Unmasking Tax Avoidance: How Multinational Corporations in Indonesia's Raw Materials Sector Exploit Loopholes (2018-2022)

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Abstract

This study delves deep into the tactics employed by multinational corporations (MNCs) to circumvent Indonesia's tax laws and minimize their tax liabilities within the raw materials sector. Employing panel data regression analysis on a dataset comprising 40 observations from 8 companies over five years (2018-2022). Transfer pricing, profitability, capital intensity, and thin capitalization have a significant influence on tax avoidance. Therefore, stronger transfer pricing regulations and a global minimum corporate tax are crucial to combat base erosion and profit shifting. Increased transparency and accountability in multinational corporations' financial reporting in Indonesia are also essential.

Keywords: Tax Avoidance, Transfer Pricing, Profitability, Capital Intensity, Thin Capitalization

JEL: H26, K34, M40, M41

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INTRODUCTION

Taxation, a compulsory contribution levied on individuals and corporations, underpins the fiscal health of nations. While generally perceived as a civic duty, the complex interplay between taxpayers and governments often results in strategies designed to minimize tax liabilities. This study focuses on the behavior of multinational corporations (MNCs) within Indonesia's raw materials sector, a sector renowned for its significant contribution to the national economy. The raw materials sector, encompassing industries that transform natural resources into intermediate or final products, has experienced substantial growth, particularly before the COVID-19 pandemic. However, the pandemic's economic disruptions created a complex landscape for tax compliance, prompting government interventions such as tax incentives. While intended to support businesses, these incentives have inadvertently created opportunities for tax avoidance.

The theory of Agency highlights the potential conflict between governments (principals) and corporations (agents). In the tax context, MNCs, as agents, may prioritize profit maximization over tax compliance. This dynamic is exacerbated in sectors like raw materials, where substantial profits can be generated.

Previous research, such as that by Kurnia and Riska Ayu Fajarwati (2022), examined drivers of tax avoidance, including transfer pricing, profitability, capital intensity, and thin capitalization. However, the findings on these factors' impact have been inconsistent. This study aims to contribute to the existing literature by re-examining these factors within the specific context of Indonesia's raw materials sector.

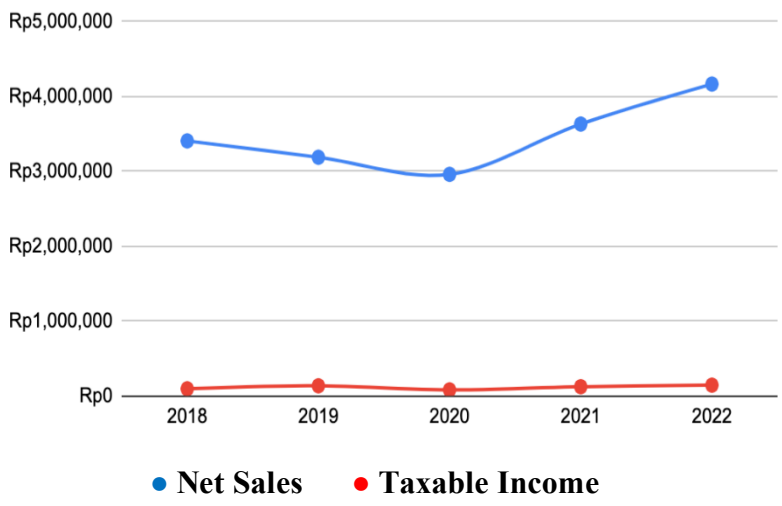

FIGURE 1. Average Sales and Taxable Income Payments
for Multinational Companies in the Raw Goods Sector
Source: Company Financial Report (author's analysis, 2023)

Figure 1 illustrates a discrepancy between revenue growth and taxable income, suggesting potential tax avoidance strategies employed by MNCs in the raw materials sector. This study aims to uncover the mechanisms behind these practices and their implications for the Indonesian economy.

Tax avoidance, a corporate strategy to minimize tax liabilities, is a significant global issue. By exploiting legislative loopholes, companies can reduce their tax burdens, often through complex financial arrangements. Government Regulation Number 23 of 2018 in Indonesia provides a legal framework for certain tax planning strategies, further incentivizing tax optimization efforts. This practice is especially prevalent among multinational corporations (MNCs), which can leverage differences in tax regimes across jurisdictions to their advantage.

Kurnia and Fajarwati (2022) researched the impact of tax avoidance on state revenue. MNCs in the raw materials sector, a particularly lucrative industry, have been implicated in such practices. For instance, PT Toba Pulp Lestari Tbk, a paper industry player, is alleged to have manipulated export documents to divert profits offshore, resulting in a significant tax shortfall for Indonesia. Similarly, PT Bentoel Internasional Investama, linked to British American Tobacco, has been accused of employing tax avoidance schemes involving intra-company loans and royalties, as reported by CNN Indonesia (2020).

Understanding the drivers of tax avoidance is crucial given its widespread occurrence. Previous research has identified transfer pricing, profitability, capital intensity, and thin capitalization as potential determinants of tax avoidance. Empirical evidence on these factors' relationship with tax avoidance is mixed. Studies by Siti Asriani et al. (2023), Nita Andriyani Budiman & Bandi Bandi (2022), and others have found a positive correlation between transfer pricing and tax avoidance. Conversely, research by Wawan Cahyo Nugroho (2022) and Alifatul Akmal Al Hasyim et al. (2023) suggests a less clear relationship.

Regarding profitability, while studies by Nichen Ria Pucantika & Sartika Wulandari (2022) and Ni Made Wuriti & Naniek Noviari (2023) indicate a positive association with tax avoidance, findings by Claudia Danilla & Dwi Septiani (2023) challenge this notion. Capital intensity, as explored by Alifatul Akmal Al Hasyim et al. (2023), appears to influence tax avoidance, but research by Nichen Ria Pucantika & Sartika Wulandari (2022) offers a different perspective. Finally, thin capitalization, as studied by Nathasya Gouwvara & Meinie Susanty (2023) and Teuku Andre Ravanelly & Mulyadi Noto Soetardjo (2023), is often linked to tax avoidance, although Tesa Anggraeni & Rachmawati Meita Oktaviani (2021) present a contrasting view.

These inconsistencies in the literature emphasize the need for further investigation into the complex relationship between these factors and tax avoidance.

LITERATUR REVIEW

Agency Theory

Agency theory, as Jensen and Meckling (1976) proposed, explains the shareholder-management relationship, highlighting the potential for suboptimal outcomes like tax avoidance due to diverging interests between principals (shareholders) and agents (managers). This conflict, according to Pucantika & Wulandari (2022), manifests in risk-taking and financial policy decisions. Sherli and Utomo (2017) further emphasize that managerial incentives also drive tax avoidance.

Fiscal Psychology and Behavioral Taxation

To fully comprehend tax-related behavior, it is essential to consider psychological and behavioral factors. Fiscal psychology, as explored by Benno Torgler (2007), investigates how individual attitudes, perceptions, and motivations influence tax compliance. Building on this

foundation, behavioral taxation theory delves deeper into the cognitive processes underlying tax decisions (Erich Kirchler, 2007). These theories highlight the importance of understanding taxpayer behavior to design effective tax policies.

Dynamic Taxation

The dynamic nature of tax systems and taxpayer behavior is a critical consideration. Joel Slemrod's (1990) work on dynamic taxation emphasizes the interplay between tax policies and economic outcomes. This perspective is vital for understanding the enduring consequences of tax avoidance.

Tax Avoidance

Tax avoidance, the legal exploitation of tax loopholes to minimize tax liabilities, has become a significant corporate strategy. This practice, while technically legal, can erode the tax base and create inequities (David A. Weisbach, 2004; Rita de la Feria, 2018; Michelle Hanlon & Joel Slemrod, 2009). Multinational corporations effectively use cross-border tax planning to minimize global taxes.

Tax avoidance and tax evasion are distinct. While the former involves legal maneuvers, the latter constitutes illegal activities to evade tax obligations. Tax evasion is characterized by fraudulent behavior, such as underreporting income or falsifying records, while tax avoidance exploits legal gaps in the tax code (Emmanuel Saez, 2017; James R. Hines Jr., 2010; Kim Brooks, 2022; Michelle Hanlon & Shane Heitzman, 2010).

Measuring tax avoidance is complex, but the cash effective tax rate (CETR) has emerged as a key metric. Introduced by Mihir A. Desai and Dhammika Dharmapala (2005), CETR calculates the effective tax rate based on cash flows, providing a more accurate reflection of a company's tax burden. A lower CETR often indicates aggressive tax planning.

Furthermore, Alya Dinda Nurrahmi & Sri Rahayu (2020), citing Ferdian & Firmansyah (2017), emphasize the use of CETR to assess the overall tax burden, including domestic and global taxes. The formula for calculating CETR is:

$$\textit{Cash Effective Tax Rate (CETR)} = \textit{Total Income Tax Expense / Income Before Tax}$$

A CETR near the statutory tax rate implies less tax avoidance, whereas a substantially lower CETR suggests aggressive tax planning.

Transfer Pricing and Tax Avoidance

Transfer pricing, the pricing of transactions between related entities, is a key tax planning tool for multinational corporations. While designed to ensure fair allocation of profits and taxes, it can also be exploited as a tool for tax avoidance. The OECD, United Nations, IRS, European Union Joint Transfer Pricing Forum, and Harvard Business Review have issued guidelines to prevent the misuse of transfer pricing.

Hanlon & Heitzman (2010) offer a broad overview of tax research, including transfer pricing. Subsequent studies (Dharmapala & Riedel, 2013; Dischinger et al., 2014; Johannesen & Zucman, 2014; Clausing, 2017; Tørsløv et al., 2018; Kurniasih et al., 2022; Syarif & Koerniawan, 2025) further explore the connection between transfer pricing and tax avoidance, consistently finding that transfer pricing manipulation allows for profit shifting to low-tax jurisdictions, thus undermining the tax base of high-tax countries.

In Indonesia, Government Regulation Number 94 of 2010 outlines transfer pricing regulations, emphasizing the "fair price" principle. However, the potential for abuse remains. Companies can manipulate transfer prices by setting unrealistically high or low prices for transactions between related entities, leading to profit shifting and tax avoidance.

This study measures the impact of transfer pricing on tax avoidance using the transfer pricing calculation method employed by Chen Feng et al. (2022), Ester Chen & Ilanit Gavious (2017), Junxue Jia et al. (2020), Kenny Z. Lin et al. (2017), and Rui Pan & Dao-Zhi Zeng (2023):

Transfer Pricing = Trade receivables from related parties / Total Receivables

Therefore, we hypothesize that:
H1: Transfer pricing positively affects tax avoidance.

Profitability and Tax Avoidance
Corporate profitability and tax avoidance are intricately linked; higher profits often incentivize companies to employ tax avoidance strategies to reduce their tax burden.

Previous research has explored various aspects of this relationship. Sean T. McGuire et al. (2014) investigated the impact of capital quality on taxes, while Christopher S. Armstrong et al. (2012) analyzed incentives for tax planning. Mihir A. Desai & Dhammika Dharmapala (2006) focused on corporate tax avoidance and its drivers. Additionally, Michelle Hanlon & Shane Heitzman (2010), Sanjay Gupta & Kaye Newberry (1997), Scott D. Dyreng et al. (2008), and Qin Pan & Kai Huang (2023) have contributed to the understanding of profitability and tax avoidance through their respective research.

Profitability, often measured by return on assets (ROA), indicates how efficiently a company generates profits from its assets. While higher profitability typically increases tax liabilities (Ariska et al., 2020; Asalam & Pratomo, 2020), companies may manage earnings to minimize their tax burden.

Based on the preceding discussion, the following hypothesis is proposed:
H2: Profitability has a positive effect on tax avoidance

Capital Intensity and Tax Avoidance
A firm's capital intensity, the ratio of fixed to total assets, affects its tax position. Increased investment in fixed assets allows for greater depreciation deductions, which lowers taxable income and can reduce tax liabilities.

Several studies (Adhikari et al., 2006; Christin Maria Monika & Naniek Noviari, 2021; Dinda Ayu Laksmi & Niluh Putu Dian Rosalina Handayani Narsa, 2022; Louis Yosen Primsa Tarigan & Deva Aulia Ningrum Ubaidillah, 2023; Rakia Riguen et al., 2021; Xiaochen Zhang et al., 2022) have consistently found a positive relationship between capital intensity and tax avoidance across different jurisdictions.

While capital intensity can be a valid business strategy, its potential for facilitating tax avoidance should be considered. Strategic investment in fixed assets can be used to manage tax liabilities, making capital intensity a relevant factor in assessing tax avoidance behavior.

Based on the preceding literature, the following hypothesis is proposed:

H3: Capital intensity positively affects tax avoidance.

Thin Capitalization and Tax Avoidance

Thin capitalization occurs when a company relies excessively on debt financing relative to equity. By increasing debt levels, companies can benefit from tax deductions on interest payments, potentially reducing their overall tax burden. This strategy, while legal, can be exploited to minimize tax liabilities.

Research by Ajay Adhikari et al. (2006), Sean T. McGuire et al. (2014), Michelle Hanlon & Shane Heitzman (2010), Dhammika Dharmapala & Nadine Riedel (2013), Matthias Dischinger et al. (2014), Dinda Ayu Laksmi & Niluh Putu Dian Rosalina Handayani Narsa (2022), Louis Yosen Primsa Tarigan & Deva Aulia Ningrum Ubaidillah (2023), Rakia Riguen et al. (2021), and Tesa Anggraeni & Rachmawati Meita Oktaviani (2021) has examined the relationship between capital structure, including debt financing, and tax avoidance. These studies consistently demonstrate that excessive debt financing can be used as a tax planning tool.

The maximum allowable debt (MAD) ratio, calculated as the ratio of average interest-bearing debt to safe harbor debt amount, is a common metric for assessing thin capitalization. A MAD ratio approaching or exceeding 100% indicates a high level of debt relative to equity, raising concerns about potential tax avoidance.

Based on the preceding literature, the following hypotheses are proposed:
H4: Thin capitalization positively impacts tax avoidance.

H5: Transfer pricing, profitability, capital intensity, and thin capitalization are simultaneously related to tax avoidance

Hypothesis H5 acknowledges the interconnectedness of these factors in influencing tax avoidance behavior.

METHODOLOGY

This study examines how transfer pricing, profitability, capital intensity, and thin capitalization affect tax avoidance. Using a quantitative research design and purposive sampling, the study focused on multinational companies in the raw materials sector listed on the Indonesia Stock Exchange (IDX) from 2018 to 2022.

Initially, 50 companies were selected, but after applying exclusion criteria - such as inconsistent financial reporting, negative profits, and a cash effective tax rate (CETR) over 100% - the final sample consisted of 40 observations from eight companies.

Table 1. Sample Determination Criteria

No	Description	Qty
1.	The raw materials sector MNCs that were listed on the IDX from 2018 to 2022.	15
2.	The raw materials sector MNCs had inconsistent listings on the IDX between 2018 and 2022.	(1)

3.	The raw materials sector MNCs reported negative profits from 2018 to 2022.	(4)
4.	The raw materials sector MNCs with a CETR exceeding 100% during 2017-2022	(2)
Number of Samples		8
There are 8 observations recorded over 5 years		40

Source: Data processed by the Author (2023)

Based on these criteria, 10 companies were selected as samples in this study, with a research period of 5 years. However, two companies were excluded because they did not have financial reports for certain years, resulting in a final sample of 8 companies with 40 observations. The following is a list of companies sampled in the research:

Table 2. Research Sample

No	Company Code	Identity Corporate
1.	LTLS	PT. Lautan Luas, Tbk.
2.	UNIC	PT. Unggul Indah Cahaya, Tbk.
3.	SMGR	PT. Semen Indonesia Persero, Tbk.
4.	FASW	PT. Fajar Surya Wisesa, Tbk.
5.	IPOL	PT. Indopoly Swakarsa Industry, Tbk.
6.	PBID	PT. Panca Budi Idaman, Tbk.
7.	TRST	PT. Trias Sentosa, Tbk.
8.	MDKA	PT. Merdeka Copper Gold, Tbk.

Source: Indonesian Stock Exchange, processed by the Author (2023)

Data analysis was conducted using panel data regression in EViews.

RESULT AND FINDINGS

Descriptive Statistical Test Results

Descriptive statistics were employed to provide an initial overview of the study variables. The mean, maximum, minimum, and standard deviation for CETR, transfer pricing (TP), profitability (PB), capital intensity (CI), and thin capitalization (TC) were calculated..

Table 3. Results of Descriptive Statistical Analysis

Description	CETR	TP	PB	CI	TC
Mean	0,264750	0,143043	0,062818	0,409322	0,758220
Maximum	0,648665	0,443798	0,198319	0,820008	1,683423
Minimum	0,006070	0,001718	0,009313	0,187079	0,269552
Std. Dev.	0,165586	0,119807	0,046158	0,192881	0,384560

Source: Eviews 12, data has been processed by the author (2023)

Table 3 shows that the Tax Avoidance variable has a mean of 0.264750 and a standard deviation of 0.165586, indicating low variability. The highest value, 0.648665, is from FASW in 2022, and the lowest, 0.006070, is from LTLS in 2019.

For Transfer Pricing, the mean is 0.143043 with a standard deviation of 0.119807, suggesting low variability. The maximum value, 0.443798, is from UNIC in 2020, while the minimum, 0.001718, is from LTLS in 2022.

The Profitability variable has a mean of 0.062818, greater than its standard deviation of 0.046158, indicating low variation. UNIC recorded the maximum value of 0.198319 in 2021, while FASW had the minimum at 0.009313 in 2022.

For Capital Intensity, the mean is 0.409322, surpassing the standard deviation of 0.192881, suggesting similar clustering. UNIC also had the highest value of 0.820008 in 2022, with SMGR reporting the lowest at 0.187079 in 2020.

The Thin Capitalization variable has a mean value of 0.758220, which is greater than the standard deviation value, which is 0.384560, indicating that thin capitalization is grouped or does not vary. The maximum value of 1.683423 was owned by PBID in 2018. Meanwhile, the minimum value of 0.269552 was owned by UNIC in 2019.

The CETR, which represents the effective tax rate, had an average of 0.264750 and a standard deviation of 0.165586. This indicates that there is variability in the tax burdens among the sample companies. Similar patterns were noted for transfer pricing, profitability, capital intensity, and thin capitalization.

Classic Assumption Test

It is essential to test classical assumptions before conducting panel data regression to ensure the validity of the regression results. The primary purpose of these tests is to verify whether the estimated regression model meets the fundamental assumptions required for reliable inferential statistics. These classic assumptions include those of residual normality, homoscedasticity, and the absence of multicollinearity among independent variables. Carrying out classical assumption tests before panel data regression helps assess whether the regression results are reliable and generalization of the findings can be made with high confidence. (Greene, 2012).

According to Joseph F. Hair et al. (2010), testing classical assumptions in panel data regression differs from ordinary linear regression. Tests for residual normality and heteroscedasticity are often irrelevant due to the unique characteristics of panel data. Researchers primarily focus on multicollinearity among independent variables and panel autocorrelation tests, as the structure of panel data includes individual units and time, creating dependencies among observations. Thus, in this research, the relevant classical assumption tests are the multicollinearity test and the heteroscedasticity test.

Multikolinierity Test

Table 4. Multikolinierity Test Results

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.006174	11.47868	NA
X1	0.049127	3.147255	1.278303
X2	0.467556	5.236263	1.805865
X3	0.024908	9.439134	1.679862
X4	0.005146	6.879764	1.379507

Source: EViews 12 (2023) output

The findings from the multicollinearity test displayed in Table 4 demonstrate the relationships among the independent variables—Transfer Pricing (X1) with VIF 1.278303, Profitability (X2) with VIF 1.805865, Capital Intensity (X3) with VIF 1.679862, and Thin Capitalization (X4) with VIF 379507—all have a Variance Inflation Factor (VIF) value of less than 10. These findings suggest that the independent variables are not multicollinear, meaning that the independent variables tested do not exhibit any correlation with one another.

Heteroskedasticity Test

Table 5. Heteroscedasticity Test Results

Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

F-statistic	0.544824	Prob. F(4,35)	0.7039
Obs*R-squared	2.344634	Prob. Chi-Square(4)	0.6727
Scaled explained SS	1.616127	Prob. Chi-Square(4)	0.8059

Source: EViews 12 (2023) output

The heteroscedasticity test results shown in Table 5 using the Breusch-Pagan method illustrate that the probability value, namely 0.7039, the p-value is greater than 0.05. Based on the results, we can say that H0 is accepted, and H1 is rejected, or there is no indication of heteroscedasticity. After successfully passing the heteroscedasticity test, the data can be considered to meet the requirements of the classical assumption test.

Hypotheses Testing

a. Partial Test (t-Test)

Table 6. The Results of Partial Test Results (t-Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.095391	0.078573	1.214045	0.2329
X1	0.767927	0.221645	3.464667	0.0014
X2	-1.307153	0.683781	-1.911655	0.0641
X3	0.039752	0.157824	0.251878	0.8026
X4	0.165325	0.071734	2.304710	0.0272

Source: EViews 12 (2023) output

Based on the t-test results in Table 6, the conclusions are as follows:

1. The probability value for transfer pricing is 0.0014 ($p < 0.05$), indicating a significant partial influence on tax avoidance in multinational companies in the raw goods sector listed on the IDX from 2018 to 2022. This supports the research hypothesis.
2. The probability value for profitability is 0.0641 ($p > 0.05$), showing no significant effect on tax avoidance in the same sector during the same period. This outcome aligns with the research hypothesis.
3. The probability value for capital intensity is 0.8026 ($p > 0.05$), indicating no significant partial effect on tax avoidance. This does not support the research hypothesis.
4. The probability value for thin capitalization is 0.0272 ($p < 0.05$), confirming a

significant partial influence on tax avoidance, consistent with the research hypothesis.

b. Simultaneous Test (F-Test)

Table 7. Simultaneous Test Results (F-Test)

R-squared	0.295843	Mean dependent var	0.264750
Adjusted R-squared	0.215368	S.D. dependent var	0.165586
S.E. of regression	0.146675	Akaike info criterion	-0.884723
Sum squared resid	0.752977	Schwarz criterion	-0.673613
Log likelihood	22.69446	Hannan-Quinn criter.	-0.808392
F-statistic	3.676207	Durbin-Watson stat	1.684827
Prob(F-statistic)	0.013336		

Source: Output Eviews 12 (2023)

The F-statistic (0.013336) in Table 7, being greater than 0.05, leads to the rejection of H0 and acceptance of Ha, supporting the research hypothesis. This indicates that transfer pricing, profitability, capital intensity, and thin capitalization collectively influence tax avoidance.

c. Determinasi (R^2)

Table 8. Results Coefficient of Determination (R^2)

R-squared	0.295843	Mean dependent var	0.264750
Adjusted R-squared	0.215368	S.D. dependent var	0.165586
S.E. of regression	0.146675	Akaike info criterion	-0.884723
Sum squared resid	0.752977	Schwarz criterion	-0.673613
Log likelihood	22.69446	Hannan-Quinn criter.	-0.808392
F-statistic	3.676207	Durbin-Watson stat	1.684827
Prob(F-statistic)	0.013336		

Sumber: Output Eviews 12 (2023)

Table 8 reveals that the adjusted R-squared value is 0.2153, or 21.53%. This indicates that the independent variables, namely transfer pricing, profitability, capital intensity, and thin capitalization, can explain the dependent variable—tax avoidance, as measured by the Cash Effective Tax Rate (CETR)—by 21.53%. The remaining 78.47% of the variation is attributed to other factors or variables not considered in this research. The relatively low adjusted R-squared value may be due to the limited number of samples that meet the specified criteria.

DISCUSSION

TThe Impact of Transfer Pricing on Tax Avoidance

Table 9. The Criteria of Transfer Pricing

Transfer Pricing	CETR (2018-2019)		Total	CETR (2020-2022)		Total
	< 25%	> 25%		< 22%	> 22%	
Above average > 0,143043	3	3	6	2	11	13
Below average < 0,143043	6	4	10	6	5	11
Total	9	7	16	8	16	24

Source: Data processed by the author (2023)

The data in Table 9 is the result of 40 research samples, which are divided into samples with values above the average (>0.143043) for transfer pricing and below the average (<0.143043) for transfer pricing. A total of 14 samples (73.68%) had values above the transfer pricing average, namely, 3 samples had a CETR greater than 25% and 11 samples had a CETR value greater than 22%. The findings of these 14 samples indicate that there is transfer pricing activity, but there is no indication of tax avoidance because the CETR value is greater than 25% and 22%. On the other hand, there are 5 samples (26.32%) whose value is above the average (>0.143043) transfer pricing, consisting of 3 samples having a CETR value smaller than 25%, and 2 samples having a CETR value smaller 22%. The findings of these 5 samples indicate that there is transfer pricing activity and there are indications of tax avoidance because they have CETR values smaller than 25% and 22%.

21 samples have values below the average transfer pricing value (< 0.143043), consisting of 12 samples (57.%14) with CETR values below 25% (6 samples) and 22% (6 samples), and there were 9 samples (42.86%) with CETR values above 25% (4 samples), and 22% (5 samples). The findings of these 21 samples do not show any indication of transfer pricing because they have values below the average.

The Impact of Profitability on Tax Avoidance

Table 10. Profitability Criteria

Profitability	CETR (2018-2019)		Total	CETR (2020-2022)		Total
	< 25%	≥ 25%		< 22%	≥ 22%	
Above average > 0,062818	3	5	8	3	4	7
Below average < 0,062818	6	2	8	6	11	17
Total	9	7	16	9	15	24

Source: Data processed by the author (2023)

The data in Table 10 shows that of the 40 research samples, 5 samples had profitability values above the average (>0.062818) with a CETR of more than 25%. Meanwhile, those with profitability values above the average (>0.062818) with a CETR of more than 22% amounted to 4 samples. So in total, there are 9 samples or 60%. The findings of these 9 samples indicate that profitability activities do not indicate tax avoidance because the CETR value is greater than 25% and greater than 22%. The second thing is that there are 6 samples (40.00%), consisting of (1) having a profitability value above the average with a CETR of less than 25% as many as 3 samples, and (2) having a profitability value above the average with a CETR of less than 22% for 3 samples. The findings of these 6 samples indicate that there are indications of tax avoidance because they have CETR values smaller than 25% and 22%.

Of the 40 samples, there were 25 samples that had profitability values below the average, consisting of 13 samples (52.00%) with CETR values below 25% and 22% and 12 samples (48.00%) with CETR values below 25% and 22%. The findings of these 25 samples do not show any indication of profitability because they have values below the average.

The Impact of Capital Intensity on Tax Avoidance

Table 11. Capital Intensity Criteria

Capital Intensity	CETR (2018-2019)		Total	CETR (2020-2022)		Total
	< 25%	≥ 25%		< 22%	≥ 22%	
Above average > 0,409322	3	3	6	3	7	10
Below average < 0,409322	6	4	10	6	8	14
Total	9	7	16	9	15	24

Source: Data processed by the author (2023)

Table 11 shows that of the 40 research samples, 3 samples had Capital Intensity values above the average (>0.409322) with a CETR of more than 25%. Meanwhile, those with capital intensity values above the average (>0.409322) with a CETR of more than 22% totaled 7 samples. So in total, there are 10 samples. The findings of these 10 samples indicate that capital-intensity activities do not indicate tax avoidance because the CETR value is greater than 25% and greater than 22%. The second thing is that there are 6 samples (37.50%) that have capital intensity values above the average, consisting of (1) 3 samples have CETR values smaller than 25%; (2) have a CETR value smaller than 22%, as many as 3 samples. The findings of these 6 samples indicate that there are indications of tax avoidance activities because they have CETR values smaller than 25% and 22%.

Furthermore, of the 40 samples, 24 samples have capital intensity values below the average, namely 12 samples (50.00%) with CETR values below 25% and 22%, and 12 samples also have values CETR above 25% and above 22%. The findings of these 24 samples do not show any indication of capital intensity because they have values below the average.

The Impact of Thin Capitalization on Tax Avoidance

Table 12 shows that of the 40 research samples, 3 samples had thin capitalization values above the average (>0.758158) with a CETR of more than 25%. Meanwhile, those with thin capitalization values above the average (>0.758158) with a CETR of more than 22% totaled 7 samples. So in total, there are 10 samples. The findings of these 10 samples indicate that capital-intensity activities do not indicate tax avoidance because the CETR value is greater than 25% and greater than 22%. The second thing is that 5 samples have thin capitalization values above the average, consisting of (1) 3 samples having CETR values smaller than 25%; (2) a CETR value smaller than 22%, for 2 samples. The findings of these 5 samples indicate that there are indications of tax avoidance activities because they have CETR values smaller than 25% and 22%.

Table 12. The Criteria of Thin Capitalization

Thin Capitalization	CETR (2018-2019)		Total	CETR (2020-2022)		Total
	< 25%	≥ 25%		< 22%	≥ 22%	
Above average > 0,758158	3	3	6	2	7	9
Below average < 0,758158	6	4	10	6	9	15
Total	9	7	16	8	16	24

Source: Data processed by the author (2023)

Furthermore, of the 40 samples, there were 25 samples that had thin capitalization values below the average, namely 12 samples with CETR values below 25% and 22%, and 13 samples that had CETR values above 25%. 22%. The findings of these 25 samples do not show any indication of thin capitalization because they have values below the average.

This analysis focuses on the factors influencing tax avoidance in multinational companies in the raw goods sector, specifically transfer pricing, profitability, capital intensity, and thin capitalization. The findings indicate that transfer pricing and thin capitalization significantly affect tax avoidance, supporting theories that companies use these strategies to reduce tax obligations (Astrie Krisnawati et al., 2018). However, the study found that profitability and capital intensity have an insignificant impact on tax avoidance, which contradicts common expectations. While profitability is usually linked to tax planning due to the surplus funds it generates (Michelle Hanlon & Shane Heitzman, 2010), its non-significant result here calls for further investigation into the complex interactions between these factors in multinational corporations (Ajay Adhikari et al., 2006). This underscores the need for a deeper understanding of how these variables influence tax avoidance behavior.

The Impact of Transfer Pricing, Profitability, Capital Intensity, and Thin Capitalization on Tax Avoidance

The analysis presented in Tables 9, 10, 11, and 12 reveals varying degrees of association between transfer pricing, profitability, capital intensity, thin capitalization, and tax avoidance.

Transfer Pricing

Approximately 73.68% of the sample exhibited transfer pricing practices, as indicated by values exceeding the average transfer pricing ratio. However, the relationship between transfer pricing and tax avoidance was complex. While a portion of the sample with above-average transfer pricing also demonstrated tax avoidance behavior (CETR values below 25% and 22%), a significant number did not. This suggests that while transfer pricing can be a tool for tax avoidance, its effectiveness may be contingent on other factors.

Profitability

Profitability did not exhibit a consistent relationship with tax avoidance. While some companies with above-average profitability also engaged in tax avoidance, the majority did not. These findings suggest that profitability alone is not a reliable predictor of tax avoidance behavior.

Capital Intensity

Similar to profitability, capital intensity did not demonstrate a strong association with tax avoidance. While some companies with high capital intensity exhibited tax avoidance practices, the overall pattern was inconsistent.

Thin Capitalization

Thin capitalization showed a stronger association with tax avoidance. A larger proportion of companies with above-average thin capitalization ratios also exhibited tax avoidance behavior. This finding is consistent with earlier research suggesting that excessive debt financing can be used as a tax avoidance strategy.

Overall Findings and Implications

This study's results partially support the proposed hypotheses, showing that transfer pricing and thin capitalization are significant predictors of tax avoidance. However, the inconsistent relationship between profitability, capital intensity, and tax avoidance indicates a need for further research.

These findings reveal the complexity of tax avoidance behavior. While transfer pricing and thin capitalization provide opportunities for tax minimization, their effectiveness may depend on factors such as industry characteristics and economic conditions.

Moreover, maintaining strong transfer pricing documentation and conducting audits are essential for detecting and preventing manipulation. Policymakers should also consider tightening regulations on thin capitalization to limit excessive debt financing for tax avoidance.

Limitations and Future Research

This study has certain limitations. The sample size, while sufficient for initial analysis, could be expanded to enhance the generalizability of the findings. The relatively small sample size and the regression model's moderate explanatory power limit the findings' generalizability. Additionally, ambiguities in defining CETR thresholds and reporting sample size constraints remain challenges that should be explored further in future research. Additionally, the inclusion of additional control variables, such as company size, industry, and ownership structure, could provide further insights into the determinants of tax avoidance.

This study provides a focused analysis of tax avoidance within Indonesia’s raw materials sector. However, given the relatively small sample size of 40 observations, future studies could expand the scope to include a more diverse set of sub-industries, such as mining, pulp, and cement, to capture varying patterns of tax avoidance.

Future research could explore the interaction effects between the studied variables and investigate the long-term consequences of tax avoidance for companies and the broader economy. Furthermore, cross-country comparative studies can provide valuable insights into global tax avoidance trends.

CONCLUSION

This study explored how transfer pricing, profitability, capital intensity, and thin capitalization influence tax avoidance among multinational corporations in Indonesia's raw materials sector. It found that transfer pricing and thin capitalization were significantly associated with tax avoidance, while profitability and capital intensity had no significant impact, reflecting the complexity of tax planning strategies.

However, the study has limitations, including a small sample size and the absence of variables like leverage and corporate governance, which could enhance the findings. Continued research is needed to keep up with evolving tax avoidance practices.

Future studies should investigate the mechanisms linking tax avoidance to its determinants while considering factors such as industry characteristics and regulatory environments. Additionally, assessing the effectiveness of tax avoidance detection and prevention measures can help develop stronger tax policies. Expanding research and utilizing advanced methodologies will lead to a more comprehensive understanding of tax avoidance.

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