Volume 8, Nomor 2, September 2026, pp 1-14. Copyright © 2019 JAFTA,
Program Studi Magister Akuntansi, Fakultas Hukum dan Bisnis Digital, Universitas Kristen Maranatha.
ISSN: 2654-4636 | E-ISSN: 2656-758X https://journal.maranatha.edu/index.php/jafta

The Effect of Transfer Pricing Aggressiveness on Tax Avoidance with Intangible Asset Intensity as a Moderator

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Submitted: May 20, 2026; Reviewed: June 6, 2026; Accepted: August 31, 2026

Abstract

This study investigates the effect of transfer pricing aggressiveness on tax avoidance, where intangible asset intensity is considered as moderating variable, in companies engaged in plantation and food business, listed in Indonesia Stock Exchange (IDX) for year period of 2020 to 2024. The approach taken to this study is explanatory research method, involving secondary data obtained from audited annual consolidated financial statements. Data collection involved purposive sampling technique, which yielded 30 observations from six companies. CETR is used as proxy for tax avoidance; transfer pricing aggressiveness is proxied as ratio of related party transactions to total assets; intangible asset intensity is proxied as ratio of intangible assets to total assets; and firm size as control variable. The hypotheses testing was done through Moderated Regression Analysis (MRA). The results showed transfer pricing aggressiveness positively affects CETR, meaning more related-party transactions intensity leads to higher cash-basis tax payments and, moreover, to lesser tax avoidance. Intangible asset intensity does not significantly affect CETR and does not moderate the relationship between transfer pricing aggressiveness and tax avoidance. Finally, the firm size positively affects CETR. Therefore, it is confirmed that transaction-related parties and intangible asset ownerships are not necessarily used as tax avoidance techniques among Indonesian publicly held firms.The study contributes to transfer pricing and corporate taxation literature by emphasising importance of institutional context, regulatory oversight, and sector characteristics in interpreting correlation between transfer pricing and tax avoidance.

Keywords: *transfer pricing; tax avoidance; cash effective tax rate; intangible assets; moderated regression analysis.*

Abstrak

Penelitian ini bertujuan untuk menguji pengaruh agresivitas transfer pricing terhadap penghindaran pajak dengan intensitas aset tidak berwujud sebagai variabel moderasi pada perusahaan sektor perkebunan dan makanan yang terdaftar di Bursa Efek Indonesia (BEI) periode 2020–2024. Penelitian menggunakan metode eksplanatori dengan data sekunder berupa laporan keuangan konsolidasian tahunan yang telah diaudit, serta teknik purposive sampling yang menghasilkan 30 observasi dari enam perusahaan. Penghindaran pajak diproksikan dengan Cash Effective Tax Rate (CETR), agresivitas transfer pricing dengan rasio transaksi pihak berelasi terhadap total aset, intensitas aset tidak berwujud dengan rasio aset tidak berwujud terhadap total aset, dan ukuran perusahaan sebagai variabel kontrol, dengan pengujian hipotesis menggunakan Moderated Regression Analysis (MRA). Hasil penelitian menunjukkan bahwa agresivitas transfer pricing berpengaruh positif terhadap CETR, yang mengindikasikan bahwa semakin tinggi intensitas transaksi pihak berelasi maka semakin tinggi pembayaran pajak berbasis kas sehingga tingkat penghindaran pajak menjadi lebih rendah. Sementara itu, intensitas aset tidak berwujud tidak berpengaruh signifikan terhadap CETR dan tidak mampu memoderasi hubungan antara agresivitas transfer pricing dan penghindaran pajak, sedangkan ukuran perusahaan berpengaruh positif terhadap CETR. Dengan demikian, transaksi pihak berelasi dan kepemilikan aset tidak berwujud tidak selalu dimanfaatkan sebagai sarana penghindaran pajak pada perusahaan terbuka di Indonesia, serta hasil penelitian ini menegaskan pentingnya konteks institusional, pengawasan regulasi, dan karakteristik sektor dalam memahami hubungan antara transfer pricing dan penghindaran pajak.
Kata kunci: transfer pricing; tax avoidance; cash effective tax rate; aset tak berwujud; moderated regression analysis.

INTRODUCTION

Taxes represent the largest contributor to revenues for the state budget in Indonesia under the State Revenue and Expenditure Budget. Nevertheless, from the standpoint of businesses, taxes can be viewed as reductions in profits following deductions in terms of operation costs, capital cost, and various liabilities in relation to their financial agreements (Lestari & Martusa, 2024). Such a conflict between the aim of generating maximum revenues for the state and the goal of maximizing cash flows for corporations results in a broad variety of tax management (Ramdiani et al., 2023), from moderate tax planning practices to tax avoidance, which falls into the grey area of compliance. Corporate tax research highlights the idea that corporations are unlikely to implement radical solutions since they should consider the benefits from tax savings alongside other issues, including political, compliance, reputational, and fiscal correction costs (Puspitasari & Munari, 2024). Public corporations are faced with additional challenges due to having to reconcile.

One of the best researched topics in tax avoidance is transfer pricing. Essentially, transfer pricing is an approach to pricing that involves transactions between associated parties under one corporate entity. As mentioned above, this approach is impossible to apply without a multinational corporation, where goods, services, capital transactions, and intangible assets are sold and purchased within a single group of companies (OECD, 2022). It becomes problematic when transfer pricing relies on the arm's-length principle and serves other purposes than its original intention. Nowadays, the topic is often related to the Base Erosion and Profit Shifting (BEPS), which highlights the mechanisms through which a company can reduce its tax base by utilizing the intra-group transactions (Marcella & Prasetya, 2023). Thus, the concept of transfer pricing can be seen as a combination of legitimate business.

In current literature on the international economy, there appears to be an implicit link made between transfer pricing and tax avoidance because they are seen as means of shifting profits. MNEs whose operations span jurisdictions have the ability to shift profits via the pricing of inter-firm transactions such as goods, services, interest, and royalties in ways that would take advantage of the differential tax rates in foreign jurisdictions (Aditya et al., 2023). Some of the recent research done on the topic indicates that internationalised firms having complex ownership arrangements and transaction intensity have more incentive to cut tax payments via this route.

On the other hand, it is shown that this connection is not deterministic, and the impact of transfer pricing on tax avoidance may reduce if the country introduces more strict regulations concerning transfer pricing documentation requirements, tax avoidance regulations, and stronger supervision capacities in the field of taxation. In this regard, the initiatives launched globally by international organizations such as OECD through BEPS project helped increase the transparency and limited the opportunities for aggressive tax avoidance (OECD, 2022). As a result, the connection between transfer pricing and tax avoidance is conditional.

From an Indonesian point of view, the question of transfer pricing is extremely important. The corporation of listed firms contains a considerable amount of affiliates within Indonesia and beyond its borders. In addition, the implementation of BEPS requires increased control by the tax authorities because of the need to create a local file, master file, and CbC report, along with increased enforcement of the arm's length rule (OECD, 2022). These changes affect corporate behavior since the deals between affiliated parties still happen as a necessity; however, they are not used to evade taxes as intensely as before due to the increased cost of non-compliance (financial and reputation losses) (Cilliers, 2023) Manullang et al., 2024; Roggeman et al., 2025).

The complexity of transfer pricing is made even more intricate by situations where the transactions include intangible property. In contrast to physical assets, which usually have some sort of comparable market value, intangible property like brand names, copyrights, patents, formulas, distribution channels, and marketing licenses does not have an identifiable market price. Hence, there is ample scope for subjectivity both in economic valuation and in deciding what should be the correct return for each party. That is why intangible property is considered among the most risky aspects of transfer pricing and tax evasion schemes (Irawan & Ulinnuha, 2022). If the company owns a large amount of intangible property, then there will be more possibilities of making royalty payments or economic-rights-related payments, thus strengthening the link between transfer pricing and tax avoidance.

However, empirical studies concerning the impact of the use of intangible assets have been contradictory. On the one hand, a number of empirical studies have indicated that the existence of intangible assets is associated with greater tax avoidance through increased flexibility in inter-entity profit allocation (Cumming & Nguyen, 2025). On the other hand, several researchers have argued that the existence of intangible assets does not imply the adoption of an aggressive tax policy by firms. In highly regulated publicly held firms, the management of intangible assets is likely to be conservative due to the high probability of valuation disputes and corrections related to their value. With regard to Indonesia, the relationship between the use of intangible assets and transfer pricing/tax avoidance practices remains ambiguous.

The reason why the analysis concentrates on these two particular industries is that they are business models having two distinctly dissimilar configurations which are, nevertheless, of great importance to the economic development of Indonesia. As far as the plantation sector is concerned, it operates on a business model in which physical assets play a vital role. On the contrary, the food industry can be said to operate more on a downstream business model where intangibles, such as brands, distribution, formulae, and consumers are the key elements. It may, thus, be assumed that the possibility of exploiting intangible assets in transfer pricing operations is likely to be greater in case of the food industry than that in case of the plantation industry.

There are specific traits associated with the 2020–2024 era. The five years span the disturbance brought about by the coronavirus, the economic recovery process, the movements in the prices of commodities, and an ever-evolving system for regulating the tax process. On one hand, there is the tendency for profit-driven companies to become more tax efficient. However, the greater transparency, increased digitalization of regulation, and demands in the capital markets would make it harder for corporations to be opportunistic.

Previous studies have been conducted concerning the effect of transfer pricing, thin capitalization, leverage, profitability, capital intensity, and corporate governance on tax avoidance in Indonesia. Nevertheless, there are still plenty of studies that concentrate only on a certain industry or do not consider transfer pricing as a dependent variable by setting up characteristics of assets as an element that might influence the relationship between variables. In addition, the indicators used in tax avoidance calculation methods have differed, including effective tax rate and book-tax difference; thus,

comparisons are hardly possible (Ramdiani et al., 2023). By using CETR, attention will be drawn to paying actual tax burdens in cash form, not simply accruals.

The application of the Cash Effective Tax Rate (CETR) has significant implications on its interpretation in determining tax avoidance activities. The Cash Effective Tax Rate is defined as the ratio of cash taxes paid to pre-tax income and is commonly applied in modern studies as an indicator of cash tax avoidance (Widuri et al., 2026). A relatively low CETR suggests that cash taxes are paid in a lower proportion relative to pre-tax income, which can be perceived as an indication of tax avoidance (Akmal et al., 2024). On the other hand, a high CETR implies that more cash taxes are paid, meaning that there are fewer instances of tax avoidance (Manapa & Yulazri., 2024).

The importance of making such an interpretation of this issue in the framework of this study becomes especially important since there exist empirical studies where the authors have confused the direction of impact of any phenomenon on the measure of CETR and vice versa, which leads to incorrect conclusions about the influence on the tax behavior of a firm (though in terms of CETR and avoidance they become reverse) (Anasyah & Solikhah, 2026) .

Based on the above review of literature, this study will attempt to address three principal research questions. The first one refers to the relationship between TP aggression and tax avoidance measured through CETR. Another question to be answered is whether intangible assets intensity influences the extent of corporate tax avoidance. The third and final question is related to the impact of intangible assets on the correlation between TP aggression and tax avoidance. Answering these questions will help to better understand the tax behaviour of publicly listed firms in Indonesia operating in different industries with different assets structure.

Theoretical contributions of this research include the extension of literature on the issue of transfer pricing aggressiveness, whereby the moderating role of intangible asset intensity is acknowledged in a knowledge economy environment of regulation. It further contributes to the conversation on how the association between transfer pricing and tax avoidance needs to be viewed within a dynamic institutional framework instead of simply as a result of the mere presence of related party transactions. Practical contributions include guidance to tax regulators to establish appropriate risk-based supervision, insights for firm managers regarding affiliated transactions' governance, and investor's assessment of transaction structures that create tax risks.

The topic of tax avoidance by companies is associated with the decision-making process in the context of handling financial responsibilities (Yasmin et al., 2024) According to agency theory, the segregation of ownership and management roles within a company allows room for managerial decision-making, such as the handling of the company's financial responsibilities. Tax efficiency achieved through tax avoidance can be considered a reasonable choice made by managers, which seeks to add value to their companies, though it may pose risks of compliance costs and regulatory scrutiny (Utami & Irawan, 2022).

Moreover, the concept of political cost suggests that companies with complicated organizational arrangements and a large scale of operations (Wayan & Apriani, 2025) it becomes evident that tax avoidance is a multifaceted activity that is not solely motivated by profit but by complicated asset arrangements and transactions as well.

The existence of inter-entity transactions in group corporation structures cannot be avoided. Nevertheless, the frequency and nature of inter-entity transactions might influence the profit allocation in the absence of complete conformity with the market environment. The transfer pricing aggressiveness is usually associated with increased inter-entity transaction intensity, hence offering flexibility in internal pricing (Irawan & Ulinnuha, 2022).

There are empirical studies proving the relationship between high inter-entity transaction intensity and tax avoidance practices. Such flexibility offered by the internal pricing arrangements is capable of facilitating strategic profit allocations in the corporation structures. It should, however, be noted that the relationship between transfer pricing aggressiveness and tax avoidance practices does not have a consistent correlation among different industrial sectors due to some contextual factors (Eka & Wahyuni, 2025).

The complexity of transfer pricing practices increases when firms possess a significantly proportion of intangible assets. Intangible assets are difficult to value objectively and have no clear market comparables, increasing the subjectivity involved in determining value and returns. This opens

opportunities for firms to exploit intangible-asset-based transactions in profit-shifting schemes through royalties, licences, or other internal mechanisms (Irawan & Ulinnuha, 2022).

International empirical findings reinforce this argument by showing that asset specificity positively correlates with a firm's level of tax avoidance. Firms with high asset specificity tend to possess greater flexibility in tax planning and exhibit relatively lower tax payments, as reflected in a lower cash effective tax rate (Cumming & Nguyen, 2025). It can thus be concluded that corporate-level tax avoidance behaviour is substantially influenced by the structuring of asset arrangements as one of a firm's strategic instruments.

Despite this, the role of intangible assets in transfer pricing practices is not uniform across industrial sectors. Beatrice & Setyarini (2025) found that in certain sectors, intangible assets do not significantly affect transfer pricing aggressiveness. This indicates that industry characteristics and firm asset composition are differentiating factors in the use of intangible assets as a tax strategy instrument. In correlation between transfer pricing aggressiveness and tax avoidance, intangible asset intensity is considered relevant as a moderating variable. Intangible asset intensity reflects proportion of non-physical assets in a firm's asset structure and degree of firm's dependence on those assets in creating economic value. When intangible asset intensity is high, influence of transfer pricing aggressiveness on tax avoidance theoretically increases, since firms gain greater discretion in determining royalties and licence fees across related entities.

While transfer pricing aggressiveness is theoretically viewed as one of the main tools used in tax avoidance, changes to the tax regulatory environment around the globe and within the jurisdiction caused by the BEPS initiative can potentially change the direction of such relation, especially in the case of public corporations. The need for increased documentation related to transfer pricing, improved transparency concerning such transactions, as well as enhanced tax audit procedures tend to force organizations into adopting a conservative attitude when employing transfer pricing policies. As a result, an increase in related party transaction intensity does not necessarily indicate profit shifting activities but rather operational needs along with higher levels of tax compliance. Several empirical studies prove that higher transparency and audit pressure created by post-BEPS regulations decrease incentives for conducting aggressive tax avoidance. Thus, while the theoretical correlation suggested for this research implies a negative relationship between transfer pricing aggressiveness and tax avoidance measured with CETR, the direction of such correlation may be different in post-BEPS Indonesia (Roggeman, Aro-sati, et al., 2025).

Firms that engage aggressively in affiliated transactions have a greater opportunity to manage their taxable profit distribution. By shifting income to entities with lower tax rates, or by allocating costs to entities with higher tax rates, the consolidated total tax burden of the firm declines. This is reflected in a CETR value lower than statutory tax rate.

H1: Transfer pricing aggressiveness has a positive effect on tax avoidance (negative effect on CETR).

Invisible assets will lead to greater information asymmetry between the firm and the tax authority. Due to the complexity faced by tax authorities to determine comparable prices for royalties or trademark usages, the firm may misreport such expenses to reduce its tax burden through affiliated transactions. Companies that possess invisible assets will exhibit greater freedom to use transfer pricing practices to minimize cash taxes.

H2: Invisible asset intensity amplifies the relationship between transfer pricing aggressiveness and tax avoidance.

According to Political Cost Theory, businesses operate in different industries with varying regulatory environments and pressure from the outside environment. Industries such as the plantation sector in Indonesia are usually considered upstream business that relies heavily on substantial land ownership and concession permits. Thus, plantation companies will become major targets for PBB and PPh tax audit since both are considered the major forms of tax evasion in Indonesia. In comparison, the food industry is considered downstream and oriented towards final users. Thus, the main focus of food industry companies is brand reputation and efficiency of their supply chain (Ramdiani et al., 2023). Consequently, the above differences in asset characteristics result in variations in application of transfer pricing practices. While the plantation sector focuses more on sales of raw materials to offshore affiliates, the food industry focuses on royalties for licensing global brands. Differences in transactional behavior are likely to result in considerable difference in tax avoidance aggressiveness.

H3: There is a significant difference in the impact of transfer pricing aggressiveness on tax avoidance between the plantation sector and the food industry sector.

RESEARCH METHOD

For this study, it utilizes a quantitative methodology design involving causation to analyze the effect of aggressiveness of transfer pricing on tax avoidance and whether the degree of intangible assets acts as a moderating variable. Quantitative research was used in this study since one of its primary objectives is to test the formulated hypotheses using theories and not creating subjective interpretations of phenomena based on observations. The use of secondary data and statistical inference models is intended to enable the researcher to observe inter-variable patterns objectively.

Related party transaction, intangible assets, tax expense, and total asset information will be gathered using the notes to financial statements, company annual reports, and consolidated financial statements. These data sources will constitute the secondary data that will form the foundation of the research. Secondary data will be primarily taken from Indonesian Stock Exchange (IDX) reports and official website of the companies concerned. The selection of secondary data is aligned with the characteristic of researches concerning accounting and taxation since these areas require use of formally published data. Moreover, the use of audited financial statements makes the data more reliable.

The research population will include all plantation companies as well as companies operating in the food industry registered in IDX from 2020 to 2024. The selection of both sectors was done purposefully due to the theoretical consideration of the difference of their asset structure and business operation concerning the management of related parties. Plantation firms can have a more dominant tangible asset structure and engage in commodity-related operations, whereas firms in the food industry might be close to brand ownership, licence, and distribution systems. The choice of these two sectors provides a proper benchmarking framework in determining whether intangibles can mitigate the relationship.

The technique of purposive sampling is used for sampling purposes based on the set criteria. Firstly, the companies need to have a continuous listing on the IDX during the period of 2020 to 2024. Secondly, the company should have a report that includes audited consolidated annual financial statements and should report these in a comparable currency. Thirdly, there must be availability of all variables, such as cash tax payments, pre-tax profit, related party transaction, intangible assets, and total assets. Lastly, companies with inadequate negative data should not be included in the analysis in order to avoid distortion of results. On the basis of these criteria, 6 firms were chosen.

The six firms that meet the inclusion criteria are PT Astra Agro Lestari Tbk, PT Sinar Mas Agro Resources and Technology Tbk, PT Sawit Sumbermas Sarana Tbk, PT Indofood CBP Sukses Makmur Tbk, PT Mayora Indah Tbk, and PT Nippon Indosari Corpindo Tbk. While the first three constitute the plantation industry, the remaining three belong to the food industry segment. In this case, the unit of analysis is the firm-year combination, and hence, there are five observations for each firm in the analysis, reflecting the span of observation. It is important to note that the observations are limited and need to be viewed in that context only.

Table 1. Variable Operationalisation

Variable	Operational Definition	Measurement
Tax Avoidance (CETR)	The level of cash-basis tax payment relative to pre-tax profit; a higher CETR indicates lower tax avoidance.	Cash taxes paid/pre-tax profit
Transfer Pricing Aggressiveness (TP)	Intensity of related-party transactions that create opportunities for intra-group profit allocation.	(Related-party receivables + related-party payables)/total assets

Variable	Operational Definition	Measurement
Intangible Asset Intensity (INT)	Proportion of non-physical assets recognised by the firm in its asset structure.	Intangible assets/total assets
Firm Size (SIZE)	Economic scale of the firm, controlled within the research model.	Ln total assets
Interaction (TP_INT)	Multiplication of transfer pricing aggressiveness and intangible asset intensity to test the moderating effect.	TP × INT

The dependent variable used here is tax avoidance, measured by CETR. CETR refers to the ratio of cash income taxes paid to pre-tax profit. CETR was selected as a variable for measurement since it is said to be better able to capture real tax payments compared to accrual-based variables. In the present case, if the value of the CETR increases, it would mean that more of the pre-tax profit was used for paying cash income tax, which would essentially mean less tax avoidance. Thus, while interpreting the results of the regressions, one should remember that a positively correlating variable with CETR negatively correlates with tax avoidance.

The independent variable under investigation is transfer pricing aggressiveness, measured by ratio of related-party transactions to total assets. The variable will be calculated on the basis of information contained in financial reports. The value of the transfer pricing aggressiveness would be obtained by calculating the sum of related-party receivable accounts and related-party payable accounts divided by total assets. The ratio does not reflect manipulation of transfer prices per se but shows how actively the company conducts business within its related-party transactions, which in theory opens more opportunities for the use of transfer pricing.

The moderating variable in this study is the intensity of intangibles, which is obtained by dividing the book value of the company's intangible assets with the company's total assets. This measure represents the extent to which a firm relies on its intangibles to generate economic benefits. Examples of such intangibles are brand names, licenses, software, distribution rights, as well as other types of economic rights. The reason behind using this measure is due to its simplicity and comparability, as well as its solid theoretical foundation in transfer pricing literature. In order to examine the moderating effect, an interaction between transfer pricing aggressiveness and intensity of intangibles is created.

In order to better estimate the effects of transfer pricing aggressiveness and intensity of intangibles on CETR, firm size will be included in this study as a control variable. This variable refers to the natural log of firm total assets. The reasoning behind the inclusion of firm size as a control variable in this study relates to empirical findings regarding the relationship between the size of a firm and its tax behavior.

The primary analytical method employed is Moderated Regression Analysis (MRA). This technique was chosen because it allows researchers to test direct effect of independent on dependent while also testing whether an interaction effect exists between independent and moderating. The model equation used can be written as: $CETR = \alpha + \beta1TP + \beta2INT + \beta3SIZE + \beta4TP_INT + \varepsilon$. In this equation, CETR is cash-based tax avoidance, TP is transfer pricing aggressiveness, INT is intangible asset intensity, SIZE is firm size, TP_INT is the interaction variable between TP and INT, and ε is the residual error.

Before testing of hypotheses, data will be analyzed using descriptive statistics to identify general characteristics of the variables included in the research. The descriptive statistic includes number of observations, minimum, maximum, mean, and standard deviation. This step is important to observe the distribution of data, to identify any outliers if any from the very beginning, and to determine whether values of variables are realistic in terms of the sectors examined. Descriptive statistic is also important as a base to explain the strength of affiliated transactions, cash taxes paid by companies, and their intangibles.

Classical assumptions of regression model estimation will also be tested in this research. Test of normality identifies whether model errors have normal distribution. Test of multicollinearity will reveal whether there is excessive correlation among independent variables measured using tolerance and Variance Inflation Factor (VIF). Test of heteroscedasticity determines whether error variance is not constant estimated using regression against absolute errors. These tests of assumptions are crucial to determine whether regression model is a best linear unbiased estimator of the research variables.

Table 2. Sample Criteria and Composition

Description	Number of firms	Meet all the criteria
Sample firms from the plantation sector	25	3
Sample firms from the food industry sector	58	3
Observation period	5 year	5 year
Total firm-year observations		30

Criteria:
1. Listing for 2022–2024
2. Consolidated audited financial statements
3. Availability of all variables
4. No negative data that could distort the results

RESULTS AND DISCUSSION

The discussion in this section centers around the results of the research undertaken. These results are interpreted under the lens of theory and institutions introduced earlier in this paper. Results are obtained based on 30 firm-year observations collected from six firms in both plantation and food industries during 2020-2024. The process of data analysis is done by interpreting descriptives, assumption tests, and results obtained from multiple moderated regression analyses conducted for this study. However, the emphasis in data interpretation is put not on the mathematical significance of relationships between variables but on their meaningfulness.

On the descriptive level, it is found that the mean of CETR equals 0.2646. Hence, the sample companies tend to make payments of cash taxes which equal about 26.46 percent of pre-tax profit. This number can be considered an appropriate level of cash tax payment since it falls into the range where tax payments can be viewed as adequate. The spread of cash tax payment values is relatively high considering that the minimum value of the variable is 0 while its maximum equals 0.6150.

With an average value of 0.0429 for TP_Ratio, the degree of transfer pricing aggressiveness is relatively low when measured against total assets. Nevertheless, the maximum level of 0.2609 suggests that some firms experience material amounts of related-party activities at particular points in time. On the other hand, the mean level of intangible asset intensity is 0.0359, implying that intangible assets constitute merely about 3.59 per cent of total assets. Put differently, despite the fact that the food industry sector is perceived to have more dealings in terms of brand and licence management, on average intangible assets reported on the balance sheet of sample firms are still relatively small relative to total assets.

Table 3. Descriptive Statistics

Variable	N	Min.	Max.	Mean	Std. Dev.
CETR	30	0.0000	0.6150	0.2646	0.0850
TP_Ratio	30	0.0078	0.2609	0.0429	0.0687
INT_Ratio	30	0.0033	0.1142	0.0359	0.0327
SIZE_LnAssets	30	15.6599	18.6521	17.2614	1.0395

In terms of the variable size of the firm, based on the natural logarithm of total assets, the mean value was calculated at 17.2614 with a range from 15.6599 to 18.6521. These values suggest that the sample used for this research contains companies that can be classified as medium to large in relation to the Indonesian capital market. The significance of the firm's size in this research lies in the fact that large corporations usually have better developed compliance mechanisms, tax departments, and other aspects of corporate governance. When analyzing regression models containing the firm's size variable, one should take into account political factors and pressures related to being a listed company.

For the variable CETR, the test results for the normality of distribution gave significance values for the Kolmogorov-Smirnov and Shapiro-Wilk tests which are less than 0.05. Strictly speaking, according to these statistics, this suggests the existence of a violation of the normality assumption for this particular variable. However, in studies using a relatively low number of samples and financial data which tends to be positively skewed, a violation of normality does not necessarily negate the applicability of multiple linear regression models when average values are of particular interest.

Tests of Multicollinearity suggest that each independent variable has tolerance > 0.10 and VIF less than 10. In the model including the interaction term, the maximum value of VIF is reported by TP_Ratio (VIF = 5.181), followed by INT_Ratio (VIF = 4.782), SIZE (VIF = 4.155), and TP_INT (VIF = 4.160). Hence, the above values fall within acceptable range; and therefore, the problem of multicollinearity does not appear to exist in the proposed model.

Table 4. Multicollinearity Test

Variable	Tolerance	VIF
TP_Ratio	0.193–0.329	3.042–5.181
INT_Ratio	0.209–0.240	4.172–4.782
SIZE_LnAssets	0.241–0.261	3.837–4.155
TP_INT	0.240	4.160

Table 5. Moderated Regression Results

Variable	Coefficient (B)	Sig.	Interpretation
Constant	-0.839	0.008	Significant
TP_Ratio	0.826	0.004	Significant positive effect on CETR
INT_Ratio	0.871	0.112	Not significant
SIZE_LnAssets	0.046	0.006	Significant positive
TP_INT	27.083	0.518	Moderation not significant

Table 6. Model Fit

R	R Square	Adjusted R Square	F	Sig. F
0.507	0.257	0.172	3.002	0.049

Tests of heteroscedasticity based on regression of independent variable against the absolute values of the residuals have generated results that deserve consideration. Without considering the interaction term, the results show that TP_Ratio is significantly at 0.001, SIZE is significantly at 0.007, while INT_Ratio becomes significant at 0.052. With the inclusion of the interaction term, results show that TP_Ratio is significant at 0.004, and SIZE is significant at 0.006. The results signify the existence of heteroscedasticity in the model, which means the assumption of homoscedasticity is not met completely in this model. As the regression results do not feature robust standard error correction, it should be cautiously interpreted due to lack of robustness in significance of results.

Regression equation on TP_Ratio, INT_Ratio, and SIZE that test the impacts of the aforementioned ratios on CETR gives an F value of 3.002 with a significant value of 0.049, which means that the model is statistically significant at the 5% significance level and is therefore good enough for an explanatory model. An R-square value of 0.257 and adjusted R-square of 0.172 means that there is 17.2% of variations in CETR that is accounted for by the independent variables. It is moderate in terms of being able to explain the dependent variable. However, the level of explanatory ability is fairly acceptable because of various other non-model factors that affect corporate behavior.

TP_Ratio in the primary regression is positive (0.537) with a significance of 0.152, meaning that TP_Ratio has no statistically significant impact on the dependent variable. Nevertheless, TP_Ratio becomes positive (0.826) with a statistical significance of 0.004 when we include the interaction term into the model. This coefficient is used to make conclusions about the results of our moderation analysis according to the regression output used in the study. Consequently, the interpretation is that there is a statistically significant positive influence of TP_Ratio on CETR. Since CETR has an inverse relationship with tax avoidance, we can say that the higher TP_Ratio is, the higher the CETR is, meaning lower tax avoidance. In simple terms, more frequent related-party transactions do not lead to lower cash tax payments but to higher cash tax payments.

This conclusion serves as the main discovery made by this research and at the same time poses an intriguing contradiction with regard to the hypothesis posed. In accordance with traditional economic theory, enterprises having higher affiliated transaction intensity are more likely to re-route profits and thus enjoy lower CETR levels. However, for the sample in question, the opposite takes place. There are several reasons why this could be true. Firstly, Indonesian public corporations in the aforementioned industries might have adapted their transfer pricing strategy to the new reality where strict documentation is necessary. Secondly, high levels of affiliated transactions might serve as indicators of group operation rather than tax avoidance. Thirdly, larger companies dominating the sample in question could be reluctant to overstate taxation.

The first reason is similar to the consolidation of the transfer pricing regime after BEPS. As the estimated cost of aggressive tax strategy rises because of the possibility of revisions, sanctions, and conflicts, the corporation reconsiders its cost-benefit calculation between taxes saved and compliance expenses. Under these conditions, affiliated dealings persist due to economic necessity, but the price will likely follow the arm's length rule. This result supports the institutional theory, which argues that the level of affiliated dealings does not necessarily equate to tax avoidance, especially in a regulatory setting characterized by growing scrutiny (Roggeman, Aro-sati, et al., 2025) .

The second reason has to do with the business model of the sampled enterprises. For plantation and food companies, especially the experienced ones, the supply chain is usually sophisticated and interconnected. Affiliated connections can occur during procurement of raw materials, distribution, financing, logistics assistance, and management functions. Assuming that these deals are mainly based on efficiency and coordination within the company, an elevated affiliated transaction ratio does not imply tax avoidance. Firms with higher integration levels might actually maintain stronger documentation practices, leading to more systematic tax payment.

Explanation number three takes into consideration the reputation and governance factors. In the case of firms under study, they constitute issuers with a relatively high reputation on the Indonesian capital market. The issue of reputation risk associated with a corporate tax controversy could be particularly severe since it would influence the firm's investor relations, valuation, and regulatory interactions. As confirmed by literature, firms facing substantial reputation risks tend to be careful in choosing their taxation policy, even if they have enough technical competence for engaging in

aggressive tax planning. It is safe to assume that the positive effect of TP_Ratio on CETR is a result of the effectiveness of this approach.

In terms of the intangible asset intensity moderator variable, its regression coefficient in the moderation regression model is 0.871, having a significance level of 0.112. The outcome implies that intangible asset intensity does not significantly impact CETR directly. In practice, the finding suggests that intangible asset intensity does not influence how companies make decisions about paying either lower or higher taxes in cash form. It is quite fascinating that this outcome differs from the theoretical discussion that views intangible asset intensity as the key mechanism for conducting profit shifting activities. On the other hand, this outcome seems to make sense because, on average, firms' intangible asset intensity is rather low.

Furthermore, the book value of intangible assets recognised in financial statements does not necessarily fully reflect the true economic power of intangibles. Internally built brands, distribution reputations, and customer relationship values are often not recognised at their full economic value in financial accounting. As a result, ratio of intangible assets to total assets may underestimate the firm's economic exposure to intangible assets. If the moderating proxy fails to adequately capture economic reality, then failure to find a significant effect becomes very likely. This represents an important limitation that must be noted in the study.

The interaction coefficient TP_INT of 27.083 with a sig. value of 0.518 indicates intangible asset intensity does not prove to moderate impact of transfer pricing aggressiveness on CETR. In other words, data do not support the conjecture that the relationship between related-party transactions and cash tax payments becomes stronger or weaker for firms with a higher proportion of intangible assets. This means the moderation hypothesis is not supported. Theoretically, this result can be explained by several factors: low variation in intangible assets, small sample size, dominance of tangible assets in most firms, and strong oversight of intangible-based transactions such that firms are not using that channel aggressively.

The absence of a moderation effect also shows that, in the two sectors studied, transfer pricing is likely more related to the operational architecture of the group than to the flexibility of intangible asset valuation. In the plantation sector this is plausible because its business is commodity and tangible-asset-based in nature. In the food industry sector, this can be interpreted to mean that although firms possess strong brands and distribution networks, the intangible assets recognised in their accounting records are not yet dominant enough to alter the relationship between transfer pricing and CETR. This comparative study thus demonstrates that sectoral differences do not automatically produce sharp differences in tax mechanisms if the economic variables captured in financial reports are not sufficiently contrasting.

The firm size control variable produces a positive coeff. of 0.046 with a sig. of 0.006. This result indicates larger firms have higher CETRs, implying lower cash-basis tax avoidance. This finding is more supportive of political cost theory and the legitimacy perspective than of the tax planning capacity argument. Larger firms do indeed have sufficient resources to design tax strategies, but they also face more intense public scrutiny, regulatory oversight, and governance demands. As a result, they tend to adopt more conservative tax payment policies. This result is consistent with the view that tax compliance in large firms is often part of a reputation and stakeholder relationship sustainability strategy.

When all results are read together, the following picture emerges. First, in this sample, related-party transactions are not a marker of tax avoidance, but rather tend to correlate with increased cash tax payments. Second, intangible assets are not proven to constitute an important channel that strengthens this relationship. Third, firm size is associated with greater tax payment compliance. This combination of findings points to one conceptual conclusion: the tax behaviour of Indonesian public companies in the plantation and food industry sectors appears to be more strongly influenced by compliance pressure, governance, and legitimacy than by technical opportunities for profit shifting.

Nevertheless, these findings must not be read as evidence that transfer pricing risk in Indonesia is low. Results show only that within the observed sample and period, the indicator of transfer pricing aggressiveness used is not associated with tax avoidance as predicted by conventional theory. It is very possible that in other sectors, other periods, or with sharper proxies, results would differ. For example, firms with wider multinational networks, greater tax haven exposure, or higher royalty intensity may exhibit different relationship patterns. The main contribution of this study therefore lies precisely in the

assertion that inferences about transfer pricing must always attend to institutional context and industry characteristics.

Table 7. Hypothesis Testing Summary

Hypothesis	Formulation	Result	Decision
H1	Transfer pricing aggressiveness affects tax avoidance (CETR).	TP coefficient positive significant against CETR.	Rejected on theoretical direction; supported with opposite direction.
H2	Intangible asset intensity affects CETR.	INT coefficient not significant.	Rejected.
H3	Intangible asset intensity moderates the effect of TP on CETR.	TP_INT interaction coefficient not significant.	Rejected.

CONCLUSION AND IMPLICATIONS

This study examined the effect of transfer pricing aggressiveness on tax avoidance among plantation and food industry companies listed on the Indonesian Stock Exchange during 2020–2024. Tax avoidance was measured using the Cash Effective Tax Rate (CETR), while intangible asset intensity was tested as a moderating variable and firm size was included as a control variable. Using 30 firm-year observations and Moderated Regression Analysis (MRA), the study produced several important findings.

First, transfer pricing aggressiveness was found to have a significant positive effect on CETR. Since a higher CETR reflects lower tax avoidance, the result indicates that companies with greater related-party transaction intensity tend to pay a larger proportion of taxes in cash. This finding does not support the conventional view that transfer pricing is primarily used to reduce tax liabilities. Instead, it suggests that the relationship between transfer pricing and tax avoidance depends on the institutional environment, regulatory oversight, and corporate governance practices.

Second, intangible asset intensity showed no significant effect on CETR. The results suggest that the level of intangible assets held by a company does not directly influence its tax avoidance behavior. This may be explained by the relatively low proportion of intangible assets within the sample firms, regulatory scrutiny over royalty-related transactions, and limitations associated with accounting-based measurements of intangible assets.

Third, intangible asset intensity did not moderate the relationship between transfer pricing aggressiveness and tax avoidance. The insignificant interaction effect indicates that differences in intangible asset intensity do not alter the association between related-party transactions and cash tax payments. Therefore, transfer pricing practices within the sampled firms do not appear to operate through the flexibility associated with intangible asset valuation.

Fourth, firm size was found to have a significant positive effect on CETR. Larger firms tend to make higher cash tax payments relative to their pre-tax income. This finding is consistent with political cost and legitimacy theories, which suggest that larger companies face greater public scrutiny and therefore adopt more conservative tax strategies.

The study contributes to the literature by demonstrating that the relationship between transfer pricing and tax avoidance cannot be generalized across contexts. It also highlights that the role of intangible assets in tax planning may differ across emerging economies. Furthermore, the findings indicate that agency theory alone is insufficient to explain corporate tax behavior and should be complemented by institutional and legitimacy perspectives.

From a practical standpoint, the results imply that tax authorities should not automatically regard related-party transactions as indicators of tax avoidance. Effective risk-based monitoring should consider transaction characteristics, business functions, ownership structures, documentation quality, and cross-border exposure. The findings also emphasize the importance of transparent disclosure of

related-party transactions and sound transfer pricing governance to reduce tax risks and strengthen corporate credibility.

Despite these contributions, several limitations should be acknowledged. The study relied on a relatively small sample of six companies and 30 firm-year observations, which may restrict the generalizability of the findings. In addition, the proxy used for transfer pricing aggressiveness captures transaction intensity rather than the quality or aggressiveness of transfer pricing practices. Likewise, intangible asset intensity was measured using book values, which may not fully reflect their underlying economic value. The use of CETR as a proxy for tax avoidance may also fail to capture certain dimensions of tax planning behavior.

Future studies are encouraged to employ larger samples, longer observation periods, and broader industry coverage. Alternative measures such as related-party sales, royalty intensity, foreign affiliate transactions, book-tax differences, and other tax avoidance indicators may provide deeper insights. Future research may also benefit from panel data techniques, robust estimation methods, and qualitative approaches to better understand how firms design transfer pricing and intangible asset strategies under evolving tax regulations.

Overall, the findings indicate that transfer pricing aggressiveness was not associated with lower cash tax payments among Indonesian plantation and food companies during the study period. Intangible asset intensity also failed to strengthen this relationship, whereas firm size was positively associated with tax compliance. These results suggest that corporate tax behavior is shaped not only by economic incentives but also by regulatory pressures, governance mechanisms, and legitimacy concerns. The inability to support the main hypotheses should therefore be interpreted as evidence of contextual complexity rather than a rejection of transfer pricing and tax avoidance theories.

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