How tax audits shape transfer pricing, tax havens, and tax aggressiveness

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Abstract

This study examines the effects of transfer pricing and tax haven activities on tax aggressiveness, with tax audits serving as a moderating variable. The research focuses on energy companies listed on the Indonesia Stock Exchange during the 2010–2023 period. Using a quantitative approach, this study analyzes 224 firm-year observations and applies panel data regression with Moderated Regression Analysis (MRA). The results show that transfer pricing positively affects tax aggressiveness, indicating that related-party transactions provide opportunities for companies to reduce their tax burden. In contrast, tax haven presence negatively affects tax aggressiveness, suggesting that firms do not primarily utilize tax haven subsidiaries for tax aggressiveness. Furthermore, tax audits weaken the positive relationship between transfer pricing and tax aggressiveness, indicating that stronger tax enforcement reduces opportunistic tax behavior. However, tax audits strengthen the relationship between tax havens and tax aggressiveness. These findings highlight the important role of tax audits in limiting tax aggressiveness and strengthening tax compliance. The study contributes to the tax avoidance literature by providing empirical evidence on the moderating role of tax audits in the relationship between transfer pricing, tax havens, and tax aggressiveness within the context of Indonesia's energy sector.

Keywords: *tax aggressiveness, tax audit, transfer pricing, tax haven.*

Introduction

Tax revenue is crucial for state governance and national development, reflecting the financial capacity of the government (Budiman & Bandi, 2022a). A higher tax ratio indicates greater tax revenue and provides the government with more flexibility in expenditures. However, tax aggressiveness reduces the tax ratio (Dyreng et al., 2010; Raczkowski & Mróz, 2018; Sari, 2019). These practices exploit loopholes in tax regulations to reduce tax burdens, often justified as tax planning (Pattiasina et al., 2018; Wang, 2019). Although tax aggressiveness may not always violate tax regulations, it contradicts the intended objectives of taxation (Mitchell, 2003; Warih, 2019). Taxpayers engage in tax aggressiveness to minimize tax liability. Although such practices may not breach the letter of the law, they contradict the spirit of tax regulations (Hasseldine & Morris, 2013; Raiborn et al., 2015; Payne & Raiborn, 2018).

Indonesia was chosen as the research object because it has interesting economic and energy industry characteristics to analyze. First, the energy sector in Indonesia plays a crucial role in contributing to the country's economy. Energy companies showed a significant increase in tax revenues within the State Budget from 2010 to 2023. Meanwhile, tax revenue growth data from the energy sector during the same period exhibits significant fluctuations, reaching its highest growth rate in 2021 (60.52%) after a drastic decline in

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2020 (-43.4%). With huge potential to generate revenue for the government, an in-depth understanding of tax aggressiveness practices in this sector will provide valuable insights for economic and tax policymakers. In addition, challenges in tax governance in Indonesia are an important factor in selecting this country as a research focus. The mineral and coal mining sector also remains a major contributor to non-tax state revenue, with the Corruption Eradication Commission stating that the energy sector is prone to corrupt practices, including tax aggressiveness (Wicaksono, 2019).

Based on the Directorate General of Budget within the Ministry of Finance, a significant amount of non-tax state revenue arrears, totaling Rp1 trillion, were recorded for forest usage. The non-tax state revenue remaining unpaid also amounted to Rp3 trillion (Khairizka, 2022), emphasizing the significance of the energy sector as a special focus for the Indonesian government. The phenomenon of tax aggressiveness practices in the energy sector can provide a deeper view of the factors that influence the performance of the tax system in Indonesia. Furthermore, as part of the global and regional community, Indonesia is also involved in issues related to tax aggressiveness and transfer pricing practices. Therefore, understanding how this practice occurs in Indonesia can also make an important contribution to the broader context of international tax issues. Finally, there was a decrease in the effective tax rate from 2010 to 2023, indicating an increase in tax aggressiveness practices. This proved that companies with a low effective tax rate benefited from reducing profits, since lower accounting profits were commonly preferred to avoid future high taxes (Budiman & Bandi, 2022b).

A 41.94% increase was also observed in the effective tax rate in 2022 compared to 2021, reflecting reduced tax aggressiveness among energy companies. This adjustment was due to the Indonesian government's tax incentive policies aimed at aiding taxpayers impacted by the COVID-19 pandemic. As a result, companies tended to report taxes more accurately during this period. Because economic conditions vary across regions, understanding tax aggressiveness in the energy sector can help governments design more effective tax policies. Therefore, the selection of Indonesia as a research sample provides a unique opportunity to explore in depth the practice of tax aggressiveness in the country's economic and energy-industry context.

The concerns surrounding tax aggressiveness were subsequently heightened due to a significant decrease in corporate effective tax rates over the last 25 years, affecting both multinational and domestic firms (Dyreng et al., 2017). These developments have increased global concern about corporate tax aggressiveness, with various methods implementing the activities that transcended international borders, as exemplified by the Panama Papers case (Ariff et al., 2023). Regarding multinational corporations, tax aggressiveness is also commonly manifested through transfer pricing schemes, emphasizing the establishment of prices for transactions between affiliated entities. Since transfer pricing is commonly considered neutral, its efforts are explained to reduce tax liabilities by adjusting prices or profits among companies within the same corporate group. Tax authorities also classify the pricing determinations influenced by special relationships as a tax aggressiveness strategy when deviating from standard regulations (Budiman & Bandi, 2022b). Furthermore, companies are likely to establish manufacturing facilities in countries with extremely low or nonexistent tax rates (tax havens), as a means of avoidance. This transfer pricing strategy commonly causes the global relocation of income to low-tax jurisdictions while adjusting

higher expenses to countries with more significant tax obligations.

Transfer pricing was carried out within one country or between countries (Dean et al., 2008; Huda et al., 2017), posing a risk of reducing tax revenue obtained by the state. Based on Taylor & Richardson (2012) and Beer et al. (2018), transfer pricing was a primary driver of tax aggressiveness. This was in line with Taylor & Richardson (2012), Park et al. (2016), Maulana et al. (2018), and Nurrahmi & Rahayu (2020), where transfer pricing positively influenced tax aggressiveness. Dharmawan et al. (2017) and Amidu et al. (2019) also stated that pricing practices affected the occurrence of tax aggressiveness. Meanwhile, inconsistencies were observed in Falbo & Firmansyah (2018), Widiyantoro & Sitorus (2020), and Pangaribuan et al. (2021), where transfer pricing did not influence tax aggressiveness. Tax aggressiveness practice was also conducted by using the countries eligible for the implementation of tax havens. Multinational companies with subsidiaries in several countries were subsequently capable of exploiting the imperfections of global tax regulations to divert profits to haven-based countries with low or even zero tax rates (Lee, 2017). In this case, companies commonly redirected profits to countries with lower tax rates to reduce the financial burden to be paid. Furthermore, the use of tax havens was combined with transfer pricing to capitalize on avoidance opportunities (Taylor & Richardson, 2013). This was in line with Taylor & Richardson (2012; 2013) and Gravelle (2022), where tax havens positively influenced tax aggressiveness practices. Inconsistencies were then observed in Dharmawan et al. (2017) and Pramudya et al. (2021), where tax havens negatively affected and did not impact avoidance practices, respectively.

In Indonesia and other countries, the above inconsistencies indicate the existence of issues ignored by previous research. The measurement methods implemented for previous research also contribute to the inconsistency in research outcomes. In this case, cross-border regulations are interpreted as an important consideration when scrutinizing the determinants of tax aggressiveness. This is due to the close interconnection between tax practices and the legal framework. According to Hoopes et al. (2012), stricter tax enforcement often led to reduced company tax aggressiveness practices. In this context, the Indonesian government implemented several measures to overcome tax aggressiveness, such as updating existing regulations and conducting thorough assessments to close tax legislation gaps (Zsazya, 2019). The Directorate General of Taxation also consistently conducted audits of company tax filings to evaluate compliance with calculations, payments, and reporting tax based on existing regulations. Subsequently, the Ministry of Finance of Indonesia issued Regulation of the Director General of Taxation Number PER-22/PJ/2013, concerning Guidelines for the Examination of Taxpayers with Special Relationships. This regulation was implemented to provide legal clarity for the review of taxpayers potentially engaging in tax aggressiveness through transfer pricing with affiliated parties.

Based on several previous studies, tax audit has not been considered as a variable that can influence the relationship between transfer pricing, tax havens, and tax aggressiveness. This consideration was important because tax audits were capable of exhibiting the performance of tax authorities in handling cases of company tax aggressiveness. Therefore, this research aimed to examine the effects of transfer pricing and tax havens on avoidance practices through the moderation of tax audits. Despite the extensive literature examining the determinants of tax aggressiveness, prior studies primarily focus on transfer pricing and tax haven activities without sufficiently considering the role of tax enforcement

mechanisms. In particular, limited empirical evidence exists on how tax audits moderate the relationship between transfer pricing, tax havens, and tax aggressiveness, especially in the context of emerging economies such as Indonesia's energy sector. Therefore, this study addresses this gap by examining the moderating role of tax audits in the relationship between transfer pricing, tax havens, and tax aggressiveness among energy companies listed on the Indonesia Stock Exchange.

Agency theory was considered relevant in explaining the impact of transfer pricing and tax havens on avoidance practices, with tax audits serving as a moderating factor. This theory emphasizes the contractual relationship within a company or organization, prioritizing a principal-agent dynamic (Jensen & Meckling, 1976). The principal also commonly allocates decision-making authority to the agent, with both rational economic actors primarily encouraged by self-interest, as well as different preferences, trust, and access to information. Furthermore, agency theory states that agents often behave in a self-interested pattern, which frequently conflicts with the interests of the principal (Jensen & Meckling, 1976). This implies no guarantee that agents will act in the best interest of the principal. In this theory, problems commonly occur as a challenge to encourage agents toward maximizing the welfare of the principal, leading to the existence of agency costs.

Information asymmetry occurs when agents possess more comprehensive organizational data than principals (Jensen & Meckling, 1976). Principals establish mechanisms to supervise agents and minimize opportunistic behavior, aiming to reduce information asymmetry (Fama & Jensen, 1983). Tax aggressiveness can facilitate opportunistic behavior by agents, leading to losses for principals. This behavior often disregards the interests of principals, emphasizing company capabilities and exposing them to risks associated with tax aggressiveness. Company management, wielding shareholder authority, exploits gaps in tax regulations for independent tax planning to maximize profits, creating agency conflicts and impacting tax revenue (Mahdiana & Amin, 2020). While management aims to increase corporate profits through tax aggressiveness, principals view it as financial statement manipulation, risking the company's reputation.

Transfer pricing is a company strategy used to select transaction prices between related parties (Budiman & Bandi, 2022b; Mayangsari et al., 2024). This strategy is often implemented to reduce taxes by transferring prices among companies within a group. Based on Richardson et al. (2013), transfer pricing was characterized by transaction anomalies between related parties, which served as a company tax-reducing factor. Tax authorities also suspected that the strategy represented a pattern used by companies to engage in tax aggressiveness. This was observed when the pricing of transactions between related parties deviated from relevant regulations, through special influential relationships.

Agency theory suggests that managers may pursue their own interests, which can create conflicts with shareholders, due to the separation of ownership and control of the company (Jensen & Meckling, 1976). This is because the agent, as the manager, potentially possesses more information about the conditions and developments of the company, compared to the principal. The conflict is also capable of leading to agency problems, namely, information asymmetry. This information asymmetry can disadvantage shareholders because managers possess more detailed knowledge about the firm's operations. In company management, the authority delegated by the principal to the agent is also capable of causing the ignorance of interests, by implementing transfer pricing to reduce the tax liabilities. As a result, managers

may exploit gaps in tax regulations to implement aggressive tax strategies.

Taylor & Richardson (2012) and Beer et al. (2018) stated that transfer pricing was a primary driver of tax aggressiveness. This was in line with Taylor & Richardson (2012), Park et al. (2016), Maulana et al. (2018), and Nurrahmi & Rahayu (2020), where the pricing strategy positively affected tax aggressiveness. Therefore, agents, when freely adopting principles in setting transfer prices, developed opportunities for companies to manipulate the pricing strategy to reduce tax burdens. This suggests that firms may use related-party transactions to shift profits and reduce their tax burden.

H1: Transfer pricing positively influences tax aggressiveness.

Tax aggressiveness is achieved through the implementation of tax havens. In this context, a tax haven emphasizes a nation serving as a refuge for taxpayers, permitting the entire avoidance of their tax responsibilities. The countries also impose minimal tax rates as low as 0% or entirely exempt taxpayers from taxes, while ensuring the confidentiality of the assets possessed. According to agency theory, conflicts of interest commonly originate when making decisions to maximize company profits by establishing subsidiaries in countries with exceedingly low or zero tax rates. This indicated that the nations intentionally applying low or zero tax rates aimed to provide easy tax facilities for foreign investors. Although the measurement of the associated costs of developing subsidiaries was needed, agents were still capable of facilitating their establishment in countries considered to possess large market shares. These costs were subsequently compensated by the tax savings generated from the tax aggressiveness practiced by the agent.

Indonesia has yet to have clear regulations prohibiting or restricting the development of subsidiaries in tax haven countries. These regulations are capable of ensuring easier company operations within the country, regarding business performances with international partners, specifically the nations having low tax rates. Companies with subsidiaries in multiple countries can also exploit imperfections in global tax regulations based on profit diversion. According to Atwood & Lewellen (2018), companies with subsidiaries or affiliations in tax haven countries were more likely to reduce transfer costs for managers in nations with weak investor protection. Taylor & Richardson (2012; 2013) and Gravelle (2022) also proved that tax havens positively affected tax aggressiveness. Furthermore, tax havens were capable of providing opportunities for agents to engage in avoidance practices by capitalizing on lower tariff rates. The strategy implemented in company management to decrease profit and taxes also emphasized selling commodities or goods to subsidiaries or affiliated parties in tax haven countries, which then resell to end customers at considerably higher prices. This indicated that the greater extent to which companies diverted profits to reduce their tax liabilities to the affiliates led to a greater likelihood for the company to engage in tax aggressiveness.

H2: Tax haven positively affects tax aggressiveness.

Several tax aggressiveness strategies are implemented by companies to minimize their tax liability to the government. This is because businesses with international subsidiaries are specifically motivated to engage in the implementation of the practices (Gulzar et al., 2018; Beer et al., 2018). Tax audits are also a significant tool for tax authorities to counter these practices by assessing a company's compliance with relevant obligations and regulations. Furthermore, the government has implemented various measures to overcome

tax aggressiveness practices, including updating existing regulations and conducting intensive reviews to close tariff standard gaps (Zsazya, 2019). The tax reports of various companies are also continuously audited by the government to assess their compliance in calculating, paying, and reporting taxes according to prevailing regulations.

Based on Hoopes et al. (2012), several companies were less aggressive in implementing tax aggressiveness practices when tax enforcement was stricter. This indicated that companies engaged in tax aggressiveness when the benefits outweighed the costs associated with potential detection and the likelihood of determination (Doran, 2009). In this case, the increased likelihood of determining the tax aggressiveness practices through tax audits led companies to reduce relevant actions. Tax audits also caused higher costs when tax aggressiveness was detected, including sanctions such as back taxes, fines, or interest payments. This audit strategy empowered tax authorities to rectify profit transfers to relevant havens, enabling companies to reduce the transactions constituting tax aggressiveness practices.

H3: Tax audits moderate between transfer pricing and tax aggressiveness.

H4: Tax audits moderate between tax havens and tax aggressiveness.

Methods

The population of this study consists of energy companies listed on the Indonesia Stock Exchange during the 2010–2023 period. The study uses secondary data obtained from the official websites of the sample companies. The sample was selected using purposive sampling based on several predefined criteria.

Table 1. Sample Selection

	Information	Total
Energy companies listed on the IDX in 2023		75
1	Energy companies that are not listed on the IDX from 2010-2023	43
2	Inconsistent energy companies publish annual reports as of December 31 for the years 2010-2023	1
3	Energy companies that do not have positive profits from 2010-2023	15
Number of samples		16
Number of observations (16 x 14 years)		224

Tax aggressiveness (Y) is measured using the effective tax rate (ETR), which reflects the proportion of income paid as corporate tax (Rego & Wilson, 2012). From this context, the previous research implementing effective tax rate as a measurement medium included Hanlon & Heitzman (2010), Chan et al. (2013), Gaertner (2014), Salihu et al. (2015), Richardson et al. (2016), Gaaya et al. (2017), Chen et al. (2019), and Tang (2020). This indicated that a lower effective tax rate value reflected an increased level of tax aggressiveness. Therefore, the companies with a low effective tax rate emphasized elevation by reducing profits, due to preferring lower accounting revenues than avoiding potential high tax payments in the future (Budiman & Bandi, 2022b).

Transfer pricing (X1) was measured through the division of related parties and total receivables (Merle et al., 2019; Tran et al., 2021; Rezeki et al., 2021). This proved that the transactions with related parties were defined as the transfer of resources, services, or obligations irrespective of a price engagement. From this context, the related parties were

individuals associated with the reporting entity. Regarding the loans carried out by parties with related relationships, the assessment emphasizing the fairness of the transactions was essential. Although related party transactions led to reduced business costs (Park, 2018), the potential to benefit group members and harm the company value was still observed. This observation emphasized the developing countries characterized by low investor protection levels, weak law enforcement, and complex organizational structures (Mahtani, 2019).

In this research, tax haven (X2) was a dummy variable measured by classifying sample companies with or without subsidiaries in countries included within the Corporate Tax Haven Index (CTHI). In 2021, the Tax Justice Network released a new ranking containing 70 CTHI-based countries. This ranking indicated jurisdictions with the lowest tax restrictions and systems, enabling their attractiveness to individuals and companies seeking to avoid high tax rates. The differing rates in each country also led companies located in high-tax nations to implement tax havens. This implementation was conducted by redirecting corporate profits to subsidiaries in tax-haven countries. A value of 1 was assigned to companies having at least one subsidiary located in a tax haven country listed in CTHI, with 0 provided to those having no affiliates. Furthermore, tax audits (Z) are conducted to test taxpayers' compliance with tax obligations. This explained that the Director General of Taxation issued a tax assessment letter after conducting an audit. The letter subsequently served as a means to obtain any tax deficiencies, refund overpaid taxes, notify the amount of tax payable, impose administrative sanctions, and collect appropriate tax. In this analysis, tax audits were measured by assigning values of 1 and 0 to companies obtaining and not acquiring a tax assessment letter in the observation year, respectively.

The implemented control variables included company size (C1), profitability (C2), leverage (C3), intangible assets (C4), and capital intensity (C5). This indicated that company size emphasized organizational capacity, regarding the ownership of physical, non-physical, financial, and non-financial resources. In this context, larger companies generally had relatively better internal and external resources than smaller organizations, leading to engagement in tax aggressiveness practices. Furthermore, company size was represented by total assets (Taylor & Richardson, 2012) due to their longer-term focus than the sales, limited to a single financial reporting period. This variable value was transformed into natural logarithms to address significant variations among companies. Profitability was assessed through Return on Equity (ROE), measuring the financial performance of an organization. This proved that high ROE prioritized the ability to generate profits and provide a strong return on investment for shareholders. ROE, calculated as post-tax profit divided by total equity, was also preferred over Return on Assets (ROA) and Return on Investment (ROI). This was due to its provision of a shareholder-centric perspective of the company's operational performance (Brown & Caylor, 2009).

Leverage in this study utilizes the Debt to Assets Ratio (DAR), formulated as total debt divided by total assets (Taylor & Richardson, 2012). Companies with high debt tend to have a high effective tax rate, thus, the higher the leverage, the lower the tax aggressiveness conducted by the company. This study formulates the ratio of intangible assets to total assets to provide information on the extent of the influence of intangible assets on a company's total assets (Brown et al., 2019). The high proportion of intangible assets indicates the significant value in the form of rights or advantages held by the company,

whether in terms of brands, patents, licenses, or goodwill. This may signify substantial value in the intellectual aspects or competitive advantages possessed by the company. Capital intensity is measured by dividing total fixed assets by total assets of the company (Taylor & Richardson, 2012). Companies with high capital intensity indicate that they allocate a significant portion of their assets to fixed assets, thereby having greater opportunities for tax reduction.

Multiple regression was implemented through Moderated Regression Analysis (MRA), to examine the relationship between transfer pricing and tax havens on tax aggressiveness practices, with tax audit serving as the moderating variable. The following formulas emphasize the analysis of the hypothesis:

a. The regression equation for the first research model testing the influence of transfer pricing and tax havens on tax aggressiveness is as follows:

$$Y = \alpha_0 + \beta_1 X1 + \beta_2 X2 + \beta_3 C1 + \beta_4 C2 + \beta_5 C3 + \beta_6 C4 + \beta_7 C5 + \varepsilon \quad (1)$$

b. The regression equation for the second research model testing the moderating effect of tax audit on the relationship between transfer pricing and tax haven on tax aggressiveness is as follows:

$$Y = \alpha_0 + \beta_1 X1 + \beta_2 X2 + \beta_3 X1*Z + \beta_4 X2*Z + \beta_5 C1 + \beta_6 C2 + \beta_7 C3 + \beta_8 C4 + \beta_9 C5 + \varepsilon \quad (2)$$

MRA was employed because this study aims to examine whether tax audit moderates the relationship between transfer pricing, tax havens, and tax aggressiveness. MRA allows the interaction effects between independent variables and the moderating variable to be estimated directly within the regression model. To ensure the robustness of the estimation results, several diagnostic tests were conducted, including multicollinearity tests using the Variance Inflation Factor (VIF) and heteroskedasticity tests. The results indicate that the VIF values are below the acceptable threshold of 10, suggesting that multicollinearity is not a concern. Additionally, heteroskedasticity tests indicate that the regression model satisfies the classical assumptions. Although panel data regression helps control for unobserved heterogeneity, potential endogeneity issues may still arise due to omitted variables or reverse causality. Therefore, robustness tests using an alternative measure of tax aggressiveness (CETR) were conducted to ensure the consistency of the results.

Result and Discussions

Table 2 presents a descriptive statistical analysis, providing an overview of data distribution and the primary characteristics of each research variable. This includes several data, such as minimum and maximum values, means, and the degree of variability. Based on the results of the Chow and Hausman tests, the fixed effect model was deemed most appropriate for analyzing both the first and second research models, thereby eliminating the need to perform the Lagrange Multiplier test (see Table 3). Table 4 presents the regression equation of the second research model, which tests the influence of transfer pricing and tax havens on tax aggressiveness through the moderating role of tax audit.

A robustness test was conducted to assess the sensitivity and consistency of the results obtained from an alternative perspective. This emphasized the implementation of the Cash Effective Tax Rate (CETR) to evaluate tax aggressiveness. CETR was also calculated as cash used for tax payments divided by pre-tax profits. According to Dyreng et al. (2010), CETR reflected tax aggressiveness activities due to being unaffected by estimates, such as tariff

valuation allowances or shields. This approach subsequently represented the actual tax rate on a company's income and prioritized the amount of taxes paid. Similar to ETR, a low CETR served as a parameter for the engagement level of a company in tax aggressiveness.

Table 2. Descriptive Statistics

Variable	Obs.	Min	Max	Mean	Std. Dev.
Y	224	0.0516	0.8188	0.2230	0.1551
X1	224	0.0000	0.9851	0.2924	0.3163
X2	224	0.0000	1.0000	0.4216	0.4962
Z	224	0.0000	1.0000	0.4510	0.5000
C1	224	23.512	32.317	29.208	1.7686
C2	224	0.0024	1.1192	0.1899	0.1895
C3	224	0.0880	0.7718	0.4017	0.1460
C4	224	0.0043	0.0119	0.0095	0.0327
C5	224	0.2136	0.6346	0.4247	0.3248

Table 3. First Research Model Regression Test Results

Variable	Coefficient	Probability
C	-38.83415	
X1	0.360242	0.0156**
X2	-1.095647	0.0896***
C1	1.255043	0.0300
C2	-1.507357	0.0063
C3	1.709498	0.0068
C4	2.568162	0.0000
C5	1.111015	0.0002

Note(s): *, ** and *** represent significance at p < 0.01, < 0.05 and < 0.10, respectively

Table 4. Second Research Model Regression Test Results

Variable	Coefficient	Probability
C	-37.76543	
X1	0.452641	0.0176
X2	-1.303077	0.0951
Z	0.170267	0.0373
X1*Z	-0.849903	0.0128**
X2*Z	0.586704	0.0996***
C1	1.215066	0.0448
C2	-1.459065	0.0876
C3	1.520390	0.0142
C4	2.629521	0.0001
C5	-0.131876	0.0282

Note(s): *, ** and *** represent significance at p < 0.01, < 0.05 and < 0.10, respectively

Based on Table 3, transfer pricing had coefficient and probability values of 0.360242 and 0.0156 (< 5% significance level), respectively. This indicated that the variable positively influenced tax aggressiveness, leading to the acceptance of the first hypothesis. The average related-party transactions were 29.24% of the total business operations of the sample companies. Meanwhile, the average effective tax rate was 0.223004, emphasizing the low categorization of the value. This suggested that higher transfer pricing activities tend to increase tax aggressiveness. Sample companies, when engaging in transfer pricing, also

endeavored to comply with government policies, such as the Ministry of Finance Regulation No. 7/PMK.03/2015 concerning the Procedures for the Formation and Implementation of Transfer Pricing Agreements. This regulation was mandatory for companies as taxpayers, specifically those engaging in transfer pricing practices, prioritizing the adherence to the principles of the Arm's Length Principle (ALP).

Table 5. Robustness Test Result

Variable	Coefficient	Probability
C	-17.707782	
X1*Z	-0.686248	0.0122**
X2*Z	0.647400	0.0000*

Note(s): *, ** and *** represent significance at p < 0.01, < 0.05 and < 0.10, respectively

The results indicate that higher transfer pricing activities are associated with greater tax aggressiveness. These results suggest that existing transfer pricing regulations have not fully prevented tax aggressiveness among energy companies. These findings indicate that existing transfer pricing regulations have not fully prevented tax aggressiveness among energy companies. The regulation establishing transaction limits between related parties also enhanced companies' ability to cautiously assess the ALP in business operations influenced by special relationships. This was because ALP represented a government transfer pricing policy emphasizing a critical tool in preventing tax aggressiveness practices. Therefore, the sample companies reasonably determined ALP in all related-party transactions, effectively reducing tax aggressiveness.

The research outcomes were supported by Taylor & Richardson (2012), Park et al. (2016), Maulana et al. (2018), and Nurrahmi & Rahayu (2020), where transfer pricing positively impacted tax aggressiveness. However, inconsistencies were observed in Dharmawan et al. (2017) and Amidu et al. (2019), where a negative effect was observed between the variables, with Falbo & Firmansyah (2018), Widiyantoro & Sitorus (2020), and Pangaribuan et al. (2021) exhibiting no significant impact.

According to Table 3, a tax haven had a coefficient and probability values of -1.095647 and 0.0896 (< 10%), respectively. This indicated that tax havens negatively affected tax aggressiveness, leading to the rejection of the second hypothesis. In this case, the higher number of companies with CTHI-based subsidiaries in tax haven countries led to a lower level of tax aggressiveness. The results also showed that 43 (42.16%) and 59 (57.84%) of the sample companies were observed with and without at least one subsidiary located in a CTHI-listed tax haven, respectively. From this context, the companies did not prefer to engage in tax aggressiveness to benefit from easier market access and labor. Therefore, the sample companies produced various efforts to avoid establishing subsidiaries or affiliating with other companies in CTHI-based tax haven countries.

The results suggest that firms do not necessarily use tax haven subsidiaries to shift profits. The existence of the Ministry of Finance Regulation No. 258/PMK.03/2008, concerning Prohibition or Limitation of Establishing Subsidiaries in Tax Havens, also reinforced the assurance of the sample companies towards the non-establishment of subsidiaries in the tax haven countries. According to agency theory, managers, as agents, established subsidiaries in nations with perceived large market shares. This was because

the primary concern of the agents depended on meeting the responsibility to the principal and ensuring long-term organizational sustainability, compared to pursuing tax savings through profit transfers to entities in low-tax-rate countries (tax havens).

The results were consistent with Pramudya et al. (2021), where tax havens negatively affected avoidance practices. However, inconsistencies were observed with Taylor & Richardson (2012; 2013) and Gravelle (2022), where positive effects were observed between both variables, with Dharmawan et al. (2017) indicating no significant impact. Based on Table 4 and Table 5, the tax audit variable weakened the influence of transfer pricing on tax aggressiveness. This emphasized the coefficient and probability values of -0.849903 and 0.0128 (< 5%), respectively, prioritizing the acceptance of the third hypothesis. In this case, the government policy, specifically Ministry of Finance Regulation No. 7/PMK.03/2015 on Transfer Pricing Agreement Procedures, enhanced tax authorities to conduct more intensive audits engaged in transactions with related parties. Therefore, the tax audit strategy aimed to assess companies' compliance with ALP-related criteria.

The findings indicate that tax audits increase the likelihood that aggressive tax strategies will be detected. Consequently, companies tend to engage in aggressive tax strategies only when the expected benefits outweigh the potential costs. Agents also handled transfer pricing transactions according to government policies, with principals supervising the managers to protect the company against tax audits. When avoidance practices were identified, the probability of detection risk was then determined through relevant tax audit processes. Therefore, tax authorities possessed the ability to rectify the transfer pricing transactions not adhering to the ALP, leading to the prevention of tax aggressiveness.

Based on the results, tax audits also strengthened the influence of tax havens on tax aggressiveness. This prioritized the coefficient and probability values of 0.586704 and 0.0996 (< 10%), leading to the rejection of the fourth hypothesis. The positive interaction coefficient between tax haven and tax audit indicates that tax audits increase the likelihood that tax authorities detect profit shifting activities involving tax haven jurisdictions. As a result, companies with tax haven subsidiaries face greater scrutiny during tax audits, which influences their tax reporting behavior. In this case, tax audits incurred greater costs when avoidance was detected through the payments for underpaid taxes, fines, or interest. Tax authorities also performed various corrections when a transfer of company profits to tax haven countries was observed, enabling the reduction of business operations, emphasizing avoidance practices. Moreover, the existence of the Ministry of Finance Regulation No. 258/PMK.03/2008, concerning the Prohibition or Limitation of Establishing Subsidiaries in Tax Havens, reinforced the assurance of the sample companies not to establish relevant company affiliates.

The research outcomes showed that the sample companies attempted not to shift profits to countries with lower tax rates, to reduce their tax burden. In this context, agents and principals established subsidiaries in nations having a large market share. Tax haven countries also provided tax relief to companies, enabling them to benefit from low or even tax-free rates. This suggested that affiliated companies in tax havens implemented tax audits to decrease their tax liabilities in the affected nations.

Conclusion

This study finds that transfer pricing increases tax aggressiveness, while tax haven

presence reduces tax aggressiveness. These findings suggest that related-party transactions provide opportunities for firms to shift profits and reduce their tax burden. In contrast, the existence of tax haven subsidiaries does not necessarily indicate aggressive tax behavior among the sampled companies. Tax audits are found to weaken the influence of transfer pricing on tax aggressiveness but strengthen the relationship between tax havens and tax aggressiveness. This indicates that tax audits play an important role in identifying and constraining tax aggressiveness conducted through complex international corporate structures.

These findings extend agency theory by showing that regulatory enforcement mechanisms, such as tax audits, influence managerial behavior related to tax planning. The results indicate that managerial decisions regarding tax strategies are not solely driven by internal incentives but are also shaped by external monitoring mechanisms. This study therefore highlights the importance of incorporating regulatory enforcement factors into the agency theory framework when explaining corporate tax aggressiveness, particularly in emerging market contexts. The results highlight the importance of strengthening tax audit mechanisms to reduce tax aggressiveness among multinational companies. Effective tax audits can increase the detection risk associated with aggressive tax strategies, thereby discouraging firms from engaging in opportunistic tax planning. For policymakers and tax authorities, these findings suggest that improving audit effectiveness and strengthening supervision of related-party transactions may enhance tax compliance and support government tax revenue.

This study measures tax audits using a dummy variable based on tax assessment letters disclosed in annual reports. Such a measurement may not fully capture the intensity, scope, or frequency of tax audits conducted by tax authorities. In addition, the use of publicly available data may limit the ability to observe detailed audit outcomes or internal tax enforcement processes. Future studies may use direct tax authority data or examine other enforcement mechanisms such as tax penalties, audit intensity, or international information exchange systems. Further research may also explore different industry contexts or cross-country comparisons to better understand how institutional environments influence corporate tax aggressiveness. Expanding the research design in this way would provide a more comprehensive understanding of the effectiveness of tax enforcement policies.

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