# The Effect of Profitability, Leverage, Corporate Social Resposibility, and Institutional Ownership on Tax Aggressiveness

**Yosida Isdianawati[1]**
**Bobby Fisher[2]**
**[1,2]Faculty of Economics and Business, Universitas Muhammadiyah Jakarta, Indonesia**
**Correspondences*: yosidaisdiana@gmail.com

## ABSTRACT

Tax aggressiveness is a strategic issue of concern due to its potential to reduce state revenue through various corporate efforts to minimize tax burdens, whether through legal or illegal means. This study analyzes the effects of profitability, *leverage*, corporate social responsibility (CSR), and institutional ownership on tax aggressiveness in basic and chemical industry companies listed on the Indonesia Stock Exchange (IDX) for the 2020–2023 period. Data from 132 companies were analyzed using panel data regression. Results show significant effects for profitability, CSR, and *leverage*, but not for institutional ownership.

Keywords: Tax Aggressiveness; Profitability; Leverage; Institutional Ownership

## *Pengaruh Profitabilitas, Leverage, Tanggung Jawab Sosial Perusahaan, dan Kepemilikan Institusional terhadap Agresivitas Pajak*

## *ABSTRAK*

*Agresivitas pajak merupakan isu strategis yang menjadi sorotan karena berpotensi mengurangi penerimaan negara melalui berbagai upaya perusahaan dalam menekan beban pajaknya, baik melalui mekanisme legal maupun ilegal Penelitian ini dilakukan untuk menganalisis pengaruh profitabilitas, leverage, corporate social responsibility (CSR), dan kepemilikan institusional terhadap agresivitas pajak pada perusahaan sektor industri dasar dan kimia di BEI periode 2020–2023. Data diperoleh dari 132 perusahaan melalui purposive sampling dan dianalisis menggunakan regresi data panel. Hasil menunjukkan bahwa profitabilitas dan CSR berpengaruh negatif signifikan, leverage berpengaruh positif signifikan, dan kepemilikan institusional tidak berpengaruh signifikan terhadap agresivitas pajak.*

*Kata Kunci: Agresivitas Pajak; Profitabilitas; Leverage; Kepemilikan Institusional*

**Artikel dapat diakses** : https://ojs.unud.ac.id/index.php/Akuntansi/index

**e-ISSN 2302-8556**

Vol. 35 No. 7
Denpasar, 30 Juli 2025
Hal. 2115-2131

**DOI:**
*10.24843/EJA.2025.v35.i07.p15*

**PENGUTIPAN:**
Isdianawati, Y., & Fisher, B. (2025). The Effect of Profitability, Leverage, Corporate Social Resposibility, and Institutional Ownership on Tax Aggressiveness. *E-Jurnal Akuntansi*, 35(7), 2115-2131

**RIWAYAT ARTIKEL:**
Artikel Masuk:
7 Juli 2025
Artikel Diterima:
14 Juli 2025

## INTRODUCTION

The continued growth of the national economy has contributed to the expansion of the business sector in Indonesia. Along with this, issues have arisen in the implementation of tax obligations due to differences in interests between the government as the fiscal authority and companies as taxpayers. In this case, companies tend to view taxes as a burden that can reduce profits, so they try to reduce tax payments through legal strategies such as *tax avoidance*. The impact of this practice is clearly seen in the decline in state revenue, which should be the main source of development funding (Ramadani & Hartiyah, 2020). Based on data from *The State of Tax Justice 2020*, state losses due to tax avoidance practices reached Rp68.7 trilliun.

Based from (Cheng et al., 2022), Low compliance among corporate taxpayers is largely due to the perception that taxes are a burden that reduces company profits. This perception encourages companies to take aggressive measures to reduce their tax burden through *tax planning* that goes beyond the original business objectives.

According to the understanding (Darussalam, 2022), Tax aggressiveness is a tax planning strategy that is systematically designed to streamline the tax burden by utilizing transactions that are not oriented towards legitimate business objectives. Formal companies still fulfill their tax obligations, but use aggressive structures to minimize taxes, thereby reducing state tax revenues.

Aggressive taxation in Indonesia can be identified through various interrelated indicators. One of the main indicators is Indonesia's low tax ratio compared to other ASEAN countries. This tax ratio, which reflects the proportion of tax revenue to Gross Domestic Product (GDP), shows that Indonesia's performance is still below regional standards. According to data from the Ministry of Finance and the OECD, Indonesia recorded a tax ratio of 9.11% in 2021, which only increased to around 10.21% in 2023. This situation indicates that the contribution of the tax sector to state revenue is not yet optimal. Additionally, the low level of compliance among corporate taxpayers is another factor contributing to suboptimal tax revenue. Many companies employ aggressive tax planning strategies to reduce their fiscal burden, although this does not directly violate legal provisions (Simorangkir et al., 2018).

This phenomenon is reinforced by several cases of tax avoidance involving large companies, such as PT Coca-Cola Indonesia, which is known to have incurred large advertising expenses to reduce its taxable income; PT Toyota Motor Manufacturing Indonesia, which is suspected of engaging in transfer pricing practices with overseas affiliates; and PT Rajawali Nusantara Indonesia (RNI), which has used loan transactions with affiliates to reduce its tax liabilities. These practices not only highlight weaknesses in fiscal oversight and compliance but also underscore the urgency of tax system reform to make it fairer, more transparent, and more effective in supporting national development.

One example of aggressive taxation in the food and beverage manufacturing sector occurred at PT Coca Cola Indonesia (CCI), which allegedly resulted in a tax underpayment of Rp 49.24 billion. An audit by the Directorate General of Taxes found an inflated advertising expense of Rp 566.84 billion between 2002 and 2006. As a result, the company's taxable income, which should

have been Rp 603.48 billion according to the DJP, was only Rp 492.59 billion according to CCI's calculations. This discrepancy triggered a tax deficiency correction of Rp 49.24 billion (Pratama et al., 2023).

Previous studies have identified various internal factors within companies that have the potential to influence tax aggressiveness. These factors include *profitability, leverage, corporate social responsibility* (CSR), and *institutional ownership*. Profitability indicates a company's ability to generate profits and is measured using the Return on Assets (ROA) indicator (Sari & Rahayu, 2020) *Leverage* indicates the proportion of debt financing used for company operations, where deductible interest expenses affect the reduction of taxable income (Amalia, 2021). Furthermore, *corporate social responsibility* reflects a company's social responsibility towards it's stakeholders and can influence tax compliance (Rengganis & Dwija Putri, 2018). Institutional ownership is considered capable of strengthening oversight of management policies, including in tax decision-making.

Aggressive tax measures are influenced by a number of internal company factors, including *Corporate Social Responsibility* (CSR), *liquidity, and profitability*. *Corporate Social Responsibility* (CSR) is a form of corporate responsibility towards the social environment and society that is carried out ethically and sustainably. In Indonesia, the implementation of *Corporate Social Responsibility* (CSR) can be voluntary; however, in certain sectors, such as natural resource management, CSR becomes a mandatory requirement as stipulated in Article 74 of Law Number 40 of 2007 (Puspawati et al., 2018).

Furthermore, liquidity describes a company's ability to meet its short-term obligations. Companies with low liquidity tend to engage in aggressive tax behavior in order to maintain cash flow stability (Hidayat & Muliasari, 2020). In addition, profitability is also a relevant factor in this context. The higher the profit earned by a company, the greater the tax burden it must bear (Amalia, 2021). This situation has prompted some companies to engage in aggressive tax practices in order to avoid a decline in net income. However, several studies show that highly profitable companies tend to be more compliant with their tax obligations because they have sufficient financial capacity, as reflected in their high Cash *Effective Tax Rate* (ETR) (Arta, 2022)

Although many studies have been conducted, the findings from previous research have not shown strong consistency. Some studies indicate that profitability and leverage have a significant effect on tax aggressiveness (Mustofa et al., 2021), while other studies show no significant effect (Dharmayanti, 2019). Similar results were also found in the variables of *corporate social responsibility* (CSR) and *institutional ownership*, where there were differences in conclusions between one study and another (Simorangkir et al., 2018). The difference in results shows that there is still room for further empirical testing.

Based on the inconsistency of previous research results, further research is needed to obtain more comprehensive empirical evidence. This research is also important given the limited number of studies focusing on companies in the basic and chemical industries. This sector has unique characteristics, such as debt-based financing structures, strong institutional ownership, and a relatively high tendency to disclose *corporate social responsibility* (CSR). These conditions make the sector a relevant object of study in examining tax aggressiveness.

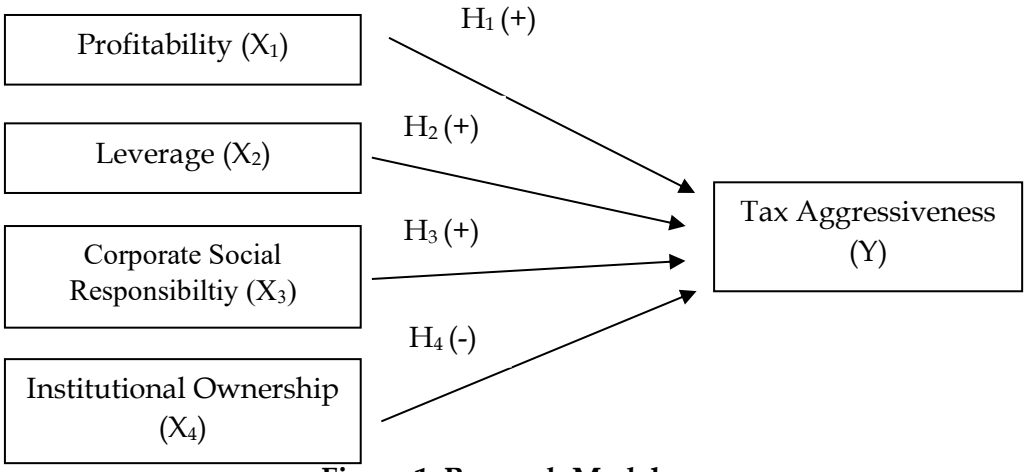


**Figure 1. Research Model**

*Source*: Research Data, 2025

*Agency theory* explains the relationship between company owners (principals) and managers (agents), where differences in interests and information asymmetry can trigger agency conflicts. In the context of taxation, agents (managers) may prioritize profit targets to satisfy principals, even if it means adopting tax avoidance strategies or, more precisely, tax aggressiveness to maintain the company's net profits (Alfandia, 2024). *Tax disclosure* is increasingly important for stakeholders of entities that have public interests. However, the diversity (heterogeneity) in tax disclosure in financial statements and sustainability reports raises questions about the extent to which tax reporting has been integrated or not integrated with sustainability reporting (Münch & Velte, 2024).

According to *agency theory*, there is a possibility of information asymmetry regarding tax arrangements between managers and shareholders. Managers tend to prioritize their personal interests, which can ultimately have a negative impact on company performance. Therefore, a company's decision to engage in tax avoidance practices should be based on a careful assessment of the benefits and risks of such strategies. Furthermore, this relationship remains strong even when corporate governance mechanisms are in place. For example, the role of the board of commissioners in tax avoidance and the influence of independent directors on such practices are still not fully understood (Shaukat Malik et al., 2025). Within the framework of *agency theory*, managers are responsible for realizing the interests of company owners (*principals*), particularly in terms of achieving profit targets. However, an imbalance of interests between agents and principals can trigger conflicts of interest that encourage managers to maximize profits, one of which is through aggressive tax practices.

Profitability as an indicator of a company's efficiency in generating profits has the potential to influence the level of tax aggressiveness. From an *agency theory* perspective, managers as agents have a tendency to prioritize net income in order to meet principal targets or obtain incentives. When profitability is high, the tax burden increases, thereby eroding net profits. To maintain optimal net profits, managers are driven to engage in tax aggressiveness using legal strategies such as aggressive tax planning or exploiting fiscal loopholes—without explicitly violating regulations. The higher the level of profitability, the greater the tax burden that

must be borne, thereby prompting companies to seek loopholes to reduce that burden. Previous research by (Supraptiningsih & Nuridah, 2022) shows that profitability has a positive effect on tax aggressiveness. Meanwhile, different results are shown by (Koussis et al., 2025) and (Dharmayanti, 2019) which concluded that there was no significant influence between the two. Based on these findings, the first hypothesis in this study was formulated as follows:
$H_1$: Profitability has a positive effect on tax aggressiveness.

Research result (Hanh Thi My, 2024) shows that *leverage* plays an important role in improving *investment efficiency*, especially in conditions of *underinvestment* in manufacturing companies. In this context, *leverage*, which reflects the proportion of a company's financing that comes from debt, has a positive effect on investment efficiency, meaning that the higher the leverage, the greater the incentive for companies to use resources optimally in their investments. Theoretically, this aligns with the perspective in *agency theory*, where debt is used as a control mechanism to limit managers' opportunistic behavior and encourage improved company performance. Therefore, *leverage* in *underinvestment* situations can serve as a financial tool to promote efficiency, provided it is managed proportionally and supported by adequate oversight structures.

Within the framework of *agency theory*, the use of debt (*leverage*) is an important aspect that reflects the extent to which a company utilizes external financing to support its operations. High *leverage* can trigger potential agency conflicts between managers and company owners, as managers may take higher risks to achieve optimal profits, even though this may reduce the interests of owners. Conversely, *leverage* also provides tax efficiency opportunities because loan interest is considered a deductible expense, thereby reducing taxable income and creating incentives for companies to engage in aggressive tax practices (Noerhafizah et al., 2024). Therefore, *leverage* is thought to contribute to increased tax aggressiveness. The results of research conducted by (Cheng et al., 2022) ,(Hidayat & Muliasari, 2020), dan (Amalia, 2021) indicates a positive influence of leverage on tax aggressiveness. Conversely, (De Meyst et al., 2024) and (Sari & Rahayu, 2020) found that *leverage* did not have a significant effect. Therefore, the hypothesis proposed is:
$H_2$: *Leverage* has a positive effect on tax aggressiveness**.**

Research result (Amarna et al., 2025) study shows that *corporate social responsibility* (CSR) disclosure has a positive effect on permanent tax differences, which can arise from philanthropic and other social activities. However, the effect of *corporate social responsibility* (CSR) on temporary tax differences, which are often associated with tax avoidance practices, is actually negative. This means that companies committed to *corporate social responsibility* (CSR) are less likely to engage in tax avoidance.

*Corporate social responsibility* (CSR) describes a company's responsibility to the environment and society as part of sustainable business practices. However, *corporate social responsibility* (CSR) disclosures are often used to strengthen a company's reputation even when there are indications of tax avoidance. Research by (Denmamode & Panchoo, 2024), (Simorangkir et al., 2018), and (Muljadi et al., 2022) shows that *corporate social responsibility* (CSR) has a positive influence on tax aggressiveness. On the other hand, research by Ramadani and (Ramadani &

Hartiyah, 2020) within (Insani et al., 2022) found a negative or insignificant effect. Based on these differences in results, the following hypothesis was formulated:
$H_3$: *Corporate social responsibility* (CSR) has a positive effect on tax aggressiveness.

Institutional ownership refers to the proportion of shares owned by institutions or organizations that have an interest in supervising management. Significant institutional ownership is believed to strengthen supervision and limit opportunistic management actions, including tax aggressiveness. The presence of institutional investors strengthens oversight of companies by encouraging lower debt levels, thereby reducing financial risks associated with distress or financial difficulties (University of Wah, Punjab, Pakistan et al., 2025).

Previous research conducted by (Rengganis & Dwija Putri, 2018), (Fitriani et al., 2021), (Zafran, 2025), with (Tristiyanto et al., 2024) shows that institutional ownership has a negative effect on tax aggressiveness. However, (Ramadani & Hartiyah, 2020) states that there is no significant influence from this variable. Therefore, the fourth hypothesis proposed in this study is:
$H_4$: Institutional ownership has a negative effect on tax aggressiveness.

Taking into account the background and research gaps that have been described, the purpose of this study is to examine the effect of *profitability, leverage, corporate social responsibility* (CSR), and institutional ownership on tax aggressiveness in basic and chemical industry sector companies listed on the *Indonesia Stock Exchange* (IDX) during the period 2020 to 2023.

## RESEARCH METHODS

The data used in this study is quantitative and sourced from secondary data. The information was obtained from financial reports and annual reports of companies in the basic and chemical industries listed on the Indonesia Stock Exchange (IDX) during the period 2020 to 2023.

**Table 1. Sampling Criteria**

| No | Criteria |
|---|---|
| 1 | Companies engaged in the basic and chemical industries listed on the IDX for the period 2020-2023. |
| 2 | Companies in the basic and chemical industries submitted their annual reports for the 2020-2023 period |
| 3 | Companies in the basic and chemical industries that made a profit during the 2020-2023 period |
| 4 | Companies engaged in basic industries and chemicals that do not use foreign currencies in their financial statements |

*Source*: Research Data, 2025

Observation unit includes all companies in the basic and chemical industries that have been actively listed on the IDX for four years during the observation period. Sample selection was carried out using purposive sampling techniques based on several specific criteria, namely: companies that have been consistently listed in the sector throughout the observation period, have complete annual reports, report positive profits every year, and use the Rupiah currency in the presentation of financial reports.

Sampling technique in this study is based on purposive sampling, which is the deliberate selection of observation units based on specific criteria that have

been determined in accordance with the research objectives. The first criterion requires companies to be listed in the basic and chemical industry sector on the Indonesia Stock Exchange (IDX) during the period 2020 to 2023. This sector was chosen because it has complex business characteristics, is oriented towards large-scale production activities, and is sensitive to fiscal regulations, making it relevant for analysis in the context of tax aggressiveness.

Second criterion requires companies to submit complete and sequential annual reports for the four-year observation period. The completeness of this data is necessary so that each entity has a full observation to be analyzed in the panel data model. Furthermore, only companies that consistently recorded profits during the observation period can be included in the sample. This is because the measurement of tax aggressiveness through the *Effective Tax Rate* (ETR) indicator requires pre-tax profit as a key component of its calculation. Companies that incur losses may produce an *Effective Tax Rate* (ETR) value of zero or undefined, making them unsuitable for analysis in a regression framework.

Screening was conducted on companies that use currencies other than the Rupiah in their financial reporting. This was done to avoid value distortions due to exchange rate differences and to ensure the homogeneity of the units of value used in all research variables. By applying all of these selection criteria, 33 out of 132 companies were found to meet the requirements and were used as units of analysis in this study. This identified sample is believed to accurately represent the characteristics of the population and provide a valid empirical basis for answering the research questions posed.

Definitions and measurements of variables in this study are described as follows. Tax aggressiveness acts as a dependent variable proxied by the *Effective Tax Rate* (ETR), calculated from income tax expense divided by profit before tax. Independent variables include *profitability*, measured using *Return on Assets* (ROA), which is after-tax profit divided by total assets; *leverage*, calculated through the ratio of total debt to total assets; *corporate social responsibility* (CSR) measured based on the disclosure index of *corporate social responsibility* (CSR) items according to the *Global Reporting Initiative* (GRI) guidelines; and *institutional ownership* calculated from the proportion of institutional shares to total outstanding shares.

Study uses five main variables consisting of one dependent variable and four independent variables. The dependent variable in this study is tax aggressiveness, which is measured using the *Effective Tax Rate* (ETR), namely the ratio between income tax expense and profit before tax. The *Effective Tax Rate* (ETR) is used to describe the level of effectiveness of companies in paying taxes on the profits they generate. The lower the *Effective Tax Rate* (ETR) value, the higher the level of tax aggressiveness practiced by the company (Znar Nahro Ahmed, 2024), (Indradi, 2018) (Alvin & Harsono, 2021).

First independent variable is profitability, which indicates a company's ability to generate profits from its total assets. Profitability is measured using the *Return on Assets* (ROA) ratio, which is calculated by dividing after-tax profits by the company's total assets. *Return on Assets* provides an overview of the extent to which a company is efficient in managing its assets to generate profits (Maters & Luttik, 2023), (Herlinda & Rahmawati, 2021) (Alvin & Harsono, 2021).

Second variable is *leverage*, which indicates the proportion of debt used in relation to a company's total assets. *Leverage* is measured by comparing total liabilities (debt) to total assets owned. The higher the *leverage* ratio, the greater the proportion of debt used in financing the company's operations. Debt can reduce tax burdens because interest expenses on debt are deductible in income tax calculations (Islam et al., 2023), (Sari & Rahayu, 2020), and (Hidayat & Muliasari, 2020).

Next, the third variable, *corporate social responsibility* (CSR), is measured using a disclosure index based on the *Global Reporting Initiative* (GRI-G4) indicators. The CSRDI is calculated by comparing the number of *corporate social responsibility* (CSR) items disclosed in the annual report to the total of 91 available items. Each item is scored 1 if disclosed and 0 otherwise. The higher the *corporate social responsibility* (CSR) index, the higher the company's transparency and social responsibility towards stakeholders (Korada, 2023) and (Simorangkir et al., 2018).

Fourth independent variable is institutional ownership, which refers to the proportion of a company's shares owned by institutions such as banks, insurance companies, or other institutional investors. This variable is measured by dividing the number of shares owned by institutions by the total number of shares outstanding. Institutional ownership reflects the level of external oversight of a company's management, which can influence tax avoidance practices (Ho, 2024) along with (Fitriani et al., 2021)

Regression analysis was performed on panel data using EViews version 13 software. The best estimation model was determined using the *Chow test*, *Hausman test*, and *Lagrange Multiplier test*. The multiple linear regression model used to test the relationship between variables is expressed in the following equation:

$$ETR = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \quad \text{.....(1)}$$

Note:

ETR = Tax Aggressiveness (Effective Tax Rate)
$X_1$ = Profitability
$X_2$ = *Leverage*
$X_3$ = Corporate Social Responsibility
$X_4$ = Institutional Ownership

Classical assumption tests include tests for normality, multicollinearity, heteroscedasticity, and autocorrelation to ensure that the regression model meets the BLUE (*Best Linear Unbiased Estimator*) assumptions. Hypothesis testing is performed using a t-test to determine the significance of each independent variable's influence on the dependent variable partially, as well as an F-test to measure significance simultaneously. In addition, the coefficient of determination ($R^2$) is used to explain how much of the variation in the dependent variable can be explained by the independent variables in the model.

## RESULT AND DISCUSSION

**Table 2. Descriptive Statistical Test Results**

| | Y | X1 | X2 | X3 | X4 |
|---|---|---|---|---|---|
| Mean | 0.253 | 0.064 | 0.330 | 0.133 | 0.723 |
| Median | 0.223 | 0.053 | 0.337 | 0.120 | 0.754 |
| Maximum | 2.225 | 0.249 | 0.820 | 0.307 | 1 |
| Minimum | 0.010 | 0.001 | 0.023 | 0.021 | 0.319 |
| Observations | 132 | 132 | 132 | 132 | 132 |

*Source*: Research Data, 2025

These statistics include the presentation of categorical and numerical data through key measures such as frequency, percentage, measures of central tendency (mean, median, mode), and measures of dispersion (range, variance, and standard deviation). Their primary purpose is to assist researchers or analysts in identifying patterns, detecting anomalies, and understanding the distribution and general behavior of the data being analyzed (Green, 2023).

Based on the descriptive statistics in Table 2, the Tax Aggressiveness (Y) variable has an average value of 0.254, with a minimum value of 0.010 and a maximum of 2.225. The median value of 0.224 indicates that more than half of the companies have a relatively low level of tax aggressiveness, although there are data units with quite high extreme values. This indicates that the majority of companies are in the range of moderate compliance with tax obligations, although there is a tendency for outliers at the maximum value.

*Profitability* variable ($X_1$) has an average value of 0.065, with a minimum value of 0.001 and a maximum of 0.250. The median value of 0.054, which is lower than the average, indicates the presence of several companies with high *profitability* levels that influence the average value. Meanwhile, the *Leverage* variable ($X_2$) shows an average value of 0.331, with a minimum value of 0.023 and a maximum of 0.820, and a median of 0.338. This reflects that most companies use external financing in their capital structure with a fairly moderate portion.

For the *Corporate Social Responsibility* ($X_3$) variable, the average value of 0.133 and the median of 0.121 indicate that most companies have a moderate level of social responsibility disclosure, with a range of values from 0.022 to 0.308. Finally, the Institutional Ownership ($X_4$) variable shows an average of 0.723 and a median of 0.755, with a minimum value of 0.319 and a maximum of 1.000. These data indicate that institutional share ownership in basic and chemical industry companies in Indonesia is quite dominant during the observation period.

**Tabel 3. Chow Test with Redundant Test**

| Effect Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 3.295 | (32.95) | 0.000 |
| Cross-section Chi-square | 98.557 | 32 | 0.000 |

*Source*: Research Data, 2025

Further studies introduce a variant of the *Chow test* that is more *robust* against heteroscedasticity and residual autocorrelation (Sun & Wang, 2019) proposed an asymptotically distributed F test that remains valid even if classical assumptions are violated. (Nielsen & Whitby, 2015) developed a *joint Chow test* that can detect parameter instability without the need to determine a priori breakpoints, using the supremum or one-step recursive residual method.

Based on the results in Table 3, the Chow test yields a *cross-section* probability *F* value of 0.000, which is less than the 0.05 significance level. Thus, the null hypothesis ($H_0$) is rejected and the alternative hypothesis ($H_1$) is accepted. This indicates that the *Fixed Effect* model is more appropriate than the *Common Effect* model. This decision is also supported by the *cross-section Chi-square* value which is below the 0.05 significance threshold, thus strengthening the selection of the *Fixed Effect* model. After knowing that the *Fixed Effect* model is more appropriate, the next step is to conduct a *Hausman* test to determine the most appropriate final estimation model to be used in this study.

**Table 4. Hausman Test**

| Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 7.935 | 4 | 0.094 |

*Source*: Research Data, 2025

(Sani, 2023) developed an alternative method called the *Robust Hausman Test* (RHT FIID), designed to improve the reliability of model specification tests. This method uses residuals from *Weighted Least Squares* (WLS) to construct a covariance matrix that is resistant to heteroscedasticity. This approach can overcome bias problems arising from non-uniform error variances and the influence of highly leveraged observations.

Based on the Hausman test results presented in Table 4, the random *cross-section* probability value is 0.094. This value exceeds the significance limit of 0.05, i.e., 0.094 > 0.05. Therefore, the decision is to accept the null hypothesis ($H_0$) and reject the alternative hypothesis ($H_1$). Therefore, the most appropriate model to use in this study is the *random effects* estimation model. Selection of the *random effects* model indicates that differences between companies in the panel data are not systematically correlated with the independent variables used. This means that variations between entities (companies) are considered part of the random component and do not need to be explicitly modeled through fixed effects. After the *random effects* model is declared appropriate, the next step is to conduct a Lagrange Multiplier (LM) test to determine whether the panel model is more appropriate than the *pooled least squares* model.

**Table 5. Lagrange Multiple Test**

| | Statistic | d.f. | Prob. |
|---|---|---|---|
| Breusch-Pagan | 19.081 | 0.204 | 19.285 |
| | (0.000) | (0.651) | (0.000) |

*Source*: Research Data, 2025

(Huang et al., 2023) introduces a more integrated and robust *Multiple Lagrange* test procedure for detecting cross-sectional dependence in large panel models. This test applies to both heterogeneous panel and *fixed-effects models*, and can handle regressors that are weakly exogenous or have dependent lags.

Based on Table 4, the results of the *Lagrange Multiplier* (LM) test show that the *Breusch-Pagan cross-section* value is 0.000, which is smaller than the 0.05 significance level (0.000 < 0.05). Thus, the null hypothesis ($H_0$) is rejected and the alternative hypothesis ($H_1$) is accepted. This decision confirms that the panel data regression model is more appropriate to use than the *common effects model (pooled least squares)*. These results also strengthen the case that the *random effects* model is

the most appropriate model for this study. Considering that the previous Chow test rejected the *common effects* model, the Hausman test supported the selection of the *random effects* model, and the LM test also stated that the panel model is better than the *pooled least squares* model, the overall test supports the use of the *random effects* model estimation in analyzing the influence of independent variables on tax aggressiveness.

**Table 6. ETR (Tax Aggressiveness) Panel Data Regression Model**

| Model | R2 | F | Chow Test | Hausman Test | LM Test |
|---|---|---|---|---|---|
| CEM | 0.378 | 19.329 | | | |
| FEM | 0.144 | 5.362 | √ | | |
| REM | 0.188 | 7.355 | | √ | √ |

*Source*: Research Data, 2025

(Zulfikar, 2018) states that the *F-test* is used to test the simultaneous significance of the regression coefficients, and the *Lagrange Multiplier* (LM) test is used to select the *Random Effects* model over the *Common Effect* (CEM) if the p value is <0.05, as well as the *Chow test* for comparison with *Fixed Effects* (FEM).

Estimation results for the three panel models—*Common Effect Model* (CEM), *Fixed Effect Model* (FEM), and *Random Effect Model* (REM) in Table 6 show that the CEM model provides the best performance when viewed from the *R-squared* and *F-statistic* values. The CEM model has an *R-squared* value of 0.378, which is higher than the value in the FEM (0.144) and REM (0.188) models. This value indicates that the proportion of variation in the dependent variable, namely tax aggressiveness (*Effective Tax Rate*), that can be explained by the independent variables in the CEM model, is greater than the other two models.

Furthermore, the *F-statistic* value of 19.330 in the CEM model is also significantly higher than the FEM model's value of 5.362 and the REM model's value of 7.356. This indicates that simultaneously, all independent variables in the CEM model have a stronger influence on the dependent variable. Thus, although previous model specification tests support the use of the REM model, the CEM model is statistically better able to explain variations in tax aggressiveness in terms of goodness-of-fit. However, the final model selection still considers the results of the overall diagnostic test, not just the *R-squared* and *F-statistic* values alone.

**Table 7. Common Effect Model**

| Variable | Coefficient | Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.368 | 0.061 | 6.027 | 0.000 |
| X1 | -1.320 | 0.246 | -5.353 | 0.000 |
| X2 | 0.280 | 0.069 | 4.060 | 0.000 |
| X3 | -0.455 | 0.171 | -2.650 | 0.009 |
| X4 | -0.065 | 0.067 | -0.961 | 0.338 |

*Source*: Research Data, 2025

Multiple linear regression model used to test the relationship between variables is expressed in the following equation:

$ETR = 0{,}368 - 1{,}32\beta_1 + 0{,}28\beta_2 - 0{,}455\beta_3 - 0{,}065\beta_4 + \varepsilon$…….(2)

Coefficients displayed play an important role in describing the influence of independent variables on dependent variables, while the *standard error* values indicate the reliability of the estimates. A *standard error* value of less than 1 indicates that the predictions generated are relatively free from estimation errors.

T-statistic values are also used to assess statistical significance, where values close to or exceeding 2 are considered significant in this context. (Omodero et al., 2025)

Based on Table 7, which shows the estimation results, it is known that profitability has a coefficient of –1.320 with a significance value below 0.05. This indicates that the higher the profitability, the lower the tendency for tax aggressiveness. This negative coefficient indicates that companies that are able to generate high profits tend to avoid the reputational risks and legal sanctions that arise from aggressive tax practices.

*Leverage* shows a positive coefficient of 0.280, indicating a positive and significant relationship with tax aggressiveness. Companies with high debt levels tend to streamline their expenditures, including tax savings through aggressive strategies. Meanwhile, the *corporate social responsibility* (CSR) variable also has a significant negative effect on tax aggressiveness, with a coefficient of –0.455. This indicates that companies that are active in CSR disclosure tend to be more compliant with their tax obligations, as they seek to maintain their image and social legitimacy in the eyes of the public.

Institutional ownership has a coefficient of –0.065 but is not statistically significant. This means that the level of supervision from institutional investors is not yet effective enough in controlling management to reduce tax aggressiveness. Overall, the results of this study conclude that three of the four independent variables, namely *profitability, leverage*, and *corporate social responsibility*, have a significant effect on tax aggressiveness, while institutional ownership does not have a significant effect.

These results support the research (Khasanah et al., 2022), (Hidayat & Muliasari, 2020) and (Alvin & Harsono, 2021) which found that  affects tax aggressiveness. in line with the results of the study (Wamser et al., 2025) and (Amalia, 2021) states that *leverage* affects tax avoidance.

**Table 8. Result Parsial (t) test with Common Effect Model**

| Variable | Error | t-Statistic | Prob. |
|---|---|---|---|
| C | 0.061 | 6.027 | 0.000 |
| X1 | 0.247 | -5.354 | 0.000 |
| X2 | 0.069 | 4.061 | 0.000 |
| X3 | 0.172 | -2.651 | 0.009 |
| X4 | 0.068 | -0.961 | 0.338 |

*Source*: Research Data, 2025

In testing the significance of *structural paths* with *t-statistics*. *Bootstrapping* results provide an approach to data normality assumptions. Using a two-tailed t-test at a significance level of 0.5% (Asghar et al., 2020).

The t-test results in Table 8 indicate that profitability has a significant negative effect on tax aggressiveness, with a probability value of 0.000 (<0.05) and a regression coefficient of –1.320. This indicates that the higher the level of profitability, the lower the tendency of a company to engage in tax aggressiveness. This finding is consistent with agency theory, which explains that managers, in their efforts to meet profit targets, still consider reputational risks and regulatory compliance. This research supports the results of previous studies by (Koussis et al., 2025), Supraptiningsih & Nuridah (2022) along Mustofa et al. (2021). Furthermore, *leverage* also has a significant positive effect on tax aggressiveness (p

= 0.001; coefficient 0.280), indicating that companies with high debt levels tend to be more aggressive in reducing their tax burden. This result is in line with studies Muliasari and Hidayat (2020), along Harsono with Alvin (2021).

*Corporate social responsibility* (CSR) variable yielded a significant negative effect on tax aggressiveness (p = 0.009; coefficient –0.455). The higher the level of *Corporate social responsibility* disclosure, the lower the tendency for companies to engage in tax avoidance due to the incentive to maintain ethics, reputation, and public legitimacy. This finding supports the study (Simorangkir et al., 2018) and (Muljadi et al., 2022). Meanwhile, institutional ownership does not show a significant influence (p = 0.338 > 0.05), Thus, the fourth hypothesis is rejected. These results indicate that the presence of institutional investors is not yet effective enough in suppressing tax aggressive practices, and support the research findings (Yahaya & Omotola, 2024). Overall, three of the four independent variables in this study proved to be significant in terms of tax aggressiveness.

## CONCLUSION

Referring to the analysis results obtained, this study concludes that there is a significant relationship between several internal company factors and the level of tax aggressiveness undertaken. Profitability and *corporate social responsibility* are proven to have a significant negative influence on tax aggressiveness, indicating that more profitable and socially responsible companies tend to avoid aggressive tax avoidance practices. Conversely, leverage shows a significant positive influence, indicating that the higher the level of debt, the greater the tendency to reduce its tax burden aggressively. On the other hand, institutional ownership does not show a significant influence, which means that the proportion of shares owned by institutions does not necessarily play a role in controlling management decisions regarding tax strategy.

Limitations of this study lie in the scope of the variables used and the focus of the analysis, which only covers the basic and chemical industries. To broaden our understanding of the determinants of tax aggressiveness, future research is recommended to consider additional variables such as *capital intensity*, *good corporate governance*, and liquidity. Furthermore, the scope of the study could be expanded to other industrial sectors to obtain more general and accurate results. The use of a wider range of statistical software, such as SPSS or STATA, is also recommended to enhance the accuracy of data processing and the validity of the analysis model.

## REFERENCES

Alfandia, N. S. (2024). The Impact of Profitability and Leverage on Tax Aggressiveness with Income Smoothing as the Mediator. *Berkala Akuntansi dan Keuangan Indonesia*, *9*(1), 110–133. https://doi.org/10.20473/baki.v9i1.44573

Alvin, A., & Harsono, B. (2021). Analisis Pengaruh Profitabilitas, Likuiditas, Leverage, Tanggung Jawab Sosial Perusahaan terhadap Agresivitas Pajak. *Global Financial Accounting Journal*, *5*(1), 93. https://doi.org/10.37253/gfa.v5i1.4722

Amalia, D. (2021a). Pengaruh Likuiditas, Leverage dan Intensitas Aset Terhadap Agresivitas Pajak. *KRISNA: Kumpulan Riset Akuntansi*, *12*(2), 232–240. https://doi.org/10.22225/kr.12.2.1596.232-240

Amalia, D. (2021b). Pengaruh Likuiditas, Leverage dan Intensitas Aset Terhadap Agresivitas Pajak. *KRISNA: Kumpulan Riset Akuntansi*, *12*(2), 232–240. https://doi.org/10.22225/kr.12.2.1596.232-240

Amarna, K., López-Pérez, M. V., Garde Sánchez, R., & Rodríguez Ariza, L. (2025). ESG Information Disclosure and Its Relationship to Tax Practices: Stakeholder-Friendly or Legitimacy-Seeking? *Sustainable Development*, *33*(3), 3906–3917. https://doi.org/10.1002/sd.3333

Arta, R. J. (2022). *Pengaruh CSR, Likuiditas, Profitabilitas, dan Ukuran Perusahaan Terhadap Penghindaran Pajak*.

Asghar, B., Wasim, A., Qazi, U., & Rasool, A. (2020). Financial and Non-Financial Practices Driving Sustainable Firm Performance: Evidence from Banking Sector of Developing Countries. *Sustainability*, *12*(15), 6164. https://doi.org/10.3390/su12156164

Cheng, X., (Helen) Wang, H., & Wang, X. (2022a). Common institutional ownership and corporate social responsibility. *Journal of Banking & Finance*, *136*, 106218. https://doi.org/10.1016/j.jbankfin.2021.106218

Cheng, X., (Helen) Wang, H., & Wang, X. (2022b). Common institutional ownership and corporate social responsibility. *Journal of Banking & Finance*, *136*, 106218. https://doi.org/10.1016/j.jbankfin.2021.106218

Darussalam. (2022). *Pengaruh Corporate Social Responbility terhadap Agresivitas Pajak Perusahaan Manufaktur*.

De Meyst, K. J., Cardinaels, E., & Van Den Abbeele, A. (2024). CSR disclosures in buyer-seller markets: The impact of assurance of CSR disclosures and incentives for CSR investments. *Accounting, Organizations and Society*, *113*, 101498. https://doi.org/10.1016/j.aos.2023.101498

Denmamode, L., & Panchoo, S. (2024). Digital transformation: A roadmap to leverage businesses for SMEs. *Journal of Business and Enterprise Development (JOBED)*, *12*(1). https://doi.org/10.47963/jobed.v12i.1507

Dharmayanti, N. (2019). *Pengaruh Likuiditas, Leverage dan Profitabilitas, Terhadap Agresivitas Pajak*.

Fitriani, D. N., Djaddang, S., & Suyanto, S. (2021). Pengaruh Transfer Pricing, Kepemilikan Asing, Kepemilikan Institusional Terhadap Agresivitas Pajak dengan Corporate Social Responsibility Sebagai Variabel Moderasi. *Kinerja*, *3*(02), 282–297. https://doi.org/10.34005/kinerja.v3i02.1575

Green, J. L. (2023). Descriptive statistics. *International Encyclopedia of Education(Fourth Edition)*, 723–733. https://doi.org/10.1016/b978-0-12-818630-5.10083-1

Hanh Thi My. (2024). Financial reporting quality and investment efficiency in manufacturing firms: The role of firm characteristics in an emerging market. *Journal of Competitiveness*. https://doi.org/10.7441/joc.2024.01.04

Herlinda, A. R., & Rahmawati, M. I. (2021). *Pengaruh Profitabilitas, Likuiditas, Leverage Dan Ukuran Perusahaan Terhadap Agresivitas Pajak*. *10*.

Hidayat, A., & Muliasari, R. (2020a). Pengaruh Likuiditas, Leverage dan Komisaris Independen Terhadap Agresivitas Pajak Perusahaan. *SULTANIST: Jurnal*

*Manajemen dan Keuangan*, *8*(1), 28–36. https://doi.org/10.37403/sultanist.v8i1.183

Hidayat, A., & Muliasari, R. (2020b). Pengaruh Likuiditas, Leverage Dan Komisaris Independen Terhadap Agresivitas Pajak Perusahaan. *SULTANIST: Jurnal Manajemen dan Keuangan*, *8*(1), 28–36. https://doi.org/10.37403/sultanist.v8i1.183

Ho, L. (2024). Liquidity and dynamic leverage: The moderating impacts of leverage deviation and target instability. *Journal of Economics and Development*, *26*(3), 206–223. https://doi.org/10.1108/jed-12-2023-0244

Huang, Z., Li, Z., & Yao, J. (2023). *Unified and robust Lagrange multiplier type tests for cross-sectional independence in large panel data models* (Version 1). arXiv. https://doi.org/10.48550/ARXIV.2302.14387

Indradi, D. (2018). Pengaruh Likuiditas, Capital Intensity Terhadap Agresivitas Pajak (Studi empiris perusahan Manufaktur sub sektor industri dasar dan kimia yang terdaftar di BEI tahun 2012-2016.). *JABI (Jurnal Akuntansi Berkelanjutan Indonesia)*, *1*(1), 147–167. https://doi.org/10.32493/jabi.v1i1.y2018.p147-167

Insani, D. A. S., Wahyudin, A., Aini, L. N., & Anas, Z. (2022). Pengaruh corporate social responsibility dan good corporate governance terhadap agresivitas perpajakan. *Journal of Accounting and Digital Finance*, *2*(3), 216–226. https://doi.org/10.53088/jadfi.v2i3.191

Islam, H., Rahman, J., Tanchangya, T., & Islam, M. A. (2023). Impact of firms' size, leverage, and net profit margin on firms' profitability in the manufacturing sector of Bangladesh: An empirical analysis using GMM estimation. *Journal of Ekonomi*, *5*(1), 1–9. https://doi.org/10.58251/ekonomi.1275742

Khasanah, L., Nugroho, W. S., & Nurcahyono, N. (2022). The Effect of Liquidity, Leverage, Company Size and Fixed Asset Intensity on Tax Aggressiveness. *MAKSIMUM*, *12*(2), 154. https://doi.org/10.26714/mki.12.2.2022.154-163

Korada, L. (2023). Leverage Azure Purview and Accelerate Co-Pilot Adoption. *International Journal of Science and Research (IJSR)*, *12*(4), 1852–1954. https://doi.org/10.21275/sr23416091442

Koussis, N., Menoncin, F., & Panteghini, P. M. (2025). *The relationship between leverage and profitability: The role of tax depreciation allowances*.

Maters, E., & Luttik, J. (2023). From CSR to Impact; How to Integrate CSR in a University Strategy. *Journal of Sustainability Perspectives*, *3*(2), 140–147. https://doi.org/10.14710/jsp.2023.20491

Muljadi, C., Hastuti, M. E., & Hananto, H. (2022). Tax Amnesty, Corporate Social Responsibility, Good Corporate Governance Terhadap Penghindaran Pajak. *JURNAL INFORMASI, PERPAJAKAN, AKUNTANSI, DAN KEUANGAN PUBLIK*, *17*(2), 303–320. https://doi.org/10.25105/jipak.v17i2.12864

Münch, M. (Maurice), & Velte, P. (2024). Tax-Related Sustainability Reporting: Theoretical and Normative Implications from a European Perspective. *European Taxation*, *65*(1). https://doi.org/10.59403/1z94zhh

Mustofa, M. A., Amini, M., & Djaddang, S. (2021). Pengaruh Profitabilitas Terhadap Agresivitas Pajak Dengan Capital Intensity Sebagai Variabel

Moderasi. *Jurnal Ilmiah Akuntansi Kesatuan*, *9*(1), 173–178. https://doi.org/10.37641/jiakes.v9i1.498

Nielsen, B., & Whitby, A. (2015). A Joint Chow Test for Structural Instability. *Econometrics*, *3*(1), 156–186. https://doi.org/10.3390/econometrics3010156

Noerhafizah, L., Supriyanto, J., & Fadillah, H. (2024). *Pengaruh Profitabilitas, Likuiditas, Leverage Terhadap Agresivitas Pajak Pada Perusahaan Sektor Pertambangan Batu Bara Yang Terdaftar Di Bursa Efek Indonesia Tahun 2017-202*.

Omodero, C. O., Jones, E., & Ekundayo, G. (2025). Corporate financing and taxation in an emerging economy. *International Journal of Accounting and Economics Studies*, *12*(2), 27–34. https://doi.org/10.14419/1ctxym56

Pratama, I., Rina Asmeri, & Andre Bustari. (2023). Pengaruh Kepemilikan Institusional, Dewan Komisaris Independen, Kepemilikan Manajerial dan Intensitas Persedian Terhadap Agresivitas Pajak (Studi Empiris pada Perusahaan Makanan dan Minuman yang terdaftar di Bursa Efek Indonesia Periode Tahun 2016-2019). *EKASAKTI PARESO JURNAL AKUNTANSI*, *1*(3), 269–283. https://doi.org/10.31933/epja.v1i3.916

Ramadani, D. C., & Hartiyah, S. (2020a). Pengaruh Corporate Social Responsibility, Leverage,Likuiditas, Ukuran Perusahaan Dan Komisaris Independen Terhadap Agresivitas Pajak (Studi Empiris pada Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia Tahun 2014 sampai 2018). *Journal of Economic, Business and Engineering (JEBE)*, *1*(2), 238–247. https://doi.org/10.32500/jebe.v1i2.1219

Ramadani, D. C., & Hartiyah, S. (2020b). Pengaruh Corporate Social Responsibility, Leverage,Likuiditas, Ukuran Perusahaan Dan Komisaris Independen Terhadap Agresivitas Pajak (Studi Empiris pada Perusahaan Pertambangan yang Terdaftar di Bursa Efek Indonesia Tahun 2014 sampai 2018). *Journal of Economic, Business and Engineering (JEBE)*, *1*(2), 238–247. https://doi.org/10.32500/jebe.v1i2.1219

Rengganis, M. Y. D., & Dwija Putri, I. G. A. M. A. (2018). Pengaruh Corporate Governance dan Pengungkapan Corporate Social Responsibility Terhadap Agresivitas Pajak. *E-Jurnal Akuntansi*, 871. https://doi.org/10.24843/eja.2018.v24.i02.p03

Sani. (2023). *View of Robust Hausman pretest for panel data model in the presence of heteroscedasticity and influential observations*.

Sari, C. D., & Rahayu, Y. (2020). *Pengaruh Likuiditas, Leverage, Ukuran Perusahaan Dan Komisaris Independen Terhadap Agresivitas Pajak*. *9*.

Shaukat Malik, M., Irfan, M., & Munir, S. (2025). Corporate tax avoidance and firm performance: The moderating role of ownership concentration and board independence. *Cogent Business & Management*, *12*(1). https://doi.org/10.1080/23311975.2024.2448277

Simorangkir, Y. N. L., Subroto, B., & Andayani, W. (2018a). Pengaruh Corporate Social Responsibility dan Komisaris Independen terhadap Agresivitas Pajak. *JURNAL MANAJEMEN DAN KEWIRAUSAHAAN*, *6*(2). https://doi.org/10.26905/jmdk.v6i2.2277

Simorangkir, Y. N. L., Subroto, B., & Andayani, W. (2018b). Pengaruh Corporate Social Responsibility dan Komisaris Independen terhadap Agresivitas

Pajak. *JURNAL MANAJEMEN DAN KEWIRAUSAHAAN*, *6*(2). https://doi.org/10.26905/jmdk.v6i2.2277

Sun, Y., & Wang, X. (2019). *An Asymptotically F-Distributed Chow Test in the Presence of Heteroscedasticity and Autocorrelation* (Version 1). arXiv. https://doi.org/10.48550/ARXIV.1911.03771

Supraptiningsih, J. D., & Nuridah, S. (2022). *Pengaruh Profitabilitas Dan Good Corporate Governance Terhadap Agresivitas Pajak*.

Tristiyanto, R. C., Wijaya, A. L., & Aviyanti, R. D. (2024). *Pengaruh Kepemilikan Institusional dan Profitabilitas Terhadap Agresivitas Pajak*.

University of Wah, Punjab, Pakistan, Nazeer, R., Mukarram, S. S., University of Wah, Punjab, Pakistan, Saleem, F., & Universiti Sains Malaysia, Pulau Pinang, Malaysia. (2025). Taxation and Financial Leverage in Emerging Markets: Insights from Pakistan's Karachi Stock Exchange-100. *Journal of Tax Reform*, *11*(1), 57–73. https://doi.org/10.15826/jtr.2025.11.1.192

Wamser, G., Merlo, V., Ruf, M., Stähler, F., Strohmaier, K., Eklund, M. J. C., Hahn, T., Hansen, J., Hiller, N., Laudage Teles, S., Mc Auliffe, S., & Thunecke, G. U. (2025). The ITI Database: New Data on International Tax Institutions. *International Tax and Public Finance*. https://doi.org/10.1007/s10797-024-09880-7

Yahaya, O. A., & Omotola, K. (2024). The moderating effect of institutional ownership on board attributes and tax aggressiveness. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4950381

Zafran, M. (2025). Does CSR Shape Brand Identity? Impact of CSR on brand equity elements with a moderating role of CSR skepticism in fashion industry in Pakistan. *Management*, *1*, 315–342. https://doi.org/10.58691/man/202938

Znar Nahro Ahmed. (2024). Effect of Environmental Social and Governance (ESG) Performance on Profitability of Non-Financial Firms. *Qalaai Zanist Scientific Journal*, *9*(2). https://doi.org/10.25212/lfu.qzj.9.2.43

Zulfikar, R. (2018). *Estimation Model And Selection Method Of Panel Data Regression: An Overview Of Common Effect, Fixed Effect, And Random Effect Model*. Center for Open Science. https://doi.org/10.31227/osf.io/9qe2b