

THE INFLUENCE OF CORPORATE SOCIAL RESPONSIBILITY, PROFITABILITY, AND LIQUIDITY TOWARD TAX AGGRESSIVENESS IN FOOD AND BEVERAGES COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE

Meilani^{1,*}), Angel²⁾

¹⁾Universitas Pelita Harapan, Medan

²⁾Universitas Pelita Harapan, Medan

e-mail: meilani.fe@lecturer.uph.edu *), 03012200046@student.uph.edu

ABSTRACT

This study examines the influence of Corporate Social Responsibility, Profitability, and Liquidity toward Tax Aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange (IDX) from 2021 to 2022. The independent variables used in this study are Corporate Social Responsibility measured by Corporate Social Responsibility Disclosure Index (CSRI), Profitability measured by Return on Assets (ROA), and Liquidity measured by Current Ratio (CR). Tax Aggressiveness as the dependent variable is measured by Effective Tax Rate (ETR). This study employs quantitative research design and use the secondary data, which is published financial statement and sustainability report in Indonesia Stock Exchange and company's official website. From the total population of 43 companies, 27 food and beverages companies are chosen as samples by using purposive sampling method, resulting in total of 54 observations. The data analysis method used is multiple linear regressions, processed through Statistical Product and Service Solutions 26 (SPSS 26). The result of this study reveals that corporate social responsibility (CSRI) and liquidity (CR) have no significant influences toward tax aggressiveness partially. Meanwhile, profitability (ROA) has significant influence towards tax aggressiveness. Simultaneously, these three independent variables have significant influence toward tax aggressiveness.

Keywords: Tax Aggressiveness, Corporate Social Responsibility, Profitability, Liquidity

1. INTRODUCTION

Compared to other revenue sectors, tax revenue stands as the primary and most significant source of state revenue in Indonesia. Majority portion of Indonesia's state income and grants was derived from the realization of tax revenue, as shown in the table presented below.

Table 1.1 Proportion of Indonesia's Tax Revenue to the State Income and Grants

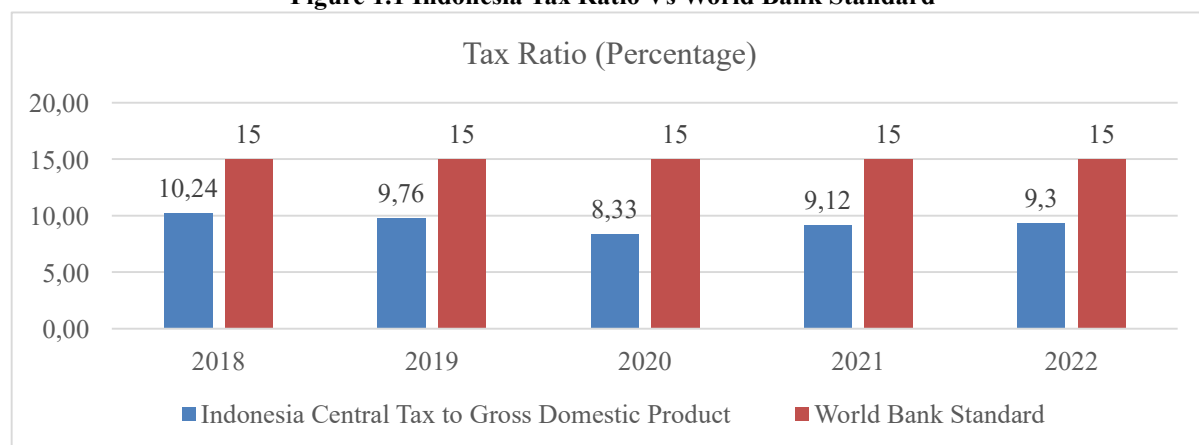
| | 2018 | 2019 | 2020 | 2021 | 2022 |
|--|--------|--------|--------|--------|--------|
| Proportion of tax revenue to the state income and grants | 78.14% | 78.86% | 77.99% | 76.96% | 78.99% |

Source: *Badan Pusat Statistik* (2023)

The government highlights the importance of tax revenue as part of its state budget to implement programs that are geared toward stimulating economic growth through the advancement of infrastructure and public facilities, with the ultimate goal of the citizen's welfare. Conversely, taxes represent a burden for the companies by rising their tax expense. The government's objective of maximizing tax revenue contrasts with the companies' goal as they strive to minimize their tax burden (Suryono & Sutandi, 2022). Minimizing tax payments can be a motivation for certain companies as they may perceive a lack of direct benefits from the taxes they pay. The government is the one who determines the allocation of tax revenue, which leads companies to believe that reducing their tax burden enables them to retain more funds for internal purposes, such as business reinvestment, operational expansion, or profit distribution to shareholders.

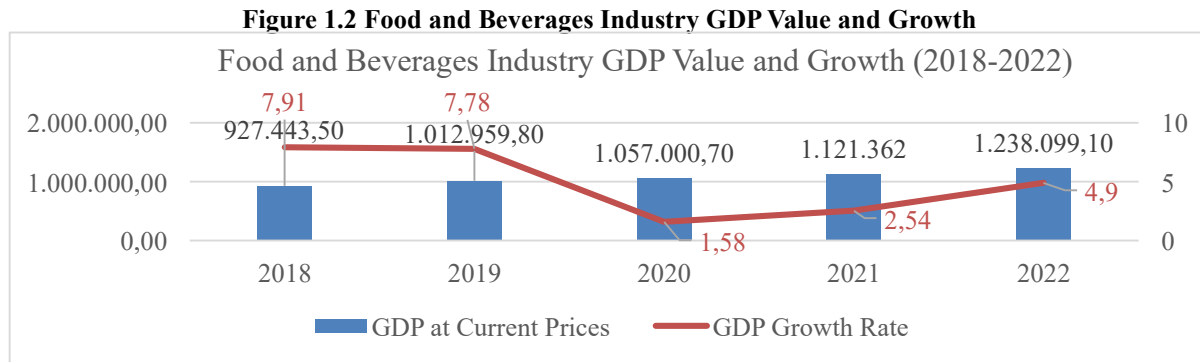
According to Undang-Undang Republik Indonesia Nomor 6 Tahun 1983, the applicable taxation system places trust in tax subjects to carry out their obligations and uphold their rights within the area of taxation. Supported by the tax self-assessment system implemented in Indonesia, businesses are more likely to adopt various strategies, both legal and illegal, to minimize their tax payments, which could lower the realization of tax collection in the country.

Figure 1.1 Indonesia Tax Ratio Vs World Bank Standard



Source: Pajak.go.id (2022) and Worldbank.org (2023)

Indonesia, despite having the highest GDP among ASEAN countries, maintains the lowest tax ratio within the ASEAN region. With a tax ratio below 10 percent, Indonesia lags behind both G20 and other ASEAN nations, which have tax ratios reaching double digits (Saputra, 2023)¹. As can be seen in the chart, Indonesia has remained the tax ratio below the standard set by the World Bank. When a country collects less than 15% of its GDP in taxes, it reaches a critical point where increasing tax revenue becomes crucial. This is necessary to ensure the state can meet the basic needs of its citizens and businesses and set itself on a path towards growth and sustainability. One of the reasons which caused the state tax revenues being impeded is due to the presence of aggressive tax practices.



Source:Badan Pusat Statistik (2023)

Based on the graph above, the food and beverages industry has continued to increase since 2018. During Covid-19 pandemic, many companies were forced to stop operating due to losses. But during these difficulties, the food and beverages industry has shown resilience with the GDP at IDR 0.93, 1.01, 1.06, 1.12, and 1.24 quadrillion in 2018, 2019, 2020, 2021, and 2022 respectively. Despite experiencing lower growth compared to pre-COVID levels, the food and beverages industry managed to maintain its growth momentum during and after the pandemic with a 1.58% increase in 2020, 2.54% increase in 2021, and further 4.9% increase in 2022. In 2021, the food and beverages industry stood out as one of the nine sub-sectors within the non-oil and gas processing industry that achieved growth. However, eight other sub-sectors have experienced decline (Kusnandar, 2022)². These significant economic growths may lead to the potential for more aggressive tax planning conducted by food and beverages companies. The effective tax rate (ETR) is a metric used to evaluate tax-aggressive actions taken by taxpayers. A low ETR suggests tax aggressiveness. Some businesses reduce their taxable income or keep their financial accounting profits up so that their ETR value is lower in order to avoid paying taxes. Tax aggressiveness can be influenced by several variables, including the corporate social responsibility, profitability, and liquidity.

As part of its corporate social responsibility (CSR), the business is burdened with obligations to the environment and communities. Corporate social responsibility is critically important to be chosen as the independent variable for further investigation in the context of tax aggressiveness, especially in the food and beverages industry, since it both meets basic needs of people and has a significant effect on public health. In the food and beverages industry, particularly for businesses with substantial consumer brands, CSR initiatives have become a key component of business operations. Companies that have implemented CSR well will definitely enjoy several advantages, including a good reputation among stakeholders and the assurance of their long-term existence. On the other side, engaging in tax aggressiveness carries the risks of facing tax penalties and potentially causing a decline in the company's reputation. An essential part of CSR that helps maintain the company's positive reputation and image is by paying fair taxes. Because the corporations have spent significant costs in conducting CSR, businesses that have implemented good CSR tend to keep themselves away from taking acts that could harm their reputation. This idea is also supported by Kristiadi et al. (2020) which stated that higher corporate social responsibility action will lead to a lower tax aggressive

conduct. In other words, companies who consider their reputation and care about maintaining a positive public image may be less likely to engage in aggressive tax planning.

Beside the corporate social responsibility, the level of a company's profitability may also influence companies' motivation for engaging in tax aggressive-behavior. According to Gunawan and Kris (2019), companies with higher profitability tend to have a high level of tax aggressiveness. As profitability increases, its taxable income also tends to increase, resulting in greater tax liability. Consequently, the company might be more motivated to adopt aggressive tax planning to reduce its tax obligations.

Moreover, liquidity is one of the important factor to be considered when analyzing the tax aggressive behavior. By comparing current assets with current liabilities, liquidity can be determined. Low liquidity may be an indication that the business is experiencing issues when paying its short-term debts. As a result, aggressive efforts will be taken against corporate taxes to cut tax expenses and take advantage of the tax savings to sustain cash flow. Liquidity issues might cause businesses to disobey tax legislation. As a result, businesses with low liquidity ratios have a tendency to engage in high tax aggressive practice (Handayani, 2022).

In order to provide a deeper understanding of how corporate social responsibility, profitability, and liquidity influence tax aggressiveness, the writer is motivated to observe the phenomenon that occurred in the food and beverages companies as presented in Table 1.2 below.

Table 1.2 Phenomenon Table

| Company | Year | Corporate Social Responsibility (CSRI) | Profitability (ROA) | Liquidity (CR) | Tax Aggressiveness (ETR) |
|---|------|--|---------------------|----------------|--------------------------|
| PT. Mayora Indah Tbk (MYOR) | 2021 | 0.6404 | 0.0608 | 2.3282 | 0.2185 |
| | 2022 | 0.6404 | 0.0884 | 2.6208 | 0.2139 |
| PT. Sariguna Primatirta Tbk (CLEO) | 2021 | 0.6262 | 0.1340 | 1.5300 | 0.2155 |
| | 2022 | 0.5878 | 0.1155 | 1.8123 | 0.2152 |
| PT. Ultra Jaya Milk Industry & Trading Company Tbk (ULTJ) | 2021 | 0.6143 | 0.1724 | 3.1126 | 0.1720 |
| | 2022 | 0.6087 | 0.1309 | 3.1700 | 0.2510 |
| PT. Cisarua Mountain Dairy Tbk (CMRY) | 2021 | 0.3581 | 0.1410 | 5.7195 | 0.2223 |
| | 2022 | 0.6959 | 0.1704 | 4.3950 | 0.2101 |
| PT. Diamond Food Indonesia Tbk (DMND) | 2021 | 0.7931 | 0.0558 | 3.5836 | 0.2188 |
| | 2022 | 0.7826 | 0.0556 | 3.2581 | 0.2339 |

Source: Prepared by Writer (2023)

The first phenomenon is presented by the inconsistent relationship between corporate social responsibility and ETR of PT. Cisarua Mountain Dairy Tbk (CMRY) in the year 2021 to 2022. In PT. Cisarua Mountain Dairy Tbk, the increase in corporate social responsibility disclosure index from 0.3581 in 2021 to 0.6959 in 2022 was not followed by the increase of the effective tax rate. In fact, the effective tax rate was declining from 0.2223 in 2021 to 0.2188 in 2022. The increase in corporate social responsibility (CSRI) was due to the more extensive and complete CSR information disclosure in the sustainability report in accordance with the GRI Standard. In addition, the company's CSR activities were increasing as reflected by higher community investments from IDR 133 billion in 2021 to IDR 392 billion 2022. On the other hand, the decrease in ETR was due to the higher increase in income before tax as denominator

amounted to 32% from IDR 1.02 trillion in 2021 to IDR 1.34 trillion in 2022, compared to the increase in the tax expenses as numerator which only increased by 25% from IDR 225.90 billion in 2021 to IDR 282.13 billion in 2022.

Companies with higher levels of corporate social responsibility often prioritize building a good reputation and positive public image. Participating in CSR initiatives can help companies enhance their reputation by showcasing the dedication to ethical and responsible business practices. Therefore, companies with high levels of corporate social responsibility are less inclined to participate in aggressive tax planning, primarily because tax aggression can be harmful to a company's reputation and branding. As a result, in the case when increase in CSR is not followed with increase in ETR, there is a possibility that the company has done more aggressive tax behavior to minimize the tax burden. Company might utilize the high CSR related cost to lower its accounting profit, which will automatically impact the fiscal profit when calculating its taxable income. Lower taxable income will potentially lower its tax obligation. Additionally, the company may use CSR initiatives to cover up the aggressive tax planning behaviors by diverting stakeholders' attention on the positive perception associated with CSR.

The next phenomenon is displayed through the profitability of PT. Mayora Indah Tbk (MYOR) in the year 2021 to 2022 which presented an inconsistent relationship between profitability and ETR. In PT. Mayora Indah Tbk, the increase of profitability from 0.0608 in 2021 to 0.0884 in 2022 was not followed by the increase of the effective tax rate. In fact, the effective tax rate was declining from 0.2185 in 2021 to 0.2139 in 2022. The increase in the profitability (ROA) was significantly due to the drastic rise in the income after tax as the numerator of ROA amounted to 63% from IDR 1.21 trillion to IDR 1.97 trillion, while the total assets as the denominator increased by only 12% from IDR 19.92 trillion to IDR 22.28 trillion. The increase in income after tax was mainly caused by higher sales generated from IDR 27.90 trillion in 2021 to IDR 30.67 trillion in 2022. In addition, the company had successfully lowered its selling expense from IDR 4.54 trillion in 2021 becoming IDR 3.71 trillion in 2022. In the other side, the increase in total assets was mostly contributed by the increase of current assets, including cash and cash equivalents, short-term investment, trade receivable related parties, current inventories and other current advances. The company's profitability, as measured by ROA, has increased as a result of the net income after tax increasing at a faster rate than total assets. On the other hand, the decrease in ETR was due to the higher increase in income before tax as denominator amounted to 62% from IDR 1.55 trillion in 2021 to IDR 2.51 trillion in 2022, compared to the increase in the tax expenses as numerator which only increased by 58% from IDR 338.60 billion in 2021 to IDR 535.99 billion in 2022.

Since profits serve as a tax base when determining taxes payments, greater profitability should be associated with a higher effective tax rate. Therefore, in the case when increase in profitability is not followed by an increase in ETR, there is a possibility that the company has done several earnings managements, including raising expenses, delaying income and utilizing specific accounting methods. The declining ETR when the company is experiencing profit growth may be an indication that the company has tried to arrange the profit by conducting more aggressive tax planning.

As for the liquidity case, there is an inconsistent relationship between liquidity and ETR. In PT. Sariguna Primatirta Tbk (CLEO), the increase of liquidity (CR) from 1.5300 in 2021 to 1.8123 in 2022 was not followed by the increase of effective tax rate. In fact, the effective tax rate was declining from 0.2155 in 2021 to 0.2152 in 2022. The increase in liquidity (CR) was

significantly due to the drastic rise in current assets as the numerator amounted to 36% from IDR 279.80 billion in 2021 to IDR 380.27 billion in 2022, while the current liabilities as the denominator increased by only 15% from IDR 182.88 billion in 2021 to IDR 209.83 billion in 2022. Since the current assets increment were more significant rather than current liabilities, the liquidity ratio increased. The increase in current assets was mainly caused by higher trade receivables related parties from IDR 122.44 billion in 2021 to IDR 189.07 billion in 2022. In addition, the company also has higher current inventories from IDR 121.73 billion in 2021 to IDR 178.18 billion in 2022. The increase in those accounts paralleled the 23.12% of sales revenue growth in 2022. In the other side, the increase in current liabilities was mainly attributed to the growth in short-term bank loans, which have increased by 160.55%. Additionally, 26.84% increase of trade payables related parties and 107.80% increase in other payables third parties were also the reasons for higher current liabilities in 2022 compared to 2021. Therefore, the higher increase in current assets compared to current liabilities have caused the company's liquidity (CR) to increase. On the other hand, the decrease in ETR was due to the higher increase in income before tax as denominator amounted to 8.20% from IDR 230.34 billion in 2021 to IDR 249.23 billion in 2022, compared to the increase in the tax expenses as numerator which only increased by 8.06% from IDR 49.63 billion in 2021 to IDR 53.63 billion in 2022.

Companies with higher levels of liquidity are better positioned to cover up their short-term obligations, indicating lack of cash flow problems and being able to pay taxes. Therefore, a company with high liquidity is less likely to engage in aggressive tax planning because a company that has a strong cash flow position is anticipated to have the willingness and ability to meet its tax obligations more readily. As a result, in the case when increase in liquidity is not followed with increase in ETR, there is a possibility that the company has done more aggressive tax behavior to optimize the tax burden, including utilizing the excess of liquidity to invest in assets that qualify for tax incentives or utilizing high liquidity to finance the creation of special purpose entities, which are used to hold and manage certain assets or income and enable the separation of revenue streams along with potential tax benefits.

Numerous researchers have conducted studies on tax aggressiveness, but research gap still exists in this area. According to a previous study conducted by Julian (2021), it was found that corporate social responsibility has no significant influence on tax aggressiveness. Conversely, another study conducted by Martaningrum and Sriyono (2023) revealed a significant influence of corporate social responsibility on tax aggressiveness. Additionally, research conducted by Christy (2023) indicates that profitability and liquidity have significant influences on tax aggressiveness partially. In contrast, research by Chilwinnie (2022) reveals that profitability has no significant influence on tax aggressiveness. As for liquidity, Handayani (2022) demonstrates an insignificant influence on tax aggressiveness.

Given the aforementioned research background and the existence of inconsistent research results in this topic, the writer finds it intriguing to conduct a study entitled "The Influence of Corporate Social Responsibility, Profitability, and Liquidity Toward Tax Aggressiveness in Food and Beverages Companies Listed on the Indonesia Stock Exchange".

2. LITERATURE REVIEW

2.1 Theoretical Background

2.1.1 Agency Theory

This research paper utilizes the Agency theory to cope with the research problem. The Agency theory was introduced by Jensen and Meckling in 1976, which focuses on the principal-agent relationship, established through an agreement that grants decision-making authority to the agents for the purpose of providing services on behalf of the principal. In this relationship, managers, as agents, who run the daily operational activity in the company may possess superior knowledge about internal information and the company's future prospects. In the other side, principals, as the owner, may ask for accurate information about the company's condition to see its progress or regress. However, there is often a discrepancy in the information provided with the real situation, leading to information asymmetry. Managers may exploit the information at their disposal in order to make decisions that are not aligned with the principal's interest, including to manipulate financial reporting in order to maximize their own financial gains. The agency problem occurs when the agent makes numerous decisions that have consequences on the principal, either monetarily or in other ways. Jensen and Meckling (1976) in Alkausar et al. (2020) have stated that, this problem might occur because there is conflict of interest between the principals who seek greater and quicker returns on their investments and the agents who expect higher incentives for the company's performance. In other words, agents frequently strive to maximize their own expected utility or satisfaction by opting for action that is expected to produce the maximum level of utility while considering the potential risks and benefits related to each option.

According to Moloï and Marwala (2020), it is challenging for the principal to make sure that the agent has acted appropriately when there is a conflict of interest because the agents possess more information regarding the company. This situation is called as adverse selection. Additionally, when both the principal and agent have distinct perspectives about risk, the agency problem occurs. The challenge is that the principal and the agent might favor different strategies of action due to divergent risk preferences, which is called as moral hazard.

The principal must bear the agency cost in an effort to monitor agency behavior since the agent might not be acting in good faith. Besides agency cost, there is also agency loss. The agency loss refers to the losses that the principal will suffer as a result of the agent's conduct. The expectation is that the agency loss would be zero if the agent acted in the principal's best interests. On the other hand, if the agent starts acting in his or her own interests, it will increase agency loss. Reduced earnings, financial losses, or other negative effects on the principal's wealth might be the result of agency loss. Therefore, a contract should be formed in order to manage and keep both parties' objectives in line. The contract should include penalties or rewards to encourage transparent behavior. However, the issue caused by asymmetric information will still be present despite the existence of the contract.

Darsani and Sukartha (2021) has applied the Agency theory to illustrate about the government and taxpayer relationship. Government who acts as the principal, possesses the legal authority to collect taxes from the income generated by taxpayers, who act as agents. However, taxpayers as the agent, have their own interests in minimizing the tax payments. Due to conflicts of interest, taxpayers may engage in a variety of earnings management techniques, financial statement manipulation and transfer pricing, which results in lower tax revenue to the state. Taxpayers who act as agents, responsible for the company's operational activities, will undoubtedly possess more information regarding the company's financial situation compared

to the government who act as principal. Due to this information asymmetry, businesses may act opportunistically, which leads to low-quality financial reports that do not accurately reflect the business's financial situation. Hence, tax aggressiveness action could happen because of the information asymmetry.

In cases of adverse selection, the tax authorities with limited information may struggle to detect opportunistic actions done by taxpayers. Agency costs for the administration and enforcement of tax laws are then incurred by tax authorities, which include expenses for tax audits, tax collecting activities and maintaining tax systems. Besides that, tax evasion done by taxpayers could causes agency loss to the government in the form of lower tax revenue, leading to lesser fund being allocated for public services, infrastructure and government programs. As a result, regulations must be created to impose penalties for those who violate them in order to control the complex agent-principal relationship and encourage transparent behavior. However, the issuance of tax regulation and penalties cannot completely eliminate the possibility of asymmetric information existence in the future.

2.1.2 Stakeholder Theory

The fundamental principle of Stakeholder theory is that businesses exist within networks of varied stakeholders, each of whom has a role in the company's sustainability existence and has ability to generate value for a specific stakeholder group (Gutterman, 2023). While putting the interests of the shareholders initially has consistently served as a guiding principle, it is now obvious that in order to create sustainable shareholder value, strong and constructive relationships with other stakeholders are necessary, which is developed through engagement in order to achieve the alignment on objectives and strategy. In other word, Stakeholder theory opposes the conventional understanding of business that mainly focuses on increasing shareholder value, become more considerate on the broader implications of their actions toward all stakeholders' interest. Companies can improve their reputations, reduce risks and achieve long-term sustainability by conducting business in a more ethical and socially responsible manner.

Stakeholder theory examines how stakeholders, including consumers, suppliers, employees, investors, bondholders, creditors, communities, governments, political parties, labor unions and the general public, interact with management in order to create value (Valentinov & Roth, 2023). The stakeholder theory asserts that there are no longer any privileged stakeholders. Instead, all stakeholders possess equal rights with respect to the company as a whole. The company's policies, plans and operations will not only be focused on shareholders, but will also consider other stakeholders in order to gain a competitive advantage (Pranata et al., 2021).

Stakeholder theory relates to the company's performance in addressing the diverse interests of existing stakeholders, ensuring that no party is negatively affected. Contrarily, tax aggression is a practice that favors the interests of the company on its own and has no regard for other stakeholders, such as the government or the general public. It is regarded as unethical because the tax is not merely a business transaction that is comparable to various operational expenses of a company. Instead, taxes serve as a means for businesses to demonstrate their duty as citizens, who also utilize the public facilities that are funded by taxes. Taxes are regarded as a form of social obligation because they provide assistance to the general public. Government regulations must be followed since government is a part of business' stakeholders, and one way to do this is by paying taxes.

According to Landry et al. (2013) in Firmansyah and Estutik (2020), the company's most important investment is its reputation. Therefore, enhancing shareholder profits through cost-cutting and tax-aggressive methods is inferior to ensuring the company's long-term viability, considering that shareholders also need assurances regarding the credibility of the business. As a result, tax aggressiveness is no longer beneficial when the potential harm to company's reputation outweighs the previous savings obtained.

2.1.3 Tax

According to Pistone et al. (2019), every tax has certain characteristics in common. First of all, since taxes are mandatory contribution, taxpayers either in the form of individuals or entities cannot refuse to perform their obligation. Secondly, taxes are established through legislation formed by governments. Thirdly, revenue from taxes cannot be misused for a particular individual or organization; it must be dedicated to maximized the well-being of public and benefit society as a whole. Lastly, unlike payments for particular services, taxes are typically not linked to any direct personal benefit/compensation of a specific service provided to the taxpayer.

According to Sutedi (2022), legislation must be created jointly by the government and the house of representatives in order for taxes to be based on provisions that reflect the will of the people and not only the authorities. Tax has some functions, which are organizing function and budgeting function. In organizing function, tax is employed in the organizing function to arrange and implement the government's social and economic policies. While for budgeting function, the government uses taxes as a funding source for government's operating expenses. According to Undang-Undang Republik Indonesia Nomor 36 Tahun 2008, the subject of tax consists of: individuals, inheritance that has not been divided as a unit to replace the rightful, entity/body and permanent establishment. Meanwhile, the object of tax is income, which refer to any addition in economic capacity acquired or received by a taxpayer, originating from within Indonesia or internationally, which is usable for consumption or to enhance the financial well-being of the taxpayers. Income tax in Indonesia is implementing the self-assessment taxation system, where the government entrusts taxpayers to determine, pay, and report their own taxes due in compliance with the relevant tax laws.

In 2009, the Indonesian government implemented a single rate of 28% for corporate income tax. The corporate income tax and permanent establishment rates were then set at 25% from 2010 to 2019 in accordance with Undang-Undang Nomor 36 Tahun 2008 Pasal 17. In reaction to the corona virus, the government enacted an emergency regulation of Peraturan Pemerintah Nomor 30 Tahun 2020 on income tax modifications. For the 2020 and 2021 fiscal years, the corporate income tax rate has been adjusted to 22%. While for the 2022 fiscal year, it will be 20%. Surprisingly, the previously mentioned provisions have been changed as a result of the Undang-Undang Harmonisasi Peraturan Perpajakan which caused the corporate income tax rate stays at 22% for 2022 fiscal year.

Through the enactment of Undang-Undang Nomor 7 Tahun 2021, the government introduced new regulations regarding the reduction of income tax rates applicable to domestic corporate taxpayers who are classified as public companies. As per this regulation, it is stipulated that domestic taxpayers categorized as public companies, that have at least 40% of their total paid-up shares traded on Indonesian stock exchanges and meet several criteria, will be granted 3% reduction facility from 22% of corporate income tax rate, making the income tax rate for domestic taxpayer in the form of public companies become 19%. The following

table summarizes the income tax rate for corporation, permanent establishment, and public company.

Table 2.1 Corporate, Permanent Establishment, and Public Company Income Tax Rate

| Tax Year | Corporate Income Tax Rate | Permanent Establishment Income Tax Rate | Public Company Income Tax Rate |
|---------------|---------------------------|---|--------------------------------|
| Starting 2009 | 28% | 28% | 23% |
| Starting 2010 | 25% | 25% | 20% |
| Starting 2020 | 22% | 22% | 19% |

Source: Prepared by Writer (2023)

According to Peraturan Pemerintah Republik Indonesia Nomor 23 Tahun 2018, certain small medium enterprises either in the form of individual or corporation with gross turnover below IDR 4.8 billion may opt to apply a final income tax of 0.5% from gross turnover for a period of 3 years for limited liability companies, 4 years for cooperatives, limited partnerships without shared capital, or firms and 7 years for individual taxpayers. In addition, based on Undang-Undang Republik Indonesia Nomor 36 Tahun 2008 Pasal 31E, small medium enterprises with gross turnover between IDR 4.8 billion to IDR 50 billion are allowed to utilize the facility in the form of a 50% tariff reduction that is proportionally imposed on the corporate taxable income from the gross turnover portion until IDR 4.8 billion.

2.1.4 Tax Aggressiveness

According to Hana et al. (2022), tax aggressiveness refers to a strategic approach adopted by companies to minimize their tax burdens and consequently lower their tax liability. Corporate tax aggressiveness serves as an indicator of how companies manage their taxable income through various forms of tax planning, which can be legal (tax avoidance) or illegal (tax evasion). Alm (2012) in Hokamp et al. (2018) defined tax evasion as the illegal and purposeful reduction of an individual's or an entity's legally owed tax responsibilities. The most popular methods for evading taxes include underreporting income on purpose and taking advantage of gaps and loopholes within the tax law and regulation. Tax evasion should be differentiated from legal tax avoidance, which enables taxpayers to lower their tax obligations legitimately. There will be an ambiguous situation when taxpayers are utilizing legal loopholes to engage in tax avoidance practice. According to Kusmuriyanto et al. (2023), as companies exploit more loopholes to reduce their tax burden, they may be perceived as more aggressive in their approach to taxation, even though not all of their actions may be illegal.

The tax aggressiveness in this research is measured by the Effective Tax Rate (ETR) proxy. The term "effective tax rate" refers to the ratio of a company's total income tax expense to its total profit before taxes (Anggraini & Widarjo, 2020). Hence, the effective tax rate can be understood as the level of tax burden that the taxpayer should reasonably bear, ensuring it does not hinder the realization of the taxpayer's goals. ETR serves as a tax aggressiveness parameter that is most commonly used in previous research studies. The ETR provides an overview of the company's total income and the corresponding tax expense. It is computed by dividing company's tax expense with the total net profit before tax for a specific period. ETR can provide a broad overview and identification regarding company behaviors in relation to tax avoidance. ETR calculation includes the current cash tax paid plus deferred tax assets and liabilities, taking into account differences in tax and accounting procedures, as a portion of accounting profits.

Due to its alignment with the accrual basis, which is used for preparing financial statements, the ETR was selected as the tool for evaluating tax aggressiveness in this study. Based on accrual basis method, the recording is made when income and expenses are earned or incurred, instead of when cash are paid or received. Similarly, ETR is based on accrual-based information, which takes into account deferred tax assets and liabilities. This gives a broader perspective of a company's tax management techniques and their impact of accounting rules on future tax payments. Contrarily, Cash ETR focuses solely on the actual cash taxes paid during a period, which are aligned with cash basis. In addition, policymakers frequently intend to discover what factors determine the effective tax rate because accounting and tax laws are subject to frequent change. For the policymaker, ETR is useful for investigating how the corporate tax system operates (Simone, 2019).

The higher the Effective Tax Rate (ETR) compared to the statutory tax rate, the greater the level of tax compliance, or in other words, the lower the company's tax aggressiveness (Magfira & Murtanto, 2021). This research utilizes two years' observation periods from 2021 to 2022. Therefore, by using the tax rate stipulated in the applicable tax law and regulation as the base, the table below explained how to determine the benchmark of tax aggressiveness.

Table 2.2 Classification of ETR based on Indonesia Applicable Income Tax Rate

| Year | Public Company Income Tax Rate | Corporate Income Tax Rate | ETR | Explanation |
|-------------------|--------------------------------|---------------------------|-------------------|---|
| 2020 - 2022 | 19% | 22% | < 19% or < 22% | When ETR is below statutory tax rate, it signifies that the company is paying a lower percentage of income in taxes compared to the official tax rate, which shows an effective tax planning. It indicates that the company is taking advantage from tax incentives, deductions, credits, or other tax planning strategies, including exploiting the legal loophole in tax regulation. Therefore, there is an indication of tax aggressiveness. |
| | | | > 19% or > 22% | When ETR is above statutory tax rate, it signifies that the company is paying a higher percentage of income in taxes compared to the official tax rate, which shows a less effective tax planning. It indicates that the company is not taking full advantage from tax incentives, deductions, credits, or other tax planning strategies, |
| | | | | including exploiting the legal loophole in tax regulation. Therefore, there is no indication of tax aggressiveness. |

Source: Prepared by Writer (2023)

2.1.5 Corporate Social Responsibility

Corporate Social Responsibility (CSR) is an essential obligation that companies must undertake. It enables them to reciprocate to the community stakeholders and meet their social obligations, despite the frequent misalignment between community expectations and company's CSR reporting (Martaningrum & Sriyono, 2023). CSR represents a company's commitment to promote sustainable economic growth while prioritizing a balance between economic, social, and environmental aspects.

Companies strive to gain approval and acceptance from the community to ensure their long-term survival by implementing CSR programs, including fulfilling tax obligations in accordance with regulations. An essential part of CSR that helps maintain the company's

positive reputation and image is by paying fair taxes. In other words, by keeping away from tax avoidance and evasion practices that can harm various stakeholders, companies can be socially responsible and enhance their legitimacy in the eyes of the community. Because the corporation has spent significant costs in conducting CSR, businesses that have implemented good CSR tend to keep themselves away from taking acts that could harm their reputation. Therefore, it is reasonable to assume that the engagement in CSR activities reduces the likelihood of the company to implement tax noncompliance.

Research result done by Ortas and Álvarez (2020) has demonstrated that as a company's CSR performance increases, the probability of the company engaging in tax non-compliance decreases. This is because the tax aggressive action carries significant risk for companies that could potentially offset the benefits related to the company's CSR initiatives, including scrutiny from both government officials and the general public, which could harm their reputations.

On the other hand, Preuss (2010) in Ortas and Álvarez (2020) has an opposition assumption claiming that several companies that exhibit outstanding CSR performance also engage in aggressive tax strategies that aim to lessen company's tax obligation through tax planning strategies. Some CSR related costs are regarded as deductible expenses. Therefore, when a company spends on CSR, it can subtract these expenses from its accounting profit and automatically will impact the fiscal profit when calculating its taxable income. By doing this, the company lowers its taxable income, which then lowers its obligation to pay taxes. If a company has a large CSR burden, the amount that can be deducted increases, which can lower its taxable income and consequently lowers its tax obligation.

Additionally, according to Zeng (2019), companies that emphasize their own gains and engage in more aggressive tax strategies may use CSR initiatives to cover up these behaviors by capitalizing on the positive perception associated with CSR. In order to protect themselves, companies can use CSR to draw attention away from other acts that might not be consistent with ethical or responsible behavior. CSR program might help companies mitigate any negative framing from the public related to perceived tax aggressiveness.

Nugraha and Meiranto (2015) in Kurniawati (2019) stated that the performance of CSR is assessed by examining the corporate contribution made by a company during the year. The company's CSR disclosure are compared with the checklist items listed in the Global Reporting Initiative (GRI) Standard. GRI Standard is issued by Global Reporting Initiative (GRI), which is a network-based organization who creates the sustainability reporting framework most extensively used by companies throughout the world to measure ongoing enhancements in CSR and sustainability programs. Sustainability reporting facilitated by GRI fosters transparency and enhances market efficiency, facilitating informed decisions that contribute to sustainable advantages for all stakeholders. GRI collaborates with businesses, investors, policymakers, civil society, labor organizations, and experts to formulate the GRI Standards and advocate for their widespread adoption. GRI operates through seven regional offices worldwide, each guided by advisory groups with high-level regional representation. These offices located in Johannesburg (Africa), Singapore (ASEAN), São Paulo (Brazil), Hong Kong (Greater China Region), Bogota (Latin America), New York (North America), and New Delhi (South Asia), work to advance reporting and address the needs of local stakeholders at both regional and country levels. All other regions, including Europe, receive support from the GRI Secretariat in Amsterdam, the Netherlands.

GRI in ASEAN is active in several countries, including Singapore, Indonesia, Malaysia, Thailand, the Philippines, Vietnam, and Myanmar, and is being monitored by the Head of the

GRI ASEAN Regional Hub in Singapore. In 2019, GRI entered into a collaborative agreement with the Indonesian Government, pledging its support to provide reporting frameworks in line with the country's Sustainable Development Goals commitments. Indonesia's Ministry of National Development Planning (BAPPENAS) is dedicated to foster the involvement of the private sector in realizing the 2030 Agenda. GRI has established an active presence in Indonesia with locally based staff, facilitated by the Corporate Sustainability and Reporting for Competitive Business (SRRB) program, which is funded by the Swiss State Secretariat for Economic Affairs. In Indonesia, the GRI Country Program Manager (CPM) holds a crucial role, overseeing the implementation of GRI. The CPM collaborates with regional teams and the global Secretariat, reporting to the Head of the GRI ASEAN Network in Singapore. The responsibilities of the CPM include communicating with governments, capital markets, civil society, and various stakeholders to enhance the demand for GRI sustainability reporting while creating a conducive environment for high-quality ESG disclosure. The CPM is tasked with planning, organizing, monitoring, evaluating, and reporting on program progress to strengthen the positioning and promotion of GRI Standards.

In addition, in order to improve its members' sustainability reporting, the Indonesia Business Council for Sustainable Development (IBCSD) will also provide assistance, especially to assist new reporters in acquiring fundamental and technical knowledge in reporting sustainability report using GRI Standard. Furthermore, IBCSD will maintain collaborations with government entities, specifically BAPPENAS and the Financial Services Authority (OJK) to facilitate the alignment of diverse standards in sustainability reporting without imposing additional burdens on the business (IBCSD, 2022).

The use of GRI Standard can offer a standardized and comprehensive format for reporting on corporate social responsibility efforts done by companies. As a result, it was easier for stakeholders to understand and assess company's CSR activities in many aspect, as well as compare their performance to industry's competitors. Employing a widely accepted standard will allow companies to show their stakeholders that they are committed to truthful reporting. Purnomo (2022) provides the supporting argument to adopt GRI Standard as the reference to measure CSR, stating that GRI standard contains a more complex and complete sustainability report format rather than POJK No. 51/POJK.03/2017 which only regulates the CSR in general terms. As can be seen from GRI Standard 2016 items of 102-40 (list of stakeholder groups), 102-41 (collective bargaining agreements), 102-42 (identifying and selecting stakeholders), 102-43 (approach to stakeholder engagement), and 102-44 (key topics and concerns raised), GRI provides a more comprehensive reporting guideline regarding to stakeholder engagement, compared to POJK No. 51/POJK.03/2017 that only regulates the items of 5.d.1 (stakeholders engagement based on management assessment result, GMS, decree or other) and 5.d.2 (stakeholders engagement in the implementation of financial service institution, issuers, and public company's sustainable finance).

The utilization of GRI Standards can be beneficial for the sustainability of companies, as it improves engagement with stakeholders, facilitating the establishment of connections with key stakeholders and the addressing of their needs and concerns. Moreover, the implementation of GRI Standard sustainability reporting has the potential to boost the company's perception among stakeholders, enhance competitiveness in the market, and create lasting value by maintaining a positive reputation. Overall, while complying with the obligatory POJK No. 51/POJK.03/2017, companies might discover additional advantages in embracing GRI to align with the broader expectations and interests of diverse stakeholders.

As time goes by, GRI has continued to update and revise the GRI guideline standards, starting from GRI G2, GRI G3, GRI G3.1, GRI G4, and GRI Standards version 2016, as well as GRI Standards version 2021. However, the writer will use GRI Standard 2016 as the benchmark to examine the CSR variable in this research. The decision is made because GRI Standard 2016 is the newest version of GRI before the GRI Standard 2021. GRI Standard 2016 was issued in 2016 and effective in July 2018. Even though the GRI Standard 2021 is the newest standard, it is not used as the benchmark in this research because it is effective after January 1, 2023, meaning that companies within the period of observation in this research are still employing the GRI Standard 2016, except for those who are early adopting the newest GRI Standard 2021.

There are two different categories of reporting standards in the GRI Standard 2016 framework. The first is called as universal standards, which apply to all reporting organizations. The second is called as the specific standards that focus on specific sustainability topics. GRI standards are divided into 4 series. The information in Series 100 is related to universal standards, which include GRI 101 (Foundations), GRI 102 (General Disclosures), and GRI 103 (Management Approach). The Series of 200, 300, and 400 describe the specific topic standard, which cover economic, environmental, and social topics.

GRI Standard 2016 has 56 general disclosure items and 3 management approach items. In addition, after several topics of GRI Standard 2016 were revised in 2018, there are 17 disclosure items specifically for economic aspects; 32 disclosure items specifically for environmental aspects; and 40 disclosure items specifically for social aspects. After comparing the CSR disclosure with the checklist item from GRI Standard 2016, the results of comparison are then evaluated using the CSRI proxy in order to assess the CSR variable in this research.

2.1.6 Profitability

Profitability is defined as a company's capacity to generate profits during a specific timeframe. Profitability ratios serve as indicators of management's effectiveness in generating profits in relation to the company's sales and investment outcomes (Christy, 2023). When the profitability of a company increases, its taxable income also tends to increase, leading to a higher tax liability. Consequently, the company may become more motivated to adopt aggressive tax strategies in order to minimize its tax burden and be more proactive in managing its tax obligations (Sumiati & Ainniyya, 2021).

In this research, the profitability will be measured by Return on Assets (ROA). Return on Assets (ROA) reflects the company's effectiveness in utilizing all of its assets to generate profit after taxes. The ROA demonstrates the level of asset efficiency. Return on Assets (ROA) is an indicator commonly used to evaluate the ability to create profits through asset management, which is calculated from net income after tax divided by total assets. ROA is chosen as the measurement for evaluating profitability due to some considerations. ROA illustrates the capacity of a fund invested in an entire asset for generating profits in the overall operations of the company for all the investors (bondholders and stockholders). In other word, the ROA assesses all assets, which are typically funded by a combination of liability (owed capital) and equity (capital contributed by shareholders).

While for ROE, it merely offers a simple metric for assessing investment returns that offer insight into how the management of the company is utilizing equity financing for growing the business. As a result, ROA evaluates more comprehensive performance of a company. ROA is also a useful analytical approach that assesses how well a company's overall operations generate returns from its assets without being influenced by management financing decisions.

Mariana et al. (2021) has stated that, the higher the return on assets (ROA), the more profitable the company becomes, which shows that the company is becoming more improved at its asset management. ROA evaluates a company's efficiency in generating profit from its operational assets and assesses how well the management is managing its investments in the assets. The performance of the company improves as ROA increases.

2.1.7 Liquidity

Liquidity is the ability of a business to fulfill its immediate obligations, usually within a year (Novianti & Sukendar, 2022). Improved company's ability to settle short-term obligations is reflected in the increasing liquidity ratio. Company's liquidity will influence on how aggressively it focuses on the taxes planning. According to Martaningrum and Sriyono (2023), companies with lower liquidity ratios reflects the difficulty in fulfilling its short-term obligations, which will trigger the company to engage in more aggressive tax planning to prioritize preserving cash flow rather than fulfilling their tax obligations. The results of tax aggressive activities can be utilized by the company in order satisfy its short-term responsibilities. In the other side, the research done by Ann and Manurung (2019) indicates that as companies fulfill their short-term obligations with increased liquidity, there is a consequent decrease in corporate tax aggressiveness. Companies with efficient cash flow management can easily meet their financial obligations, such as settling taxes, demonstrating a willingness to fulfill these financial responsibilities without hesitation.

In this research, the liquidity will be measured by Current Ratio. A company's ability to settle short-term obligations or debts by utilizing the current assets is determined by its Current Ratio. The Current Ratio of a company often indicates how liquid the company is. Since the Current Ratio offers a comprehensive evaluation of a company's overall liquidity situation, the writer has chosen the Current Ratio to assess companies' liquidity. Current Ratio provides an overall assessment of the company's current assets components, including cash, account receivable, marketable securities, and inventory to settle short-term debts.

Higher Current Ratio value indicates that the company is more liquid, since it has a greater likelihood of fulfilling its short-term debt obligations (Alimunir & Irman, 2021). However, very excessive Current Ratio in some cases may indicate that the company is missing out on potentially beneficial investment opportunities that may support the expansion (Fangohoi et al., 2023). Conversely, a low Current Ratio suggest that the company is struggling to meet its current liability which may increase risk. A Current Ratio below one signifies that a company's current liabilities exceed its current assets, indicating insufficient current assets to cover its short-term obligations. The ideal current ratio rate may differ based on the situation and strategy.

2.2 Hypothesis Development

2.2.1 The Influence of Corporate Social Responsibility towards Tax Aggressiveness

The implementation of CSR is expected to gain approval from the stakeholders. In contrary, tax aggressiveness could harm the stakeholder and thus will decrease company's acceptance in the community. Moreover, because the corporation have spent significant costs in conducting CSR, companies that have implemented good CSR tend to keep themselves away

from taking acts that could harm their reputation. Therefore, a greater level of CSR will lower the probability of tax aggressiveness in the company (Kurniawati, 2019).

On the other side, Preuss (2010) in Ortas and Álvarez (2020) has claimed different assumption from the research result, which shows that companies with high CSR performance are also engaging in high level of tax aggressiveness to lower the tax burden. When companies' CSR related expenses are increasing, these deductible expense can lower the taxable income and consequently lowers its tax obligation. Moreover, companies could utilize CSR activities to mask their potentially risky and opportunistic tax aggressive activities in an effort to lessen the harm that such activities might have caused to their reputation and image. Therefore, it is logical to infer that company with the higher CSR score is more likely to undertake tax aggressive planning.

According to Pratama and Widarjo (2022), the Agency theory is applied to explain the relationship between corporate social responsibility and tax aggressiveness. Different interests underlie the interaction between the principal and the agent. The company as agent wants to maximize their own benefit by conducting opportunistic behavior, including using tax aggressive planning to lessen company's tax burden, while the government as principal wants the companies to carry out their obligations, including paying fair taxes, conducting CSR for benefiting the community and disclose the annual CSR in the sustainability report. Due to the information asymmetry between the company (agent) and the government (principal), agents may behave opportunistically through tax avoidance. Then, companies tend to hide their aggressive taxation practices by raising up their CSR efforts for the purpose of their own benefit, including to not creating a bad reputation resulting from the tax aggressive practice. Therefore, given the conflicting assumption on the relationship between CSR and tax aggressiveness, the first hypothesis is:

H1: Corporate Social Responsibility has significant influence towards tax aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange.

2.2.2 The Influence of Profitability towards Tax Aggressiveness

Profitability will determine the amount of taxable income in the company. As the profit increases, companies will tend to engage in tax aggressive actions due to the higher tax burden (Ayem & Setyadi, 2019). According to Agency theory, different interests exist between the government (principal) and the company (agent). To meet the expectations of its shareholders, the company (agent) intends to enhance its profits. The tax imposed on company profits will increase in proportion to the level of a company's profitability. In these circumstances, companies try to seek tax aggressive strategies since companies definitely do not want to pay high taxes (Dianawati & Agustina, 2020). Companies strive to pay the least amount of tax possible because taxes are believed to reduce net profit after tax. However, the government (principal) expects the maximum amount of tax collection in order to support development plans. Hence, a company is more inclined to employ tax aggressive planning as its profitability increases. Therefore, the second hypothesis is:

H2: Profitability has significant influence towards tax aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange.

2.2.3 The Influence of Liquidity towards Tax Aggressiveness

According to the Agency theory, companies with high liquidity ratios are able to settle their short-term debts, showing that they are in good financial health, do not experience cash flow issues and can meet their tax obligations. As a result, company with high liquidity has

smaller probability of engaging in tax aggressive action (Safitri & Oktris, 2023). Nonetheless, when the liquidity ratio is low, the likelihood of conducting tax aggressiveness is increased due to the company's liquidity issues that unable to fulfill its significant tax payment obligations. As a result, the company is inclined to participate in tax avoidance to lessen its tax burden. Tampubolon (2021) has stated that, companies with inadequate liquidity will typically engage in more aggressive tax planning because maintaining consistent cash flow is preferable than paying taxes. This reflects the conflict of interest between the company (agent) and the government (principal) in Agency theory, where company is prioritizing its own benefit by maintaining cash flow for the business operation and sustainability, while the government is expecting the collection of tax revenue without concerning the company's financial condition. Therefore, the third hypothesis is:

H3: Liquidity has significant influence towards tax aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange.

2.2.4 The Influence of Corporate Social Responsibility, Profitability, and Liquidity toward Tax Aggressiveness

Companies' tax aggressiveness is influenced by a variety of factors, including company social responsibility, profitability, and liquidity. The hypotheses were formulated partially in the previous section, which are focused on the relationship between each independent variable and the dependent variable. In order to conclude this study, it is decided to examine whether the independent variables simultaneously influence the tax aggressiveness. Therefore, the fourth hypothesis is:

H4: Corporate Social Responsibility, Profitability, and Liquidity have significant influence toward tax aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange.

3. RESEARCH METHOD

3.1 Research Design

The research design illustrates how the research will be carried out (Chappell & Voykhansky, 2022). Research design also discusses why this kind of study is required in order to answer the research questions. To methodically analyze a particular phenomenon, this study utilizes quantitative research methodology. According to Mishra and Alok (2019), quantitative research design is relevant to the objects that can be expressed in terms of quantity or that can be counted. Statistical, mathematical, or computational techniques in numerical form, such as statistics, percentages, etc., are used to analyze observable phenomena in quantitative research.

In this study, the object of the research consists of corporate social responsibility, profitability, and liquidity as independent variables and tax aggressiveness as a dependent variable. This research is conducted at companies that are listed on the Indonesia Stock Exchange (IDX) which engage in the food and beverages industry from 2021-2022. Research data for the study is collected from the annual financial reports and sustainability reports of the companies. The goal of this causal research is to discover causality by ascertaining whether the independent variables influence the dependent variable.

3.2 Population and Sample

3.2.1 Population

The term "population" refers to the collection or group of all units which the findings of the study should be applied to. It is a collection of all relevant individuals, items, or data from which the sample is chosen (Mood, 2019).

Food and beverages companies listed on the Indonesia Stock Exchange (IDX) from 2021 through 2022 serve as the population of this study's focus, which consists of 43 listed companies. The reason why the researcher decided to focus on this industry is because the companies in the food and beverages industry have shown resilience in their operational activities. Despite being impacted by the Covid-19 outbreak, the food and beverages industry was able to expand and contributed to the increase of the non-oil and gas industry by 4.88%. According to Putu as the Directorate General of Agro Industry from Kementerian Perindustrian Republik Indonesia (2022), the food and beverages industry provided 37.82% of the non-oil and gas industry's GDP in the third quarter of 2022, making it the sub-sector with the highest GDP contribution.

3.2.2 Sample

Sample is a small subset of the population that has the intention of drawing conclusions about the population (Cote et al., 2021). It is a collection of selected individuals, items, or data from a population of interest. Purposive sampling was the method of sampling used in this research paper. The decision of applying purposive sampling enables the researcher to target the participant selection and select participants who have specific characteristics or experiences that are relevant to the research objectives. Lenaini (2021) defined purposive sampling as a non-random sampling method where the researcher selects sample based on whether or not they meet certain criteria that correspond with the research's goals.

The following sample selection criteria that are required to be determined and constructed in this study are:

1. Food and beverages companies that are consistently listed on the Indonesia Stock Exchange in 2021-2022.
2. Food and beverages companies listed on the Indonesia Stock Exchange that published a complete and consistent yearly audited financial statement from 2021 to 2022 in order to observe all the variables.
3. Food and beverages companies listed on the Indonesia Stock Exchange that consistently experience profit from 2021 to 2022 in order to observe the profitability.
4. Food and beverages companies listed on the Indonesia Stock Exchange that consistently issue and present the information about corporate social responsibility elements in the sustainability report from 2021 to 2022 in order to observe the implementation of the CSR.

3.3 Data Collection Method

The study will utilize the secondary data, which is acquired indirectly through intermediary media. Secondary data refers to the data which was gathered by the party other than the user. These secondary data sources might encompass information from both internal and external information sources, covering an extensive range of areas (Sileyew, 2019). In this research, data are gathered from the online-published annual financial statements and sustainability reports of listed food and beverages companies for the period 2021 to 2022. The

data source from publicly available financial statements on the Indonesia Stock Exchange website (www.idx.co.id) and official listed companies' website. Primary data is not utilized in this research, since the writer did not interact directly with the research subject to obtain information.

3.4 Operational Variable Definition and Variable Measurement

Syahza (2021) declared that operational definition is an explanation of a concept's observable characteristics that enables anyone other than the researcher to carry out comparable actions, which offers the chance for others to reexamine the researcher's findings. The suitable data retrieval tool will be indicated by the operational definition. Therefore, each variable and its measurement will be defined through the operational variables. In this study, the writer utilizes two categories of variables, including Tax Aggressiveness as the dependent variable, whereas Corporate Social Responsibility, Profitability, and Liquidity serve as the independent variable.

3.4.1 Dependent Variable (Y)

In research study, the dependent variable is the one being assessed, observed, or tested to discover how it correlates with other variables. A variable is considered as a dependent variable if it depends on or is influenced by other variable (Pandey & Pandey, 2015).

Tax aggressiveness serves as the dependent variable in this study. According to Elizabeth and Riswandari (2022), tax aggressiveness is a strategy used by taxpayers with the intention to minimize or reduce the tax burden. To reduce the tax payments, various strategies can be adopted, from those that remain within the boundaries of tax regulations (legal), which are often referred to as tax avoidance, to those which violate tax regulations (illegal), which are typically referred to as tax evasion (Paskalina & Murtianingsih, 2022).

Effective Tax Rate (ETR) is an indicator used in this study for measuring tax aggressiveness. ETR is meant to have the ability to illustrate the tax aggressiveness carried out by companies. Gloria and Apriwenni (2020) defined the Effective Tax Rate (ETR) as a measurement of how well a company manages its tax burden based on a comparison between the tax expense and the total net income before tax derived from the company's annual financial statements. Company's Effective Tax Rate (ETR) will be lower depending on how well the company manages its taxes. ETR is lower for companies that adopt more aggressive tax planning. Higher ETR, on the other hand, is an indication of improved tax compliance. With a greater ETR, companies are less tax-aggressive, meaning they have performed their obligations of paying taxes to the government. This research measures tax aggressiveness as the dependent variable by using the Effective Tax Rate, with the formula:

$$\text{ETR} = \frac{\text{Income Tax Expenses}}{\text{Earning Before Taxes}}$$

3.4.2 Independent Variable (X)

A variable is considered independent if it directly affects the dependent variable positively or negatively. An independent variable is a variable which occurs before a dependent variable. A variable is considered an independent variable if its influence can be determined (Pandey & Pandey, 2015). The independent variables in this study consist of corporate social responsibility (X_1), profitability (X_2), and liquidity (X_3).

3.4.2.1 Corporate Social Responsibility (X₁)

Corporate Social Responsibility (CSR), which is represented by CSR disclosure index (CSRI), serves as the independent variable in this study. Corporate social responsibility (CSR) is the idea that companies should not solely focus on their core goal of profit maximization but should also willingly contribute to the welfare of society.

According to Santika (2019), either the sustainability report or the CSR disclosure contained in the annual report can be used to measure the environmental disclosure of the companies. For evaluating the CSR variable, the data used in this research is secondary data in the form of sustainability reports for the period 2021 and 2022. Content analysis technique is being used in order to evaluate the companies' sustainability reporting disclosures by referring to the Sustainability Reporting Guidelines (SRG), specifically in Global Reporting Initiative Standard (GRI Standard) as a framework that guides companies for the sustainability performance and CSR reporting.

This research will use GRI Standard 2016 as the reference to examine the CSR variable, which consists of 56 general disclosure items (6 topics) and 3 management approach items. In addition, after several topics of GRI Standard 2016 were revised in 2018, there are 17 disclosure items specifically for economic aspects (7 topics); 32 disclosure items specifically for environmental aspects (8 topics); and 40 disclosure items specifically for social aspects (19 topics).

Starting from the GRI G4, the standard has offered companies two options in preparing GRI-based sustainability reports, which are the core and comprehensive options. Companies that choose the core option must include important and crucial elements in the sustainability report, concentrating on key aspects that have significant impact on the topic under discussion. This means focusing solely on the critical elements that best reflect the sustainable development of the company. The requirement in the core option expects at minimum one topic-specific disclosure. The comprehensive option, on the other hand, requires that the report should comply to all reporting requirements for all topic-specific disclosures for each recognized material topic covered by a topic-specific GRI Standard. The comprehensive option necessitates additional disclosure about governance and all material aspects. Companies are not obligated to move from core to comprehensive option. Instead, companies are free to select the option that best suits its information needs to be provided to the stakeholders.

In assessing sustainability report, there are two stages, which consist of coding and scoring approaches. The first stage is coding, which is done by comparing the items on the checklist with the items that the company has disclosed. If the item is being disclosed, a value of 1 is assigned to it. Otherwise, the item is given a value of 0 into the checklist if it is not being disclosed. Referring to GRI Standard 2016, there are 148 indicators distributed across 5 categories of general disclosure, management approach, economic, environmental, and social being used as checklist item being analyzed.

The second stage is scoring of items disclosed in the sustainability report in order to determine the performance index disclosure. It is done by summing up the scores for items that are being disclosed (numbered 1) to determine an overall score for each company. The CSR Index (CSRI) proxy is then used to index the outcomes of the item disclosures obtained from each company. This research measures CSR as independent variable by using CSRI proxy with the formula:

For company that choose the Core Option sustainability reporting:

$$CSRI_j = \frac{\sum X_i}{n_i}$$

CSRI_j : CSR disclosure index. n : Number of items under material topics for company i, n_i ≤ 148

X_i : Content analysis: 1 = if item i is being disclosed; 0 = if item i is not being disclosed.

Therefore, 0 ≤ CSRI_j ≤ 1.

For company that choose the Comprehensive Option sustainability reporting:

$$CSRI_j = \frac{\sum X_i}{n}$$

CSRI_j : CSR disclosure index. n : Number of items under total topics in GRI Standard 2016, n = 148

X_i : Content analysis: 1 = if item i is being disclosed; 0 = if item i is not being disclosed.

Therefore, 0 ≤ CSRI_j ≤ 1.

3.4.2.2 Profitability (X₂)

According to Annastasari and Aris (2022), profitability is defined as a company's ability to effectively manage its funding resources, such as sales, assets, and capital to generate profits over a period of time. Return on Asset (ROA) will be used in this study to measure profitability. ROA represents the profit that is being generated from the company’s total assets.

The study will utilize the Return on Asset (ROA) formula, which is determined by dividing net income with the total assets, which are illustrated as follows: Net Income After Tax

$$ROA = \frac{\text{Net Income After Tax}}{\text{Total Assets}}$$

3.4.2.3 Liquidity (X₃)

According to Dianawati and Agustina (2020), the capacity of a company to settle its immediate or short-term liabilities is known as liquidity. The settlement is done by readily converting the company’s assets into cash with no reliance on outside funding. A company that has high liquidity will be more capable to meet its financial obligations. Novitasari et al. (2022) explained that high liquidity ratios show that a company is liquid and possesses more current assets compared to current liabilities since they can accurately meet their short-term obligations.

The Current Ratio would be the measurement used in this study to determine liquidity. Current Ratio represents the proportion of current assets to cover current liabilities over a specific period. The study will utilize the Current Ratio formula, which is determined by dividing its current assets by its current liabilities, as illustrated below:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Table 3.1 Definition of Operational Variable and Variable Measurement

| Variable | Definition | Indicator | Measurement Scale |
|----------|------------|-----------|-------------------|
|----------|------------|-----------|-------------------|

| | | | |
|---|---|--|-------|
| Tax Aggressiveness (Y) | Tax aggressiveness is an effort made by a company to reduce its tax expense, from those that remain within the boundaries of tax regulations (legal), which are often referred to as tax avoidance, to those which violate tax regulations (illegal), which are typically referred to as tax evasion. | $\text{ETR} = \frac{\text{Income Tax Expenses}}{\text{Earnings Before Taxes}}$ | Ratio |
| Corporate Social Responsibility (X ₁) | Corporate social responsibility is the idea that businesses must not only follow their primary objective of maximizing profits, but also make voluntary contributions to the welfare of society. | Core $\text{CSRI}_j = \frac{\sum X_i}{n_i}$ Option: $\text{CSRI}_j = \frac{\sum X_i}{n}$ Comprehensive option: | Ratio |
| Profitability (X ₂) | Profitability is defined as a company's ability to effectively manage its funding resources, such as sales, assets, and capital to generate profits over a period of time. | $\text{ROA} = \frac{\text{Net Income After Tax}}{\text{Total Assets}}$ | Ratio |
| Liquidity (X ₃) | Liquidity is defined as the capacity of a company to settle its immediate or short-term liabilities. | $\text{CR} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$ | Ratio |

Source: Prepared by Writer (2023)

3.5 Data Analysis Method

The process of cleaning, transforming and modeling data to identify meaningful information with the aim of making well-informed and effective decisions is known as data analysis (Islam, 2020). To arrive at the conclusion, information from many sources is collected, examined, and then analyzed. The two sorts of approaches used in data analysis are quantitative analysis method and qualitative analysis method. Qualitative research collects data through the observation of what people say and do, then analyzes and interprets that data. Interviews and focus group discussions are examples of the information gathering techniques used in qualitative research. Qualitative research improves people's comprehension of the world and the reasons behind current conditions. In the other side, quantitative research applies numerical and statistical models relevant to phenomena, event, or situation with the objective to identify the relationship between independent and dependent variables (Kandel, 2020).

Since this study will use a quantitative analytical method, the data will be processed using IBM SPSS version 26.0. An application called SPSS (Statistical Package for Social Science) used in this study will examine the data and run statistical calculations. The IBM SPSS software platform provides a statistical analysis features, machine learning algorithms, text analysis tools, integrate with open-source tools, support for big data and simple deployment into various applications.

The developed hypothesis in this study is evaluated statistically by using multiple linear regression analysis. Multiple linear regression analyzes multiple independent variables to examine the changes in the dependent variable. The regression coefficient shows how much each independent variable was predicted to affect the dependent variable. Descriptive statistics, classical assumption tests including normality, heteroscedasticity, multicollinearity and autocorrelation, as well as hypothesis testing such as coefficient of determination, t-test, and F-test, will be used to examine the data in this research.

4. RESULTS AND DISCUSSION

4.1 General View of Food and Beverages Companies

This study's research object comprises the food and beverages companies that are listed on the Indonesia Stock Exchange (IDX) from the year 2021-2022. Food and beverages companies are included under the consumer goods non-cyclicals sector companies. The food and beverages industry encompasses all the businesses engaged in the production, packaging and distribution, and presentation of food and drink components, which convert raw materials into finished or partially finished food and beverages products, increasing their value for the companies' advantages. Companies operating in the food and beverages industry offer a wide range of final consumption goods, including fresh, prepared, or processed foods, alcoholic and non-alcoholic beverages, as well as snacks and numerous consumer items as the basic need of the community.

Food and beverages industry is characterized by intense competition, with many participants competing for their share of the market. In this competitive atmosphere, innovation tends to be encouraged in areas like product development, marketing strategies, and distribution approaches. Food and beverages companies often prioritize consumers by adapting the product development and marketing strategies to align with evolving customer preferences. These companies must take responsive consideration of consumers' convenience, sustainability, and health.

There are 43 food and beverages companies listed on the Indonesia Stock Exchange. Out of 43 food and beverages companies, 10 companies are being eliminated because they were listed on the Indonesia Stock Exchange after 2021, 5 companies are being eliminated due to losses either in the period of 2021 or 2022 and 1 company is being eliminated because it did not issue and present the information about corporate social responsibility in the sustainability report from 2021 to 2022. The sample determination criteria are as follows:

Table 4.1 Sample Determination

| No. | Criteria | Quantity |
|--|--|----------|
| 1. | Food and beverages companies listed on the Indonesia Stock Exchange. | 43 |
| 2. | Food and beverages companies that are not consistently listed on the Indonesia Stock Exchange in 2021-2022. | (10) |
| 3. | Food and beverages companies listed on the Indonesia Stock Exchange that suffer losses in the period of 2021 to 2022. | (5) |
| 4. | Food and beverages companies listed on the Indonesia Stock Exchange that do not issue and present the information about corporate social responsibility elements in the sustainability report from 2021 to 2022. | (1) |
| Number of food and beverages companies chosen as research sample | | 27 |
| Period of observation (years) | | 2 |
| Total amount of samples | | 54 |

Source: Prepared by Writer (2023)

Therefore, 27 out of 43 listed food and beverages companies are chosen through the purposive sampling approach, which considers the four specified requirements. With the two years of observation period, the total sample size in this research will be 54. The lists of eligible and qualified food and beverages companies that will serve as sample in this research are as follows:

Table 4.2 List of Food and Beverages Companies' Sample

| No. | Company Code | Company Name |
|-----|--------------|--|
| 1. | ICBP | PT. Indofood CBP Sukses Makmur Tbk |
| 2. | INDF | PT. Indofood Sukses Makmur Tbk |
| 3. | MYOR | PT. Mayora Indah Tbk |
| 4. | CMRY | PT. Cisarua Mountain Dairy Tbk |
| 5. | PANI | PT. Pantai Indah Kapuk Dua Tbk |
| 6. | ULTJ | PT. Ultra Jaya Milk Industry & Trading Company Tbk |
| 7. | MLBI | PT. Multi Bintang Indonesia Tbk |
| 8. | GOOD | PT. Garudafood Putra Putri Jaya Tbk |
| 9. | DMND | PT. Diamond Food Indonesia Tbk |
| 10. | ROTI | PT. Nippon Indosari Corpindo Tbk |
| 11. | CLEO | PT. Sariguna Primatirta Tbk |
| 12. | ADES | PT. Akasha Wira International Tbk |
| 13. | DLTA | PT. Delta Djakarta Tbk |
| 14. | CAMP | PT. Campina Ice Cream Industry Tbk |
| 15. | KEJU | PT. Mulia Boga Raya Tbk |
| 16. | SKLT | PT. Sekar Laut Tbk |
| 17. | CEKA | PT. Wilmar Cahaya Indonesia Tbk |
| 18. | HOKI | PT. Buyung Poetra Sembada Tbk |
| 19. | PMMP | PT. Panca Mitra Multiperdana Tbk |
| 20. | SKBM | PT. Sekar Bumi Tbk |
| 25. | STTP | PT. Siantar Top Tbk |
| 26. | TGKA | PT. Tigaraksa Satria Tbk |
| 27. | FISH | PT. FKS Multi Agro Tbk |

Source: Prepared by Writer (2023)

4.2 Research Result

This study has been carried out using the SPSS (Statistical Package for Social Science) 26.0 application. The data analysis included in this research result are the descriptive statistics, the classic assumption test, which includes normality, heteroscedasticity, multicollinearity, and autocorrelation, as well as the hypothesis tests of partial t-test, simultaneous F-test, and coefficient of determination.

The research data analysis including the descriptive statistics, the classical assumption test and hypothesis testing in this research will use the Corporate Social Responsibility proxied by CSR disclosure index (CSRI) under the mix between core and comprehensive option calculation.

According to GRI Standard 2016, companies are permitted to choose between core and comprehensive options to prepare GRI-based sustainability report. Several previous studies done by Janik et al. (2020), Sannino et al. (2020), as well as Puspitarini and Sukoharsono (2021)

have also utilized and grouped the core and comprehensive calculation to evaluate the company's CSR performance based on some criteria.

Although most of the companies' sustainability report selected as the sample in this research have utilized the core option, this research does not equalize and balance all the calculation using the core option method. The reason for not using fully core option calculation is supported by the newest GRI Standard 2021, which no longer provides options for the company to disclose the sustainability report either by core or comprehensively. In other words, the updated GRI Standards version 2021 currently only allows for one method of reporting, in which the company must provide all disclosures for all topics considered material.

However, since GRI Standard 2021 will only take effect starting from January 1, 2023, the writer decided to follow GRI Standard 2016 as a benchmark for evaluating the CSR in this research, even though there are several companies have early adopted the newest GRI Standard 2021.

Moreover, after running SPSS by only using the core option CSR disclosure index, the classical assumption test, particularly in the heteroscedasticity test did not fulfill the requirement to be free from the heteroscedasticity issue, as can be seen in Appendix F. Therefore, there are some conditions when determining the formula to be used between core and comprehensive option calculation, as follows:

Table 4.3 CSRI Measurement Approach Based on Conditions

| Condition | CSRI Measurement Approach |
|--|--|
| If there is a statement in the sustainability report claimed that the report is using Global Reporting Initiative (GRI) Standard reference: "Core" option | The CSR disclosure index will be measured by the core option formula (which use the denominator of the total items in the specified material topics) |
| If there is a statement in the sustainability report claimed that the report is using Global Reporting Initiative (GRI) Standard reference: "Comprehensive" option | The CSR disclosure index will be measured by the comprehensive option formula (which use the denominator of the total items of every topic listed in the GRI Standard) |
| If the sustainability report has used the GRI Standard 2021 for early adoption and did not stated any information whether it use core or comprehensive option | The CSR disclosure index will be measured by the comprehensive option formula (which use the denominator of the total items of every topic listed in the GRI Standard) |

Source: Prepared by Writer (2023)

4.2.1 Descriptive Statistics

The values of the minimum, maximum, mean, and standard deviation of the data collected are presented using descriptive statistics. The following is a table of descriptive statistics:

Table 4.3 Descriptive Statistics

| Descriptive Statistics | | | | | |
|------------------------|----|---------|---------|---------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| X1_CSR | 54 | .115 | .793 | .55869 | .139222 |
| X2_ROA | 54 | .000 | .274 | .08541 | .061289 |
| X3_CR | 54 | .413 | 13.309 | 3.09396 | 2.540123 |

| | | | | | |
|--------------------|----|-------|------|--------|---------|
| Y_ETR | 54 | -.052 | .863 | .23705 | .110387 |
| Valid N (listwise) | 54 | | | | |

Source: Data Processing with SPSS 26 (2023)

The descriptive statistics of the independent variables of this research, Corporate Social Responsibility (CSRI), Profitability (ROA), and Liquidity (CR) as well as the dependent variable is Tax Aggressiveness (ETR) are summarized as follows:

1. Corporate Social Responsibility (CSRI)

As can be seen from Table 4.4, the total sample data (N) of CSRI has 54 samples with the minimum value of 0.115, representing PT. Pantai Indah Kapuk Dua Tbk in 2021, while the maximum value is 0.793, representing PT. Diamond Food Indonesia Tbk in 2021. The value of samples for the CSR variable ranges from 0.115 to 0.793 which reveals a mean of 0.559 and a standard deviation of 0.139. Since the standard deviation is lower than the mean, it suggests that the data for CSR variable are not widely dispersed from the mean.

2. Profitability (ROA)

As can be seen from Table 4.4, the total sample data (N) of ROA has 54 samples with the minimum value of 0.000, representing PT. Buyung Poetra Sembada Tbk in 2022, while the maximum value is 0.274, representing PT. Multi Bintang Indonesia Tbk in 2022. The value of samples for the ROA variable ranges from 0.000 to 0.274 which reveals a mean of 0.085 and a standard deviation of 0.061. Since the standard deviation is lower than the mean, it suggests that the data for Profitability variable are not widely dispersed from the mean.

3. Liquidity (CR)

As can be seen from Table 4.4, the total sample data (N) of CR has 54 samples with the minimum value of 0.413, representing PT. Pantai Indah Kapuk Dua Tbk in 2021, while the maximum value is 13.309, representing PT. Campina Ice Cream Industry Tbk in 2021. The value of samples for the CR variable ranges from 0.413 to 13.309 which reveals a mean of 3.094 and a standard deviation of 2.540. Since the standard deviation is lower than the mean, it suggests that the data for Liquidity variable are not widely dispersed from the mean.

4. Tax Aggressiveness (ETR)

As can be seen from Table 4.4, the total sample data (N) of ETR has 54 samples with the minimum value of -0.052, representing PT. Panca Mitra Multiperdana Tbk in 2022, while the maximum value is 0.863, representing PT. Buyung Poetra Sembada Tbk in 2022. The value of samples for the ETR variable ranges from -0.052 to 0.863 which reveals a mean of 0.237 and a standard deviation of 0.110. Since the standard deviation is lower than the mean, it suggests that the data for Tax Aggressiveness variable are not widely dispersed from the mean.

4.2.2 Results of Data Quality Testing

It is necessary to conduct the classical assumption tests in a regression analysis to check the data validity and determine if the model being used in the regression has a meaningful and representational relationship. The classical assumption tests that will be examined in this study include the normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. All of the observed variables in this study model will be considered as having good quality data once they pass the testing' requirements. The results of the classical assumption tests are as follows:

4.2.2.1 Normality Test

Normality test is used to verify whether the residual from a regression model is normally distributed. The following is the output from conducting the Kolmogorov-Smirnov (K-S) test:

Table 4.4 Normality Test – One-Sample Kolmogorov Smirnov Test Before Outlier

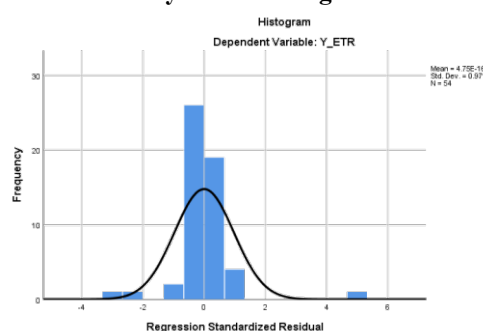
| One-Sample Kolmogorov-Smirnov Test | | |
|--|----------------|-------------------------|
| | | Unstandardized Residual |
| N | | 54 |
| Normal Parameters ^{a,b} | Mean | .0000000 |
| | Std. Deviation | .10464885 |
| Most Extreme Differences | Absolute | .234 |
| | Positive | .234 |
| | Negative | -.221 |
| Test Statistic | | .234 |
| Asymp. Sig. (2-tailed) | | .000 ^c |
| a. Test distribution is Normal. | | |
| b. Calculated from data. | | |
| c. Lilliefors Significance Correction. | | |

Source: Data Processing with SPSS 26 (2023)

As observed in the Table 4.5 above, the value of asymptotic significance (2-tailed) is 0.000 which is smaller than the significance value of 0.05 ($0.000 < 0.05$). Therefore, the model does not satisfy the normality assumption, meaning that the residual or error term is not normally distributed.

Beside the Kolmogorov-Smirnov test, a histogram can become a tool to determine whether the residual is normally distributed or not, and a normal probability plot (p-plot) also can be used to visually assess the normality test results.

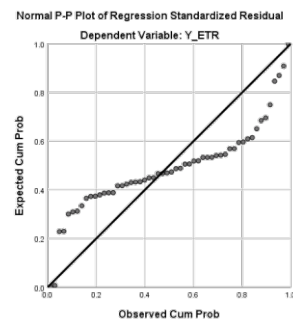
Figure 4.1 Normality Test – Histogram Before Outlier



Source: Data Processing with SPSS 26 (2023)

As observed in Figure 4.1 above, the result shows that the histogram is not bell-shaped and displays a positive skewness graph, which suggests that the residual is not normally distributed, thus indicating that the regression model has not fulfilled the normality assumption.

Figure 4.2 Normality Test – Normal P-Plot Before Outlier



Source: Data Processing with SPSS 26 (2023)

The normal probability plot (p-plot) reveals that the majority of the data are dispersed outside the diagonal line, as can be seen in Figure 4.2 above. The data sets are randomly dispersed and mostly do not follow the diagonal line direction, which means that the residual is not normally distributed and the normality test is not successful.

Since the result of the normality test has not passed the normality requirement, the data treatment has to be done for overcoming the normality issue. In order to make the data normally distributed, the elimination of some outliers have been conducted. Outlier is the data that has an extreme value yet significantly distinct from other observations. 12 data from a total sample of 54 were eliminated as outliers in the process of data treatment. With a total of 42 samples, the Kolmogorov-Smirnov normality test is performed once again. Table 4.4 shows the result of the Kolmogorov-Smirnov test after eliminating some outliers.

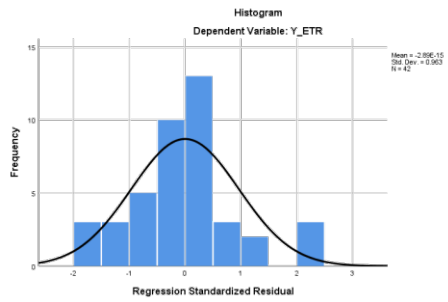
Table 4.5 Normality Test – One-Sample Kolmogorov Smirnov Test After Outlier

| One-Sample Kolmogorov-Smirnov Test | | |
|--|----------------|-------------------------|
| | | Unstandardized Residual |
| N | | 42 |
| Normal Parameters ^{a,b} | Mean | .0000000 |
| | Std. Deviation | .02574530 |
| Most Extreme Differences | Absolute | .125 |
| | Positive | .125 |
| | Negative | -.068 |
| Test Statistic | | .125 |
| Asymp. Sig. (2-tailed) | | .096 ^c |
| a. Test distribution is Normal. | | |
| b. Calculated from data. | | |
| c. Lilliefors Significance Correction. | | |

Source: Data Processing with SPSS 26 (2023)

According to Table 4.6, it is noticeable that the data has successfully met the criteria of the normality test, proven by the asymptotic significant value of 0.096, which is above 0.05. As a result, it may be claimed that the residuals or error terms for the regression models have been normally distributed.

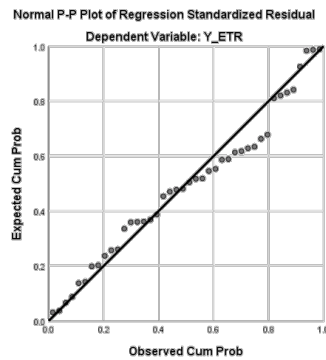
Figure 4.3 Normality Test – Histogram After Outlier



Source: Data Processing with SPSS 26 (2023)

Furthermore, based on the histogram result in Figure 4.3 above, it is obvious that the histogram line is centered and already formed the shape of a bell curve. As a result, it can be concluded that the normality assumption has been successfully fulfilled.

Figure 4.4 Normality Test – Normal P-Plot After Outlier



Source: Data Processing with SPSS 26 (2023)

In addition, Figure 4.4 illustrates how the data is spread around the diagonal line and is approaching in the direction of the diagonal line, indicating that the data in the regression model are normally distributed.

4.2.2.2 Multicollinearity Test

Multicollinearity is a condition in which independent variables in the regression model have strong correlation with each other, which could interfere the relationship between the independent and dependent variables. The purpose of this test is to determine whether the independent variables in the regression model have strong correlation to each other. Table 4.7 displays the results of the VIF and Tolerance Values test.

Table 4.6 Multicollinearity Test

| Coefficients ^a | | | |
|---------------------------|--------|-------------------------|-------|
| Model | | Collinearity Statistics | |
| | | Tolerance | VIF |
| 1 | X1_CSR | .838 | 1.194 |

| | | | |
|------------------------------|--------|------|-------|
| | X2_ROA | .933 | 1.072 |
| | X3_CR | .851 | 1.175 |
| a. Dependent Variable: Y_ETR | | | |

Source: Data Processing with SPSS 26 (2023)

The following are some explanation of the multicollinearity test:

1. Corporate Social Responsibility (X₁)

The outcome reveals that the tolerance value of Corporate Social Responsibility is 0.838 (0.838 > 0.1) and Variance Inflation Factor (VIF) is 1.194 (1.194 < 10). Since the result satisfies the requirement, multicollinearity between Corporate Social Responsibility variable and other independent variables does not seem to be found.

2. Profitability (X₂)

The outcome reveals that the tolerance value of Profitability is 0.933 (0.933 > 0.1) and Variance Inflation Factor (VIF) is 1.072 (1.072 < 10). Since the result satisfies the requirement, multicollinearity between Profitability and other independent variables does not seem to be found.

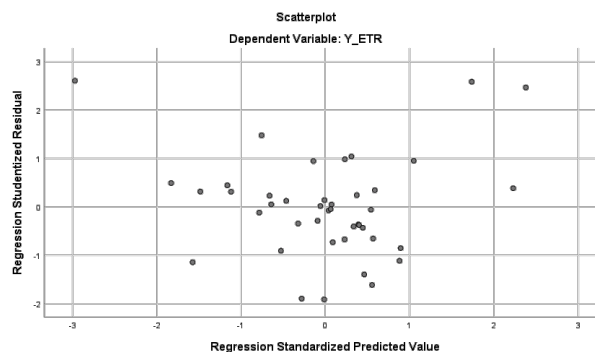
3. Liquidity (X₃)

The outcome reveals that the tolerance value of Liquidity is 0.851 (0.851 > 0.1) and Variance Inflation Factor (VIF) is 1.175 (1.175 < 10). Since the result satisfies the requirement, multicollinearity between Liquidity and other independent variables does not seem to be found. In conclusion, all independent variables have already met the criteria by having tolerance values exceeding 0.10 and VIF values below 10. As a result, the outcome demonstrates that the independent variables in the regression model are not showing any correlation issues.

4.2.2.3 Heteroscedasticity Test

The heteroscedasticity test is utilized to determine whether the residual variance of one observation varies from different observations in the regression model. Based on the scatterplot in Figure 4.5 below, the data points are not concentrated around a single point, but instead, they are scattered above and below the zero value on the y-axis. Additionally, there are no visible patterns in the distribution of the y-axis data, such as waves, widens, or narrows. These observations suggest that the regression model has passed the heteroscedasticity test and can be considered homoscedastic. As a result, it can be concluded that the regression model is free from heteroscedasticity problem.

Figure 4.5 Heteroscedasticity Test – Scatterplot Graph



Source: Data Processing with SPSS 26 (2023)

While a scatterplot can help identify potential patterns in the data, it may not always provide conclusive evidence of the presence or absence of heteroscedasticity. Therefore, it is necessary to conduct the statistical tests in order to confirm the findings. In this study, the writer chose to employ the Park Test to determine whether heteroscedasticity exists.

Table 4.7 Heteroscedasticity Test – Park Test

| Coefficients ^a | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -5.778 | 2.447 | | -2.361 | .023 |
| | X1_CSR | -4.234 | 3.227 | -.227 | -1.312 | .197 |
| | X2_ROA | -4.363 | 7.658 | -.093 | -.570 | .572 |
| | X3_CR | -.158 | .277 | -.098 | -.571 | .571 |

a. Dependent Variable: LnRES_2

Source: Data Processing with SPSS 26 (2023)

As shown in Table 4.8 above, all independent variables have significance levels more than 0.05. The significance values for CSR, ROA, and CR are 0.197, 0.572, and 0.571, respectively. Therefore, the regression model has passed the heteroscedasticity test because neither the graphical nor the statistical tests revealed any heteroscedasticity.

4.2.2.4 Autocorrelation Test

The autocorrelation test is used to determine whether the residual in period t and the residual in period t-1 (prior) are correlated in a regression model. The following table shows the outcome of the Durbin Watson test:

Table 4.8 Autocorrelation Test – Durbin-Watson Test

| Model Summary ^b | | | | | |
|----------------------------|-------------------|----------|-------------------|----------------------------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .470 ^a | .221 | .160 | .026742 | 1.569 |

a. Predictors: (Constant), X3_CR, X2_ROA, X1_CSR

b. Dependent Variable: Y_ETR

Source: Data Processing with SPSS 26 (2023)

It is critical to take into account both the sample size (n) and the number of independent variables (k) when interpreting a Durbin-Watson statistical table. There are 42 sample observations and 3 independent variables in this research. Consequently, k has a value of 3, and n has a value of 42. The critical values obtained from the Durbin-Watson statistical table at $\alpha=5\%$; $k=3$; $n=42$, results in $dL=1.3573$ and $dU=1.6617$. Based on Table 4.7, it is shown that the Durbin-Watson value is 1.569 falling on the $dL < d < dU = 1.3573 < 1.569 < 1.6617$, which means no decision can be concluded. Therefore, the Run test is conducted further to detect whether the regression model has autocorrelation problem. The following is the Run test result:

Table 4.9 Autocorrelation Test – Run Test

| Runs Test | |
|-------------------------|-------------------------|
| | Unstandardized Residual |
| Test Value ^a | -.00047 |
| Cases < Test Value | 21 |
| Cases >= Test Value | 21 |
| Total Cases | 42 |
| Number of Runs | 17 |
| Z | -1.406 |
| Asymp. Sig. (2-tailed) | .160 |
| a. Median | |

Source: Data Processing with SPSS 26 (2023)

From the Run test as presented in Table 4.10 above, the asymptotic significance is 0.160 which is higher than 0.05. Therefore, the regression model shows no autocorrelation and passed the autocorrelation test.

4.2.2.5 Multiple Linear Regression Analysis

Analysis of multiple linear regression is performed to determine the impact of two or more independent variables on a dependent variable. Multiple regression analysis is employed in this study to examine the relationship between Corporate Social Responsibility (CSRI), Profitability (ROA), and Liquidity (CR) as independent variables and Tax Aggressiveness (ETR) as a dependent variable in food and beverages companies listed on the Indonesia Stock Exchange in the period of 2021 and 2022.

Table 4.10 Multiple Linear Regression Analysis

| Coefficients ^a | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .256 | .026 | | 9.848 | .000 |
| | X1_CSR | -.026 | .034 | -.120 | -.765 | .449 |
| | X2_ROA | -.264 | .081 | -.481 | -3.244 | .002 |
| | X3_CR | .002 | .003 | .118 | .761 | .451 |

a. Dependent Variable: Y_ETR

Source: Data Processing with SPSS 26 (2023)

The following multiple regression equation was developed based on the results of the multiple linear regression analysis on Table 4.12, where Tax Aggressiveness is represented by Y, Corporate Social Responsibility by X₁, Profitability by X₂, and Liquidity by X₃.

$$Y = 0.256 - 0.026X_1 - 0.264X_2 + 0.002X_3 + e$$

The following are some explanation of the above multiple linear regression equation:

1. The coefficient regression constant value (α) of the regression model is 0.256, This indicates that assuming the Corporate Social Responsibility (X₁), Profitability (X₂), and Liquidity (X₃) are held constant or have zero value, the value of the Tax Aggressiveness (Y) will be 0.256.

2. The Corporate Social Responsibility variable's coefficient is -0.026, and is not significant (significance level = $0.449 > 0.05$). Therefore, assuming the other variables are kept constant or equal to zero, a one-unit increase in Corporate Social Responsibility will lead to a 0.026 decrease in the ETR. Additionally, it also indicates that Corporate Social Responsibility, as proxied by CSRI, has negative relationship with ETR.

3. The Profitability variable's coefficient is -0.264, and is significant (significance level = $0.002 < 0.05$). Therefore, assuming the other variables are kept constant or equal to zero, a oneunit increase in Profitability will lead to a 0.264 decrease in the ETR. Additionally, it also indicates that Profitability, as proxied by ROA, has negative relationship with ETR.

4. The Liquidity variable's coefficient is 0.002, and is not significant (significance level = $0.451 > 0.05$). Therefore, assuming the other variables are kept constant or equal to zero, a oneunit increase in Liquidity will lead to a 0.002 increase in the ETR. Additionally, it also indicates that Liquidity, as proxied by CR, has positive relationship with ETR.

4.2.3 Results of Hypothesis Testing

Once the classical assumption tests and multiple linear regression analysis have been performed, the next step is to evaluate the hypotheses using various statistical tests. T-tests, Ftests, and the coefficient of determination (adjusted R^2) will be employed to assess the validity of the developed hypothesis. The goal of these tests is to determine whether the hypothesis should be accepted or rejected based on the results of the analysis.

4.2.3.1 Partial Hypothesis Testing (T-Test Analysis)

T-test is performed in order to examine the partial influence of independent variables toward the dependent variable. The outcome of the t-test will be employed to ascertain whether the hypothesis formulated in the research is either accepted or rejected. Table 4.13 displays the result of the partial hypothesis testing (T-test):

Table 4.11 Partial Hypothesis Testing (T-Test Analysis)

| Coefficients ^a | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .256 | .026 | | 9.848 | .000 |
| | X1_CSR | -.026 | .034 | -.120 | -.765 | .449 |
| | X2_ROA | -.264 | .081 | -.481 | -3.244 | .002 |
| | X3_CR | .002 | .003 | .118 | .761 | .451 |

a. Dependent Variable: Y_ETR

Source: Data Processing with SPSS 26 (2023)

The value of t-table is 2.02439, obtained by using a 5% level of significance or a 95% confidence interval and a degree of freedom (df) from total sample (n) of 42 minus the total independent and dependent variables (k) of 4, which then results in 38 degree of freedom. Based on Table 4.11, the explanation of the partial t-test result is as follows:

1. The partial t-test result of Corporate Social Responsibilities (CSRI) towards Tax Aggressiveness (ETR) results in the t-count value of -0.765 and the significance value of 0.449. The t-count has a negative value of -0.765, which is greater than the negative value of t-table

2.02439 ($-0.765 > -2.02439$). Moreover, the significance value of 0.449 is higher than 0.05. This indicates that Corporate Social Responsibilities (CSRI) partially has insignificant influence towards Tax Aggressiveness (ETR). Thus, H_1 is rejected and H_0 is accepted.

2. The partial t-test result of Profitability (ROA) towards Tax Aggressiveness (ETR) results in the t-count value of -3.244 and the significance value of 0.002. The t-count has a negative value of -3.244, which is lower than the negative value of t-table -2.02439 ($-3.244 < -2.02439$). Moreover, the significance value of 0.002 is lower than 0.05. This indicates that Profitability (ROA) partially has significant influence towards Tax Aggressiveness (ETR). Thus, H_2 is accepted and H_0 is rejected.

3. The partial t-test result of Liquidity (CR) towards Tax Aggressiveness (ETR) results in the t-count value of 0.761 and the significance value of 0.451. The t-count value of 0.761 is lower than the value of t-table 2.02439 ($0.761 < 2.02439$). Moreover, the significance value of 0.451 is greater than 0.05. This indicates that Liquidity (CR) partially has insignificant influence towards Tax Aggressiveness (ETR). Thus, H_3 is rejected and H_0 is accepted.

4.2.3.2 Simultaneous Hypothesis Testing (F-Test Analysis)

The F-statistics test is applied to ascertain if all of the independent variables in the regression model have an influence on the dependent variable simultaneously. The F-test is used to decide whether to accept or decline the fourth hypothesis. Table 4.14 displays the results of F- test:

Table 4.12 Simultaneous Hypothesis Testsing (F-Test Analysis)

| ANOVA ^a | | | | | | |
|--|------------|----------------|----|-------------|-------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | .008 | 3 | .003 | 3.600 | .022 ^b |
| | Residual | .027 | 38 | .001 | | |
| | Total | .035 | 41 | | | |
| a. Dependent Variable: Y_ETR | | | | | | |
| b. Predictors: (Constant), X3_CR, X2_ROA, X1_CSR | | | | | | |

Source: Data Processing with SPSS 26 (2023)

F-table value must first be found before conducting the F-test analysis. The numerator degree of freedom (N_1) and the denominator degree of freedom (N_2) must be calculated in order to locate the F-table value. The calculation of the numerator degree of freedom (N_1) is $k - 1$, where k represents the number of independent and dependent variables which are four variables. Therefore, the numerator degree of freedom (N_1) is three. The calculation of the denominator degree of freedom (N_2) is $n - k$, where n is total samples. Therefore, the denominator degree of freedom (N_2) is 42 minus four, resulting in 38. Hence, The F-table statistical value obtained is 2.85 using a 5% significance level or a 95% confidence interval.

Table 4.14 displays the results of the simultaneous F-test, which reveal an F-count value of 3.600 and significance value of 0.022. The F-count value of 3.600 is higher than the F-table value of 2.85 ($3.600 > 2.85$). Furthermore, the significance value of 0.022 is lower than 0.05. Therefore, these suggest that all independent variables, which consist of Corporate Social Responsibility (CSRI), Profitability (ROA), and Liquidity (CR) have significant influence on

the dependent variables which is Tax Aggressiveness (ETR) simultaneously. Hence, H_4 is accepted and H_0 is rejected.

4.2.3.3 Coefficient of Determination (Adjusted R^2)

The coefficient of determination measures the extent to which the independent variables account for the variability in the dependent variable. The value of the coefficient determinant ranges from zero to one ($0 \leq R^2 \leq 1$) with 1 being the optimal value, indicating that the independent variables perfectly explain the changes in the dependent variable. The capacity of the independent variables to account for variations in the dependent variable is constrained when the R^2 value is low, whereas an R^2 value that is close to 1 indicates that the independent variables almost entirely predict changes in the dependent variable. R^2 value tends to rise when more independent predictors are included in the regression model, even if they do not truly support to explain the dependent variable. Therefore, it is advised to use adjusted R^2 instead of R^2 when a regression model has more than two independent variables. The value of the adjusted R^2 may rise or fall when an additional independent variable is added to the regression model, depending on how much it contributes to the explanation of the dependent variable.

Table 4.13 Coefficient of Determination (Adjusted R^2)

| Model Summary ^b | | | | |
|--|-------------------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .470 ^a | .221 | .160 | .026742 |
| a. Predictors: (Constant), X3_CR, X2_ROA, X1_CSR | | | | |
| b. Dependent Variable: Y_ETR | | | | |

Source: Data Processing with SPSS 26 (2023)

Based on Table 4.16, the adjusted R^2 value is 0.160, which indicates that the multiple linear regression model accounts for 16% of the total variability. This means that the independent variables consisting of Corporate Social Responsibility, Profitability, and Liquidity can explain 16% of the variations on the dependent variable which is Tax Aggressiveness. Whereas the remaining 84% is explained or influenced by other variables which are not the subject of this research.

4.3 Discussion

For the purpose of answering the research question, the following are the discussion regarding the relationship between Corporate Social Responsibility, Profitability, and Liquidity as the independent variables and Tax Aggressiveness as the dependent variable in the food and beverages companies listed on the Indonesia Stock Exchange from 2021 to 2022.

4.3.1 The Influence of Corporate Social Responsibility towards Tax Aggressiveness The results of the hypothesis test indicate that the independent variable, Corporate Social Responsibility (X_1), has an insignificant influence on the dependent variable, Tax Aggressiveness (Y). This conclusion is drawn based on the t-test results, which show that the t-count value of -0.765 is higher than the negative t-table value of -2.02439 ($-0.765 > -2.02439$). Additionally, the significance level is 0.449, which is higher than 0.05 ($0.449 > 0.05$). The

variable's coefficient is -0.026, indicating that companies with higher CSR scores tend to have lower ETR. Since lower ETR levels reflect higher tax aggressiveness, it can be inferred that companies with higher CSR scores are more likely to engage in aggressive tax planning, although the influence is not statistically significant. Therefore, the first research hypothesis (H₁), which posited that "Corporate Social Responsibility has significant influence towards tax aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange" is rejected.

The result of this study found that Corporate Social Responsibility (CSRI) does not have a significant influence towards Tax Aggressiveness (ETR). This means that no matter how high or low the level of CSR carried out by the company, it is not able to significantly influence how aggressive the company is in conducting the tax planning. A company that is more socially responsible does not mean that the company applies less aggressive tax planning. This implies that, the greater the level of CSR performance done by a company, does not lead to the lower likelihood of the company engage in tax non-compliance in an effort to maintain its approval, acceptance, and good relations with the community stakeholder in ensuring the long term-survival.

On the other hand, since the multiple linear regression result has shown a CSR coefficient of -0.026, it implies that companies with higher CSR scores have more likelihood to undertake more tax aggressive activities to lower the tax burden. When a company's CSR-related costs increase, these deductible expenses could decrease its taxable income, which in turn lowers its tax obligation. Additionally, companies could employ CSR initiatives to cover up their potentially risky and opportunistic tax-aggressive practices in an effort to mitigate the damage to their brand and image that such actions might have created (Zeng, 2019).

According to Pratama and Widarjo (2022), the relationship between corporate social responsibility and tax aggressiveness is explained through the Agency theory. The interaction between the principal and the agent is characterized by conflicting interests. The government, acting as principal, wants the companies to uphold their obligations, including paying fair taxes, engaging in CSR to benefit the community, and disclosing the annual CSR in the sustainability report. The company, acting as agent, seeks to maximize its own benefit by engaging in opportunistic behavior, including using tax aggressive planning to reduce the company's tax burden. Agents may act opportunistically through tax aggressiveness due to the information asymmetry between the company (agent) and the government (principal). Then, in order to protect their own interests and avoid creating a negative reputation as consequence of their aggressive taxation strategies, companies often camouflage their aggressive taxation practices by highlighting their CSR initiatives. According to López-González et al. (2019), Even when they engage in tax aggressiveness behavior, businesses can appear to be morally and socially responsible. Huseynov and Klamm (2012) in López-González et al. (2019) confirmed it by reporting that companies could also dedicate themselves to improve their CSR performance, even while they are committed to tax aggressive actions.

The results of the hypothesis testing, however, indicates that there is no significant influence between CSR and tax aggressiveness. The reason could be due to the existence of CSR-related regulations, which contain penalties for those who violate them in order to control the complex agent-principal relationship and encourage transparent behavior. Laws and regulations in Indonesia have governed the companies' CSR activities. *Undang-Undang Nomor 40 Tahun 2007 tentang Perseroan Terbatas Pasal 74 Ayat 1* states that companies that conduct business in the natural resource sector are required to carry out corporate social responsibility,

which is budgeted and assessed as a cost to the company and is implemented with respect for propriety and fairness.

In addition, *Undang-Undang Nomor 36 Tahun 2008 tentang Pajak Penghasilan* indirectly includes several of CSR-related principles that correspond with GRI Standards. The types of CSR costs that are regulated by the Income Tax Law are as follows: (1) Costs related to work or services (salary, honorarium, wages, gratuities, bonuses and allowances). (2) Employee insurance premiums. (3) Processing waste expense. (4) Training and scholarship expense. (5) Creating or nurturing savings to cover expenses associated to reclamation, reforestation, maintenance and the eventual closure of industrial waste disposal areas. Aside from the costs listed above, there are environmental and social responsibility costs that can also be deducted from gross income, such as donations for national disaster, donations for research, social infrastructure development costs, donations for educational facilities, and donations for sports development, which are all controlled by government regulations.

In more detail, *Peraturan Pemerintah Republik Indonesia Nomor 93 Tahun 2010 tentang Sumbangan Penanggulangan Bencana Nasional, Sumbangan Penelitian Dan Pengembangan, Sumbangan Fasilitas Pendidikan, Sumbangan Pembinaan Olahraga, Dan Biaya Pembangunan Infrastruktur Sosial yang Dapat Dikurangkan Dari Penghasilan Bruto* specifies several different types of CSR costs that can be deducted from gross income in calculating taxable income for taxpayers, including: (1) Donations made in response to natural disasters, either directly through disaster management organizations or indirectly through parties who have received permission; (2) Donations made in support of research and development carried out in Indonesia; (3) Donations made in support of educational facilities delivered through educational institutions; (4) Sports development contributions made through sports development organizations; (5) Social infrastructure development costs for constructing facilities and infrastructure that serve the general public interest and are non-profit in nature. The following requirements must be met in order for these donations to be deductible from gross income: (1) Taxpayer must have fiscal net income as determined by the previous tax year's Income Tax Return; (2) Giving a donation should not end up resulting in a loss position in the tax year the donation was made; (3) Supported by valid documentation; and (4) Institutions receiving donations must have a TIN, with the exception of entities that are exempt as tax subjects. Additionally, the government has limited the amount of donations or social infrastructure development costs that may be deducted from gross income for one year which is limited to no more than 5% of the fiscal net income of the prior tax year. All of these donations stated cannot be deducted from gross income if the donation is made to a party who has a special relationship.

By the existence of these regulations, the conflict of interest between company and government can be avoided. The company is now restricted to the certain level at which they can no longer exploit the CSR initiative in order to lower their tax burden by increasing the CSR related cost as tax aggressive action. The company also become more cautious when considering the utilization of the CSR to mask their tax aggressive activities because as there is restriction in the regulation, raising the CSR efforts is surely need additional costs, and these costs may not be deductible if it is not fulfilling the term and condition stated in regulation, which then could lower their profit before tax. This condition is surely undesirable by the company as agent, since their interest is to minimize tax and expense as low as possible. Hence, because of the presence of regulations, the influence of CSR towards tax aggressiveness might lose its significance.

According to the interview conducted by Bandiyono and Dewangga (2020) with the tax authorities, taxpayers regularly do not employ contribution expense accounts for tax aggressive planning. Even if taxpayers used donation expense with the purpose of tax aggressive planning, the amount would not be very significant. As a result, other variables outside CSR disclosures may be more relevant to be investigated in the research of tax aggressiveness practices, such as profitability and sales growth. Therefore, it can be concluded that a company's higher level of CSR practice does not automatically reflect a greater degree of tax aggressiveness, and conversely, a company's lower level of CSR practice does not automatically imply less tax aggressiveness.

This research result is further supported by the study conducted by Pranata et al. (2021), Julian (2021) and Kristiadi et al. (2020), claiming that corporate social responsibility has no significant influence towards tax aggressiveness. However, this research is contradicting with the finding of Arifin and Rahmiati (2020), claiming that corporate social responsibility has a significant influence towards tax aggressiveness. This study's results may show a discrepancy when being compared to those of other previous studies due to differences in the sample, research observation period and variable measurement employed.

4.3.2 The Influence of Profitability towards Tax Aggressiveness

The results of the hypothesis test indicate that the independent variable, Profitability (X_2), has a significant influence on the dependent variable, Tax Aggressiveness (Y). This conclusion is drawn based on the t-test results, which show that the t-count value of -3.244 is lower than the negative t-table value of -2.02439 ($-3.244 < -2.02439$). Additionally, the significance level is 0.002, which is lower than 0.05 ($0.002 < 0.05$). The variable's coefficient is -0.264, indicating that companies with higher profitability tend to have lower ETR. Since lower ETR levels reflect higher tax aggressiveness, it can be inferred that companies with higher profitability are more likely to engage in aggressive tax planning. Therefore, the second research hypothesis (H_2), which posited that "Profitability has significant influence towards tax aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange" is accepted.

The study's findings correspond with the Agency theory, which declares that the government (the principal) and the company (the agent) have conflict of interests. To meet the expectations of its shareholders, the company (agent) intends to enhance its profits. Profitability determines the amount of taxable income in the company. The tax income imposed on companies will rise in direct proportion to the level of profitability. Therefore, greater profitability will result in a greater tax obligation. As a result, the company may be more motivated to implement aggressive tax strategies in order to reduce its tax burden, as the company obviously does not want to pay large taxes. Companies attempt to pay the least amount of tax possible because taxes are considered to reduce net profit after tax. On the other hand, companies with low levels of profitability will typically comply with the regulation for paying fair taxes, since they have smaller tax responsibilities. However, from the government's (principal) point of view, there is a conflict of interest as the principal expects the highest possible tax collection in order to finance the country's development plans.

The company engages in aggressive tax planning with the aims of making it appear as though the company's profits are small, which will result in lower income tax obligations. Tax aggressive planning is also conducted for the purpose of not reducing the company's good performance and high profits that have been obtained by the company. Lowering the effective

tax rate can lead to higher after-tax profits, which can help the company to meet shareholder expectations, such as raising earnings per share, which can positively impact stock prices. Additionally, by lowering tax expense, companies have the chance to gain a competitive advantage by lowering costs and possibly offering goods and services at more competitive prices.

Companies with greater profits will have greater flexibility to exploit loopholes in the applicable laws and regulations to manage their tax expense (Adnyani & Astika, 2019). They frequently have more access to financial resources, which they can use to invest in tax planning strategies, hire specialized tax advisors, and implement complicated tax structures that can lower tax liabilities. Companies can take advantage of tax incentives and other tax allowances, such as tax deductions and tax credits to lower the effective tax rate that can demonstrate a larger gap between accounting profit and fiscal profit (Santika, 2019).

Moreover, according to Dayday and Zaam (2017) in Novianti and Sukendar (2022), companies with significant profits might employ extreme transfer pricing strategies as a type of tax aggressive action to shift profits from high-tax jurisdictions to low-tax jurisdictions. Transfer pricing also applies to transactions between related entities within the same jurisdictions, particularly where those transactions have major implications for the economy and have the potential for profit shifting.

Hence, the previously mentioned implication has supported the significant relationship between profitability and tax aggressiveness, where an increase in profitability tends to increase tax aggressiveness efforts. The finding presents some implications for society and decisionmakers. Tax authorities typically encounter significant challenges to discover aggressive tax planning done by company. However, this research suggests that additional efforts should be undertaken to monitor the highly profitable company's tax management, as they are more likely to use aggressive tax approaches.

This research result is further supported by the study conducted by Paskalina and Murtianingsih (2022) and Christy (2023), claiming that profitability has significant influence towards tax aggressiveness. However, this research is contradicting with the finding of Hidayat and Ellyana (2022), claiming that profitability has no significant influence towards tax aggressiveness. This study's results may show a discrepancy when being compared to those of other previous studies due to differences in the research sample and research observation period.

4.3.2 The Influence of Liquidity towards Tax Aggressiveness

The results of the hypothesis test indicate that the independent variable, Liquidity (X_3), has an insignificant influence on the dependent variable, Tax Aggressiveness (Y). This conclusion is drawn based on the t-test results, which show that the t-count value of 0.761 is lower than the t-table value of 2.02439 ($0.761 < 2.02439$). Additionally, the significance level is 0.451, which is higher than 0.05 ($0.451 > 0.05$). The variable's coefficient is 0.002, indicating that companies with higher liquidity tend to have higher ETR. Since lower ETR levels reflect higher tax aggressiveness, it can be inferred that companies with higher liquidity are less likely to engage in aggressive tax planning, although the influence is not statistically significant. Therefore, the third research hypothesis (H_3), which posited that "Liquidity has significant influence towards tax aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange" is rejected.

The Agency theory implies that companies with high liquidity ratios are capable of covering up their short-term obligations, indicating good financial health, lack of cash flow problems and able to pay taxes. As a result, a company with high liquidity is less likely to engage in aggressive tax planning (Safitri & Oktris, 2023). However, if the liquidity ratio is low, there is a higher chance that the company will engage in tax aggressive action, since it might be difficult for company to meet its significant tax payment obligations due to liquidity problems. As a result, the company prefers to engage in tax aggressive strategies in order to decrease its tax burden, because sustaining consistent cash flow is preferable than paying taxes (Tampubolon, 2021). The savings resulting from tax aggressive activities can be utilized by the company to meet its immediate responsibilities. This reflects the conflict of interest between the company (agent) and the government (principal) in Agency theory, where the company is prioritizing its own benefit by maintaining cash flow for the business operation and sustainability, while the government is expecting maximum tax revenue collection without concerning the company's financial condition.

However, even though the direction of the relationship can be explained by the Agency theory, the results of this study has found that there is no significant influence between liquidity and tax aggressiveness. The insignificant influence might be explained by the Stakeholder theory, which highlights the importance of concerning and effectively handling the interests of various stakeholders, including investors/shareholders, creditors, and government, with an emphasis on developing enduring relationships and building trust rather than putting a high priority on short-term financial gains.

The reason for insignificant influence between liquidity and tax aggressiveness is because companies intend to frequently evaluate and maintain their liquidity in order to prevent financial excess or deficiency levels, with the goal of remaining liquid, and able to settle their current liabilities, including tax obligations. The level of creditors' trust in the company will diminish if the level of liquidity is too low, which could lead to a reduction in capital loans from creditors. While extremely high liquidity indicates the company is missing out on potentially beneficial investment opportunities that may support the company's expansion, due to idle cash and equivalents.

This proactive approach of managing liquidity position aligns with Stakeholder theory, since it shows a dedication to meeting immediate responsibilities and preserving the company's financial health. When the company is more focused on maintaining a balanced level of liquidity, they may not engage in aggressive tax planning because it could impact their cash flow and liquidity position. Additionally, it may distract resources from business operation, which may impact the company's liquidity. Since maintaining appropriate liquidity level might be viewed favorably by investors, companies that take into consideration the interests of all stakeholders tend to manage their finances properly to attract the attention of investors.

On the other hand, aggressive tax planning can be complex and uncertain, which may result in reputational concerns and decreased investor confidence, potentially bringing larger problems rather than the benefit of short-term tax savings they have gained. Additionally, since employing aggressive tax strategies could negatively impact the government, it often results in potential tax audit and legal disputes which raise future tax liabilities, interest, or penalties that is not align with a company's liquidity goals. Therefore, tax aggressiveness is viewed as a practice that solely benefits the business itself and has no regard for other stakeholders, such as the government.

In conclusion, the levels of liquidity, whether high or low, do not influence the tax aggressiveness actions undertaken by the company. This is due to the company's regular maintenance of its liquidity and careful monitoring of its cash flow to satisfy immediate obligations, leading to an increase of investors' trust and confidence (Manurung et al., 2022). The insignificant influence between liquidity and tax aggressiveness is explained by highlighting the company's efforts to balance the interests of various stakeholders, including investors, creditor, and government. It shows that the business is using a comprehensive approach to make financial decision that benefits a variety of stakeholders rather than being exclusively focused on tax-aggressive activity. As previously mentioned implication, it can be concluded that liquidity is unable to be the determining variable in conducting tax aggressiveness.

This research result is further supported by the study conducted by Jekang and Hama (2022), as well as Paskalina and Murtianingsih (2022), claiming that liquidity has no significant influence towards tax aggressiveness. However, this research is contradicting with the finding of Malau (2021), claiming that liquidity has a significant influence towards tax aggressiveness. This study's results may show a discrepancy when being compared to those of other previous studies due to differences in the research sample and research observation period.

4.3.3 The Influence of Corporate Social Responsibility, Profitability, and Liquidity toward Tax Aggressiveness

Corporate Social Responsibility (X_1), Profitability (X_2), and Liquidity (X_3) simultaneously have significant influence toward Tax Aggressiveness (Y). This conclusion is supported by the result of hypothesis testing that shows the significant value of 0.022, which is less than 0.05 ($0.022 < 0.05$). Additionally, the results of the simultaneous F-test revealed an F-count value of 3.600 which is higher than the F-table statistical value of 2.85 ($3.600 > 2.85$). These findings demonstrate that a combination of independent variables, including Corporate Social Responsibility, Profitability, and Liquidity influence the Tax Aggressiveness behavior. Hence, a company will be more probable to conduct tax aggressive practice once it discloses an extensive corporate social responsibility information, generates high profitability, and has a high liquidity position. In conclusion, the fourth hypothesis (H_4) which posited that “Corporate Social Responsibility, Profitability, and Liquidity have significant influence toward tax aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange” is accepted.

Furthermore, the coefficient of determination result displays an adjusted R^2 value of 0.160. This figure suggests that the multiple regression model accounts for 16% of the total variation. The independent variables consisting of Corporate Social Responsibility, Profitability, and Liquidity can explain 16% of the variations on the dependent variable which is Tax Aggressiveness. Whereas the remaining 84% is explained or influenced by other variables which are not the subject of this research.

5. CONCLUSION

This research examined the influence of Corporate Social Responsibility, Profitability, and Liquidity toward Tax Aggressiveness. The object of this research is the food and beverages companies listed at Indonesia Stock Exchanges (IDX) from 2021-2022. The research collected samples through purposive sampling method, resulting in 27 companies being eligible for further analysis. During the two-year investigation period, the total of 54 samples were gathered

to be observed in this research, and 42 samples were utilized for data analysis. These following conclusions are constructed in accordance with the results of hypothesis testing:

1. The first hypothesis (H_1) is rejected.

Corporate Social Responsibility, as proxied by Corporate Social Responsibility Disclosure Index (CSRI) has an insignificant influence towards Tax Aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange (IDX) from the period of 2021 to 2022. Agency theory explains that companies with higher CSR scores have more likelihood to undertake tax aggressive activities. However, the influence of CSR towards tax aggressiveness is insignificant due to the existence of CSR-related regulations, which contain penalties to control the complex agent-principal relationship and encourage transparent behavior. The company is now restricted to the certain level which they can no longer exploit the CSR initiative to lower tax burden by increasing the CSR related cost. The company has also become more cautious about utilizing CSR to mask tax aggressive activities. As a result, CSR has no significant influence towards tax aggressiveness.

2. The second hypothesis (H_2) is accepted.

Profitability, as proxied by Return on Assets (ROA) has a significant influence towards Tax Aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange (IDX) from the period of 2021 to 2022. Agency theory explains that when a company generates significant high profits and is subject to a higher tax burden, it may engage in more aggressive in tax planning to reduce tax expense. Companies with greater profits will have greater flexibility to exploit loopholes in regulations. On the other hand, companies with low levels of profitability will typically comply with the regulation for paying fair taxes, since they have smaller tax responsibilities. As a result, profitability has a significant influence towards tax aggressiveness.

3. The third hypothesis (H_3) is rejected.

Liquidity, as proxied by Current Ratio (CR) has an insignificant influence towards Tax Aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange (IDX) from the period of 2021 to 2022. Agency theory explained that companies with high liquidity are less likely to engage in aggressive tax planning. In the other side, when the liquidity ratio is low, there is a higher chance that the company will engage in tax aggressive action, since sustaining consistent cash flow is preferable than paying taxes. However, based on Stakeholder theory, the influence of liquidity on tax aggressiveness is insignificant due to the company's regular maintenance of its liquidity and careful monitoring of its cash flow to satisfy immediate obligations, leading to an increase of investors' and creditors' trust. Moreover, since tax aggression is a practice that has no regard for other stakeholders, such as the government or the general public, companies tend to avoid this unethical action. Stakeholder theory highlights the company's efforts to balance the interests of various stakeholders, rather than being exclusively focused on tax-aggressive activity. As a result, liquidity has no significant influence towards tax aggressiveness.

4. The fourth hypothesis (H_4) is accepted.

Corporate Social Responsibility, Profitability, and Liquidity simultaneously have significant influence toward Tax Aggressiveness in food and beverages companies listed on the Indonesia Stock Exchange (IDX) from the period of 2021 to 2022.

In conclusion, Tax Aggressiveness can be influenced by various factors, including those investigated in this study. Since tax aggressive behavior has wide-ranging implications for the government, businesses, and society as a whole, it is a crucial issue that has to be explored, so

that preventive efforts can be performed to avert it. The outcomes of this study are anticipated to contribute to the advancement of the tax accounting field, by providing insight regarding how Corporate Social Responsibility, Profitability, and Liquidity influence Tax Aggressiveness.

APPENDIX A: LIST OF POPULATION AND SAMPLE OF FOOD AND BEVERAGES COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE FOR THE PERIOD OF 2021–2022

| No. | Company Code | Company Name | Criteria | | | | Sample Selected |
|-----|--------------|--|----------|---|---|---|-----------------|
| | | | 1 | 2 | 3 | 4 | |
| 1 | ICBP | PT. Indofood CBP Sukses Makmur Tbk | ✓ | ✓ | ✓ | ✓ | S 1-2 |
| 2 | INDF | PT. Indofood Sukses Makmur Tbk | ✓ | ✓ | ✓ | ✓ | S 3-4 |
| 3 | MYOR | PT. Mayora Indah Tbk | ✓ | ✓ | ✓ | ✓ | S 5-6 |
| 4 | CMRY | PT. Cisarua Mountain Dairy Tbk | ✓ | ✓ | ✓ | ✓ | S 7-8 |
| 5 | PANI | PT. Pantai Indah Kapuk Dua Tbk | ✓ | ✓ | ✓ | ✓ | S 9-10 |
| 6 | ULTJ | PT. Ultra Jaya Milk Industry & Trading Company Tbk | ✓ | ✓ | ✓ | ✓ | S 11-12 |
| 7 | MLBI | PT. Multi Bintang Indonesia Tbk | ✓ | ✓ | ✓ | ✓ | S 13-14 |
| 8 | GOOD | PT. Garudafood Putra Putri Jaya Tbk | ✓ | ✓ | ✓ | ✓ | S 15-16 |
| 9 | DMND | PT. Diamond Food Indonesia Tbk | ✓ | ✓ | ✓ | ✓ | S 17-18 |
| 10 | ROTI | PT. Nippon Indosari Corpindo Tbk | ✓ | ✓ | ✓ | ✓ | S 19-20 |
| 11 | CLEO | PT. Sariguna Primatirta Tbk | ✓ | ✓ | ✓ | ✓ | S 21-22 |
| 12 | ADES | PT. Akasha Wira International Tbk | ✓ | ✓ | ✓ | ✓ | S 23-24 |
| 13 | DLTA | PT. Delta Djakarta Tbk | ✓ | ✓ | ✓ | ✓ | S 25-26 |
| 14 | IBOS | PT. Indo Boga Sukses Tbk | ✗ | ✗ | ✓ | ✗ | |
| 15 | CAMP | PT. Campina Ice Cream Industry Tbk | ✓ | ✓ | ✓ | ✓ | S 27-28 |
| 16 | KEJU | PT. Mulia Boga Raya Tbk | ✓ | ✓ | ✓ | ✓ | S 29-30 |
| 17 | TRGU | PT. Cerestar Indonesia Tbk | ✗ | ✗ | ✗ | ✗ | |
| 18 | SKLT | PT. Sekar Laut Tbk | ✓ | ✓ | ✓ | ✓ | S 31-32 |
| 19 | WINE | PT. Hatten Bali Tbk | ✗ | ✗ | ✗ | ✗ | |
| 20 | BEER | PT. Jobubu Jarum Minahasa Tbk | ✗ | ✗ | ✓ | ✗ | |
| 21 | CEKA | PT. Wilmar Cahaya Indonesia Tbk | ✓ | ✓ | ✓ | ✓ | S 33-34 |
| 22 | BUDI | PT. Budi Starch & Sweetener Tbk | ✓ | ✓ | ✓ | ✗ | |
| 23 | HOKI | PT. Buyung Poetra Sembada Tbk | ✓ | ✓ | ✓ | ✓ | S 35-36 |
| 24 | PMMP | PT. Panca Mitra Multiperdana Tbk | ✓ | ✓ | ✓ | ✓ | S 37-38 |
| 25 | AISA | PT. FKS Food Sejahtera Tbk | ✓ | ✓ | ✗ | ✓ | |
| 26 | SKBM | PT. Sekar Bumi Tbk | ✓ | ✓ | ✓ | ✓ | S 39-40 |
| 27 | GULA | PT. Aman Agrindo Tbk | ✗ | ✗ | ✓ | ✗ | |
| 28 | NAYZ | PT. Hassana Boga Sejahtera Tbk | ✗ | ✗ | ✓ | ✗ | |
| 29 | COCO | PT. Wahana Interfood Nusantara Tbk | ✓ | ✓ | ✓ | ✓ | S 41-42 |
| 30 | BOBA | PT. Formosa Ingredient Factory Tbk | ✓ | ✓ | ✓ | ✓ | S 43-44 |
| 31 | PSDN | PT. Prasadha Aneka Niaga Tbk | ✓ | ✓ | ✗ | ✓ | |
| 32 | ALTO | PT. Tri Banyan Tirta Tbk | ✓ | ✓ | ✗ | ✗ | |
| 33 | TAYS | PT. Jaya Swarasa Agung Tbk | ✓ | ✓ | ✓ | ✓ | S 45-46 |

| | | | | | | | |
|----|------|----------------------------------|---|---|---|---|---------|
| 34 | NASI | PT. Wahana Inti Makmur Tbk | ✓ | ✓ | ✓ | ✓ | S 47-48 |
| 35 | FOOD | PT. Sentra Food Indonesia Tbk | ✓ | ✓ | ✗ | ✓ | |
| 36 | SOUL | PT. Mitra Tirta Buwana Tbk | ✗ | ✗ | ✓ | ✗ | |
| 37 | STTP | PT. Siantar Top Tbk | ✓ | ✓ | ✓ | ✓ | S 49-50 |
| 38 | GRPM | PT. Graha Prima Mentari Tbk | ✗ | ✗ | ✗ | ✗ | |
| 39 | MAXI | PT. Maxindo Karya Anugerah Tbk | ✗ | ✗ | ✗ | ✗ | |
| 40 | TGUK | PT. Platinum Wahab Nusantara Tbk | ✗ | ✗ | ✗ | ✗ | |
| 41 | TGKA | PT. Tigaraksa Satria Tbk | ✓ | ✓ | ✓ | ✓ | S 51-52 |
| 42 | FISH | PT. FKS Multi Agro Tbk | ✓ | ✓ | ✓ | ✓ | S 53-54 |
| 43 | BEEF | PT. Estika Tata Tiara Tbk | ✓ | ✓ | ✗ | ✗ | |

APPENDIX B: CALCULATION OF CORPORATE SOCIAL RESPONSIBILITY (CSRI)

| No. | Company Code | Year | Total Checklist Per Year | Total Item | CSRI |
|-----|--------------|------|--------------------------|------------|---------|
| 1 | ICBP | 2021 | 83 | 120 | 0.6917 |
| | | 2022 | 106 | 148 | 0.7162 |
| 2 | INDF | 2021 | 86 | 122 | 0.7049 |
| | | 2022 | 109 | 148 | 0.7365 |
| 3 | MYOR | 2021 | 57 | 89 | 0.6404 |
| | | 2022 | 57 | 89 | 0.6404 |
| 4 | CMRY | 2021 | 53 | 148 | 0.3581 |
| | | 2022 | 103 | 148 | 0.6959 |
| 5 | PANI | 2021 | 17 | 148 | 0.1149* |
| | | 2022 | 82 | 148 | 0.5541 |
| 6 | ULTJ | 2021 | 43 | 70 | 0.6143 |
| | | 2022 | 42 | 69 | 0.6087 |
| 7 | MLBI | 2021 | 75 | 128 | 0.5859 |
| | | 2022 | 98 | 148 | 0.6622 |
| 8 | GOOD | 2021 | 79 | 125 | 0.6320 |
| | | 2022 | 103 | 148 | 0.6959 |
| 9 | DMND | 2021 | 69 | 87 | 0.7931 |
| | | 2022 | 72 | 92 | 0.7826 |
| 10 | ROTI | 2021 | 69 | 101 | 0.6832 |
| | | 2022 | 68 | 148 | 0.4595 |
| 11 | CLEO | 2021 | 67 | 107 | 0.6262 |
| | | 2022 | 87 | 148 | 0.5878 |
| 12 | ADES | 2021 | 53 | 83 | 0.6386 |
| | | 2022 | 54 | 83 | 0.6506 |
| 13 | DLTA | 2021 | 69 | 148 | 0.4662 |
| | | 2022 | 72 | 148 | 0.4865 |
| 14 | CAMP | 2021 | 60 | 108 | 0.5556 |
| | | 2022 | 85 | 148 | 0.5743 |
| 15 | KEJU | 2021 | 83 | 148 | 0.5608 |
| | | 2022 | 87 | 148 | 0.5878 |
| 16 | SKLT | 2021 | 56 | 93 | 0.6022 |
| | | 2022 | 56 | 148 | 0.3784 |

| | | | | | |
|----|------|------|----|-----|--------|
| 17 | CEKA | 2021 | 65 | 148 | 0.4392 |
| | | 2022 | 95 | 148 | 0.6419 |
| 18 | HOKI | 2021 | 54 | 148 | 0.3649 |
| | | 2022 | 56 | 148 | 0.3784 |
| 19 | PMMP | 2021 | 46 | 63 | 0.7302 |
| | | 2022 | 85 | 148 | 0.5743 |
| 20 | SKBM | 2021 | 75 | 148 | 0.5068 |
| | | 2022 | 60 | 148 | 0.4054 |
| 21 | COCO | 2021 | 63 | 86 | 0.7326 |
| | | 2022 | 62 | 85 | 0.7294 |
| 22 | BOBA | 2021 | 76 | 148 | 0.5135 |
| | | 2022 | 80 | 148 | 0.5405 |
| 23 | TAYS | 2021 | 67 | 148 | 0.4527 |
| | | 2022 | 74 | 148 | 0.5000 |
| 24 | NASI | 2021 | 69 | 148 | 0.4662 |
| | | 2022 | 56 | 148 | 0.3784 |
| 25 | STTP | 2021 | 45 | 148 | 0.3041 |
| | | 2022 | 46 | 148 | 0.3108 |
| 26 | TGKA | 2021 | 66 | 148 | 0.4459 |
| | | 2022 | 67 | 148 | 0.4527 |
| 27 | FISH | 2021 | 72 | 124 | 0.5806 |
| | | 2022 | 94 | 148 | 0.6351 |

*Outlier data

APPENDIX C: CALCULATION OF PROFITABILITY (ROA)

| No. | Company Code | Year | Income After Tax | Total Assets | ROA |
|-----|--------------|------|-----------------------|------------------------|---------|
| 1 | ICBP | 2021 | Rp 7,911,943,000,000 | Rp 118,066,628,000,000 | 0.0670 |
| | | 2022 | Rp 5,722,194,000,000 | Rp 115,305,536,000,000 | 0.0496 |
| 2 | INDF | 2021 | Rp 11,229,695,000,000 | Rp 179,271,840,000,000 | 0.0626 |
| | | 2022 | Rp 9,192,569,000,000 | Rp 180,433,300,000,000 | 0.0509 |
| 3 | MYOR | 2021 | Rp 1,211,052,647,953 | Rp 19,917,653,265,528 | 0.0608 |
| | | 2022 | Rp 1,970,064,538,149 | Rp 22,276,160,695,411 | 0.0884 |
| 4 | CMRY | 2021 | Rp 790,229,000,000 | Rp 5,603,779,000,000 | 0.1410 |
| | | 2022 | Rp 1,060,582,000,000 | Rp 6,223,251,000,000 | 0.1704 |
| 5 | PANI | 2021 | Rp 1,680,076,000 | Rp 13,296,259,876,000 | 0.0001 |
| | | 2022 | Rp 288,311,135,000 | Rp 15,938,444,031,000 | 0.0181 |
| 6 | ULTJ | 2021 | Rp 1,276,793,000,000 | Rp 7,406,856,000,000 | 0.1724 |
| | | 2022 | Rp 965,486,000,000 | Rp 7,376,375,000,000 | 0.1309 |
| 7 | MLBI | 2021 | Rp 665,850,000,000 | Rp 2,922,017,000,000 | 0.2279 |
| | | 2022 | Rp 924,906,000,000 | Rp 3,374,502,000,000 | 0.2741* |
| 8 | GOOD | 2021 | Rp 492,637,672,186 | Rp 6,766,602,280,143 | 0.0728 |
| | | 2022 | Rp 521,714,035,585 | Rp 7,327,371,934,290 | 0.0712 |
| 9 | DMND | 2021 | Rp 351,470,000,000 | Rp 6,297,287,000,000 | 0.0558 |
| | | 2022 | Rp 382,105,000,000 | Rp 6,878,297,000,000 | 0.0556 |
| 10 | ROTI | 2021 | Rp 283,602,993,676 | Rp 4,191,284,422,677 | 0.0677 |
| | | 2022 | Rp 432,247,722,254 | Rp 4,130,321,616,083 | 0.1047 |
| 11 | CLEO | 2021 | Rp 180,711,667,020 | Rp 1,348,181,576,913 | 0.1340 |
| | | 2022 | Rp 195,598,848,689 | Rp 1,693,523,611,414 | 0.1155 |

| | | | | | |
|----|------|------|--------------------|----------------------|--------|
| 12 | ADES | 2021 | Rp 47,471,000,000 | Rp 1,304,108,000,000 | 0.0364 |
| | | 2022 | Rp 75,595,000,000 | Rp 1,380,815,000,000 | 0.0547 |
| 13 | DLTA | 2021 | Rp 187,992,998,000 | Rp 1,308,722,065,000 | 0.1436 |
| | | 2022 | Rp 230,065,807,000 | Rp 1,307,186,367,000 | 0.1760 |
| 14 | CAMP | 2021 | Rp 99,278,807,290 | Rp 1,146,235,578,463 | 0.0866 |
| | | 2022 | Rp 121,257,336,904 | Rp 1,074,777,460,412 | 0.1128 |
| 15 | KEJU | 2021 | Rp 144,700,268,968 | Rp 767,726,284,113 | 0.1885 |
| | | 2022 | Rp 117,370,750,383 | Rp 860,100,358,989 | 0.1365 |
| 16 | SKLT | 2021 | Rp 84,524,160,228 | Rp 889,125,250,792 | 0.0951 |
| | | 2022 | Rp 74,865,302,076 | Rp 1,033,289,474,829 | 0.0725 |
| 17 | CEKA | 2021 | Rp 187,066,990,085 | Rp 1,697,387,196,209 | 0.1102 |
| | | 2022 | Rp 220,704,543,072 | Rp 1,718,287,453,575 | 0.1284 |
| 18 | HOKI | 2021 | Rp 11,844,682,161 | Rp 987,563,580,363 | 0.0120 |
| | | 2022 | Rp 90,572,477 | Rp 811,603,660,216 | 0.0001 |
| 19 | PMMP | 2021 | \$ 9,294,368 | \$ 268,577,438 | 0.0346 |
| | | 2022 | \$ 7,543,323 | \$ 297,508,053 | 0.0254 |
| 20 | SKBM | 2021 | Rp 29,707,421,605 | Rp 1,970,428,120,056 | 0.0151 |
| | | 2022 | Rp 86,635,603,936 | Rp 2,042,199,577,083 | 0.0424 |
| 21 | COCO | 2021 | Rp 8,532,631,708 | Rp 370,684,311,428 | 0.0230 |
| | | 2022 | Rp 6,621,236,433 | Rp 485,054,412,584 | 0.0137 |
| 22 | BOBA | 2021 | Rp 17,466,099,848 | Rp 147,435,386,311 | 0.1185 |
| | | 2022 | Rp 10,738,669,242 | Rp 164,088,907,388 | 0.0654 |
| 23 | TAYS | 2021 | Rp 4,911,439,431 | Rp 377,422,657,739 | 0.0130 |
| | | 2022 | Rp 7,732,743,618 | Rp 407,707,959,296 | 0.0190 |
| 24 | NASI | 2021 | Rp 532,665,673 | Rp 67,761,107,871 | 0.0079 |
| | | 2022 | Rp 1,032,151,378 | Rp 70,220,263,356 | 0.0147 |
| 25 | STTP | 2021 | Rp 617,573,766,863 | Rp 3,919,243,683,748 | 0.1576 |
| | | 2022 | Rp 624,524,005,786 | Rp 4,590,737,849,889 | 0.1360 |
| 26 | TGKA | 2021 | Rp 481,109,483,989 | Rp 3,403,961,007,490 | 0.1413 |
| | | 2022 | Rp 478,266,312,889 | Rp 4,181,760,862,637 | 0.1144 |
| 27 | FISH | 2021 | \$ 29,237,100 | \$ 537,640,594 | 0.0544 |
| | | 2022 | \$ 32,756,494 | \$ 461,463,695 | 0.0710 |

*Outlier data

APPENDIX D: CALCULATION OF LIQUIDITY (CR)

| No. | Company Code | Year | Total Current Assets | Total Current Liabilities | CR |
|-----|--------------|------|-----------------------|---------------------------|--------|
| 1 | ICBP | 2021 | Rp 33,997,637,000,000 | Rp 18,896,133,000,000 | 1.7992 |
| | | 2022 | Rp 31,070,365,000,000 | Rp 10,033,935,000,000 | 3.0965 |
| 2 | INDF | 2021 | Rp 54,183,399,000,000 | Rp 40,403,404,000,000 | 1.3411 |
| | | 2022 | Rp 54,876,668,000,000 | Rp 30,725,942,000,000 | 1.7860 |
| 3 | MYOR | 2021 | Rp 12,969,783,874,643 | Rp 5,570,773,468,770 | 2.3282 |
| | | 2022 | Rp 14,772,623,976,128 | Rp 5,636,627,301,308 | 2.6208 |
| 4 | CMRY | 2021 | Rp 4,832,308,000,000 | Rp 844,888,000,000 | 5.7195 |
| | | 2022 | Rp 4,025,215,000,000 | Rp 915,865,000,000 | 4.3950 |
| 5 | PANI | 2021 | Rp 5,257,810,480,000 | Rp 12,726,520,370,000 | 0.4131 |
| | | 2022 | Rp 9,632,816,363,000 | Rp 8,266,208,912,000 | 1.1653 |
| 6 | ULTJ | 2021 | Rp 4,844,821,000,000 | Rp 1,556,539,000,000 | 3.1126 |
| | | 2022 | Rp 4,618,390,000,000 | Rp 1,456,898,000,000 | 3.1700 |

| | | | | | |
|----|------|------|----------------------|----------------------|----------|
| 7 | MLBI | 2021 | Rp 1,241,112,000,000 | Rp 1,682,700,000,000 | 0.7376 |
| | | 2022 | Rp 1,649,257,000,000 | Rp 2,154,777,000,000 | 0.7654 |
| 8 | GOOD | 2021 | Rp 2,613,436,417,820 | Rp 1,771,339,531,925 | 1.4754 |
| | | 2022 | Rp 3,194,327,374,948 | Rp 1,835,096,804,319 | 1.7407 |
| 9 | DMND | 2021 | Rp 3,965,274,000,000 | Rp 1,106,492,000,000 | 3.5836 |
| | | 2022 | Rp 4,275,936,000,000 | Rp 1,312,391,000,000 | 3.2581 |
| 10 | ROTI | 2021 | Rp 1,282,057,210,341 | Rp 483,213,195,704 | 2.6532 |
| | | 2022 | Rp 1,285,672,230,703 | Rp 612,417,576,293 | 2.0993 |
| 11 | CLEO | 2021 | Rp 279,804,122,714 | Rp 182,882,815,706 | 1.5300 |
| | | 2022 | Rp 380,268,816,727 | Rp 209,828,541,579 | 1.8123 |
| 12 | ADES | 2021 | Rp 673,394,000,000 | Rp 268,367,000,000 | 2.5092 |
| | | 2022 | Rp 755,755,000,000 | Rp 269,326,000,000 | 2.8061 |
| 13 | DLTA | 2021 | Rp 1,174,393,432,000 | Rp 244,206,806,000 | 4.8090 |
| | | 2022 | Rp 1,165,412,820,000 | Rp 255,354,186,000 | 4.5639 |
| 14 | CAMP | 2021 | Rp 856,198,582,426 | Rp 64,332,022,572 | 13.3091* |
| | | 2022 | Rp 772,685,806,645 | Rp 72,411,790,397 | 10.6707* |
| 15 | KEJU | 2021 | Rp 497,681,274,294 | Rp 176,772,189,231 | 2.8154 |
| | | 2022 | Rp 641,093,981,245 | Rp 153,894,624,540 | 4.1658 |
| 16 | SKLT | 2021 | Rp 433,383,441,542 | Rp 241,664,687,612 | 1.7933 |
| | | 2022 | Rp 543,799,195,487 | Rp 333,670,108,915 | 1.6298 |
| 17 | CEKA | 2021 | Rp 1,358,085,356,038 | Rp 283,104,828,760 | 4.7971 |
| | | 2022 | Rp 1,383,998,340,429 | Rp 139,037,021,213 | 9.9542* |
| 18 | HOKI | 2021 | Rp 450,325,961,390 | Rp 280,958,063,589 | 1.6028 |
| | | 2022 | Rp 389,697,575,028 | Rp 119,206,775,342 | 3.2691 |
| 19 | PMMP | 2021 | \$ 229,006,842 | \$ 189,166,183 | 1.2106 |
| | | 2022 | \$ 247,718,078 | \$ 209,325,960 | 1.1834 |
| 20 | SKBM | 2021 | Rp 1,158,132,110,148 | Rp 883,202,660,221 | 1.3113 |
| | | 2022 | Rp 1,263,255,237,692 | Rp 875,853,096,624 | 1.4423 |
| 21 | COCO | 2021 | Rp 273,848,147,193 | Rp 140,133,633,808 | 1.9542 |
| | | 2022 | Rp 284,173,876,309 | Rp 146,027,758,905 | 1.9460 |
| 22 | BOBA | 2021 | Rp 61,715,900,725 | Rp 8,445,903,755 | 7.3072 |
| | | 2022 | Rp 50,098,957,004 | Rp 24,697,828,486 | 2.0285 |
| 23 | TAYS | 2021 | Rp 237,731,476,164 | Rp 221,386,799,508 | 1.0738 |
| | | 2022 | Rp 205,093,349,448 | Rp 250,914,615,348 | 0.8174 |
| 24 | NASI | 2021 | Rp 43,069,219,765 | Rp 6,895,481,971 | 6.2460 |
| | | 2022 | Rp 46,101,864,870 | Rp 9,033,429,909 | 5.1035 |
| 25 | STTP | 2021 | Rp 1,979,855,004,312 | Rp 475,372,154,415 | 4.1649 |
| | | 2022 | Rp 2,575,390,271,556 | Rp 530,693,880,588 | 4.8529 |
| 26 | TGKA | 2021 | Rp 3,071,867,706,530 | Rp 1,319,656,849,510 | 2.3278 |
| | | 2022 | Rp 3,716,526,690,785 | Rp 1,806,905,964,718 | 2.0568 |
| 27 | FISH | 2021 | \$ 404,552,905 | \$ 311,328,821 | 1.2994 |
| | | 2022 | \$ 339,299,923 | \$ 234,121,571 | 1.4492 |

*Outlier data

APPENDIX E: CALCULATION OF TAX AGGRESSIVENESS (ETR)

| No. | Company Code | Year | Total Tax Expense | Income Before Tax | ETR |
|-----|--------------|------|----------------------|----------------------|--------|
| 1 | ICBP | 2021 | Rp 2,038,227,000,000 | Rp 9,950,170,000,000 | 0.2048 |

| | | | | | |
|----|------|------|----------------------|-----------------------|----------|
| | | 2022 | Rp 1,803,191,000,000 | Rp 7,525,385,000,000 | 0.2396 |
| 2 | INDF | 2021 | Rp 3,258,958,000,000 | Rp 14,488,653,000,000 | 0.2249 |
| | | 2022 | Rp 3,126,196,000,000 | Rp 12,318,765,000,000 | 0.2538 |
| 3 | MYOR | 2021 | Rp 338,595,908,733 | Rp 1,549,648,556,686 | 0.2185 |
| | | 2022 | Rp 535,992,979,785 | Rp 2,506,057,517,934 | 0.2139 |
| 4 | CMRY | 2021 | Rp 225,901,000,000 | Rp 1,016,130,000,000 | 0.2223 |
| | | 2022 | Rp 282,128,000,000 | Rp 1,342,710,000,000 | 0.2101 |
| 5 | PANI | 2021 | Rp 708,618,000 | Rp 2,388,694,000 | 0.2967 |
| | | 2022 | Rp 1,001,861,000 | Rp 289,312,996,000 | 0.0035* |
| 6 | ULTJ | 2021 | Rp 265,139,000,000 | Rp 1,541,932,000,000 | 0.1720 |
| | | 2022 | Rp 323,512,000,000 | Rp 1,288,998,000,000 | 0.2510 |
| 7 | MLBI | 2021 | Rp 211,931,000,000 | Rp 877,781,000,000 | 0.2414 |
| | | 2022 | Rp 321,581,000,000 | Rp 1,246,487,000,000 | 0.2580 |
| 8 | GOOD | 2021 | Rp 140,016,834,125 | Rp 632,654,506,311 | 0.2213 |
| | | 2022 | Rp 152,537,429,078 | Rp 674,251,464,663 | 0.2262 |
| 9 | DMND | 2021 | Rp 98,452,000,000 | Rp 449,922,000,000 | 0.2188 |
| | | 2022 | Rp 116,670,000,000 | Rp 498,775,000,000 | 0.2339 |
| 10 | ROTI | 2021 | Rp 95,343,298,659 | Rp 378,946,292,335 | 0.2516 |
| | | 2022 | Rp 140,534,997,731 | Rp 572,782,719,985 | 0.2454 |
| 11 | CLEO | 2021 | Rp 49,631,575,033 | Rp 230,343,242,053 | 0.2155 |
| | | 2022 | Rp 53,632,527,980 | Rp 249,231,376,669 | 0.2152 |
| 12 | ADES | 2021 | Rp 12,829,000,000 | Rp 60,300,000,000 | 0.2128 |
| | | 2022 | Rp 20,506,000,000 | Rp 96,101,000,000 | 0.2134 |
| 13 | DLTA | 2021 | Rp 52,872,873,000 | Rp 240,865,871,000 | 0.2195 |
| | | 2022 | Rp 64,145,853,000 | Rp 294,211,660,000 | 0.2180 |
| 14 | CAMP | 2021 | Rp 25,868,124,540 | Rp 125,146,931,830 | 0.2067 |
| | | 2022 | Rp 32,656,976,880 | Rp 153,914,313,784 | 0.2122 |
| 15 | KEJU | 2021 | Rp 38,470,328,811 | Rp 183,170,597,779 | 0.2100 |
| | | 2022 | Rp 33,019,161,585 | Rp 150,389,911,968 | 0.2196 |
| 16 | SKLT | 2021 | Rp 17,201,239,321 | Rp 101,725,399,549 | 0.1691 |
| | | 2022 | Rp 17,574,233,946 | Rp 92,439,536,022 | 0.1901 |
| 17 | CEKA | 2021 | Rp 49,267,827,129 | Rp 236,334,817,214 | 0.2085 |
| | | 2022 | Rp 62,444,562,911 | Rp 283,149,105,983 | 0.2205 |
| 18 | HOKI | 2021 | Rp 5,270,489,762 | Rp 17,115,171,923 | 0.3079 |
| | | 2022 | Rp 571,408,608 | Rp 661,981,085 | 0.8632* |
| 19 | PMMP | 2021 | \$ 2,755,675 | \$ 12,050,043 | 0.2287 |
| | | 2022 | \$ -375,473 | \$ 7,167,850 | -0.0524* |
| 20 | SKBM | 2021 | Rp 14,445,119,241 | Rp 44,152,540,846 | 0.3272* |
| | | 2022 | Rp 30,551,909,967 | Rp 117,187,513,903 | 0.2607 |
| 21 | COCO | 2021 | Rp 2,217,229,983 | Rp 10,749,861,691 | 0.2063 |
| | | 2022 | Rp 3,585,734,134 | Rp 10,206,166,830 | 0.3513* |
| 22 | BOBA | 2021 | Rp 4,864,838,450 | Rp 22,330,938,298 | 0.2179 |
| | | 2022 | Rp 2,985,133,196 | Rp 13,723,802,438 | 0.2175 |
| 23 | TAYS | 2021 | Rp 1,992,503,875 | Rp 4,655,901,997 | 0.4280* |
| | | 2022 | Rp 3,801,337,276 | Rp 11,534,080,894 | 0.3296* |
| 24 | NASI | 2021 | Rp 242,346,005 | Rp 775,011,678 | 0.3127 |
| | | 2022 | Rp 367,430,080 | Rp 1,399,581,458 | 0.2625 |
| 25 | STTP | 2021 | Rp 147,614,953,252 | Rp 765,188,720,115 | 0.1929 |
| | | 2022 | Rp 132,199,514,819 | Rp 756,723,520,605 | 0.1747 |

| | | | | | |
|----|------|------|--------------------|--------------------|--------|
| 26 | TGKA | 2021 | Rp 127,061,757,162 | Rp 608,171,241,151 | 0.2089 |
| | | 2022 | Rp 126,640,962,325 | Rp 604,907,275,214 | 0.2094 |
| 27 | FISH | 2021 | \$ 6,985,181 | \$ 36,222,281 | 0.1928 |
| | | 2022 | \$ 9,367,628 | \$ 42,124,122 | 0.2224 |

*Outlier data

APPENDIX F: SPSS OUTPUT RESULT

SPSS OUTPUT RESULT (CORPORATE SOCIAL RESPONSIBILITY CORE MEASUREMENT APPROACH):

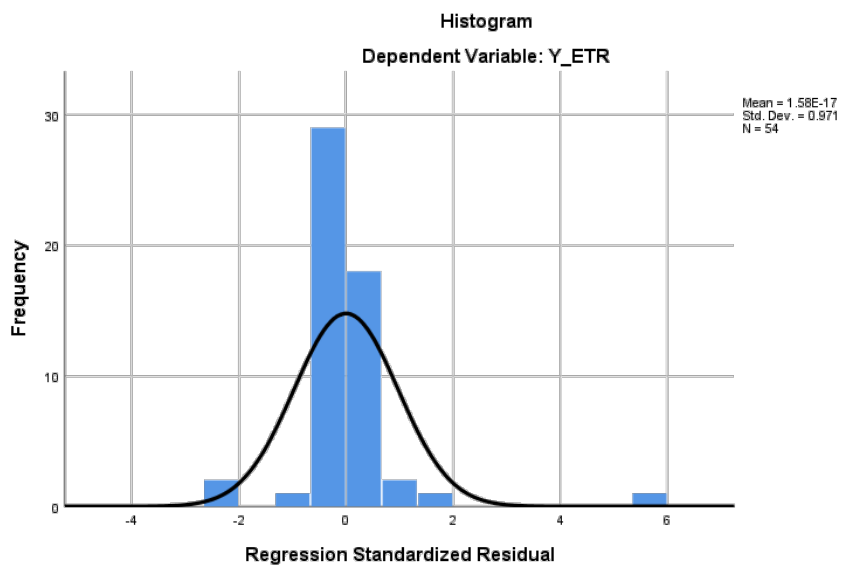
Descriptive Statistics

| Descriptive Statistics | | | | | |
|------------------------|----|---------|---------|---------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| X1_CSR | 54 | .293 | .880 | .65541 | .117246 |
| X2_ROA | 54 | .000 | .274 | .08541 | .061289 |
| X3_CR | 54 | .413 | 13.309 | 3.09396 | 2.540123 |
| Y_ETR | 54 | -.052 | .863 | .23705 | .110387 |
| Valid N (listwise) | 54 | | | | |

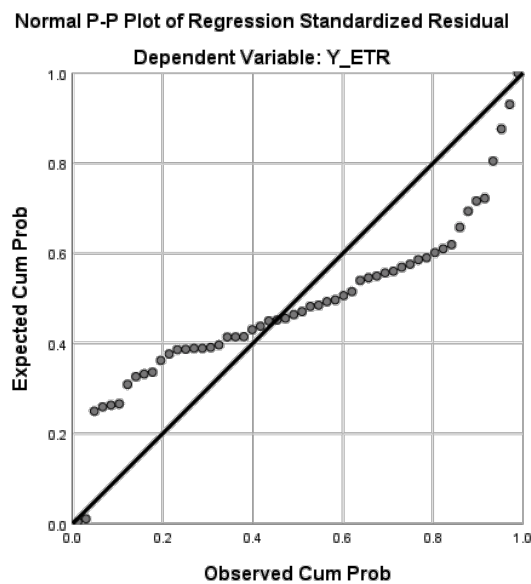
Normality Test using Kolmogorov-Smirnov (before outliers exclusion and transformation)

| One-Sample Kolmogorov-Smirnov Test | | |
|--|----------------|-------------------------|
| | | Unstandardized Residual |
| N | | 54 |
| Normal Parameters ^{a,b} | Mean | .0000000 |
| | Std. Deviation | .10546529 |
| Most Extreme Differences | Absolute | .229 |
| | Positive | .229 |
| | Negative | -.206 |
| Test Statistic | | .229 |
| Asymp. Sig. (2-tailed) | | .000 ^c |
| a. Test distribution is Normal. | | |
| b. Calculated from data. | | |
| c. Lilliefors Significance Correction. | | |

Normality Test using Histogram (before outliers exclusion and transformation)



Normality Test using Probability Plot (before outliers exclusion and transformation)

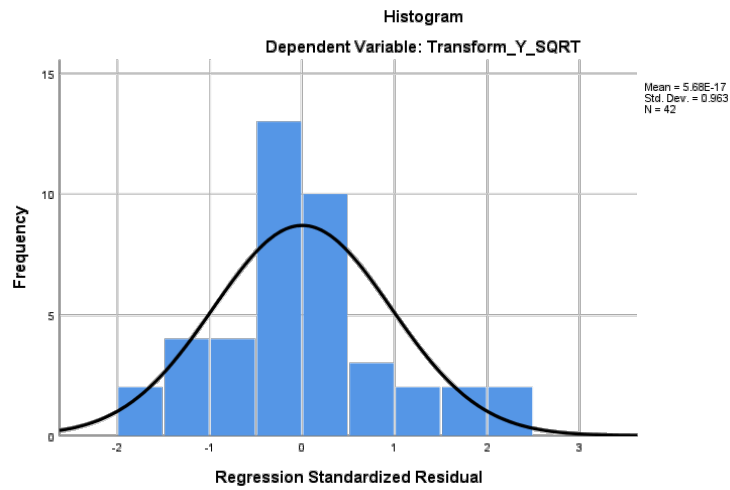


Normality Test using Kolmogorov-Smirnov (after outliers exclusion and transformation)

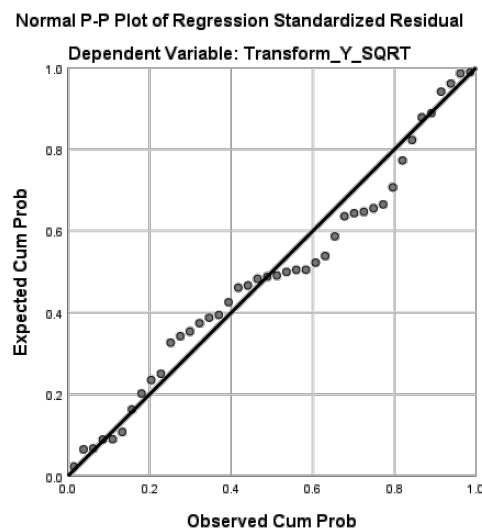
| One-Sample Kolmogorov-Smirnov Test | | |
|------------------------------------|----------------|-------------------------|
| | | Unstandardized Residual |
| N | | 42 |
| Normal Parameters ^{a,b} | Mean | .0000000 |
| | Std. Deviation | .02559456 |
| Most Extreme Differences | Absolute | .115 |
| | Positive | .115 |
| | Negative | -.082 |
| Test Statistic | | .115 |
| Asymp. Sig. (2-tailed) | | .187 ^c |
| a. Test distribution is Normal. | | |

| |
|--|
| b. Calculated from data. |
| c. Lilliefors Significance Correction. |

Normality Test using Histogram (after outliers exclusion and transformation)



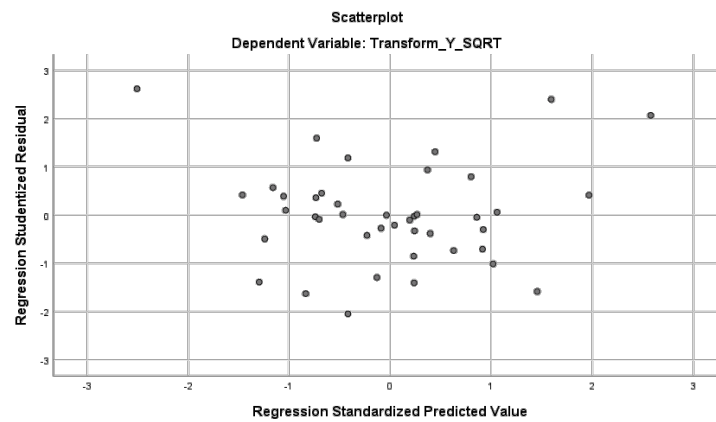
Normality Test using Probability Plot (after outliers exclusion and transformation)



Multicollinearity Test using Tolerance Value and Variance Indicator Factor (after outliers exclusion and transformation)

| Coefficients ^a | | | |
|---------------------------|-------------------|-------------------------|-------|
| Model | | Collinearity Statistics | |
| | | Tolerance | VIF |
| 1 | Transform_X1_SQRT | .941 | 1.063 |
| | Transform_X2_SQRT | .961 | 1.041 |
| | Transform_X3_SQRT | .941 | 1.063 |

a. Dependent Variable: Transform_Y_SQRT

Heteroscedasticity Test using Scatterplot Graph (after outliers exclusion and transformation)**Heteroscedasticity Test using Glejser Test (after outliers exclusion and transformation)**

| Coefficients ^a | | | | | | |
|---------------------------|-------------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .140 | .035 | | 4.007 | .000 |
| | Transform_X1_SQRT | -.119 | .037 | -.462 | -3.178 | .003 |
| | Transform_X2_SQRT | -.034 | .027 | -.182 | -1.267 | .213 |
| | Transform_X3_SQRT | -.009 | .006 | -.235 | -1.619 | .114 |

a. Dependent Variable: ABRESID

Heteroscedasticity Test using Park Test (after outliers exclusion and transformation)

| Coefficients ^a | | | | | | |
|---------------------------|-------------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 10.295 | 6.965 | | 1.478 | .148 |
| | Transform_X1_SQRT | -22.703 | 7.484 | -.452 | -3.033 | .004 |
| | Transform_X2_SQRT | -5.645 | 5.391 | -.154 | -1.047 | .302 |
| | Transform_X3_SQRT | .056 | 1.159 | .007 | .048 | .962 |

a. Dependent Variable: LnRes_2

Autocorrelation Test using Durbin-Watson Test (after outliers exclusion and transformation)

| Model Summary ^b | | | | | |
|----------------------------|-------------------|----------|-------------------|----------------------------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .530 ^a | .281 | .225 | .02659 | 1.709 |

| |
|--|
| a. Predictors: (Constant), Transform_X3_SQRT, Transform_X2_SQRT, Transform_X1_SQRT |
| b. Dependent Variable: Transform_Y_SQRT |

SPSS OUTPUT RESULT (CORPORATE SOCIAL RESPONSIBILITY CORE AND COMPREHENSIVE MEASUREMENT APPROACH):

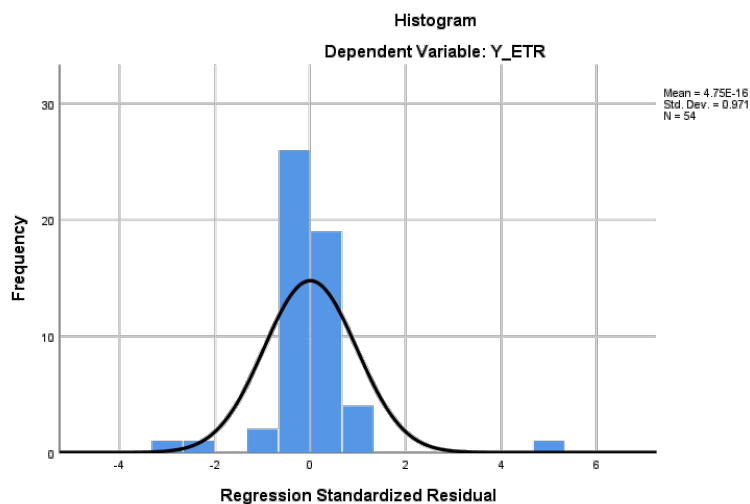
Descriptive Statistics

| Descriptive Statistics | | | | | |
|------------------------|----|---------|---------|---------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| X1_CSR | 54 | .115 | .793 | .55869 | .139222 |
| X2_ROA | 54 | .000 | .274 | .08541 | .061289 |
| X3_CR | 54 | .413 | 13.309 | 3.09396 | 2.540123 |
| Y_ETR | 54 | -.052 | .863 | .23705 | .110387 |
| Valid N (listwise) | 54 | | | | |

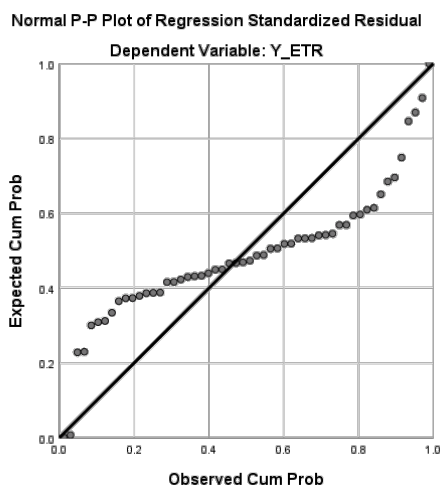
Normality Test using Kolmogorov-Smirnov (before outliers exclusion)

| One-Sample Kolmogorov-Smirnov Test | | |
|--|----------------|-------------------------|
| | | Unstandardized Residual |
| N | | 54 |
| Normal Parameters ^{a,b} | Mean | .0000000 |
| | Std. Deviation | .10464885 |
| Most Extreme Differences | Absolute | .234 |
| | Positive | .234 |
| | Negative | -.221 |
| Test Statistic | | .234 |
| Asymp. Sig. (2-tailed) | | .000 ^c |
| a. Test distribution is Normal. | | |
| b. Calculated from data. | | |
| c. Lilliefors Significance Correction. | | |

Normality Test using Histogram (before outliers exclusion)



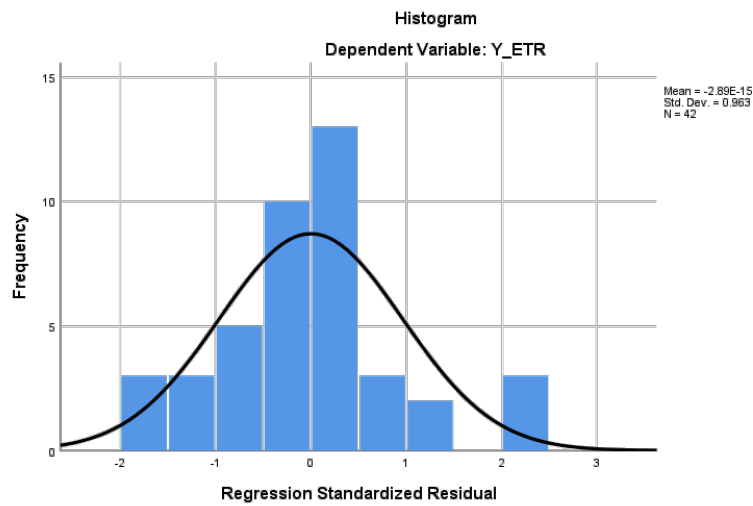
Normality Test using Probability Plot (before outliers exclusion)



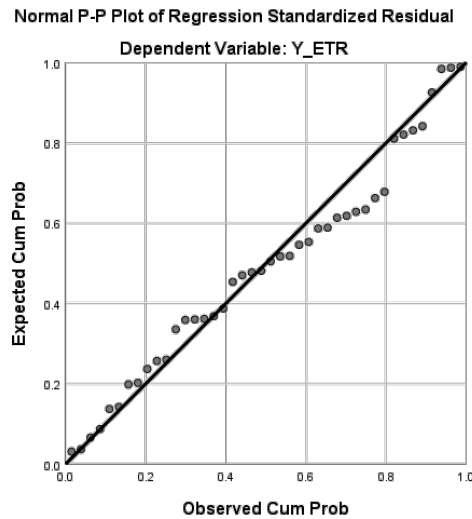
Normality Test using Kolmogorov- Smirnov (after outliers exclusion)

| One-Sample Kolmogorov-Smirnov Test | | |
|--|----------------|-------------------------|
| | | Unstandardized Residual |
| N | | 42 |
| Normal Parameters ^{a,b} | Mean | .0000000 |
| | Std. Deviation | .02574530 |
| Most Extreme Differences | Absolute | .125 |
| | Positive | .125 |
| | Negative | -.068 |
| Test Statistic | | .125 |
| Asymp. Sig. (2-tailed) | | .096 ^c |
| a. Test distribution is Normal. | | |
| b. Calculated from data. | | |
| c. Lilliefors Significance Correction. | | |

Normality Test using Histogram (after outliers exclusion)



Normality Test using Probability Plot (after outliers exclusion)

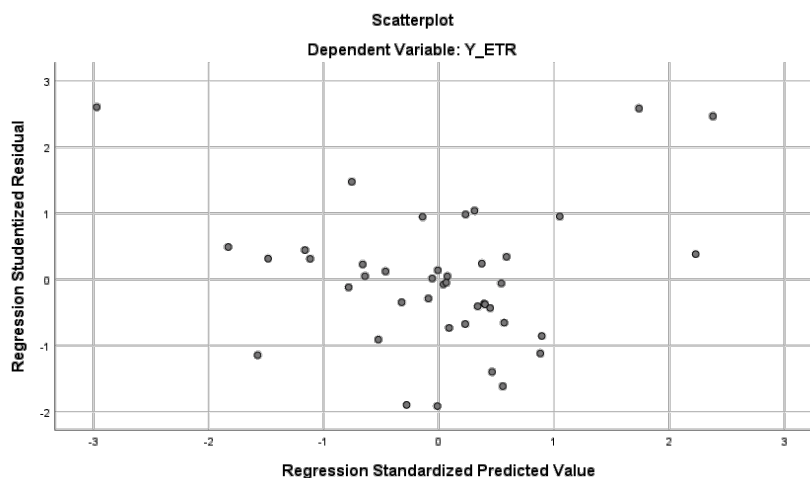


Multicollinearity Test using Tolerance Value and Variance Indicator Factor (VIF)

| Coefficients^a | | | |
|---------------------------------|--------|-------------------------|-------|
| Model | | Collinearity Statistics | |
| | | Tolerance | VIF |
| 1 | X1_CSR | .838 | 1.194 |
| | X2_ROA | .933 | 1.072 |
| | X3_CR | .851 | 1.175 |

a. Dependent Variable: Y_ETR

Heteroscedasticity Test using Scatterplot Graph



Heteroscedasticity Test using Park Test

| Coefficients ^a | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -5.778 | 2.447 | | -2.361 | .023 |
| | X1_CSR | -4.234 | 3.227 | -.227 | -1.312 | .197 |
| | X2_ROA | -4.363 | 7.658 | -.093 | -.570 | .572 |
| | X3_CR | -.158 | .277 | -.098 | -.571 | .571 |

a. Dependent Variable: LnRES_2

Autocorrelation Test using Durbin-Watson Test

| Model Summary ^b | | | | | |
|----------------------------|-------------------|----------|-------------------|----------------------------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
| 1 | .470 ^a | .221 | .160 | .026742 | 1.569 |

a. Predictors: (Constant), X3_CR, X2_ROA, X1_CSR

b. Dependent Variable: Y_ETR

Autocorrelation Test using Run Test

| Runs Test | |
|-----------|-------------------------|
| | Unstandardized Residual |

| | |
|-------------------------|----------|
| Test Value ^a | -0.00047 |
| Cases < Test Value | 21 |
| Cases >= Test Value | 21 |
| Total Cases | 42 |
| Number of Runs | 17 |
| Z | -1.406 |
| Asymp. Sig. (2-tailed) | .160 |
| a. Median | |

Multiple Linear Regression

| Coefficients ^a | | | | | | |
|------------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .256 | .026 | | 9.848 | .000 |
| | X1_CSR | -.026 | .034 | -.120 | -.765 | .449 |
| | X2_ROA | -.264 | .081 | -.481 | -3.244 | .002 |
| | X3_CR | .002 | .003 | .118 | .761 | .451 |
| a. Dependent Variable: Y_ETR | | | | | | |

Partial t-test

| Coefficients ^a | | | | | | |
|------------------------------|------------|-----------------------------|------------|---------------------------|--------|------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .256 | .026 | | 9.848 | .000 |
| | X1_CSR | -.026 | .034 | -.120 | -.765 | .449 |
| | X2_ROA | -.264 | .081 | -.481 | -3.244 | .002 |
| | X3_CR | .002 | .003 | .118 | .761 | .451 |
| a. Dependent Variable: Y_ETR | | | | | | |

Simultaneous F-Test

| ANOVA ^a | | | | | | |
|--|------------|----------------|----|-------------|-------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | .008 | 3 | .003 | 3.600 | .022 ^b |
| | Residual | .027 | 38 | .001 | | |
| | Total | .035 | 41 | | | |
| a. Dependent Variable: Y_ETR | | | | | | |
| b. Predictors: (Constant), X3_CR, X2_ROA, X1_CSR | | | | | | |

Coefficient of Determination (Adjusted R²)

| Model Summary ^b | | | | |
|--|-------------------|----------|-------------------|----------------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .470 ^a | .221 | .160 | .026742 |
| a. Predictors: (Constant), X3_CR, X2_ROA, X1_CSR | | | | |
| b. Dependent Variable: Y_ETR | | | | |

APPENDIX G: t-DISTRIBUTION TABLE

| Df | Pr | 0.25 | 0.10 | 0.05 | 0.025 | 0.01 | 0.005 | 0.001 |
|----|----|---------|---------|---------|----------|----------|----------|-----------|
| | | 0.50 | 0.20 | 0.10 | 0.050 | 0.02 | 0.010 | 0.002 |
| 1 | | 1.00000 | 3.07768 | 6.31375 | 12.70620 | 31.82052 | 63.65674 | 318.30884 |
| 2 | | 0.81650 | 1.88562 | 2.91999 | 4.30265 | 6.96456 | 9.92484 | 22.32712 |
| 3 | | 0.76489 | 1.63774 | 2.35336 | 3.18245 | 4.54070 | 5.84091 | 10.21453 |
| 4 | | 0.74070 | 1.53321 | 2.13185 | 2.77645 | 3.74695 | 4.60409 | 7.17318 |
| 5 | | 0.72669 | 1.47588 | 2.01505 | 2.57058 | 3.36493 | 4.03214 | 5.89343 |
| 6 | | 0.71756 | 1.43976 | 1.94318 | 2.44691 | 3.14267 | 3.70743 | 5.20763 |
| 7 | | 0.71114 | 1.41492 | 1.89458 | 2.36462 | 2.99795 | 3.49948 | 4.78529 |
| 8 | | 0.70639 | 1.39682 | 1.85955 | 2.30600 | 2.89646 | 3.35539 | 4.50079 |
| 9 | | 0.70272 | 1.38303 | 1.83311 | 2.26216 | 2.82144 | 3.24984 | 4.29681 |
| 10 | | 0.69981 | 1.37218 | 1.81246 | 2.22814 | 2.76377 | 3.16927 | 4.14370 |
| 11 | | 0.69745 | 1.36343 | 1.79588 | 2.20099 | 2.71808 | 3.10581 | 4.02470 |

| | | | | | | | |
|----|---------|---------|---------|---------|---------|---------|---------|
| 12 | 0.69548 | 1.35622 | 1.78229 | 2.17881 | 2.68100 | 3.05454 | 3.92963 |
| 13 | 0.69383 | 1.35017 | 1.77093 | 2.16037 | 2.65031 | 3.01228 | 3.85198 |
| 14 | 0.69242 | 1.34503 | 1.76131 | 2.14479 | 2.62449 | 2.97684 | 3.78739 |
| 15 | 0.69120 | 1.34061 | 1.75305 | 2.13145 | 2.60248 | 2.94671 | 3.73283 |
| 16 | 0.69013 | 1.33676 | 1.74588 | 2.11991 | 2.58349 | 2.92078 | 3.68615 |
| 17 | 0.68920 | 1.33338 | 1.73961 | 2.10982 | 2.56693 | 2.89823 | 3.64577 |
| 18 | 0.68836 | 1.33039 | 1.73406 | 2.10092 | 2.55238 | 2.87844 | 3.61048 |
| 19 | 0.68762 | 1.32773 | 1.72913 | 2.09302 | 2.53948 | 2.86093 | 3.57940 |
| 20 | 0.68695 | 1.32534 | 1.72472 | 2.08596 | 2.52798 | 2.84534 | 3.55181 |
| 21 | 0.68635 | 1.32319 | 1.72074 | 2.07961 | 2.51765 | 2.83136 | 3.52715 |
| 22 | 0.68581 | 1.32124 | 1.71714 | 2.07387 | 2.50832 | 2.81876 | 3.50499 |
| 23 | 0.68531 | 1.31946 | 1.71387 | 2.06866 | 2.49987 | 2.80734 | 3.48496 |
| 24 | 0.68485 | 1.31784 | 1.71088 | 2.06390 | 2.49216 | 2.79694 | 3.46678 |
| 25 | 0.68443 | 1.31635 | 1.70814 | 2.05954 | 2.48511 | 2.78744 | 3.45019 |
| 26 | 0.68404 | 1.31497 | 1.70562 | 2.05553 | 2.47863 | 2.77871 | 3.43500 |
| 27 | 0.68368 | 1.31370 | 1.70329 | 2.05183 | 2.47266 | 2.77068 | 3.42103 |
| 28 | 0.68335 | 1.31253 | 1.70113 | 2.04841 | 2.46714 | 2.76326 | 3.40816 |
| 29 | 0.68304 | 1.31143 | 1.69913 | 2.04523 | 2.46202 | 2.75639 | 3.39624 |
| 30 | 0.68276 | 1.31042 | 1.69726 | 2.04227 | 2.45726 | 2.75000 | 3.38518 |
| 31 | 0.68249 | 1.30946 | 1.69552 | 2.03951 | 2.45282 | 2.74404 | 3.37490 |
| 32 | 0.68223 | 1.30857 | 1.69389 | 2.03693 | 2.44868 | 2.73848 | 3.36531 |
| 33 | 0.68200 | 1.30774 | 1.69236 | 2.03452 | 2.44479 | 2.73328 | 3.35634 |
| 34 | 0.68177 | 1.30695 | 1.69092 | 2.03224 | 2.44115 | 2.72839 | 3.34793 |
| 35 | 0.68156 | 1.30621 | 1.68957 | 2.03011 | 2.43772 | 2.72381 | 3.34005 |
| 36 | 0.68137 | 1.30551 | 1.68830 | 2.02809 | 2.43449 | 2.71948 | 3.33262 |
| 37 | 0.68118 | 1.30485 | 1.68709 | 2.02619 | 2.43145 | 2.71541 | 3.32563 |
| 38 | 0.68100 | 1.30423 | 1.68595 | 2.02439 | 2.42857 | 2.71156 | 3.31903 |

| | | | | | | | |
|----|---------|---------|---------|---------|---------|---------|---------|
| 39 | 0.68083 | 1.30364 | 1.68488 | 2.02269 | 2.42584 | 2.70791 | 3.31279 |
| 40 | 0.68067 | 1.30308 | 1.68385 | 2.02108 | 2.42326 | 2.70446 | 3.30688 |
| 41 | 0.68052 | 1.30254 | 1.68288 | 2.01954 | 2.42080 | 2.70118 | 3.30127 |
| 42 | 0.68038 | 1.30204 | 1.68195 | 2.01808 | 2.41847 | 2.69807 | 3.29595 |
| 43 | 0.68024 | 1.30155 | 1.68107 | 2.01669 | 2.41625 | 2.69510 | 3.29089 |
| 44 | 0.68011 | 1.30109 | 1.68023 | 2.01537 | 2.41413 | 2.69228 | 3.28607 |
| 45 | 0.67998 | 1.30065 | 1.67943 | 2.01410 | 2.41212 | 2.68959 | 3.28148 |
| 46 | 0.67986 | 1.30023 | 1.67866 | 2.01290 | 2.41019 | 2.68701 | 3.27710 |

| Pr | 0.25 | 0.10 | 0.05 | 0.025 | 0.01 | 0.005 | 0.001 |
|----|---------|---------|---------|---------|---------|---------|---------|
| | 0.50 | 0.20 | 0.10 | 0.050 | 0.02 | 0.010 | 0.002 |
| 47 | 0.67975 | 1.29982 | 1.67793 | 2.01174 | 2.40835 | 2.68456 | 3.27291 |
| 48 | 0.67964 | 1.29944 | 1.67722 | 2.01063 | 2.40658 | 2.68220 | 3.26891 |
| 49 | 0.67953 | 1.29907 | 1.67655 | 2.00958 | 2.40489 | 2.67995 | 3.26508 |
| 50 | 0.67943 | 1.29871 | 1.67591 | 2.00856 | 2.40327 | 2.67779 | 3.26141 |
| 51 | 0.67933 | 1.29837 | 1.67528 | 2.00758 | 2.40172 | 2.67572 | 3.25789 |
| 52 | 0.67924 | 1.29805 | 1.67469 | 2.00665 | 2.40022 | 2.67373 | 3.25451 |
| 53 | 0.67915 | 1.29773 | 1.67412 | 2.00575 | 2.39879 | 2.67182 | 3.25127 |
| 54 | 0.67906 | 1.29743 | 1.67356 | 2.00488 | 2.39741 | 2.66998 | 3.24815 |
| 55 | 0.67898 | 1.29713 | 1.67303 | 2.00404 | 2.39608 | 2.66822 | 3.24515 |
| 56 | 0.67890 | 1.29685 | 1.67252 | 2.00324 | 2.39480 | 2.66651 | 3.24226 |
| 57 | 0.67882 | 1.29658 | 1.67203 | 2.00247 | 2.39357 | 2.66487 | 3.23948 |
| 58 | 0.67874 | 1.29632 | 1.67155 | 2.00172 | 2.39238 | 2.66329 | 3.23680 |
| 59 | 0.67867 | 1.29607 | 1.67109 | 2.00100 | 2.39123 | 2.66176 | 3.23421 |
| 60 | 0.67860 | 1.29582 | 1.67065 | 2.00030 | 2.39012 | 2.66028 | 3.23171 |
| 61 | 0.67853 | 1.29558 | 1.67022 | 1.99962 | 2.38905 | 2.65886 | 3.22930 |
| 62 | 0.67847 | 1.29536 | 1.66980 | 1.99897 | 2.38801 | 2.65748 | 3.22696 |

| | | | | | | | |
|----|---------|---------|---------|---------|---------|---------|---------|
| 63 | 0.67840 | 1.29513 | 1.66940 | 1.99834 | 2.38701 | 2.65615 | 3.22471 |
| 64 | 0.67834 | 1.29492 | 1.66901 | 1.99773 | 2.38604 | 2.65485 | 3.22253 |
| 65 | 0.67828 | 1.29471 | 1.66864 | 1.99714 | 2.38510 | 2.65360 | 3.22041 |
| 66 | 0.67823 | 1.29451 | 1.66827 | 1.99656 | 2.38419 | 2.65239 | 3.21837 |
| 67 | 0.67817 | 1.29432 | 1.66792 | 1.99601 | 2.38330 | 2.65122 | 3.21639 |
| 68 | 0.67811 | 1.29413 | 1.66757 | 1.99547 | 2.38245 | 2.65008 | 3.21446 |
| 69 | 0.67806 | 1.29394 | 1.66724 | 1.99495 | 2.38161 | 2.64898 | 3.21260 |
| 70 | 0.67801 | 1.29376 | 1.66691 | 1.99444 | 2.38081 | 2.64790 | 3.21079 |
| 71 | 0.67796 | 1.29359 | 1.66660 | 1.99394 | 2.38002 | 2.64686 | 3.20903 |
| 72 | 0.67791 | 1.29342 | 1.66629 | 1.99346 | 2.37926 | 2.64585 | 3.20733 |
| 73 | 0.67787 | 1.29326 | 1.66600 | 1.99300 | 2.37852 | 2.64487 | 3.20567 |
| 74 | 0.67782 | 1.29310 | 1.66571 | 1.99254 | 2.37780 | 2.64391 | 3.20406 |
| 75 | 0.67778 | 1.29294 | 1.66543 | 1.99210 | 2.37710 | 2.64298 | 3.20249 |
| 76 | 0.67773 | 1.29279 | 1.66515 | 1.99167 | 2.37642 | 2.64208 | 3.20096 |
| 77 | 0.67769 | 1.29264 | 1.66488 | 1.99125 | 2.37576 | 2.64120 | 3.19948 |
| 78 | 0.67765 | 1.29250 | 1.66462 | 1.99085 | 2.37511 | 2.64034 | 3.19804 |
| 79 | 0.67761 | 1.29236 | 1.66437 | 1.99045 | 2.37448 | 2.63950 | 3.19663 |
| 80 | 0.67757 | 1.29222 | 1.66412 | 1.99006 | 2.37387 | 2.63869 | 3.19526 |

APPENDIX D: F-DISTRIBUTION TABLE

| df | df untuk pembilang (N1) | | | | | | | | | | | | | | |
|----|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 1 | 161 | 199 | 216 | 225 | 230 | 234 | 237 | 239 | 241 | 242 | 243 | 244 | 245 | 245 | 246 |
| 2 | 18.51 | 19.00 | 19.16 | 19.25 | 19.30 | 19.33 | 19.35 | 19.37 | 19.38 | 19.40 | 19.40 | 19.41 | 19.42 | 19.42 | 19.43 |
| 3 | 10.13 | 9.55 | 9.28 | 9.12 | 9.01 | 8.94 | 8.89 | 8.85 | 8.81 | 8.79 | 8.76 | 8.74 | 8.73 | 8.71 | 8.70 |
| 4 | 7.71 | 6.94 | 6.59 | 6.39 | 6.26 | 6.16 | 6.09 | 6.04 | 6.00 | 5.96 | 5.94 | 5.91 | 5.89 | 5.87 | 5.86 |
| 5 | 6.61 | 5.79 | 5.41 | 5.19 | 5.05 | 4.95 | 4.88 | 4.82 | 4.77 | 4.74 | 4.70 | 4.68 | 4.66 | 4.64 | 4.62 |
| 6 | 5.99 | 5.14 | 4.76 | 4.53 | 4.39 | 4.28 | 4.21 | 4.15 | 4.10 | 4.06 | 4.03 | 4.00 | 3.98 | 3.96 | 3.94 |
| 7 | 5.59 | 4.74 | 4.35 | 4.12 | 3.97 | 3.87 | 3.79 | 3.73 | 3.68 | 3.64 | 3.60 | 3.57 | 3.55 | 3.53 | 3.51 |
| 8 | 5.32 | 4.46 | 4.07 | 3.84 | 3.69 | 3.58 | 3.50 | 3.44 | 3.39 | 3.35 | 3.31 | 3.28 | 3.26 | 3.24 | 3.22 |
| 9 | 5.12 | 4.26 | 3.86 | 3.63 | 3.48 | 3.37 | 3.29 | 3.23 | 3.18 | 3.14 | 3.10 | 3.07 | 3.05 | 3.03 | 3.01 |

| | | | | | | | | | | | | | | | |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 10 | 4.96 | 4.10 | 3.71 | 3.48 | 3.33 | 3.22 | 3.14 | 3.07 | 3.02 | 2.98 | 2.94 | 2.91 | 2.89 | 2.86 | 2.85 |
| 11 | 4.84 | 3.98 | 3.59 | 3.36 | 3.20 | 3.09 | 3.01 | 2.95 | 2.90 | 2.85 | 2.82 | 2.79 | 2.76 | 2.74 | 2.72 |
| 12 | 4.75 | 3.89 | 3.49 | 3.26 | 3.11 | 3.00 | 2.91 | 2.85 | 2.80 | 2.75 | 2.72 | 2.69 | 2.66 | 2.64 | 2.62 |
| 13 | 4.67 | 3.81 | 3.41 | 3.18 | 3.03 | 2.92 | 2.83 | 2.77 | 2.71 | 2.67 | 2.63 | 2.60 | 2.58 | 2.55 | 2.53 |
| 14 | 4.60 | 3.74 | 3.34 | 3.11 | 2.96 | 2.85 | 2.76 | 2.70 | 2.65 | 2.60 | 2.57 | 2.53 | 2.51 | 2.48 | 2.46 |
| 15 | 4.54 | 3.68 | 3.29 | 3.06 | 2.90 | 2.79 | 2.71 | 2.64 | 2.59 | 2.54 | 2.51 | 2.48 | 2.45 | 2.42 | 2.40 |
| 16 | 4.49 | 3.63 | 3.24 | 3.01 | 2.85 | 2.74 | 2.66 | 2.59 | 2.54 | 2.49 | 2.46 | 2.42 | 2.40 | 2.37 | 2.35 |
| 17 | 4.45 | 3.59 | 3.20 | 2.96 | 2.81 | 2.70 | 2.61 | 2.55 | 2.49 | 2.45 | 2.41 | 2.38 | 2.35 | 2.33 | 2.31 |
| 18 | 4.41 | 3.55 | 3.16 | 2.93 | 2.77 | 2.66 | 2.58 | 2.51 | 2.46 | 2.41 | 2.37 | 2.34 | 2.31 | 2.29 | 2.27 |
| 19 | 4.38 | 3.52 | 3.13 | 2.90 | 2.74 | 2.63 | 2.54 | 2.48 | 2.42 | 2.38 | 2.34 | 2.31 | 2.28 | 2.26 | 2.23 |
| 20 | 4.35 | 3.49 | 3.10 | 2.87 | 2.71 | 2.60 | 2.51 | 2.45 | 2.39 | 2.35 | 2.31 | 2.28 | 2.25 | 2.22 | 2.20 |
| 21 | 4.32 | 3.47 | 3.07 | 2.84 | 2.68 | 2.57 | 2.49 | 2.42 | 2.37 | 2.32 | 2.28 | 2.25 | 2.22 | 2.20 | 2.18 |
| 22 | 4.30 | 3.44 | 3.05 | 2.82 | 2.66 | 2.55 | 2.46 | 2.40 | 2.34 | 2.30 | 2.26 | 2.23 | 2.20 | 2.17 | 2.15 |
| 23 | 4.28 | 3.42 | 3.03 | 2.80 | 2.64 | 2.53 | 2.44 | 2.37 | 2.32 | 2.27 | 2.24 | 2.20 | 2.18 | 2.15 | 2.13 |
| 24 | 4.26 | 3.40 | 3.01 | 2.78 | 2.62 | 2.51 | 2.42 | 2.36 | 2.30 | 2.25 | 2.22 | 2.18 | 2.15 | 2.13 | 2.11 |
| 25 | 4.24 | 3.39 | 2.99 | 2.76 | 2.60 | 2.49 | 2.40 | 2.34 | 2.28 | 2.24 | 2.20 | 2.16 | 2.14 | 2.11 | 2.09 |
| 26 | 4.23 | 3.37 | 2.98 | 2.74 | 2.59 | 2.47 | 2.39 | 2.32 | 2.27 | 2.22 | 2.18 | 2.15 | 2.12 | 2.09 | 2.07 |
| 27 | 4.21 | 3.35 | 2.96 | 2.73 | 2.57 | 2.46 | 2.37 | 2.31 | 2.25 | 2.20 | 2.17 | 2.13 | 2.10 | 2.08 | 2.06 |
| 28 | 4.20 | 3.34 | 2.95 | 2.71 | 2.56 | 2.45 | 2.36 | 2.29 | 2.24 | 2.19 | 2.15 | 2.12 | 2.09 | 2.06 | 2.04 |
| 29 | 4.18 | 3.33 | 2.93 | 2.70 | 2.55 | 2.43 | 2.35 | 2.28 | 2.22 | 2.18 | 2.14 | 2.10 | 2.08 | 2.05 | 2.03 |
| 30 | 4.17 | 3.32 | 2.92 | 2.69 | 2.53 | 2.42 | 2.33 | 2.27 | 2.21 | 2.16 | 2.13 | 2.09 | 2.06 | 2.04 | 2.01 |
| 31 | 4.16 | 3.30 | 2.91 | 2.68 | 2.52 | 2.41 | 2.32 | 2.25 | 2.20 | 2.15 | 2.11 | 2.08 | 2.05 | 2.03 | 2.00 |
| 32 | 4.15 | 3.29 | 2.90 | 2.67 | 2.51 | 2.40 | 2.31 | 2.24 | 2.19 | 2.14 | 2.10 | 2.07 | 2.04 | 2.01 | 1.99 |
| 33 | 4.14 | 3.28 | 2.89 | 2.66 | 2.50 | 2.39 | 2.30 | 2.23 | 2.18 | 2.13 | 2.09 | 2.06 | 2.03 | 2.00 | 1.98 |
| 34 | 4.13 | 3.28 | 2.88 | 2.65 | 2.49 | 2.38 | 2.29 | 2.23 | 2.17 | 2.12 | 2.08 | 2.05 | 2.02 | 1.99 | 1.97 |
| 35 | 4.12 | 3.27 | 2.87 | 2.64 | 2.49 | 2.37 | 2.29 | 2.22 | 2.16 | 2.11 | 2.07 | 2.04 | 2.01 | 1.99 | 1.96 |
| 36 | 4.11 | 3.26 | 2.87 | 2.63 | 2.48 | 2.36 | 2.28 | 2.21 | 2.15 | 2.11 | 2.07 | 2.03 | 2.00 | 1.98 | 1.95 |
| 37 | 4.11 | 3.25 | 2.86 | 2.63 | 2.47 | 2.36 | 2.27 | 2.20 | 2.14 | 2.10 | 2.06 | 2.02 | 2.00 | 1.97 | 1.95 |
| 38 | 4.10 | 3.24 | 2.85 | 2.62 | 2.46 | 2.35 | 2.26 | 2.19 | 2.14 | 2.09 | 2.05 | 2.02 | 1.99 | 1.96 | 1.94 |
| 39 | 4.09 | 3.24 | 2.85 | 2.61 | 2.46 | 2.34 | 2.26 | 2.19 | 2.13 | 2.08 | 2.04 | 2.01 | 1.98 | 1.95 | 1.93 |
| 40 | 4.08 | 3.23 | 2.84 | 2.61 | 2.45 | 2.34 | 2.25 | 2.18 | 2.12 | 2.08 | 2.04 | 2.00 | 1.97 | 1.95 | 1.92 |
| 41 | 4.08 | 3.23 | 2.83 | 2.60 | 2.44 | 2.33 | 2.24 | 2.17 | 2.12 | 2.07 | 2.03 | 2.00 | 1.97 | 1.94 | 1.92 |
| 42 | 4.07 | 3.22 | 2.83 | 2.59 | 2.44 | 2.32 | 2.24 | 2.17 | 2.11 | 2.06 | 2.03 | 1.99 | 1.96 | 1.94 | 1.91 |
| 43 | 4.07 | 3.21 | 2.82 | 2.59 | 2.43 | 2.32 | 2.23 | 2.16 | 2.11 | 2.06 | 2.02 | 1.99 | 1.96 | 1.93 | 1.91 |
| 44 | 4.06 | 3.21 | 2.82 | 2.58 | 2.43 | 2.31 | 2.23 | 2.16 | 2.10 | 2.05 | 2.01 | 1.98 | 1.95 | 1.92 | 1.90 |

| df | df untuk pembilang (N1) | | | | | | | | | | | | | | |
|----|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 45 | 4.06 | 3.20 | 2.81 | 2.58 | 2.42 | 2.31 | 2.22 | 2.15 | 2.10 | 2.05 | 2.01 | 1.97 | 1.94 | 1.92 | 1.89 |
| 46 | 4.05 | 3.20 | 2.81 | 2.57 | 2.42 | 2.30 | 2.22 | 2.15 | 2.09 | 2.04 | 2.00 | 1.97 | 1.94 | 1.91 | 1.89 |
| 47 | 4.05 | 3.20 | 2.80 | 2.57 | 2.41 | 2.30 | 2.21 | 2.14 | 2.09 | 2.04 | 2.00 | 1.96 | 1.93 | 1.91 | 1.88 |
| 48 | 4.04 | 3.19 | 2.80 | 2.57 | 2.41 | 2.29 | 2.21 | 2.14 | 2.08 | 2.03 | 1.99 | 1.96 | 1.93 | 1.90 | 1.88 |
| 49 | 4.04 | 3.19 | 2.79 | 2.56 | 2.40 | 2.29 | 2.20 | 2.13 | 2.08 | 2.03 | 1.99 | 1.96 | 1.93 | 1.90 | 1.88 |

| | | | | | | | | | | | | | | | |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 50 | 4.03 | 3.18 | 2.79 | 2.56 | 2.40 | 2.29 | 2.20 | 2.13 | 2.07 | 2.03 | 1.99 | 1.95 | 1.92 | 1.89 | 1.87 |
| 51 | 4.03 | 3.18 | 2.79 | 2.55 | 2.40 | 2.28 | 2.20 | 2.13 | 2.07 | 2.02 | 1.98 | 1.95 | 1.92 | 1.89 | 1.87 |
| 52 | 4.03 | 3.18 | 2.78 | 2.55 | 2.39 | 2.28 | 2.19 | 2.12 | 2.07 | 2.02 | 1.98 | 1.94 | 1.91 | 1.89 | 1.86 |
| 53 | 4.02 | 3.17 | 2.78 | 2.55 | 2.39 | 2.28 | 2.19 | 2.12 | 2.06 | 2.01 | 1.97 | 1.94 | 1.91 | 1.88 | 1.86 |
| 54 | 4.02 | 3.17 | 2.78 | 2.54 | 2.39 | 2.27 | 2.18 | 2.12 | 2.06 | 2.01 | 1.97 | 1.94 | 1.91 | 1.88 | 1.86 |
| 55 | 4.02 | 3.16 | 2.77 | 2.54 | 2.38 | 2.27 | 2.18 | 2.11 | 2.06 | 2.01 | 1.97 | 1.93 | 1.90 | 1.88 | 1.85 |
| 56 | 4.01 | 3.16 | 2.77 | 2.54 | 2.38 | 2.27 | 2.18 | 2.11 | 2.05 | 2.00 | 1.96 | 1.93 | 1.90 | 1.87 | 1.85 |
| 57 | 4.01 | 3.16 | 2.77 | 2.53 | 2.38 | 2.26 | 2.18 | 2.11 | 2.05 | 2.00 | 1.96 | 1.93 | 1.90 | 1.87 | 1.85 |
| 58 | 4.01 | 3.16 | 2.76 | 2.53 | 2.37 | 2.26 | 2.17 | 2.10 | 2.05 | 2.00 | 1.96 | 1.92 | 1.89 | 1.87 | 1.84 |
| 59 | 4.00 | 3.15 | 2.76 | 2.53 | 2.37 | 2.26 | 2.17 | 2.10 | 2.04 | 2.00 | 1.96 | 1.92 | 1.89 | 1.86 | 1.84 |
| 60 | 4.00 | 3.15 | 2.76 | 2.53 | 2.37 | 2.25 | 2.17 | 2.10 | 2.04 | 1.99 | 1.95 | 1.92 | 1.89 | 1.86 | 1.84 |
| 61 | 4.00 | 3.15 | 2.76 | 2.52 | 2.37 | 2.25 | 2.16 | 2.09 | 2.04 | 1.99 | 1.95 | 1.91 | 1.88 | 1.86 | 1.83 |
| 62 | 4.00 | 3.15 | 2.75 | 2.52 | 2.36 | 2.25 | 2.16 | 2.09 | 2.03 | 1.99 | 1.95 | 1.91 | 1.88 | 1.85 | 1.83 |
| 63 | 3.99 | 3.14 | 2.75 | 2.52 | 2.36 | 2.25 | 2.16 | 2.09 | 2.03 | 1.98 | 1.94 | 1.91 | 1.88 | 1.85 | 1.83 |
| 64 | 3.99 | 3.14 | 2.75 | 2.52 | 2.36 | 2.24 | 2.16 | 2.09 | 2.03 | 1.98 | 1.94 | 1.91 | 1.88 | 1.85 | 1.83 |
| 65 | 3.99 | 3.14 | 2.75 | 2.51 | 2.36 | 2.24 | 2.15 | 2.08 | 2.03 | 1.98 | 1.94 | 1.90 | 1.87 | 1.85 | 1.82 |
| 66 | 3.99 | 3.14 | 2.74 | 2.51 | 2.35 | 2.24 | 2.15 | 2.08 | 2.03 | 1.98 | 1.94 | 1.90 | 1.87 | 1.84 | 1.82 |
| 67 | 3.98 | 3.13 | 2.74 | 2.51 | 2.35 | 2.24 | 2.15 | 2.08 | 2.02 | 1.98 | 1.93 | 1.90 | 1.87 | 1.84 | 1.82 |
| 68 | 3.98 | 3.13 | 2.74 | 2.51 | 2.35 | 2.24 | 2.15 | 2.08 | 2.02 | 1.97 | 1.93 | 1.90 | 1.87 | 1.84 | 1.82 |
| 69 | 3.98 | 3.13 | 2.74 | 2.50 | 2.35 | 2.23 | 2.15 | 2.08 | 2.02 | 1.97 | 1.93 | 1.90 | 1.86 | 1.84 | 1.81 |
| 70 | 3.98 | 3.13 | 2.74 | 2.50 | 2.35 | 2.23 | 2.14 | 2.07 | 2.02 | 1.97 | 1.93 | 1.89 | 1.86 | 1.84 | 1.81 |
| 71 | 3.98 | 3.13 | 2.73 | 2.50 | 2.34 | 2.23 | 2.14 | 2.07 | 2.01 | 1.97 | 1.93 | 1.89 | 1.86 | 1.83 | 1.81 |
| 72 | 3.97 | 3.12 | 2.73 | 2.50 | 2.34 | 2.23 | 2.14 | 2.07 | 2.01 | 1.96 | 1.92 | 1.89 | 1.86 | 1.83 | 1.81 |
| 73 | 3.97 | 3.12 | 2.73 | 2.50 | 2.34 | 2.23 | 2.14 | 2.07 | 2.01 | 1.96 | 1.92 | 1.89 | 1.86 | 1.83 | 1.81 |
| 74 | 3.97 | 3.12 | 2.73 | 2.50 | 2.34 | 2.22 | 2.14 | 2.07 | 2.01 | 1.96 | 1.92 | 1.89 | 1.85 | 1.83 | 1.80 |
| 75 | 3.97 | 3.12 | 2.73 | 2.49 | 2.34 | 2.22 | 2.13 | 2.06 | 2.01 | 1.96 | 1.92 | 1.88 | 1.85 | 1.83 | 1.80 |
| 76 | 3.97 | 3.12 | 2.72 | 2.49 | 2.33 | 2.22 | 2.13 | 2.06 | 2.01 | 1.96 | 1.92 | 1.88 | 1.85 | 1.82 | 1.80 |
| 77 | 3.97 | 3.12 | 2.72 | 2.49 | 2.33 | 2.22 | 2.13 | 2.06 | 2.00 | 1.96 | 1.92 | 1.88 | 1.85 | 1.82 | 1.80 |

| | | | | | | | | | | | | | | | |
|----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 78 | 3.96 | 3.11 | 2.72 | 2.49 | 2.33 | 2.22 | 2.13 | 2.06 | 2.00 | 1.95 | 1.91 | 1.88 | 1.85 | 1.82 | 1.80 |
| 79 | 3.96 | 3.11 | 2.72 | 2.49 | 2.33 | 2.22 | 2.13 | 2.06 | 2.00 | 1.95 | 1.91 | 1.88 | 1.85 | 1.82 | 1.79 |
| 80 | 3.96 | 3.11 | 2.72 | 2.49 | 2.33 | 2.21 | 2.13 | 2.06 | 2.00 | 1.95 | 1.91 | 1.88 | 1.84 | 1.82 | 1.79 |
| 81 | 3.96 | 3.11 | 2.72 | 2.48 | 2.33 | 2.21 | 2.12 | 2.05 | 2.00 | 1.95 | 1.91 | 1.87 | 1.84 | 1.82 | 1.79 |
| 82 | 3.96 | 3.11 | 2.72 | 2.48 | 2.33 | 2.21 | 2.12 | 2.05 | 2.00 | 1.95 | 1.91 | 1.87 | 1.84 | 1.81 | 1.79 |
| 83 | 3.96 | 3.11 | 2.71 | 2.48 | 2.32 | 2.21 | 2.12 | 2.05 | 1.99 | 1.95 | 1.91 | 1.87 | 1.84 | 1.81 | 1.79 |
| 84 | 3.95 | 3.11 | 2.71 | 2.48 | 2.32 | 2.21 | 2.12 | 2.05 | 1.99 | 1.95 | 1.90 | 1.87 | 1.84 | 1.81 | 1.79 |
| 85 | 3.95 | 3.10 | 2.71 | 2.48 | 2.32 | 2.21 | 2.12 | 2.05 | 1.99 | 1.94 | 1.90 | 1.87 | 1.84 | 1.81 | 1.79 |
| 86 | 3.95 | 3.10 | 2.71 | 2.48 | 2.32 | 2.21 | 2.12 | 2.05 | 1.99 | 1.94 | 1.90 | 1.87 | 1.84 | 1.81 | 1.78 |
| 87 | 3.95 | 3.10 | 2.71 | 2.48 | 2.32 | 2.20 | 2.12 | 2.05 | 1.99 | 1.94 | 1.90 | 1.87 | 1.83 | 1.81 | 1.78 |
| 88 | 3.95 | 3.10 | 2.71 | 2.48 | 2.32 | 2.20 | 2.12 | 2.05 | 1.99 | 1.94 | 1.90 | 1.86 | 1.83 | 1.81 | 1.78 |
| 89 | 3.95 | 3.10 | 2.71 | 2.47 | 2.32 | 2.20 | 2.11 | 2.04 | 1.99 | 1.94 | 1.90 | 1.86 | 1.83 | 1.80 | 1.78 |
| 90 | 3.95 | 3.10 | 2.71 | 2.47 | 2.32 | 2.20 | 2.11 | 2.04 | 1.99 | 1.94 | 1.90 | 1.86 | 1.83 | 1.80 | 1.78 |

APPENDIX E: DURBIN-WATSON SIGNIFICANCE TABLE

| N | k=1 | | k=2 | | k=3 | | k=4 | | k=5 | |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | dL | dU | dL | dU | dL | dU | dL | dU | dL | dU |
| 6 | 0.6102 | 1.4002 | | | | | | | | |
| 7 | 0.6996 | 1.3564 | 0.4672 | 1.8964 | | | | | | |
| 8 | 0.7629 | 1.3324 | 0.5591 | 1.7771 | 0.3674 | 2.2866 | | | | |
| 9 | 0.8243 | 1.3199 | 0.6291 | 1.6993 | 0.4548 | 2.1282 | 0.2957 | 2.5881 | | |
| 10 | 0.8791 | 1.3197 | 0.6972 | 1.6413 | 0.5253 | 2.0163 | 0.3760 | 2.4137 | 0.2427 | 2.8217 |
| 11 | 0.9273 | 1.3241 | 0.7580 | 1.6044 | 0.5948 | 1.9280 | 0.4441 | 2.2833 | 0.3155 | 2.6446 |
| 12 | 0.9708 | 1.3314 | 0.8122 | 1.5794 | 0.6577 | 1.8640 | 0.5120 | 2.1766 | 0.3796 | 2.5061 |
| 13 | 1.0097 | 1.3404 | 0.8612 | 1.5621 | 0.7147 | 1.8159 | 0.5745 | 2.0943 | 0.4445 | 2.3897 |
| 14 | 1.0450 | 1.3503 | 0.9054 | 1.5507 | 0.7667 | 1.7788 | 0.6321 | 2.0296 | 0.5052 | 2.2959 |
| 15 | 1.0770 | 1.3605 | 0.9455 | 1.5432 | 0.8140 | 1.7501 | 0.6852 | 1.9774 | 0.5620 | 2.2198 |
| 16 | 1.1062 | 1.3709 | 0.9820 | 1.5386 | 0.8572 | 1.7277 | 0.7340 | 1.9351 | 0.6150 | 2.1567 |
| 17 | 1.1330 | 1.3812 | 1.0154 | 1.5361 | 0.8968 | 1.7101 | 0.7790 | 1.9005 | 0.6641 | 2.1041 |
| 18 | 1.1576 | 1.3913 | 1.0461 | 1.5353 | 0.9331 | 1.6961 | 0.8204 | 1.8719 | 0.7098 | 2.0600 |
| 19 | 1.1804 | 1.4012 | 1.0743 | 1.5355 | 0.9666 | 1.6851 | 0.8588 | 1.8482 | 0.7523 | 2.0226 |
| 20 | 1.2015 | 1.4107 | 1.1004 | 1.5367 | 0.9976 | 1.6763 | 0.8943 | 1.8283 | 0.7918 | 1.9908 |
| 21 | 1.2212 | 1.4200 | 1.1246 | 1.5385 | 1.0262 | 1.6694 | 0.9272 | 1.8116 | 0.8286 | 1.9635 |
| 22 | 1.2395 | 1.4289 | 1.1471 | 1.5408 | 1.0529 | 1.6640 | 0.9578 | 1.7974 | 0.8629 | 1.9400 |
| 23 | 1.2567 | 1.4375 | 1.1682 | 1.5435 | 1.0778 | 1.6597 | 0.9864 | 1.7855 | 0.8949 | 1.9196 |

| | | | | | | | | | | |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 24 | 1.2728 | 1.4458 | 1.1878 | 1.5464 | 1.1010 | 1.6565 | 1.0131 | 1.7753 | 0.9249 | 1.9018 |
| 25 | 1.2879 | 1.4537 | 1.2063 | 1.5495 | 1.1228 | 1.6540 | 1.0381 | 1.7666 | 0.9530 | 1.8863 |
| 26 | 1.3022 | 1.4614 | 1.2236 | 1.5528 | 1.1432 | 1.6523 | 1.0616 | 1.7591 | 0.9794 | 1.8727 |
| 27 | 1.3157 | 1.4688 | 1.2399 | 1.5562 | 1.1624 | 1.6510 | 1.0836 | 1.7527 | 1.0042 | 1.8608 |
| 28 | 1.3284 | 1.4759 | 1.2553 | 1.5596 | 1.1805 | 1.6503 | 1.1044 | 1.7473 | 1.0276 | 1.8502 |
| 29 | 1.3405 | 1.4828 | 1.2699 | 1.5631 | 1.1976 | 1.6499 | 1.1241 | 1.7426 | 1.0497 | 1.8409 |
| 30 | 1.3520 | 1.4894 | 1.2837 | 1.5666 | 1.2138 | 1.6498 | 1.1426 | 1.7386 | 1.0706 | 1.8326 |
| 31 | 1.3630 | 1.4957 | 1.2969 | 1.5701 | 1.2292 | 1.6500 | 1.1602 | 1.7352 | 1.0904 | 1.8252 |
| 32 | 1.3734 | 1.5019 | 1.3093 | 1.5736 | 1.2437 | 1.6505 | 1.1769 | 1.7323 | 1.1092 | 1.8187 |
| 33 | 1.3834 | 1.5078 | 1.3212 | 1.5770 | 1.2576 | 1.6511 | 1.1927 | 1.7298 | 1.1270 | 1.8128 |
| 34 | 1.3929 | 1.5136 | 1.3325 | 1.5805 | 1.2707 | 1.6519 | 1.2078 | 1.7277 | 1.1439 | 1.8076 |
| 35 | 1.4019 | 1.5191 | 1.3433 | 1.5838 | 1.2833 | 1.6528 | 1.2221 | 1.7259 | 1.1601 | 1.8029 |
| 36 | 1.4107 | 1.5245 | 1.3537 | 1.5872 | 1.2953 | 1.6539 | 1.2358 | 1.7245 | 1.1755 | 1.7987 |
| 37 | 1.4190 | 1.5297 | 1.3635 | 1.5904 | 1.3068 | 1.6550 | 1.2489 | 1.7233 | 1.1901 | 1.7950 |
| 38 | 1.4270 | 1.5348 | 1.3730 | 1.5937 | 1.3177 | 1.6563 | 1.2614 | 1.7223 | 1.2042 | 1.7916 |
| 39 | 1.4347 | 1.5396 | 1.3821 | 1.5969 | 1.3283 | 1.6575 | 1.2734 | 1.7215 | 1.2176 | 1.7886 |
| 40 | 1.4421 | 1.5444 | 1.3908 | 1.6000 | 1.3384 | 1.6589 | 1.2848 | 1.7209 | 1.2305 | 1.7859 |
| 41 | 1.4493 | 1.5490 | 1.3992 | 1.6031 | 1.3480 | 1.6603 | 1.2958 | 1.7205 | 1.2428 | 1.7835 |
| 42 | 1.4562 | 1.5534 | 1.4073 | 1.6061 | 1.3573 | 1.6617 | 1.3064 | 1.7202 | 1.2546 | 1.7814 |
| 43 | 1.4628 | 1.5577 | 1.4151 | 1.6091 | 1.3663 | 1.6632 | 1.3166 | 1.7200 | 1.2660 | 1.7794 |
| 44 | 1.4692 | 1.5619 | 1.4226 | 1.6120 | 1.3749 | 1.6647 | 1.3263 | 1.7200 | 1.2769 | 1.7777 |
| 45 | 1.4754 | 1.5660 | 1.4298 | 1.6148 | 1.3832 | 1.6662 | 1.3357 | 1.7200 | 1.2874 | 1.7762 |
| 46 | 1.4814 | 1.5700 | 1.4368 | 1.6176 | 1.3912 | 1.6677 | 1.3448 | 1.7201 | 1.2976 | 1.7748 |

| N | k=1 | | k=2 | | k=3 | | k=4 | | k=5 | |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | dL | dU | dL | dU | dL | dU | dL | dU | dL | dU |
| 47 | 1.4872 | 1.5739 | 1.4435 | 1.6204 | 1.3989 | 1.6692 | 1.3535 | 1.7203 | 1.3073 | 1.7736 |
| 48 | 1.4928 | 1.5776 | 1.4500 | 1.6231 | 1.4064 | 1.6708 | 1.3619 | 1.7206 | 1.3167 | 1.7725 |
| 49 | 1.4982 | 1.5813 | 1.4564 | 1.6257 | 1.4136 | 1.6723 | 1.3701 | 1.7210 | 1.3258 | 1.7716 |
| 50 | 1.5035 | 1.5849 | 1.4625 | 1.6283 | 1.4206 | 1.6739 | 1.3779 | 1.7214 | 1.3346 | 1.7708 |
| 51 | 1.5086 | 1.5884 | 1.4684 | 1.6309 | 1.4273 | 1.6754 | 1.3855 | 1.7218 | 1.3431 | 1.7701 |
| 52 | 1.5135 | 1.5917 | 1.4741 | 1.6334 | 1.4339 | 1.6769 | 1.3929 | 1.7223 | 1.3512 | 1.7694 |
| 53 | 1.5183 | 1.5951 | 1.4797 | 1.6359 | 1.4402 | 1.6785 | 1.4000 | 1.7228 | 1.3592 | 1.7689 |
| 54 | 1.5230 | 1.5983 | 1.4851 | 1.6383 | 1.4464 | 1.6800 | 1.4069 | 1.7234 | 1.3669 | 1.7684 |
| 55 | 1.5276 | 1.6014 | 1.4903 | 1.6406 | 1.4523 | 1.6815 | 1.4136 | 1.7240 | 1.3743 | 1.7681 |
| 56 | 1.5320 | 1.6045 | 1.4954 | 1.6430 | 1.4581 | 1.6830 | 1.4201 | 1.7246 | 1.3815 | 1.7678 |
| 57 | 1.5363 | 1.6075 | 1.5004 | 1.6452 | 1.4637 | 1.6845 | 1.4264 | 1.7253 | 1.3885 | 1.7675 |
| 58 | 1.5405 | 1.6105 | 1.5052 | 1.6475 | 1.4692 | 1.6860 | 1.4325 | 1.7259 | 1.3953 | 1.7673 |
| 59 | 1.5446 | 1.6134 | 1.5099 | 1.6497 | 1.4745 | 1.6875 | 1.4385 | 1.7266 | 1.4019 | 1.7672 |
| 60 | 1.5485 | 1.6162 | 1.5144 | 1.6518 | 1.4797 | 1.6889 | 1.4443 | 1.7274 | 1.4083 | 1.7671 |
| 61 | 1.5524 | 1.6189 | 1.5189 | 1.6540 | 1.4847 | 1.6904 | 1.4499 | 1.7281 | 1.4146 | 1.7671 |
| 62 | 1.5562 | 1.6216 | 1.5232 | 1.6561 | 1.4896 | 1.6918 | 1.4554 | 1.7288 | 1.4206 | 1.7671 |
| 63 | 1.5599 | 1.6243 | 1.5274 | 1.6581 | 1.4943 | 1.6932 | 1.4607 | 1.7296 | 1.4265 | 1.7671 |
| 64 | 1.5635 | 1.6268 | 1.5315 | 1.6601 | 1.4990 | 1.6946 | 1.4659 | 1.7303 | 1.4322 | 1.7672 |
| 65 | 1.5670 | 1.6294 | 1.5355 | 1.6621 | 1.5035 | 1.6960 | 1.4709 | 1.7311 | 1.4378 | 1.7673 |
| 66 | 1.5704 | 1.6318 | 1.5395 | 1.6640 | 1.5079 | 1.6974 | 1.4758 | 1.7319 | 1.4433 | 1.7675 |

| | | | | | | | | | | |
|----|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 67 | 1.5738 | 1.6343 | 1.5433 | 1.6660 | 1.5122 | 1.6988 | 1.4806 | 1.7327 | 1.4486 | 1.7676 |
| 68 | 1.5771 | 1.6367 | 1.5470 | 1.6678 | 1.5164 | 1.7001 | 1.4853 | 1.7335 | 1.4537 | 1.7678 |
| 69 | 1.5803 | 1.6390 | 1.5507 | 1.6697 | 1.5205 | 1.7015 | 1.4899 | 1.7343 | 1.4588 | 1.7680 |
| 70 | 1.5834 | 1.6413 | 1.5542 | 1.6715 | 1.5245 | 1.7028 | 1.4943 | 1.7351 | 1.4637 | 1.7683 |

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