap (asymmetric information) between managers and investors. Signaling by management will influence investor decisions in the future. (Yap and Firnanti, 2019), because the headquarter company may have greater access to important information that can be useful in identifying attractive investment opportunities. (Rumokoy, Liu and Chung, 2024). Meggison (1996) in (Gumanti, 2012) explains that there are four main pillars of the signal model known in financial literature, namely (1) The signal model based on debt maturity, (2) The signal model based on corporate investment, (3) The financial structure signal model, (4) The dividend signal model.

#### Trade Off Theory

According to Jensen & Meckling, (1976); Myers (1977) in (Dang, 2010) explains that the trade-off theory states that growth opportunities and leverage have a negative relationship.

Meanwhile, according to Brigham (1999) in (Saputro and Hindasah, 2007) said that according to the trade off theory there are several things that cause companies to be unable to use high debt. One of the things to consider is that the higher the debt, the higher the possibility (probability) of bankruptcy.

### Profitability

According to Munawar (2014) in (Siregar, 2024) Profitability shows the company's ability to generate profits during a certain period. Profitability is measured by the company's ability to use its assets productively, by comparing the profits earned in a period with the amount of assets or the amount of capital of the company.

### Bird in The Hand Theory

According to Gordon and Lintner (1956) in (Tran and Nguyen, 2023) Investors prefer dividends to retained earnings because they are risk averse. Dividends are imminent (certain), while future income gains (possibly uncertain). “A bird in the hand is worth two in the bush” is the old adage, because the birds in the bush may fly away.

### Investment Opportunity Set

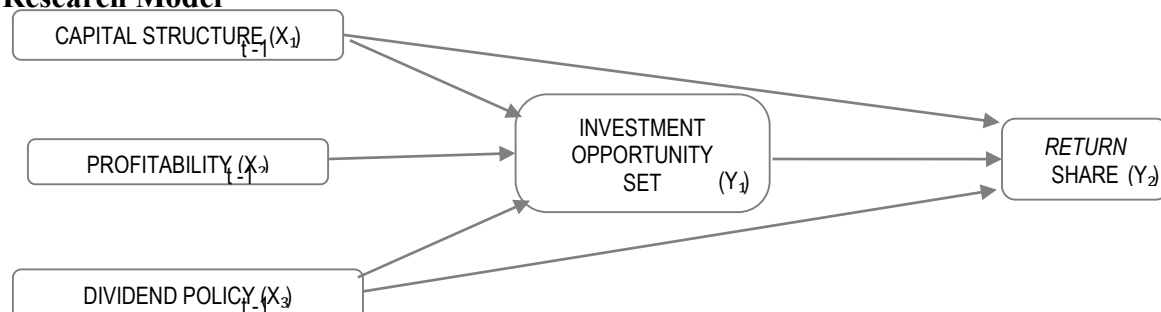
According to (Myers, 1977) Investment Opportunity Set (IOS) is an investment decision in the form of a combination of assets owned (assets in place) and future investment options with a positive Net Present Value (NPV) that will affect the company's value. According to (Gaver and Gaver, 1993) IOS is unobservable, because of the nature of IOS which is a hidden variable (*latent*) This indicates that the IOS cannot be observed, to be able to determine the size of an IOS, an IOS proxy is needed that can be linked to other variables in the company.

### Return Share

Return shares are the excess between the selling price and the buying price of shares, the higher the selling price of a share above the buying price, the higher the return value that investors will get. However, high returns will also be accompanied by high risks (Arista and Astohar, 2012).

## Research Model and Hypothesis

### Research Model



**Figure 1. Research Model**

Source: Processed data (2024)

Based on The image above, a study was conducted on the influence of the variables of Capital Structure, Profitability and Dividend Policy on Stock Returns through the Investment Opportunity

Set. So that the Investment Opportunity Set variable in this study is determined as an Intervening Variable. In this study, the researcher used a time lag on the variables of Capital Structure, Profitability and Dividend Policy with the aim of finding out whether there is a stronger and more significant correlation in the variables studied. This is done because past information can have a major impact on investor decisions in the present (Antula, Maramis and Untu, 2021). This research was conducted using the Path Analysis method to see the relationship of each variable.

### **Hypothesis**

Based on the description above, the hypothesis formulated is:

H1: It is suspected that Capital Structure does not have a significant effect on Investment Opportunity Set.

H2: It is suspected that Profitability has a significant effect on the Investment Opportunity Set.

H3: It is suspected that Dividend Policy does not have a significant effect on the Investment Opportunity Set.

H4: It is suspected that Capital Structure does not have a significant effect on Stock Returns through Investment Opportunity Set.

H5: It is suspected that Profitability has a significant effect on Stock Returns through Investment Opportunity Set.

H6: It is suspected that Dividend Policy has a significant effect on Stock Returns through Investment Opportunity Set.

H7: It is suspected that Investment Opportunity Set has a significant effect on Stock Returns

## **RESEARCH METHODS**

### **Types of research**

The type of research used is causal research with a quantitative approach, which is carried out by involving numerical data and statistical analysis to test hypotheses regarding the influence of one variable on another variable.

### **Location and Place of Research**

The location of this research is at the Tokyo Stock Exchange, with the research objects being Capital Structure, Profitability, Dividend Policy, Investment Opportunity Set, and Stock Returns in companies listed on the Transportation Equipment Sub-Sector of the Tokyo Stock Exchange during the period 2015-2024.

### **Method of collecting data**

The type of data used is secondary data, namely annual reports and stock data history, the data collection technique used is the documentation technique by collecting data taken from the official website of the Tokyo Stock Exchange and Yahoo Finance.

### **Population and Research Sample**

The population in this study were all companies listed in the Transportation Equipment Sub-Sector of the Tokyo Stock Exchange, totaling 88 companies. The sample used was determined using the purpose sampling method, with the criteria of Transportation Equipment Sub-Sector companies that are also members of the Japan Automobile Manufacturers Association. Based on



these criteria, 10 companies were obtained that could be used as research samples, namely Nissan Motor, Co., Ltd, Isuzu Motors Limited, Toyota Motor Corporation, Hino Motors, Ltd, Mitsubishi Motors Corporation, Mazda Motor Corporation, Honda Motor Co., Ltd, Suzuki Motor Corporation, Subaru Corporation, and Yamaha Motor, Co., Ltd.

### Data analysis

The data analyzed is in the form of company financial reports for the period 2015-2024, including Debt to Equity Ratio, Return on Assets, Dividend Payout Ratio, Capital Expenditure to Book Value Assets, and Stock Returns.

### Research Instruments

The research instrument used was Microsoft Office Excel 2019 and SPSS Amos.26 software was used in data processing.

## RESEARCH RESULTS AND DISCUSSION

### Research result

#### Normality Test

**Table 2. Normality Test**

Variable	min	max	skew	cr	kurtosis	cr
DER	29,800	283,700	,604	2,465	,212	,433
DPR	-6,100	181,700	3,563	14,547	21,364	43,610
ROA	-16,800	16,800	-1,871	-7,639	9,334	19,053
IOS	-13,900	14,000	-,195	-,798	,808	1,648
RETURN	-7,400	7,900	,104	,426	,710	1,450
Multivariate					37,790	22,584

*Source: AMOS Output (2024)*

Based on the data above, the results of the cr value findings are 22.584 ( $> \pm 1.96$ ) which indicates that the data is not distributed normally multivariately. Therefore, an estimation is carried out using the bootstrap method. This method is a resampling method where the original sample is treated as a population. This method is one of the methods used to overcome the presence of data that is not distributed normally multivariately. (Tampi, Mangantar and Maramis, 2022)

### Bootstrap Method Test

**Table 3. Bootstrap Method Results**

<i>Chi-square = .995, Degrees of Freedom = 1, Probability Level = .319</i>
<i>Bootstrap = ,000</i>

*Source: AMOS Output (2024)*

The findings show a chi-square value of 0.995, with a degrees of freedom value of 1 and a probability level value of 0.319 (greater than 0.05). The bootstrap value findings are 0.000, this indicates that the test results using the bootstrap method do not provide variation in the test results. The results of this bootstrap test strengthen the original test results, namely that the model does not provide significant differences in results related to observation data, so the model is still acceptable.

### Multicollinearity Test

**Table 4. Multicollinearity Test**

<i>Sample Correlation</i>	
<i>Condition Number</i>	3,188
<i>Eigenvalues</i>	1,581 1,303 ,994 ,627 ,496

*Source: AMOS Output (2024)*

The results of the condition number findings were 3.188 ( $\leq 10$ ) and the Eigen Values were 1.581 1.303 ,994 ,627 ,496 and there are no eigenvalues that approach zero. If there is a value that approaches zero, it indicates multicollinearity, so based on the data above, it shows that there is no multicollinearity problem in the research data.

### Model Feasibility Test

**Table 5. Goodness of Fit Index**

<i>Goodness of Fit Index</i>	<i>Cut off Value</i>	<i>Results</i>	<i>Information</i>
<i>Chi square</i>	Expected small	,995	Pretty good
<i>Significance Probability</i>	$\geq 0.05$	,319	Good
<i>DF</i>	$> 0$	1	Good
<i>RMSEA</i>	$\leq 0.08$	,000	Good
<i>GFI</i>	$\geq 0.90$	,996	Good
<i>AGFI</i>	$\geq 0.90$	,940	Good
<i>CMIN/DF</i>	$\leq 2.0$	,995	Good
<i>TLI</i>	$\geq 0.95$	1,001	Good
<i>CFI</i>	$\geq 0.95$	1,000	Good

*Source: SPSS AMOS.26 (Processed data)*

From the goodness of fit index data above, it can be concluded overall that this model is said to be good because it meets the specified value limits.

### Coefficient of Determinant

**Table 6. Squared Multiple Correlations**

	<i>Estimate</i>
<b>IOS</b>	,010
<b>RETURN</b>	,193

*Source: SPSS AMOS.26 (Processed data)*

The coefficient of determination ( $R^2$ ) value for the dependent variable IOS is 0.010, this illustrates that the DER, ROA, DPR variables can explain the IOS variable by 1.0% and 99.0% is explained by other variables outside this study. While the coefficient of determination ( $R^2$ ) value for the dependent variable Stock Return is 0.193, this illustrates that the DER, ROA, DPR and IOS variables can explain the Stock Return variable by 19.3% and 80.7% is explained by other variables outside this study.

### Hypothesis Testing

Based on the results of the research conducted, the following results were obtained:

Table 7. Regression Weights

Hypothesis		Track		CR	P	Results
H1	IOS	<---	DER	-,256	,798	Not Significant
H2	IOS	<---	ROA	,795	,427	Not Significant
H3	IOS	<---	DPR	-,040	,968	Not Significant
H7	RETURN	<---	IOS	4,680	***	Significant

Source: SPSS AMOS.26 (Processed data)

1. On the DER (X1) -> IOS (Y1) path the CR value is less than 1.96 ( $-0.256 < 1.96$ ) and P-Value is greater than 0.05 ( $0.798 > 0.05$ ), then the influence of DER (X1) -> IOS (Y1) is not significant. Therefore, the researcher's hypothesis stating that there is no significant influence between Capital Structure proxied by Debt to Equity Ratio on Investment opportunity set is accepted.
2. On the ROA (X2) -> IOS (Y1) path the CR value is less than 1.96 ( $0.795 < 1.96$ ) and P-Value is greater than 0.05 ( $0.427 > 0.05$ ), then the influence of ROA (X2) -> IOS (Y1) is not significant. Therefore, the researcher's hypothesis stating that there is a significant influence between Profitability which is proxied by Return on Assets on Investment opportunity set is rejected.
3. On the DPR (X3) -> IOS (Y1) path, the CR value is less than 1.96 ( $-0.040 < 1.96$ ) and P-Value is greater than 0.05 ( $0.968 > 0.05$ ), then the influence of DPR (X3) -> IOS (Y1) is not significant. Therefore, the researcher's hypothesis stating that there is no significant influence between Dividend Policy proxied by Dividend Payout Ratio on Investment opportunity set is accepted.
4. On the IOS path (Y1) -> Stock Return (Y2) the CR value is greater than 1.96 ( $4.680 > 1.96$ ) and P-Value is less than 0.05 which is symbolized by\*\*\* this means that the value *P-Value* very small below 0.05 and shows that IOA has a significant positive effect on Stock Return, then the effect of IOS (Y1) -> Stock Return (Y2) is significant. Therefore, the researcher's hypothesis stating that there is a significant effect between Investment opportunity set and Stock Return is accepted.

Based on the hypothesis test above, it can be concluded that the regression coefficients of the DER, ROA and DPR variables do not have a significant direct effect on IOS, and the IOS variable has a significant direct effect on the dependent variable (Stock Return).

### Regression Analysis Results

The data results obtained were analyzed using the regression method using the SPSS Amos.26 program to see the effect of the DER, ROA, and DPR variables on Stock Returns with IOS as an intervening variable as follows:

Table 8. Regression Weights: (Group number 1 - Default model)

			Estimate	SE	CR	P	Label
IOS	<---	ROA	,098	,124	,795	,427	par_1
IOS	<---	DPR	-,001	,021	-,040	,968	par_3
IOS	<---	DER	-,002	,009	-,256	,798	par_5
RETURN	<---	IOS	,240	,051	4,680	***	par_2
RETURN	<---	DPR	,002	,011	,175	,861	par_4
RETURN	<---	DER	-,004	,004	-,951	,342	par_6

Source: SPSS AMOS.26 (Processed data)

Based on the analysis results in the table above, a regression equation was obtained with the following model:

1. Structural equation I:

The value of  $e1 = \sqrt{1 - R^2} = \sqrt{1 - 0,010} = 0.99$ .

$$Y_1 = PY_1X_{1t-1} + PY_1X_{2t-1} + PY_1X_{3t-1} + e$$

$$IOS = (-.002) DER + (.098) ROA + (-.001) DPR + (0.99) e1$$

The R2 value of Investment Opportunity Set is 0.010. The DER coefficient value is -0.002, this value indicates a negative but insignificant relationship ( $p\text{-value} = 0.798 \geq 0.05$ ). So that an increase in DER has almost no effect on the decrease in the value of Investment Opportunity Set. The ROA coefficient value is 0.098, this value indicates a positive but insignificant relationship ( $p\text{-value} = 0.427 \geq 0.05$ ). So that an increase in the company's profitability allows it to influence the increase in the value of Investment Opportunity Set, but this has a very small impact so that the effect is not significant. The DPR coefficient value is -0.001, this value indicates a negative but insignificant relationship ( $p\text{-value} = 0.986 \geq 0.05$ ). So that an increase in DPR has almost no effect on the decrease in the value of Investment Opportunity Set.

2. Regression equation II:

The value of  $e2 = \sqrt{1 - R^2} = \sqrt{1 - 0,193} = 0.807$ .

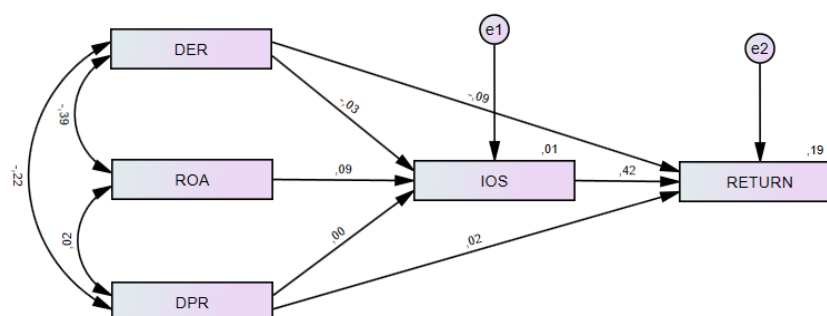
$$Y_2 = PY_2X_{1t-1} + PY_2Y_{2t-1} + PY_2X_{3t-1} + e$$

$$\text{Return} = (-0.004) + 0.240 + 0.002 + 0.807e2$$

The R2 value of Stock Return is 0.193. The DER coefficient value in its relationship to return is -0.004. This value is negative but not significant ( $p\text{-value} = 0,342 \geq 0.05$ ), so that each increase in DER is associated with a decrease in return of 0.004 assuming that other variables do not change. The IOS coefficient value is 0.240. This value indicates a positive relationship, with a p-value symbolized by\*\*\* which means that this value is very small, more than 0.01, and this value is  $\leq 0.05$  so that the influence of this variable is significant and an increase in IOS is associated with an increase in returns of 0.240, if other variables remain constant. The DPR coefficient value is 0.002 in its relationship to stock returns, this value shows a positive but insignificant relationship ( $p\text{-value} = 0,861 \geq 0.05$ ). So that the increase in DPR has an influence on the increase in stock returns by 0.002, but the influence is small and not significant.

Based on the results of the research conducted, in this model the independent variables DER, ROA, DPR, do not have a significant effect on stock returns, and only the IOS variable has a significant effect on the company's stock returns. So that companies that have a higher level of investment opportunities tend to have a higher level of stock returns.

### Path Analysis





**Figure 2. Path Analysis***Source: SPSS AMOS.26 (Processed Data)*

Based on the model above, the results of the direct and indirect influences of the relationship between variables are as follows:

**Table 9. Results of Direct and Indirect Influences**

Track			Direct Effect	Indirect Effect	Total Effect
IOS	<---	DER	-,029		-,029
IOS	<---	ROA	,087		,087
IOS	<---	DPR	-,004		-,004
RETURN	<---	DER	-,088	-,012	-,100
RETURN	<---	ROA	,000	,037	,037
RETURN	<---	DPR	,016	-,002	,014
RETURN	<---	IOS	,423		,423

*Source: SPSS AMOS.26 (Processed Data)***Direct Influence**

1. The estimate value of the influence of DER (X1) -> IOS (Y1) is negative at -0.029, meaning that when DER increases by 1 standard deviation, IOS will decrease by -0.029 or -2.9% and this influence is quite weak. This means that the higher/increasing the DER value (X1), the lower/decreasing the IOS value (Y1) will be by -0.029 or -2.9%.
2. The estimated value of the influence of ROA (X2) -> IOS (Y1) is positive at 0.087, meaning that the higher/increasing the ROA (X2) value, the higher/increasing the IOS (Y1) value will be by 0.087 or 8.7%.
3. The estimated value of the influence of DPR (X3) -> IOS (Y1) has a negative value of -0.004, meaning that the higher/increasing the value of DPR (X3), the lower/decreasing the value of IOS (Y1) will be by -0.004 or -0.4%.
4. The estimated value of the influence of IOS (Y1) -> STOCK RETURN (Y2) has a positive value of 0.423, meaning that when IOS increases by 1 standard deviation, stock returns will increase by 0.423 or 42.3%.

**Sobel Test****DER -> IOS -> RETURN****Table 10. Sobel Test Results: The Effect of DER on Returns via IOS**

Input:		Test statistic:	Std. Error:	p-value:
a	-0.002	Sobel test: -0.22197486	0.00216241	0.82433345
b	0.240	Aroian test: -0.21713712	0.00221058	0.82810149
s <sub>a</sub>	0.009	Goodman test: -0.22715108	0.00211313	0.82030627
s <sub>b</sub>	0.051	Reset all	Calculate	

*Source: Processed data (2024)*

From the data above, it can be seen that the Sobel test value is  $-0.22197486 < 1.96$  or  $p\text{-value is } 0.82433345 > 0.05$ , so it can be concluded that the influence of the Capital Structure variable proxied by DER is not significant on Stock Returns through Investment Opportunity Set. So that

the researcher's hypothesis stating the influence of Capital Structure on Stock Returns through Investment Opportunity Set is rejected.

### ROA -> IOS -> RETURN

**Table 11. Results of the Sobel Test of the Effect of ROA on Returns via IOS**

Input:		Test statistic:	Std. Error:	p-value:
a	0.098	Sobel test: 0.7794074	0.03017677	0.43573977
b	0.240	Aroian test: 0.76283643	0.0308323	0.44556095
s <sub>a</sub>	0.124	Goodman test: 0.79710743	0.02950669	0.42538864
s <sub>b</sub>	0.051	Reset all	Calculate	

Source: Processed data (2024)

From the data above, it can be seen that the Sobel test value is  $0.7794074 < 1.96$  or p-value is  $0.43573977 > 0.05$ , so it can be concluded that the influence of the Profitability variable proxied by ROA is not significant on Stock Returns through Investment Opportunity Set. So that the researcher's hypothesis stating the influence of Profitability on Stock Returns through Investment Opportunity Set is rejected.

### DPR -> IOS -> RETURN

**Figure 12. Results of the Sobel Test on the Effect of DPR on Returns via IOS**

Input:		Test statistic:	Std. Error:	p-value:
a	-0.001	Sobel test: -0.04761661	0.00504026	0.96202179
b	0.240	Aroian test: -0.04657671	0.00515279	0.96285059
s <sub>a</sub>	0.021	Goodman test: -0.04872942	0.00492516	0.96113493
s <sub>b</sub>	0.051	Reset all	Calculate	

Source: Processed data (2024)

From the data above, it can be seen that the Sobel test value is  $-0.04761661 < 1.96$  or a p-value of  $0.96202179 > 0.05$ , so it can be concluded that the influence of the Dividend Policy variable proxied by DPR is not significant on Stock Returns through the Investment Opportunity Set. So that the researcher's hypothesis stating the influence of Dividend Policy on Stock Returns through the Investment Opportunity Set is rejected. Based on the research above, it is known that the IOS variable is most influenced by the ROA variable with a positive value compared to other variables in this study, while other variables, namely DER and DPR, have a negative influence on IOS, but this influence is very small. In the relationship of influence on the Stock Return variable, there is an IOS variable that positively influences the variable the most.

## Discussion

### The Influence of Capital Structure on Investment Opportunity Set

Based on the results of the capital structure test, it is not directly significant to the Investment Opportunity Set, so that the high and low values of the Capital Structure (DER t-1) do not affect

the high and low Investment Opportunity Set (IOS t). Based on the Modigliani-Miller theory (1958) it states that in a perfect capital market, the company's capital structure is irrelevant to its investment decisions and the company's value. According to Keynes (1937) in (Rumokoy, Omura and Roca, 2023) that investment decisions are made based on expectations of future profits and levels of confidence. In Japanese automotive industry companies, investment decisions made do not depend entirely on capital structure because of other alternative sources of funding, such as collaboration with suppliers for development and investment in new technologies and government support in the form of subsidies for research and development, to tax breaks, so that the company's capital structure tends to be dynamic. This study is in line with Dian and Muhammad Safiq (2019), Andita Novianti and Nicodemus Simu (2016) who stated that capital structure has no effect on the investment opportunity set. However, it is contrary to research conducted by MK Dewi and Tri Gunarsih (2021) which states that Debt Policy proxied by the Debt to Equity Ratio has an effect on the Investment Opportunity Set.

### **The Effect of Profitability on Investment Opportunity Set**

Based on the test results, the results obtained Profitability directly does not have a significant effect on the Investment Opportunity Set. so that the high and low values of Profitability (ROA t-1) do not affect the high and low Investment Opportunity Set (IOS t). This illustrates that profit/loss cannot create or influence investment opportunities that include expansion opportunities, research and development. In the automotive industry, technological developments influence investor perceptions to consider more potential growth and future profit opportunities compared to the history of the company's profitability performance. The results of this study are in line with Andita Novianti and Nicodemus Simu (2016), Erlina Essen, (2018) who stated that profitability does not have a significant effect on the investment opportunity set. However, it is contrary to Dian and Muhammad Safiq (2019) who stated that profitability has an influence on the investment opportunity set

### **The Effect of Dividend Policy on Investment Opportunity Set**

Based on the test results, the results of the Dividend Policy (DPR t-1) directly have no significant effect on the Investment Opportunity Set (IOS t). Based on the residual dividend policy theory, dividends will be paid if there are still funds after investment needs that provide positive NPV have been met. This is based on a prospective analysis of the company's growth opportunities and future profits, allowing management to choose to invest in projects that have higher profit potential than paying dividends. Companies that implement the policy will concentrate on investment because dividend policy is a passive variable (Sianturi: 2024) and market conditions that occur so that the high and low Dividends do not affect the IOS in Japanese automotive companies. The results of this study are in line with Andita Novianti and Nicodemus Simu (2016), Reni Yendrawati, Feby Rezki Adhianza (2013) which state that the Dividend Payout Ratio has a negative effect on the investment opportunity set.

### **The Influence of Capital Structure on Stock Returns through Investment Opportunity Set**

Based on the test results, the results obtained Capital Structure does not have a significant effect on Stock Return through IOS. This is because IOS reflects future growth opportunities, while DER reflects the current capital structure, this is less relevant for investors who tend to see the company's ability to exploit investment opportunities rather than the current capital structure.

According to Modigliani and Miller (1958) stated that in perfect market conditions, the composition of the capital structure does not affect the value of the company, this shows that the company's stock return is not affected by the debt to equity ratio. Efficient capital management allows companies to optimize the funds they have without having to pay attention to the capital structure, especially if the company has adequate cash reserves. According to (Rumokoy et al., 2019) which discusses the IPO process that is related to capital structure, that companies with stronger underwriters and political connections are likely to have more flexibility in their capital structure. In the Efficient Market Hypothesis theory, security prices fully reflect available information. (Suganda, 2018). So in an efficient market, stock prices always reflect company information, including capital structure and investment opportunities, so that changes in DER and IOS do not affect stock returns. The results of this study are in line with Sri Hermuningsih, et al. (2022), AN Sinaga, et al. (2020) who stated that DER has no effect on stock returns.

### **The Effect of Profitability on Stock Returns through Investment Opportunity Set**

From the test results, the results obtained Profitability does not have a significant effect on Stock Return through Investment Opportunity Set (IOS). The high or low profits generated can be used for dividend payments or to fund potential projects in the future, but this will not affect the availability of investment opportunities themselves. IOS is a long-term concept that reflects the company's ability to generate growth in the future while profitability is usually measured in the short term. According to the Real Options Theory (Myers, 1977) that management makes investment decisions based on future option values, this shows that investment decisions are not always reflected in current profit/loss. (Myers, 1977) found that a company with higher growth opportunities will tend to have a higher level of investment regardless of the profitability of the company. Because profitability is not the main predictor that can affect stock returns, (Fama and French, 1992) The results of this study are in line with research from Desy Arista, Astohar (2012), Emillia Nurdin (2017), Mochamad Kohar Mudzakar, Intan Pramudya Wardanny, (2021), Dede Hertina and Mohd Haizam Mohd Saudib (2019) which states that Profitability as proxied by Return on Assets (ROA) does not have a significant effect on stock returns.

### **The Influence of Dividend Policy on Stock Returns through Investment Opportunity Set**

From the test results, it was obtained that Dividend Policy has no significant effect on Stock Returns through Investment Opportunity Set. According to Miller and Modigliani (1961) in the Irrelevance Dividend Theory, dividend policy has no effect on company prices or capital costs. The existence of market sentiment on economic prospects and conditions has a major impact on stock prices so that many investors focus more on the potential for increased profits from capital gains than dividends. In Tax Differential Theory, investors prefer capital gains to dividends because the capital gain tax rate is lower, the payment can be postponed, in addition, the growing company's profits will have an effect on increasing stock prices and capital gains with low tax rates are considered to be able to replace dividends with higher tax rates. In addition, if an investor dies, his heirs will not be taxed on the profits received (Sianturi, 2024). The results of this study are in line with research conducted by Sri Hermuningsih, et al. (2022) and research conducted by Annisa Sulaeman which states that Debt to Equity Ratio has no effect on stock returns.

### **The Influence of Investment Opportunity Set on Stock Returns**



Based on the test results, the Investment Opportunity Set (IOS) results directly have a significant effect on Stock Returns. The automotive industry is currently facing a massive transformation challenge that focuses on Electric Vehicles (EV) and autonomous cars. Among them, such as Toyota Motor Corporation, Nissan Motor Co., Ltd. Honda Motor Co., Ltd. have launched a new generation of electric cars that are more efficient and environmentally friendly.(Indonesia, 2024). The innovation carried out by the automotive industry illustrates that Japanese automotive industry companies allocate their funds for research and development, so that this can be a signal to investors regarding the potential for investment and company growth in the future. A high IOS value illustrates the potential for investment and efficiency of the company's capital use for company growth, so that this will create a perception of a high level of return in the future and positive performance among investors. So that the increase in the investment opportunity set (IOS) has a significant effect on Stock Returns in companies that are members of the Japan Automobile Manufacturers Association.

## CLOSING

### Conclusion

1. The influence of Capital Structure is not significant on Investment Opportunity Set
2. The effect of profitability is not significant on the Investment Opportunity Set.
3. The effect of Dividend Policy is not significant on Investment Opportunity Set,
4. *Investment Opportunity Set* cannot mediate the relationship between capital structure variables and stock returns, so that the effect of capital structure is not significant on stock returns through the Investment Opportunity Set.
5. *Investment Opportunity Set* cannot mediate the relationship between profitability variables and stock returns, so that the effect of profitability is not significant on stock returns through the Investment Opportunity Set.
6. *Investment Opportunity Set* cannot mediate the relationship between dividend policy variables and stock returns, so that the effect of dividend policy is not significant on stock returns through the Investment Opportunity Set.
7. *Investment Opportunity Set* directly has a significant effect on stock returns.

### Suggestion

1. Considering the addition of other variables that have a stronger influence on investment opportunity sets and stock returns.
2. Considering to increase the use of samples in research, so as to increase the generalizability of the results of variables that affect Investment opportunity set and stock returns in the Japanese Automotive Industry.

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