INVESTMENT OPPORTUNITY SET, TAX AVOIDANCE AND CAPITAL STRUCTURE AS A FIRM VALUE DETERMINANTS

Adhitya Putri Pratiwi*), Sri Nitta Crissiana Wirya Atmaja
Accounting Department Pamulang University
*Email: dosen02053@unpam.ac.id

ABSTRACT
The occurrence of a consistent decline in company value in the basic and chemical industry sector companies for the 2015-2019 period requires further studies on the factors that influence the decline. This study tries to examine the internal factors that are thought to affect the decline in company value in the basic and chemical industrial sectors. This study uses secondary data in the form of data obtained from the financial statements of companies in the basic and chemical industry sector with a total sample of 12 companies for 5 years and produces a total of 60 observations. The data collected was then processed using the statistical tool e-views 10 and it was found that the investment opportunity set had an effect on firm value, while tax avoidance practices and the firm's capital structure had no effect on firm value.

Keywords: Investment, Capital, Firm Value, Tax Avoidance

1. INTRODUCTION

Firm value is the most important aspect that investors will see before investing their funds in a company (Chabachib, 2019). Firm value can reflect the company's performance and can affect investors' perceptions of the company. Based on the data collected by researchers, the value of companies in the basic and chemical industrial sector companies has decreased in each period and is illustrated in the following figure:

Figure 1: Data on the Value of Companies in the Basic and Chemical Industry Sector for the 2015-2019 Period

PROCEEDING
Call for Paper – 3rd International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

The figure above shows that there is a decline in the value of the company as measured by the price book value. According to Besley and Brigham (2014), Price Book Value provides an illustration of how many times we pay a company with the company's book value. Figure 1 shows a consistent decline in the Price Book Value of companies in the Basic and Chemical Industry Sector in the last 5 years. This indicates a significant volatility in the company. For this reason, researchers feel the need to conduct research to find out what factors affect the decline in company value for 5 consecutive years by using this Price Book Value ratio. Firm value can be influenced by external and internal factors of the company, where external factors are factors that are beyond the company's control, such as exchange rates, inflation rates to government policies, while internal factors are factors that are within the company's control and these factors are often seen as factors important in assessing company performance.

Internal factors that are thought to affect firm value will be discussed in this study. The first factor is the Investment Opportunities Set, where the extent or not of the investment opportunities provided by the company in the future can increase the market value of the stock which illustrates the increasing value of the company. This is supported by research conducted by Chabacib (2020) and Siboni et al (2015) which states that companies with high growth potential will have high investment opportunities as well. The following is data on the growth of investment opportunities in basic and chemical industrial sector companies in the 2015-2019 period:
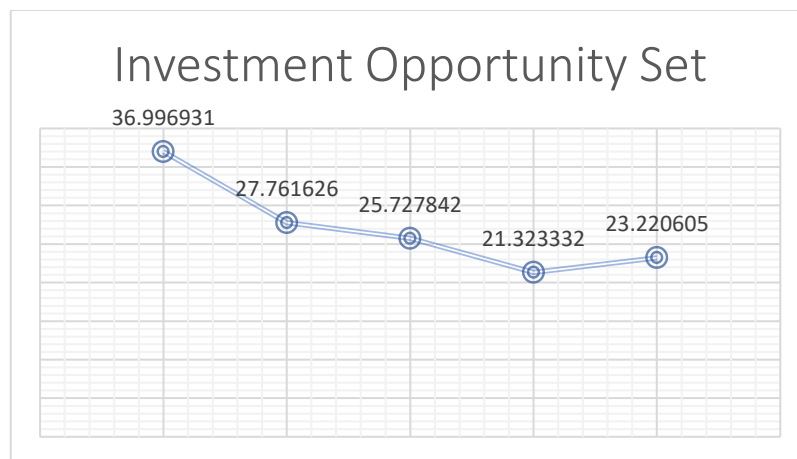

Figure 2. Investment Opportunity Set Data on Basic and Chemical Industry Sector Companies 2015-2019

The IOS value as depicted in the figure above, is calculated by a combination of various types of proxies which implies the value of assets in place, namely in the form of book values of assets and equity and the value of opportunities to grow for a company in the future. This is because the Investment Opportunity Set (IOS) or the investment opportunity set of a company affects the perspective of managers, owners, investors and creditors towards the company (Hidayah, 2015). The Figure above shows that there has been a fairly consistent decline in the IOS value for companies in the basic and chemical industry sectors. The decline can be a bad signal for investors about the limited investment opportunities in basic and chemical industrial sector companies and will affect the value of the company.

Furthermore, in the company's efforts to increase its value, it takes an ability to manage company finances. The company will make cost efficiency so that financial conditions can

PROCEEDING
Call for Paper – 3ʳᵈ International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

look good, one of which is by making tax payments efficiency. Efficiency of tax costs can be done by studying tax regulations and looking for existing loopholes so that tax costs can be minimized but do not violate tax regulations. The right cost efficiency will increase the company's profit and affect the value of the company. Based on the data obtained from the basic and chemical industrial sector companies, it is found that all companies pay taxes according to the tax rate set, where there are no companies that pay taxes below 25% so that it can be concluded that companies registered in the basic and chemical industry sector not engage in tax evasion aggressively.

If after cost efficiency is carried out but the funds owned by the company are not sufficient to fund investment, then another alternative is the use of debt (Irwandi, 2019). A capital structure that is sourced more from debt will result in an increase in interest costs, thus affecting operating profit and impacting the value of the company. The value of a company will increase along with the increase in its capital structure. This is because when the market is in a perfect market and taxes, in general the interest paid on the use of debt can be used to reduce taxable income. In other words, if there are two companies that earn the same operating profit but one company uses debt and pays interest, while the other company does not, then the company that pays interest will pay less income tax, because saving on paying taxes is a benefit for the owner. company, then the value of companies that use debt will be greater than the value of companies that do not use debt.

Thus, the author assumes that the three internal variables can affect firm value. By using the actual value of the company's financial statements, it is hoped that the relationship between the three independent variables can be clearly described.

2. LITERATURE REVIEW

Signaling Theory

Brigham and Houston (2011) state that signal theory is an action taken by the company to provide instructions for investors about how management views the company's prospects in the future. The value of the company as measured by the high and low stock prices is expected to provide a "clue" or signal for investors in making investment decisions

Trade off Theory

Trade off theory discusses the relationship between capital structure and firm value. The essence of the tradeoff theory in the capital structure is to balance the benefits and sacrifices arising from the use of debt. As long as the benefits are greater than the sacrifices made, additional debt is still allowed. Meanwhile, if the sacrifice due to the use of debt is greater than the additional debt is not allowed. Based on this theory, companies try to maintain a targeted capital structure with the aim of maximizing market value (Umdiana, 2020).

Definition and Measurement of Company Value

Firm value is an investor's perception of the manager's level of success in managing company resources entrusted to him and is often associated with stock prices (Silvia, 2019). The value of the company in this study was measured using Price Book Value (PBV), namely by comparing the stock market price with the book value of the stock. PBV is used to measure company value because book value is a stable and simple measure and can be compared with market prices, besides that PBV can also directly indicate the market price of a company's stock is expensive or vice versa.

PROCEEDING
Call for Paper – 3ʳᵈ International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

Definition and Measurement of Investment Opportunity Set (IOS)

The term Investment Opportunity Set was first introduced by Myers (1997), where according to him the Investment Opportunity Set is an indicator of investment decisions in the form of a combination of available assets and investment choices in the future. The Investment Opportunity Set is measured using the Market Value to Book Value of Asset Ratio (MBVA) with the following formula (Siboni, 2015):

$$MBVA = \frac{\text{Total Aset} - \text{Ekuitas} + (\text{Jumlah Saham Beredar x Closing Price})}{\text{Total Aset}}$$

Definition and Measurement of Tax Avoidance

According to Jasmine (2017), tax avoidance is a legal reduction effort that is carried out by optimally utilizing the provisions in the field of taxation, such as exceptions and deductions that are allowed as well as taking advantage of things that have not been regulated and the weaknesses that exist in tax avoidance. tax regulations. Tax Avoidance in this study is measured by comparing net income with profit before taxes, to determine the amount of tax paid by the company.

Definition and Measurement of Capital Structure

Sudiani (2018) states that the company's capital structure is permanent financing consisting of long-term debt, shares and capital. The long-term goal of the company is to maximize the value of the company by minimizing the cost of capital. The capital structure in this study is measured by comparing all debt with all equity or commonly known as the debt to equity ratio (Kasmir, 2014).

3. DATA AND RESEARCH TECHNIQUE ANALISYS

This study uses secondary data in the form of financial statements of companies in the basic and chemical industry sectors for the 2015-2019 period. The population of the data in this study amounted to 77 companies in the basic and chemical industry sector, then the researchers set the criteria in selecting the sample so that the sample used could describe all the variables used so that the total sample size was 12 companies with a 5 year research period and a total of 60 observations. The collected data is then processed using the statistical tool e-views 10 to test the panel data regression analysis by performing the stages starting from the model selection test, classical assumption test and hypothesis testing to determine the relationship between variables.

4. RESULT AND DISCUSSION

The results of the data test and analysis of this research will be described in outline as follows:

Panel Data Regression Model Testing

Chow test

PROCEEDING
Call for Paper – 3ʳᵈ International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

The Chow test which produces a probability value of F stat is smaller than the significance level (0.05) resulting in the decision that the Fixed Effect Model (FEM) method is better used in testing panel data than the Common Effect Model (CEM). The selection of the panel data method for all sample data using the Chow test is as follows:

Table 1: Chow Test Results

Redundant Fixed Effects Tests Equation: Untitled Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	9.235685	(11,45)	0.0000
Cross-section Chi-square	70.859663	11	0.0000

Based on table 1, the results show that the probability value of F is 0.0000 < 0.05, so the test is carried out using the Fixed Effect Model (FEM).

Hausman test

The Hausman test is carried out to select the model to be used in panel data regression analysis whether it is more suitable to use a fixed effect or random effect model. The selection of the panel data method for all sample data using the Hausman test is as follows:

Table 2: Hausman test results

Correlated Random Effects - Hausman Test Equation: Untitled Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.867925	3	0.4124

Hausman test results in the table above shows the probability value of the cross section is 0.4124 > 0.05. This means that at a significance level of 5%, it is more effective to use the Random Effect Model approach than the Fixed Effect Model. The Chow test and Hausman test showed different results, so the test was continued with the Langrange Multiplier Test to determine the selected model.

Langrange Multiplier Test

The next test is the Langrange Multiplier (LM) test to find out the best model between the Common Effect Model or the Random Effect Model. The basis for decision making on the LM test is if the probability value of Cross-section F is below 0.05, resulting in a decision that the appropriate method used to test this research is the Random Effect Model method

PROCEEDING
Call for Paper – 3rd International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

rather than the Common Effect Model. The following is the result of selecting the method using the Langrange Multiplier Test:

Table 3: Langrange Multiplier Test Results

Lagrange multiplier (LM) test for panel data Date: 02/20/22 Time: 18:02 Sample: 2015 2019 Total panel observations: 60 Probability in ()			
Null (no rand. effect) Alternative	Cross-section One-sided	Period One-sided	Both
Breusch-Pagan	41.45278 (0.0000)	0.042261 (0.8371)	41.49504 (0.0000)

Table 3 above shows the probability F value of 0.0000 (<0.05), then the selected model is the Random Effect Model.

Classic assumption test
Normality test

Normality test shows whether the research data is normally distributed or not. The normality test is carried out by looking at the Jarque-Bera Probability Value, if the value shows a number above the predetermined significance value or 0.05 then the data is normally distributed. The following are the results of the normality test:

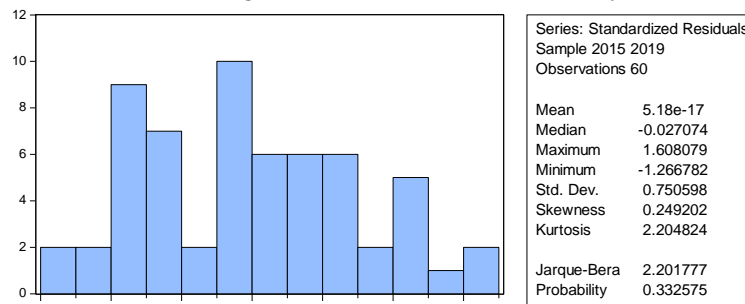|	
Series: Standardized Residuals	
Sample 2015 2019	
Observations 60	
Mean	5.18e-17
Median	-0.027074
Maximum	1.608079
Minimum	-1.266782
Std. Dev.	0.750598
Skewness	0.249202
Kurtosis	2.204824
Jarque-Bera	2.201777
Probability	0.332575

Figure 3: Normality Test Results

Based on the table above, the probability value of Jarque-Bera is 0.332575 (> 0.05), so it is stated that the data is normally distributed.

Multicollinearity Test

Multicollinearity test is used to find out "whether there is a correlation between independent variables or independent variables in the research regression model" (Ghozali, 2018). To determine the presence or absence of multicollinearity in the model, it is seen from the value of the Variance Inflation Factor (VIF). The cut off value used is the Centered VIF value above the number 10. Here are the results of the Multicollinearity test:

PROCEEDING
Call for Paper – 3ʳᵈ International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

Table 4: Multicollinearity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
Variance Inflation Factors Date: 02/20/22 Time: 18:27 Sample: 1 60 Included observations: 60			
C	0.207718	5.448833	NA
X1_IOS	9.02E-07	1.223007	1.114675
X2_TRR	0.065421	2.089962	1.003006
X3_CS	0.185283	3.833243	1.115075

The multicollinearity test shown in the table above has a Centered VIF value on the independent variable or independent variable showing the values 1.114675, 1.003006 and 1.115075 or less than 10, so it can be stated that there is no multicollinearity problem.

Heteroscedasticity Test

Heteroscedasticity test is used to find out "whether in a regression model there is an inequality of variance from the residuals in one observation to another" (Ghozali, 2018). To determine the presence or absence of symptoms of heteroscedasticity, which refers to the value of Prob. Chi-square Obs-R-Squared on the Glejser Test. If the Chi-Square Probability value in Obs*R-Squared shows a value above 0.05, then it is safe from heteroscedasticity symptoms. Following are the results of the heteroscedasticity test:

Table 5: Heteroscedasticity Test Results

Heteroskedasticity Test: Glejser			
F-statistic	1.900847	Prob. F(3,56)	0.1399
Obs*R-squared	5.545192	Prob. Chi-Square(3)	0.1360
Scaled explained SS	5.740873	Prob. Chi-Square(3)	0.1249

Table 5 shows the value of Prob. Chi-square on Obs-R-Squared is 0.1360 or above 0.05, so there is no heteroscedasticity problem in the model.

Hypothesis Test

Hypothesis testing is used to detect the correlation of several variables in this study. Hypothesis testing was carried out by performing the R-Squared test, Model Feasibility Test (F test) and Partial Interaction Test (t test). The following are the results of hypothesis testing using the Random Effect Model (REM):

PROCEEDING
Call for Paper – 3rd International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

Table 6: Hypothesis Test Results

Dependent Variable: Y_PBV				
Method: Panel EGLS (Cross-section random effects)				
Date: 02/20/22 Time: 18:25				
Sample: 2015 2019				
Periods included: 5				
Cross-sections included: 12				
Total panel (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
X1_IOS	0.011254	0.002688	4.186509	0.0001
X2_TRR	0.006667	0.022351	0.298282	0.7669
X3_CS	-0.447230	0.297871	-1.501422	0.1402
C	1.281278	0.259714	4.933421	0.0000
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.701184	Mean dependent var		1.713483
Adjusted R-squared	0.608219	S.D. dependent var		1.493406
S.E. of regression	0.934759	Akaike info criterion		2.915261
Sum squared resid	39.31982	Schwarz criterion		3.438847
Log likelihood	-72.45783	Hannan-Quinn criter.		3.120064
F-statistic	7.542456	Durbin-Watson stat		1.436011
Prob(F-statistic)	0.000000			

Coefficient of Determination (R2)

The coefficient of determination shows how much variation there is between the dependent variables used on the independent variables. The value of R-Squared or Adjusted R-Square is used to measure the coefficient of determination. This depends on the amount of use of the dependent variable, where the R-Square is used when the study only uses 1 independent variable, while the Adjusted R-Square is used if the study has more than one dependent variable. Table 6 shows the Adjusted R-Square value of 0.608219 or 60.82%. This means that the Investment Opportunity Set, Tax Avoidance and Capital Structure have a proportion of influence on firm value of 60.82%, while the remaining 39.18% is influenced by other variables that are not in the regression model. Other variables that are thought to affect firm value are external factors that were not examined in this study, such as the inflation rate to government policies.

Model Feasibility Test (F Test)

The initial stage is carried out to identify the model which is estimated to be feasible or not, then the model feasibility test (F test) is used. If the F-statistic value is below the set error rate of 0.05 then the regression model is declared eligible to be tested, if the F-statistic value is above 0.05 then the regression model is not feasible to be tested. Table 6 above shows that the Prob value (F-statistic) is 0.000000 or below 0.05 so that the estimated regression model is feasible.

PROCEEDING
Call for Paper – 3ʳᵈ International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

Partial Test (t Test)

To find out whether the variable is able to explain the behavior of the dependent variable on the independent variable, the t-test is carried out. If the probability t value shows a number below 0.05 then the dependent variable affects the independent variable, and vice versa. Table 6 shows that the probability value of the Investment Opportunity Set (X1) variable is 0.0001 (<0.05), so it can be concluded that the Investment Opportunity Set partially affects the firm value. The probability value of Tax Avoidance (X2) shows a value of 0.7669 (> 0.05), so it is concluded that Tax Avoidance partially has no effect on firm value, while the Capital Structure variable (X3) shows a probability value of 0.1402 (> 0.05) so that capital structure has no effect on The value of the company.

Discussion of Research Results

The Effect of Investment Opportunity Set on Firm Value

Partial test results show that investment opportunities have an effect on firm value. This influence shows that if the level of investment in a company shows a high value, it will increase investor confidence in the company. This is supported by Signal Theory which states that investment growth can provide a good signal for investors in making investment decisions. In investing, investors need an opportunity provided by the company and the wide investment opportunities will affect the views of managers, owners, investors and creditors about the value of the company. This is in line with the data obtained in the study, which shows that there has been a consistent decline in the value of the investment opportunity set followed by a decrease in firm value in the basic and chemical industrial sector companies. The results of this study support research conducted by Sudiani (2018) and Chabacib (2020) which state that the set of investment opportunities has an effect on firm value.

Effect of Tax Avoidance on Company Value

The results of the partial test show that tax avoidance has no effect on firm value. Tarihoran (2016) states that investors tend not to see how much tax the company pays so they do not consider tax avoidance by the company. Profit is considered a good signal that is most often seen by investors, where investors expect companies that have profits that tend to increase and are stable. Another thing that causes tax avoidance to have no effect on firm value is that the practice of tax avoidance by the company is not clearly visible in the financial statements, so investors prefer to consider other information that affects their investment decisions. Based on the data obtained by researchers in the basic and chemical industrial sector companies, it was found that none of the companies practiced tax avoidance as indicated by the value of tax payments above 25% which is the tax rate determined by tax laws and regulations. The results of this study are in line with research conducted by

PROCEEDING
Call for Paper – 3ʳᵈ International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

Wardani and Juliani (2018) and Tarihoran (2016) which state that tax avoidance has no effect on firm value.

Effect of Capital Structure on Firm Value

The results of the partial test show that the capital structure has no effect on firm value. The use of debt in the capital structure is not the only factor that influences investors in making investment decisions. Investors are more focused on the profits of the company and how the company manages its capital compared to where the capital comes from. This is contrary to what is conveyed by the trade off theory, which states that debt is able to maximize the value of the company only at a certain point and when the use of debt passes that point, the use of debt can reduce the value of the company. The results of this study support the research conducted by Sudiani (2018) where the results of his research show that capital structure has no effect on firm value.

CONCLUSION
This study identifies the relationship between Investment Opportunity Set, Tax Avoidance and Capital Structure on Firm Value in energy and mining sector companies listed on the Indonesia Stock Exchange for the 2015-2019 period. The results showed that the Investment Opportunity Set had an effect on firm value, while tax avoidance and capital structure had no effect on firm value.

REFERENCES
Besley, S., & Brigham, E. F (2014), *Principles of finance*, Cengage Learning.

Brigham, Eugene F. dan Joel F. Houston. (2011), *Dasar-dasar Manajemen Keuangan*. Edisi 11, Jakarta: Salemba Empat.

Chabachib, M., Hersugondo, H., Septiviardi, D., & Pamungkas, I. D. (2020), The Effect of Investment Opportunity Set and Company Growth on Firm Value: Capital Structure as an Intervening Variable, *International Journal of Innovation, Creativity and Change*, *12*(11), 139-156.

Ghozali, I. (2018), *Aplikasi Analisis Multivariate dengan Program IBM SPSS 25*, Universitas Diponegoro.

Hidayah, N. (2015), Pengaruh investment opportunity set (IOS) dan kepemilikan manajerial terhadap nilai perusahaan pada perusahaan property dan real estat di bursa efek indonesia, *Jurnal Akuntansi*, *19*(3), 420-432.

Irwandi, M. R., & Rahayu, S. (2019), Pengaruh Inflasi, Likuiditas, Dan Leverage Terhadap Financial Distress, *eProceedings of Management*, *6*(3).

Jasmine, U., Zirman, Z., & Paulus, S. (2017), *Pengaruh Leverage, Kepelimikan Institusonal, Ukuran Perusahaan, dan Profitabilitas terhadap Penghindaran Pajak (Studi pada Perusahaan Manufaktur yang Terdaftar di BEI Tahun 2012-2014)* (Doctoral dissertation, Riau University).

Kasmir. (2014). Pengantar Manajemen Keuangan. Jakarta: Prenada Media.

Siboni, Z. M, & Pourali, M. R. (2015), The Relationship between Investment Opportunity, Dividend Policy and Firm Value in Companies Listed in TSE: Evidence from IRAN, *European Online Journal of Natural and Social Sciences: Proceedings*, *4*(1 (s)), pp-263.

PROCEEDING
Call for Paper – 3rd International Seminar on Accounting Society
"The Review and Outlook of The Economy after Covid 19 Pandemic"

Myers, M. D., & Young, L. W. (1997), Hidden agendas, power and managerial assumptions in information systems development: an ethnographic study. *Information Technology & People*.

Silvia, D., & Salma, N. (2019), Pengaruh Rasio Profitabilitas Dan Rasio Solvabilitas Terhadap Harga Saham Pada Perusahaan Rokok Yang Terdaftar Di BEI, In *Prosiding Seminar Nasional Darmajaya* (Vol. 1, pp. 1-9).

Sudiani, N. K. A., & Wiksuana, I. G. (2018), Capital structure, investment opportunity set, dividend policy and profitability as a firm value determinants. *Russian Journal of Agricultural and Socio-Economic Sciences*, *81*(9).

Tarihoran, A. (2017), Pengaruh penghindaran pajak dan leverage terhadap nilai perusahaan dengan transparansi perusahaan sebagai variabel moderasi. *Jurnal Wira Ekonomi Mikroskil: JWEM*, *6*(2), 149-164.

Umdiana, N., & Nurjanah, C. (2020), Analisis Jalur Struktur Modal Dan Nilai Perusahaan Dengan Metode Trade Off Theory. *Jurnal Riset Akuntansi Terpadu*, *13*(1), 132-144.

Wardani, D. K., & Juliani, J. (2018), Pengaruh Tax Avoidance Terhadap Nilai Perusahaan Dengan Corporate Governance Sebagai Variabel Pemoderasi. *Nominal: Barometer Riset Akuntansi dan Manajemen*, *7*(2), 47-61.