Analysis of Tax Aggressiveness in Mining Companies: Study of Indonesia

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The purpose of this study was to determine: (1) Liquidity, Profitability, and Tax Aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021; (2) The Effect of Liquidity on Tax Aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021; (3) The Effect of Profitability on Tax Aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021. The population used is Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021. The sample obtained through purposive sampling technique was 13 companies with the total data obtained as much as 78 data. This type of research includes quantitative research with survey methods. The data analysis technique used in this research is panel data regression analysis using the Eviews 10 application program. The results of this study state that: (1) Liquidity and Profitability in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021 tend to increase, while the CETR value tends to decrease, which means that the level of Tax Aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021 is high; (2) Liquidity has a positive and significant effect on Tax Aggressiveness in Mining Companies Listed on the Indonesia Stock Exchange for the period 2016-2021; (3) Profitability has a positive and significant effect on Tax Aggressiveness in Mining Companies Listed on the Indonesia Stock Exchange for the period 2016-2021.

Keywords: Liquidity; Profitability; Tax Aggressiveness

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INTRODUCTION

The main component to carry out the wheels of government in order to realize national development is the existence of a source of income. A country's revenue comes from various sectors, one of which is the tax sector. According to Article 1 Paragraph 1 of the Law of the Republic of Indonesia Number 16 of 2009 concerning General Provisions and Procedures for Taxation, it is explained that taxes are mandatory contributions to the state owed by individuals or entities that are compelling based on the law without getting direct rewards and are used for state purposes for the greatest prosperity of the people.

As one of the largest sources of state revenue, taxes can be used to finance government activities and community activities. One of the taxpayers who are expected to contribute a large amount of tax is corporate taxpayers consisting of small and large companies. However, in its implementation, tax collection does not always get a positive response from taxpayers. This has become a dilemma in the practice of taxation in a country because tax is a crucial thing both in terms of implementation, collection, and legislation. For the government, taxes are a source of state revenue that must be obtained as much as possible, while for companies taxes are considered a burden that will reduce net income so that the company will try to pay the lowest possible tax payable (Yuliana and Wahyudi, 2018).

Since 1984 Indonesia has entered a new era in the tax collection system, where the tax collection system has changed from an official assessment system to a self-assessment system. With this new tax collection system, taxpayers have the right and obligation to calculate, pay, and report their own tax obligations. From the government's point of view, if the tax paid by the taxpayer is less than it should be, the state revenue from the tax sector will decrease. On the other hand, from the entrepreneur's side, if the tax paid is greater than it should be, it will harm the company. Therefore, the company will try to minimize the tax burden within the limits that do not violate the rules so as not to suffer losses. The company's efforts to minimize the tax burden are called tax aggressiveness (Pohan, 2013: 3).

According to Frank et al. (2009) explains that tax aggressiveness is a management action that aims to reduce taxable income through tax planning, both legal and illegal. Legal tax planning is called tax avoidance. Tax avoidance is an act of tax avoidance or savings that is against the law such as deliberately not reporting completely and correctly the tax object or doing other actions that violate the law (Pohan, 2013: 14).

Harari et al., (2013) define tax aggressiveness as the main objective of tax planning activities to significantly reduce the tax burden paid. From the explanation above, it can be concluded that tax aggressiveness is a tax planning action taken by taxpayers with the aim of reducing the tax burden which can be done legally (tax avoidance) or illegally (tax evasion) and ends with aggressive tax reporting.

The mining sector is one of the most highlighted sectors regarding its contribution to taxation in a country. As explained by Suwiknyo (2021) quoted in pwc.com online news, it is stated that according to PricewaterhouseCoopers (PwC) Indonesia, in 2020 there were 70% of 40 mining companies that had not used tax transparency reports. This tax transparency reporting provides an opportunity for mining companies to highlight their financial contributions to society. Tax transparency is the key to minimizing tax aggressiveness. This condition proves that most mining companies have not complied with the tax regulations set by the government.

The phenomenon of tax evasion has also been carried out by PT Adaro Energy Tbk, which is engaged in the mining sector. Based on a report issued by Global Witness on Thursday, July 4, 2019 entitled Indonesia's shifting coal money 3: Taxing times for Adaro, it states that PT Adaro Energy Tbk has moved large amounts of its profits to a network of overseas companies to help avoid taxes that should be paid in Indonesia. The network of companies in question is located in Mauritius and Singapore. Adaro's Singapore subsidiary Coaltrade Service International buys coal from another Adaro subsidiary in Indonesia at a low price, then sells the coal to a third party at an inflated price. This structure is common, but it appears to be used to shift profits from a high-tax country like Indonesia to a low-tax country like Singapore. The Indonesian tax office claimed that Adaro had carried out a transfer pricing scheme for this action and asked Adaro to pay additional taxes in Indonesia on the profits earned. As a result of this action, Adaro paid additional tax of USD 33.2 million in 2008.

Based on its financial statements, Coaltrade's profits are taxed in Singapore at 10.7%. This is significantly lower than the average rate of tax paid by Adaro on its profits in Indonesia of 50.8%. More than 70% of the coal sold by Coaltrade between 2009-2017
came from Adaro’s Indonesian subsidiaries. As a result of these actions, Indonesia lost USD $125 million between 2009-2017.

Taxes are current liabilities that must be paid off immediately by the company. Hery (2015: 149) explains that the company’s ability to meet current obligations can be known through the company’s liquidity level. In other words, this liquidity ratio is used to measure how far the company’s ability to meet obligations that will be due soon. If the company is able to fulfill its short-term obligations at maturity, the company is said to be liquid. Vice versa, if the company does not have the ability to fulfill its short-term obligations at maturity, the company is said to be illiquid.

A low liquidity ratio means that the company has difficulty in meeting short-term obligations, one of which is tax debt. However, according to Permatasari et al. (2022) companies with low liquidity do not need to take tax aggressiveness actions because their tax liabilities are also low, while companies that have a high level of liquidity describe the company as being in a healthy financial condition with large tax liabilities so that they have a higher potential to take tax aggressiveness actions.

When the company’s liquidity level is high, it can be ascertained that the company’s cash flow is running well. With good cash flow, it is expected to be able to create high profits for the company, so the company will take tax aggressiveness as an effort to reduce the company’s tax burden (Yuliana and Wahyudi, 2018). In this condition, companies tend to allocate current period profits to the next period to avoid high tax burdens (Allo et al., 2021).

As for other reasons, according to Awaliyah et al. (2021) which states that companies with high liquidity levels tend to reduce their income by increasing the amount of debt, so that companies will use part of their income to pay interest. In this condition the company will use its short-term debt to reduce the tax burden that must be paid. So it can be concluded that the higher the liquidity of the company, the higher the tax aggressiveness.

Based on the explanation above, it can be seen that liquidity has a positive effect on tax aggressiveness. This opinion is in line with research conducted by Awaliyah et al., (2021), Allo et al., (2021), and Permatasari et al., (2022) which state that liquidity has a positive effect on tax aggressiveness. In contrast to the results of research conducted by Herlinda and Rahmawati (2021) which state that liquidity has a negative effect on tax aggressiveness, as well as the results of research by Matanari, D. A (2022) which state that liquidity has an effect on tax aggressiveness.

Tax is a burden that will be imposed on the profit earned by the company during a certain period. The company’s ability to generate profits can be known through the company’s profitability level (Hery, 2015: 192). A company with a high level of profitability indicates that the company is able to earn profits through all the resources it has. The greater the profit earned by the company, the greater the tax that must be deposited. In this condition, taxes will reduce the net profit earned by the company, so the company seeks to minimize taxes payable through tax aggressiveness (Pohan, 2013: 3). Companies with low profitability levels are expected not to take tax aggressiveness actions because the tax burden that must be deposited is also low. So it can be concluded that the higher the level of company profitability, the higher the tax aggressiveness.

Based on the explanation above, it can be seen that profitability has a positive effect on tax aggressiveness. This opinion is in line with the results of research conducted by Purba and Kuncahyo (2020), Herlinda and Rahmawati (2021), and Krisjayanti et al., (2022) which state that profitability has a positive effect on tax aggressiveness. In contrast to the results of research conducted by Dinar et al., (2020) which states that profitability has a negative effect on tax aggressiveness, as well as the results of research by Yuliana and Wahyudi (2018) which state that profitability has no effect on tax aggressiveness.

Based on the phenomenon and the inconsistency of previous research results, this research was conducted. Based on the explanation of the background, the following problem formulations are obtained: (1) What is the level of liquidity, profitability, and tax aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021?, (2) How does liquidity affect tax aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021?, (3) How does profitability affect tax aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021? Based on the formulation of the problem, the objectives of this study are: (1) To determine the level of liquidity, profitability, and tax aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021, (2) To determine the effect of liquidity on tax aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021, (3) To determine the effect of profitability on tax aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021.
Companies listed on the Indonesia Stock Exchange for the period 2016-2021.

LITERATUR REVIEW

Liquidity

Liquidity is defined as having adequate sources of funds to meet the needs and obligations that will come due. As explained by Hery (2015: 149) which states that the company's ability to meet short-term obligations can be known through the company's liquidity level. Sudana (2015: 24) also said that the liquidity of a company is seen from its ability to meet short-term obligations. Short-term obligations are obligations or debts that must be repaid within one year.

Profitability

Profitability is defined as the company's ability to generate profits during a certain period (Hery, 2015: 192). Sudana (2015: 25) also states that a company with a high level of profitability indicates that the company is able to generate profits using the sources owned by the company, such as assets, capital, or company sales.

Tax Aggressiveness

According to Frank et al. (2009) explains that tax aggressiveness is a tax planning action that aims to reduce taxable income which is carried out legally (tax avoidance) or illegally (tax evasion). Meanwhile, Harari et al. (2013) define tax aggressiveness as the main objective to avoid paying taxes or to significantly lower the tax burden paid.

PREVIOUS STUDIES

Allo et al., (2021) conducted research which stated that the liquidity variable has a positive and significant effect on tax aggressiveness, while the results of Herlinda and Rahmawati's research (2021) stated that liquidity has a negative effect on tax aggressiveness, and the results of Matanari's research (2022) shows that variable liquidity has no effect on tax aggressiveness.

Purba and Kuncahyo (2020) conducted research showing that the profitability variable has a positive and significant effect on tax aggressiveness, while Dinar et al.'s research (2020) states that profitability has a negative effect on tax aggressiveness, and Yuliana and Wahyudi's research (2018) which states that profitability has no effect on tax aggressiveness.

The difference in research results in empirical studies is influenced by differences in the place of research and the time of research. The inconsistency of research results is the reason this research was conducted.

Framework

Taxes are current liabilities that must be paid off immediately by the company. Hery (2015: 149) explains that the company's ability to meet current obligations can be known through the company's liquidity level. In other words, this liquidity ratio is used to measure how far the company's ability to meet obligations that will be due soon. If the company is able to fulfill its short-term obligations at maturity, the company is said to be liquid. Vice versa, if the company does not have the ability to fulfill its short-term obligations at maturity, the company is said to be illiquid.

A low liquidity ratio means that the company has difficulty in meeting short-term obligations, one of which is tax debt. However, according to Permatasari et al. (2022) companies with low liquidity do not need to take tax aggressiveness actions because their tax liabilities are also low, while companies that have a high level of liquidity describe the company as being in a healthy financial condition with large tax liabilities so that they have a higher potential to take tax aggressiveness actions.

When the company's liquidity level is high, it can be ascertained that the company's cash flow is running well. With good cash flow, it is expected to be able to create high profits for the company, so the company will take tax aggressiveness as an effort to reduce the company's tax burden (Yuliana and Wahyudi, 2018). In this condition, companies tend to allocate current period profits to the next period to avoid high tax burdens (Allo et al., 2021).

As for other reasons, according to Awaliyah et al. (2021) which states that companies with high liquidity levels tend to reduce their income by increasing the amount of debt, so that companies will use part of their income to pay interest. In this condition the company will use its short-term debt to reduce the tax burden that must be paid. So, it can be concluded that the higher the liquidity of the company, the higher the tax aggressiveness.

Based on the explanation above, it can be seen that liquidity has a positive effect on tax aggressiveness.

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through all the resources it has. The greater the profit earned by the company, the greater the tax that must be deposited. In this condition, taxes will reduce the net profit earned by the company, so the company seeks to minimize taxes payable through tax aggressiveness (Pohan, 2013: 3). Companies with low profitability levels are expected not to take tax aggressiveness actions because the tax burden that must be deposited is also low. So it can be concluded that the higher the level of company profitability, the higher the tax aggressiveness.

Based on the explanation above, it can be seen that profitability has a positive effect on tax aggressiveness.

Referring to the explanation above, the framework in this study is shown in Figure 2.1 below:

**Figure 1: Framework**

Based on the theoretical review, previous research, and theoretical framework, the hypotheses formulated in this study are:

1. Liquidity has a positive effect on Tax Aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021.
2. Profitability has a positive effect on Tax Aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021.

**METHODOLOGY**

This type of research includes quantitative research. The research method used in this research is the survey method. Research using the survey method is used to examine sample data that represents the population in the study. This method involves more respondents and covers a wider area than other methods (Gulo, 2002).

The data collection techniques in this research consist of literature study and documentation study. The population in this study are Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021 totaling 63 companies. Determination of the sample in this study using purposive sampling technique with three criteria to produce 13 companies.

The data analysis technique in this study consists of: (1) Descriptive statistical analysis; (2) Classical assumption test consisting of normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test; (3) Research model testing consisting of panel data regression analysis, F statistical test, T statistical test, and determination coefficient test.

**RESULT AND ANALYSIS**

**Classical Assumption Test**

**Normality Test**

Jarque Bera's probability value of 0.000000 is smaller than 0.05, so the residual value is not normally distributed. In this study, the regression model chosen is the Random Effect Model (REM) which uses the Generalized Least Square (GLS) method. The estimation method with the GLS approach has the advantage that it does not need to fulfill classical assumptions because it is not a BLUE / Best Linear Unbiased Estimator requirement.

**Heteroscedasticity Test**

Probability value on each variable is greater than 0.05, it can be concluded that there is no heteroscedasticity problem in the regression model.

**Multicollinearity Test**

The correlation value between variables of -0.063141 is smaller than 0.85, so it can be concluded that there is no multicollinearity problem in the regression model.

**Autocorrelation Test**

Based on the Bruesch Pagan method, the value of 1.6851 < 2.205308 < 2.4199, it can be concluded that there is no autocorrelation problem in the regression model.

**Panel Data Regression Analysis**

The results of the panel data regression analysis with the Random Effect Model can be arranged in the form of the following regression equation:
Y = 0.703961 - 0.071250 X1 - 0.753859 X2

The values contained in the regression model can be explained as follows:

1) The constant value of 0.703961 indicates that if liquidity (X1) and profitability (X2) are assumed to be 0, then tax aggressiveness is 0.703961.

2) The liquidity coefficient value (X1) of -0.071250 indicates that every occurrence of liquidity (X1) and other variables is assumed to be constant, it will reduce the CETR value and increase tax aggressiveness (Y) by -0.071250.

3) The coefficient value of profitability (X2) of -0.753859 indicates that every occurrence of profitability (X2) and other variables is assumed to be constant, it will reduce the value of CETR and increase tax aggressiveness (Y) by -0.753859.

**Determination Coefficient Test**

Based on the test results, it can be seen that the R-Squared value obtained is 0.168325, which means that the liquidity and profitability variables together contribute 16.8325% to tax aggressiveness, while as much as 83.1675% is the contribution made by other factors not examined.

**F Statistical Test**

Based on F statistical testing, it can be seen that the prob.F value of 0.000996 is smaller than 0.05, besides that the value of F count > F table, namely 7.589702 > 3.119, the liquidity and profitability variables simultaneously have a significant effect on tax aggressiveness.

**T Statistical Test**

Hypothesis I

Based on the results of testing hypothesis I, it can be seen that the value of T count < T table is -2.357132 < -1.665 with a Prob.T value of 0.0210 < 0.05, so the liquidity variable has a significant effect on tax aggressiveness.

Hypothesis II

Based on hypothesis II testing, it can be seen that the T value < T table is -3.234701 < -1.665 with a Prob.T value of 0.0018 < 0.05, so the profitability variable has a significant effect on tax aggressiveness.

**FINDING**

1) Liquidity in Mining Companies Listed on the IDX for the period 2016-2021

The following is the average liquidity of Mining Companies listed on the IDX for the period 2016-2021.

![Figure 2: Average Liquidity per year in Mining Companies listed on the IDX for the period 2016-2021](image)

Overall, the level of liquidity in Mining Companies for 6 years is considered quite good and tends to increase. Even though it had decreased from 2016-2018, the following year it always experienced a significant increase.

2) Profitability in Mining Companies Listed on the IDX for the period 2016-2021

![Figure 3: Average Profitability per year in Mining Companies listed on the IDX for the period 2016-2021](image)

Overall, the level of profitability in Mining Companies for 6 years is considered quite good and tends to increase. Although there was a decrease, the increase was quite significant and there were no companies that experienced losses.

3) Tax Aggressiveness in Mining Companies Listed on the IDX for the period 2016-2021
current period’s profit to the next period to avoid a high tax burden. In line with research conducted by Harsono and Alvin (2021) which states that companies with high liquidity levels will allocate current period profits to the next period, so companies with high liquidity will be aggressive towards taxes.

The results of this study are strengthened by positive accounting theory on the political cost hypothesis, where managers are given the opportunity to choose accounting methods to minimize company costs. In terms of tax aggressiveness, when the company has a high current period profit, the manager will allocate the profit to the next period to avoid a high tax burden in that period.

As for other opinions, as explained by Awaliyah et al., (2021) which states that companies with a high level of liquidity tend to reduce their income by increasing the amount of debt, so that companies use part of their income to pay interest rather than pay taxes. The company will use short-term debt to reduce the amount of tax that must be paid.

So, it can be concluded that the higher the liquidity of the company, the lower the CETR will be. The low CETR value indicates high tax aggressiveness in the company. The results of this study are in line with research conducted by Awaliyah et al. (2021), Allo et al. (2021), and Permatasari et al. (2022) which state that liquidity has a positive effect on tax aggressiveness. In contrast to the results of research conducted by Herlinda and Rahmawati (2021) which state that liquidity has a negative effect on tax aggressiveness.

5) The Effect of Profitability on Tax Aggressiveness in Mining Companies listed on the IDX for the period 2016-2021

Based on the results of panel data testing, T count < T table of -3.234701 < -1.665 with a Prob.T value of 0.0018 < 0.05, so with a confidence level of 95% it can be decided that profitability has a significant effect on tax aggressiveness. Profitability has a negative coefficient value of -0.753859 the negative coefficient value shows a negative relationship between Return on Equity (ROE) and CETR. This means that the higher the ROE value, the lower the CETR value. The lower CETR value indicates that the level of tax aggressiveness in Mining Companies is getting higher. This is because there is an inversely proportional relationship between CETR value and tax aggressiveness. When the CETR value is lower, the higher the tax aggressiveness, and vice versa, the higher the CETR value, the lower the tax aggressiveness.

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![Figure 4: Average Tax Aggressiveness per year in Mining Companies listed on the IDX for the period 2016-2021](image-url)

Overall, the CETR value for 6 years is considered unfavorable and tends to decrease. The lower CETR value indicates the high tax aggressiveness in the company.

4) The Effect of Liquidity on Tax Aggressiveness in Mining Companies listed on the IDX for the period 2016-2021

Based on testing the panel data regression results, T count < T table, namely -2.357132 < -1.665 with a Prob.T value of 0.0210 < 0.05, so with a confidence level of 95% it can be decided that liquidity has a significant effect on tax aggressiveness. Liquidity has a negative coefficient value of -0.071250 the negative coefficient value shows a negative relationship between the current ratio and CETR. This means that the higher the current ratio value, the lower the CETR will be. The lower the CETR value indicates that the higher the tax aggressiveness in the Mining Company. This is because the value of CETR and tax aggressiveness have an inversely proportional relationship. This means that any increase in liquidity will cause an increase in tax aggressiveness. Vice versa, any decrease in liquidity will cause a decrease in tax aggressiveness. The results of this study are in accordance with the hypothesis formulated, so the hypothesis is accepted.

The test results prove that liquidity has a positive effect on tax aggressiveness. These results provide an understanding that Mining Companies with a high level of liquidity illustrate that the cash flow in the company is running well. Profit-oriented companies will turn the money into profit again. As explained by Yuliana and Wahyudi (2018) which states that when cash flow goes well, it is expected to be able to create high profits for the company, so that the company will take tax aggressiveness as an effort to reduce the company’s tax burden. In this condition, the company will allocate the
in the company. This means that any increase in profitability will cause an increase in tax aggressiveness, and vice versa, a decrease in profitability will cause a decrease in tax aggressiveness. The results of this test are in accordance with the hypothesis formulated, so the hypothesis is accepted.

The test results prove that profitability has a positive effect on tax aggressiveness. This provides an understanding that Mining Companies that have a high level of profitability will take tax aggressiveness actions, because companies that have high profits will be followed by high tax liabilities on these profits. In this condition, taxes will reduce the net profit earned by the company, so the company will try to minimize taxes payable through tax aggressiveness (Pohan, 2013: 3). This opinion is in line with the results of Kartika and Nurhayati’s research (2020) which states that the higher the level of profitability, the more aggressive the company will be towards taxes.

The results of this study are reinforced by agency theory, where when the company earns high profits, management will take tax aggressiveness actions to minimize its tax burden. In this condition, management performance will be considered good because it is able to maximize profits and minimize the tax burden, so that management will get various incentives from shareholders for its performance.

So, it can be concluded that the higher the company's profitability, the lower the CETR value. The low CETR value indicates high tax aggressiveness in the company. The results of this study are in line with research conducted by Purba and Kuncahyo (2020), Herlinda and Rahmawati (2021), Krisjayanti et al. (2022) which state that profitability has a positive effect on tax aggressiveness. In contrast to the results of research conducted by Dinar et al., (2020) which states that profitability has a negative effect on tax aggressiveness.

CONCLUSIONS
Based on the test results, it can be concluded that:

1. Liquidity in Mining Companies tends to increase during the study period.
2. Profitability in Mining Companies tends to increase during the study period.
3. Tax aggressiveness in Mining Companies is quite high because the CETR value during the 2016-2021 period tends to decrease.
4. Liquidity has a positive and significant effect on tax aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021.

5. Profitability has a positive and significant effect on tax aggressiveness in Mining Companies listed on the Indonesia Stock Exchange for the period 2016-2021.

REFERENCES


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APPENDIX

Random Effect Model (REM)

Dependent Variable: Y
Method: Panel EGLS (Cross-section random effects)
Date: 06/22/23   Time: 19:26
Sample: 2016 2021
Periods included: 6
Cross-sections included: 13
Total panel (balanced) observations: 78
Swamy and Arora estimator of component variances

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<th>S.E. of regression</th>
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<td>S.D. dependent var</td>
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<tr>
<td>Prob(F-statistic)</td>
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Unweighted Statistics

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Normality Test

Series: Standardized Residuals
Sample 2016 2021
Observations 78

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<td>Maximum</td>
<td>2.442915</td>
</tr>
<tr>
<td>Minimum</td>
<td>-0.433406</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.378343</td>
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<tr>
<td>Skewness</td>
<td>3.668133</td>
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<tr>
<td>Kurtosis</td>
<td>23.50967</td>
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<tr>
<td>Jarque-Bera</td>
<td>1542.019</td>
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<tr>
<td>Probability</td>
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Multicolinearity Test

<table>
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<tr>
<th></th>
<th>X1</th>
<th></th>
<th>X2</th>
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<tbody>
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<td>X1</td>
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<td></td>
<td>-0.063141</td>
</tr>
<tr>
<td>X2</td>
<td>-0.063141</td>
<td></td>
<td>1.000000</td>
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</tbody>
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Heteroscedasticity Test

Dependent Variable: RESABS
Method: Panel Least Squares
Date: 06/22/23   Time: 19:23
Sample: 2016 2021
Periods included: 6
Cross-sections included: 13
Total panel (balanced) observations: 78

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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<tr>
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<td>0.064216</td>
<td>5.765467</td>
<td>0.0001</td>
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<td>0.019544</td>
<td>-1.426745</td>
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<tr>
<td>X2</td>
<td>-0.371280</td>
<td>0.157806</td>
<td>-2.352766</td>
<td>0.0513</td>
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</tbody>
</table>

R-squared: 0.087323  Mean dependent var: 0.232101
Adjusted R-squared: 0.062985  S.D. dependent var: 0.296952
S.E. of regression: 0.287449  Akaike info criterion: 0.382157
Sum squared resid: 6.197001  Schwarz criterion: 0.472799
Log likelihood: -11.90411  Hannan-Quinn criter.: 0.418443
F-statistic: 3.587907  Durbin-Watson stat: 2.116792
Prob(F-statistic): 0.032501