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The impact of transfer pricing on tax avoidance with foreign ownership as a moderating variable: Evidence from Vietnam

Giang Thi Cam Nguyen[1+]
Duy Thanh Nguyen[2]

[1,2]*Finance Faculty, Banking Academy of Vietnam, Vietnam.*
[1] *Email: giangntc@hvnh.edu.vn*
[2]*Email: duynt2410@gmail.com*

(+ Corresponding author)

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ABSTRACT

With the rise of globalization and the proliferation of multinational enterprises, transfer pricing practices have become increasingly complex and contentious. This issue has become particularly significant in the context of developing economies, including Vietnam, where special incentives with flexible mechanisms are considered key to creating an attractive investment climate for foreign investors. Arising from this, the study investigated the relationship between transfer pricing and tax avoidance in Vietnam from 2020 to 2023. The study sampled 217 industrial companies listed on the Hanoi Stock Exchange and the Ho Chi Minh Stock Exchange and extracted data from the annual reports of these companies. Data were analyzed using descriptive statistics as well as quantitative models. The results revealed that foreign ownership magnifies the relationship between transfer pricing and tax avoidance, suggesting that foreign-owned companies may engage more aggressively in transfer pricing activities to minimize their tax liabilities. Regarding the control variables, company size, company growth, and asset tangibility were positively associated with tax avoidance activities. Lastly, a contribution of this study is the pressing need for policymakers to enhance regulatory oversight and enforcement measures to address transfer pricing abuses.

Contribution/ Originality: The study contributes to the literature by examining the relationship between transfer pricing and tax avoidance in Vietnam, incorporating the moderating effect of foreign ownership. It is among the first to assess this issue in the context of Vietnam's adoption of the Global Minimum Tax, providing a foundation for future research in developing economies.

1. INTRODUCTION

Globalization has reshaped the economic landscape, increasing interdependence and interconnectedness among nations and businesses. This phenomenon promotes the elimination or reduction of trade barriers, such as tariffs and quotas, thereby facilitating the free flow of goods and services across international borders. The liberalization of trade and investment policies enables many companies to expand their operations and tap into new markets. However, alongside the benefits of globalization, there has been a growing concern over the emergence of tax avoidance practices facilitated by this global integration. Multinational corporations, in particular, have leveraged the opportunities presented by global markets to establish subsidiaries, affiliate joint ventures, and other entities in jurisdictions with favorable tax regimes, commonly known as tax havens. Multinational corporations can find ways to minimize their tax obligations thanks to the wide disparities in tax rates between countries; consequently, many countries risk losing revenue due to the transfer of profits to other countries (Amidu, Coffie, & Acquah, 2019).

Based on the Organization for Economic Co-operation and Development report in 2022, more than sixty percent of transactions worldwide are carried out within multinational enterprises and by affiliated parties. The prices of these transactions are always a subject of controversy because (i) intra-group transactions often occur between related entities within the same corporate structure, which may not operate under typical market conditions and transactions; (ii) the lack of transparency surrounding these transactions makes it difficult for external parties, including regulatory authorities and stakeholders, to assess their fairness and legitimacy; (iii) these transactions are considered a way to shift profits from high-tax countries to low-tax countries, thereby reducing their overall tax burden. OECD also estimates that countries lose 4–10% of corporate income tax revenue annually because of profit shifting.

Since the Doi Moi policy was launched in 1986, Vietnam has witnessed a rapid increase in inflows of foreign direct investment (FDI), which significantly contributes to Vietnam's economic development, creates jobs, and substantially improves the living standards of Vietnamese citizens. However, the efficiency of FDI capital is still in question. According to the report of the State Audit Office of Vietnam, FDI companies reported losses quite commonly, accounting for 50% of the total number of FDI companies operating in Vietnam, while many other domestic companies in the same sector were profitable. Despite suffering continuous losses, these FDI companies still invested significantly in expanding their production capabilities and business operations. Such unusual activities could be indicative of tax evasion or tax avoidance through transfer pricing activities. Many large multinational companies, such as Coca-Cola Beverages Vietnam, PepsiCo Vietnam, Nestlé, and Toshiba Asia, have attracted the attention of Vietnamese tax authorities regarding transfer pricing issues in recent years.

Up to now, in Vietnam, there has not been any specific report or domestic research that clearly demonstrates the impact of transfer pricing on tax avoidance practices among businesses in Vietnam. Previous studies have only provided a general overview of transfer pricing behavior and tax avoidance tendencies of multinational enterprises. Therefore, based on preliminary content from previous research articles, this study contributes to two new aspects of the topic. Firstly, the study conducts a comprehensive evaluation of the effects of transfer pricing behavior from two perspectives: (i) the impact of transfer pricing on tax avoidance behavior and (ii) after identifying the transfer pricing behavior of enterprises in Vietnam, this study will assess the influence of foreign ownership on tax avoidance through transfer pricing. Secondly, this research holds particular significance in the initial phase of Vietnam's adoption of the Global Minimum Tax, which is poised to increase tax revenue, reduce instances of tax avoidance, and curb transfer pricing practices among companies operating in Vietnam.

In terms of theoretical contribution, the study provides new insights into the relationship between transfer pricing and tax avoidance, specifically in the Vietnamese context. A new framework has been examined when implementing foreign ownership as a moderating factor to evaluate the influences of corporate tax behavior on transfer pricing. Moreover, the research contributes to agency and institutional theories by illustrating how governance structures and regulatory environments shape firms' tax strategies. The impacts of firm characteristics (size, profitability, and asset tangibility) on tax avoidance behaviors are highlighted.

In terms of empirical contribution, this research collects a dataset of 217 industrial companies listed on the Hanoi and Ho Chi Minh Stock Exchanges from 2020 to 2023. By conducting quantitative methods such as descriptive statistics and regression models, the study provides empirical evidence on the relationship between transfer pricing and tax avoidance. The research finds that firms with higher foreign ownership are more likely to engage in aggressive tax avoidance through transfer pricing. Furthermore, the study evaluates the impact of regulatory changes, specifically Decree 132/2020/ND-CP, on corporate tax practices in Vietnam, offering valuable insights for policymakers.

In general, this study assesses the necessity for greater international cooperation in tackling tax avoidance. Since Vietnam continues to deeply integrate into the global economy, collaboration with international organizations can strengthen the nation's capacity to prevent transfer pricing abuses.

2. EMPIRICAL LITERATURE REVIEW

Over the years, transfer pricing has been a longstanding concern for policymakers, revenue authorities, and scholars, with early works (Bhat, 2009; McNair, Dottey, & Cobham, 2010; Sikka & Willmott, 2010) and recent studies (Barrogard, Calderón, De Goede, Gutierrez, & Verhelel, 2018; Cooper, Fox, Loeprick, & Mohindra, 2017; Oguttu, 2016, 2017). Different researchers have examined the relationship between transfer pricing and tax avoidance several times, with mixed results. This study reviews previous empirical works from international economies and Vietnam.

2.1. Evidence from International Studies

Dischinger and Riedel (2011) investigate how corporate taxes influence the location of intangible assets within multinational firms. This research uses detailed data that includes firm structure and accounting records from 1.6 million national and international firms in 38 European countries from 1993 to 2006. They find that firms reduce their tax liability by strategically using transfer pricing practices to place their intangible assets in low-tax jurisdictions. The research highlights the importance of using transfer pricing systems to avoid taxes by placing profits in countries with favorable tax regimes, thereby lowering their total tax burden.

Amidu et al. (2019) provide significant evidence about tax-motivated transfer pricing whereby firms use interfirm trade to shift profits to low-tax jurisdictions through pricing. Employing annual reports to identify the abuses of transfer pricing techniques and earnings management practices from 2008 to 2015, the study uses panel data techniques to examine the impacts of transfer pricing aggressiveness and earnings management practices on tax avoidance among Ghanaian multinational enterprises. This finding also supports the position that transfer pricing is a very important means of implementing tax avoidance strategies in multinational corporations. By using transfer pricing mechanisms, firms can strategically allocate profits to jurisdictions with favorable tax regimes, ultimately reducing their overall tax liabilities. Amidu et al.'s (2019) research on transfer pricing showed how transfer pricing practices are the cause of tax avoidance behaviors and thus help to explain the complexities of multinational tax planning.

Sudaryono and Murwaningsari (2023) employed a variant of regression analysis together with qualitative data of publicly listed manufacturing companies in Indonesia for the years 2018 to 2020. The model demonstrates how transfer pricing enables firms to shift profits to lower-tax regions, exacerbating the firm's tax liability. This model also analyzes various countries and tax regions, thus explaining the intricacies of transfer pricing and tax evasion on a global scale.

However, Irawan, Kinanti, and Suhendra (2020) had a sample of 63 manufacturing firms listed on the IDX, with a research period of 2014-2017. The findings indicated that the effect of transfer pricing on tax avoidance was significantly negative. It implies that firms do not engage in tax avoidance through transfer pricing activities.

In addition, foreign investment in the firm tends to be a new source of complex transfer pricing for tax purposes. Clausing (2016) studies the behavioral phenomenon of profit shifting in MNCs and the seemingly negative effects on tax revenue. While analyzing data from the Bureau of Economic Analysis surveys of US MNCs from 1983 to 2012, the study illustrates how foreign-owned affiliates strategically abuse transfer pricing to shift profits to low-tax countries, resulting in significant revenue losses for host countries.

Egger, Wamser, Merlo, and Rusche (2012) investigate how foreign ownership structure impacts the transfer pricing policies of multinational firms and the myriad strategies that accompany corporate tax regulation and intra-company financing decisions. Using the available dataset with 45,608 affiliates of German MNEs from 1996 to 2007 and performing an empirical analysis, the study illustrates the strategies of transfer pricing with the corporate decisions of financing, which unveil the intricate realities of taxation within multinational contexts. This study highlights the reality of tax complexity in multinational contexts and emphasizes the need for comprehensive regulatory frameworks to address transfer pricing challenges effectively.

2.2. Evidence from Vietnam

A study carried out by Nguyen, Tran, and Vu (2013) focused on transfer pricing practices in Vietnam and gave an overview of the problems that tax authorities encounter in fighting profit shifting of foreign-owned businesses. Through qualitative analysis and case studies, the research points out several transfer pricing issues in Vietnam and provides recommendations for policies that would improve tax compliance and transparency. Also, Phan (2017) delves into the specific issues surrounding transfer pricing in Vietnam, highlighting the need for specific policy measures to control tax avoidance and profit shifting. This study analyzes the policies and systems of implementation to offer policy suggestions that can enhance Vietnam's transfer pricing policies to ensure equitable taxation and address tax avoidance practices.

Nguyen and Nguyen (2020) used empirical data to study transfer pricing and tax avoidance in Vietnam. Findings show that most multinational companies in Vietnam engage in transfer pricing for tax purposes, which results in the loss of significant tax income to the government. The research illustrates the necessity for government action in addressing transfer pricing malpractice and tax evasion in the context of Vietnam.

3. METHODOLOGY

This part examines the approach used to gather data regarding the impact of transfer pricing on tax avoidance in Vietnam.

3.1. Data Source

The research employs a simple linear regression model based on previous research models to analyze and evaluate the impact of transfer pricing on the tax avoidance behavior of businesses in Vietnam from 2020 to 2023. Choosing the period from 2020 to 2023 for analyzing the impact of transfer pricing on tax avoidance in Vietnam is appropriate due to the issuance of Decree 132/2020/ND-CP ("Decree 132") by the Vietnamese government. This decree introduced new regulations on transfer pricing in Vietnam, indicating a significant shift in the legal framework governing such practices. Therefore, focusing on this period allows for an examination of how these regulatory changes may have influenced transfer pricing behavior and its impact on tax avoidance among businesses operating in Vietnam. The financial reports of industrial firms listed on the Hanoi Stock Exchange (HNX) and the Ho Chi Minh Stock Exchange (HOSE) serve as the data sample for this research, sourced from Fiinpro. 217 businesses satisfied the criteria, and a total of 868 observations were gathered (217 x 4).

Table 1 presents the sampling process, resulting in 217 industrial firms derived from 235 listed companies over the study period.

Table 1. Sampling results.

No.	Criteria	Total
1	Industrial companies listed on the HNX and HOSE during the 2020-2023 period	235
2	Industrial companies listed on the HNX and HOSE after 2020	(5)
3	Companies that did not have foreign shareholding during the 2020-2023 period	(13)
	Research sample	217
	Total observations (Sample x 4 years)	868

3.2. Research Model

To clarify the impact of transfer pricing on the tax avoidance behavior of enterprises operating in Vietnam, the research employs two models.

Figure 1 illustrates the relationship between transfer pricing and tax avoidance, moderated by foreign ownership and influenced by several control variables.

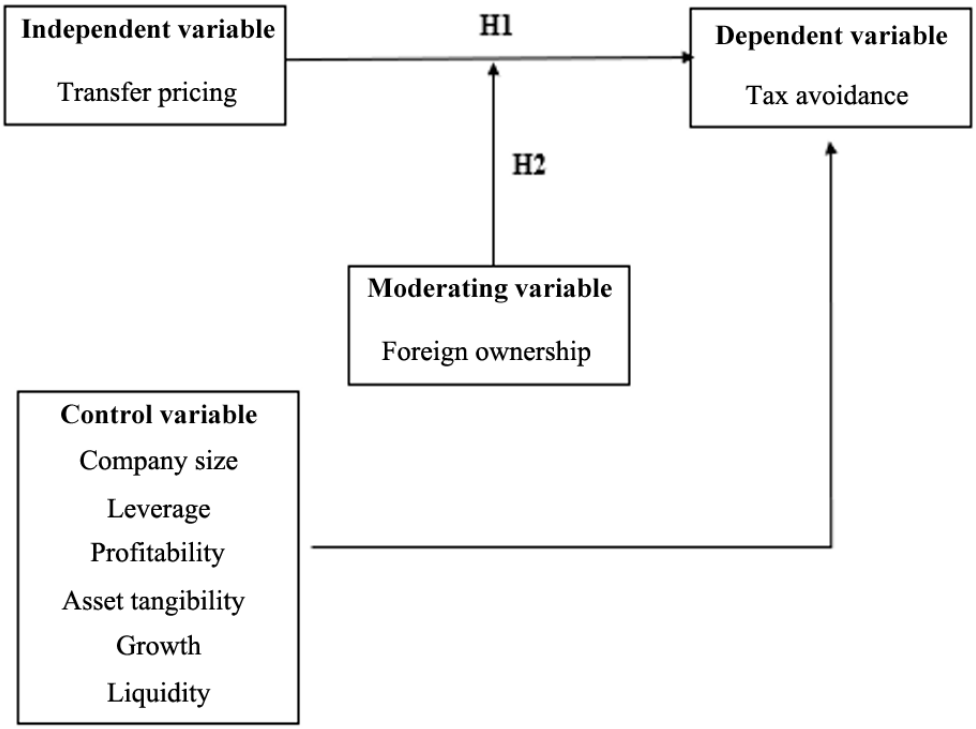

Figure 1. Research model.

H_1: The impact of transfer pricing on tax avoidance.

$$CTA_{it} = \beta_0 + \beta_1 TP_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 PROFIT_{it} + \beta_5 TANG_{it} + \beta_6 GROWTH_{it} + \beta_7 LIQ_{it} + \varepsilon_{it}$$

H_2: Foreign ownership strengthens the effect of transfer pricing on tax avoidance.

$$CTA_{it} = \beta_0 + \beta_1 TP_{it} + \beta_2 FO_{it} + \beta_3 TPO_{it} + \beta_4 SIZE_{it} + \beta_5 LEV_{it} + \beta_6 PROFIT_{it} + \beta_7 TANG_{it} + \beta_8 GROWTH_{it} + \beta_9 LIQ_{it} + \varepsilon_{it}$$

3.2.1. Tax Avoidance as the Dependent Variable

Wilkie (1988) introduced a new concept about determinants of the effective tax rate as a measure of tax avoidance. Before Wilkie (1988), the effective tax rate was studied only in intra-industry and intertemporal variety settings (Siegfried, 1974; Wilkie, 1988). Wilkie (1988) gives evidence for the relation between firm income and effective tax rates. Factors of firms with special tax rules (for example tax reductions through investments) and income influence the relation, provided that the factors and income are not perfectly correlated (Wilkie, 1988). Some recent research papers, such as Taylor and Richardson (2012) and Yorke and Harvey (2016), define tax avoidance as the difference between the statutory tax rate (STR) and effective tax rate (ETR). This approach posits that tax avoidance occurs when a company's ETR is lower than the STR, signifying that the company has managed to reduce its tax liability below the expected level dictated by the statutory rate. The greater the discrepancy between the ETR and the STR, the higher the tax savings, indicating more aggressive tax avoidance strategies. Conversely, if the ETR exceeds the STR, it suggests that the company has not effectively minimized its tax obligations and may owe additional taxes. This method of measuring tax avoidance provides a clear and quantifiable metric for evaluating the extent to which firms engage in tax minimization practices.

3.2.2. Transfer Pricing as an Independent Variable

According to Amidu et al. (2019), the transfer pricing index includes the following elements: (1) having a subsidiary or affiliate in a tax haven; (2) having transactions with an affiliate or related affiliate in a tax haven during the fiscal year; (3) having a parent, affiliate, or related affiliate in a country with a different tax rate from that of a tax

haven jurisdiction; (4) having transactions with affiliates or related parties outside the jurisdiction under examination during the fiscal year; and (5) incurring expenses in royalties related to tangible assets during the fiscal year. Each component is scored as 1 or 0 depending on its presence or absence. A total score of five indicates the highest level of transfer price manipulation, while a score of zero indicates no such manipulation.

3.2.3. Foreign Ownership as the Moderating Variable

The foreign ownership variable would function as a moderator that has the potential to impact the relationship between transfer pricing practices and tax avoidance. Foreign ownership describes the control, by a foreign individual or enterprise, of a corporation or other business entity in a different country. As a moderator variable, foreign ownership is considered a factor that affects the strength or direction of the relationship between transfer pricing and tax avoidance. In a situation where a foreign-owned company is located in a jurisdiction with strict tax laws and strong enforcement, the influence of transfer pricing on tax avoidance will be low because authorities are likely to scrutinize and challenge such behavior. Conversely, a foreign-owned business located in a country with weak laws and little enforcement would likely be able to use transfer pricing techniques to minimize tax expenses, thereby increasing the amount of tax avoidance. According to the study made by Salihu, Annuar, and Obid (2015), the following is a proxy for foreign ownership:

Foreign Ownership = (Total Foreign Shares/Total Shares Outstanding) x 100%

Therefore, the interaction variable TPO (Transfer Pricing × Foreign Ownership) is expected to reveal whether the presence of foreign ownership amplifies or mitigates the effect of transfer pricing on tax avoidance. This interaction term allows for the assessment of conditional effects, providing a better understanding of how transfer pricing practices contribute to tax avoidance under different levels of foreign ownership. By incorporating TPO as an interaction variable, the model can test whether the influence of transfer pricing on tax avoidance significantly varies in firms with different degrees of foreign investor presence.

3.2.4. Control Variable

Below is a list of control variables used in the study to assess the impact of transfer pricing on tax avoidance behavior. These variables were carefully selected based on both established theoretical frameworks and insights drawn from previous empirical research in the field:

Table 2 presents the definitions and measurements of the control variables, including firm size, leverage, profitability, asset tangibility, growth, and liquidity.

Table 2. The definitions of control variables used in the model.

Variable	Definition	Measurement
SIZE	The size of firm	Logarithm of total assets
LEV	The leverage of firm	Long-term liabilities / Total assets
PROFIT	Return on assets (ROA)	Return / Total assets
TANG	The asset tangibility	Fixed asset / Total assets
GROWTH	Profit growth	$(\text{Profit}_{\text{year t}} - \text{Profit}_{\text{year t-1}})/\text{Profit}_{\text{year t-1}}$
LIQ	Current ratio	Current asset / Current liability

4. EMPIRICAL FINDINGS AND DISCUSSIONS

4.1. Descriptive Statistics

The characteristics of the data and the summary of the descriptive statistics of the variables are presented in Table 3.

Table 3 reports the descriptive statistics for all variables used in the analysis, including the number of observations, mean, standard deviation, minimum, and maximum values.

Table 3. Descriptive statistics.

Variable	Obs.	Mean	Std. dev	Min.	Max.
CTA	868	0.007	0.151	-0.786	0.875
TP	868	2.218	1.951	0	5
SIZE	868	12.023	1.225	1	30.498
LEV	868	0.089	0.137	0	.693
PROFIT	868	0.076	0.079	-0.159	0.603
TANG	868	0.214	0.206	0	0.911
GROWTH	868	0.3	2.343	-40.263	31.748
LIQ	868	2.807	4.441	0.231	62.703
FO	868	0.269	0.268	0.001	0.954

With an average of 0.7% of businesses within the industrial sector in Vietnam engaging in tax avoidance, it was observed that some companies recorded minimum and maximum levels of -78.6% and 87.5%, respectively. This indicates that avoidance attitudes vary widely across sampled companies. Regarding profitability, on average, companies earn a return on assets of 7.6%. However, there is a wide range, with some firms experiencing negative returns at -15.9%, while others achieve rates as high as 60.3%. This highlights a significant gap in financial performance among the industrial companies studied. In terms of financing, the average leverage ratio is around 8.9%, suggesting that about 9% of the companies rely more on debt than equity. This indicates varying levels of financial risk and management strategies among them. Asset tangibility, measuring the use of factory assets and equipment, is an average of 21.4%. This suggests that industrial companies allocate around 21% of their total assets to factories and real estate equipment. It is also observed that a company reached a peak of 91% of total assets in factory and equipment assets in a year. Furthermore, the average growth rate is 30%, indicating that industrial companies in Vietnam operate very efficiently during the period under review.

Table 4 presents the LM Breusch–Pagan, F-test, and Hausman tests to determine the appropriate panel data estimation method for the model.

Table 4. Testing result.

LM Breusch - Pagan test	
Chibar2(01)	14.90
Prob > chibar2	0.0001
F-test	
F-test	1.53
Prob > F	0.0000
Hausman test	
Chi2(8)	16.02
Prob > Chi2	0.0205

4.2. Evaluate the Impact of Transfer Pricing on Tax Avoidance in Vietnam

4.2.1. Model Selection Test

After selecting the most appropriate model for Hypothesis 1 among the three models (Pooled Ordinary Least Squares, Random Effects Model, Fixed Effects Model), the chosen Fixed Effects Model will undergo tests for deficiencies, including multicollinearity, heteroskedasticity, and autocorrelation phenomena. The results of these three tests are presented in Tables 5 and 6.

The VIF results indicate values ranging from 1.06 to 1.61. These values suggest that multicollinearity among the independent variables is minimal, as VIF values below 10 are generally considered acceptable and indicative of low multicollinearity concerns.

In the Modified Wald test for heteroskedasticity, the recorded P-value is 0.000 < 0.05, indicating the rejection of the null hypothesis - H0 - and the acceptance of the alternative hypothesis - H1. Therefore, the FEM exhibits heteroskedasticity. Regarding the autocorrelation test, the recorded P-value is 0.752 > 0.05, indicating acceptance of

the null hypothesis - H0. Thus, FEM does not exhibit autocorrelation. To address this issue, the GLS regression model will be employed to adjust the FEM.

Table 5 presents the variance inflation factors (VIF) to assess multicollinearity among the independent variables in the model.

Table 5. Variance inflation factor.

Variable	VIF	1/VIF
TP	1.22	0.82
SIZE	1.09	0.92
PROFIT	1.61	0.62
LEV	1.34	0.75
TANG	1.33	0.75
LIQ	1.07	0.94
GROWTH	1.06	0.94
Mean VIF	1.10	

Table 6 presents the Modified Wald and autocorrelation tests to check for heteroscedasticity and autocorrelation in the model.

Table 6. Testing model defects.

Modified Wald test	
Prob > chibar2	0.00
Autocorrelation test	
Prob > F	0.752

4.2.2. Research Result

Table 7 presents regression results of transfer pricing and control variables on tax avoidance using different panel models.

Table 7. Transfer pricing on tax avoidance.

Variable	Pooled OLS	FEM	REM	GLS
TP	0.0317***	0.0433***	0.0340***	0.0200***
	(9.40)	(10.09)	(9.91)	(12.98)
SIZE	0.01134**	0.00296	0.00910*	0.0131***
	(1,08)	(0.53)	(1.88)	(5.17)
LEV	0.00402	0.105	0.00697	0.0137
	(0.11)	(1.07)	(0.18)	(0.97)
PROFIT	0.421***	0.354***	0.407***	0.387***
	(6.33)	(-1.12)	(6.03)	(12.48)
TANG	0.0267	-0.0842	0.0226	0.0158**
	(1.14)	(-1.12)	(0.85)	(1.82)
GROWTH	0.00703***	0.00611***	0.00690***	0.00791***
	(3.81)	(3.06)	(3.80)	(5.37)
LIQ	-0.000214	0.000902	-0.000295	-0.000633
	(-0.22)	(-0.57)	(-0.28)	(-1.46)
_cons	-0.239***	-0.142**	-0.215***	-0.218***
	(-4.42)	(-2.24)	(-3.98)	(-7.79)
N	868	868	868	868

Note: t statistics in parentheses.
* p<0.1; ** p<0.05; *** p<0.01.

The results presented above indicate that transfer pricing encourages tax avoidance. Similar results were found by Sikka and Willmott (2010), Taylor and Richardson (2012), and Amidu et al. (2019), highlighting the implications of manipulating transfer prices for the purpose of tax avoidance strategies employed by multinational corporations.

Companies always seek to maximize their benefits by minimizing tax obligations as much as possible (Walton, 2019). They engage in several legal tax avoidance strategies to maximize global profits and minimize global taxes, which rob a large of developing's tax revenues. Klassen, Lisowsky, and Mescall (2016) pointed out that transfer pricing is directly linked to tax avoidance and profit-shifting. Through transfer pricing practices, the profit allocation and tax liabilities of the company are distorted because companies can shift income or profits from higher-tax jurisdictions to entities within a multinational group located in lower-tax jurisdictions (Sudaryono & Murwaningsari, 2023).

Secondly, based on the results of the regression analysis, the company size variable has a significant positive effect on tax avoidance through transfer pricing practices. Company size has a regression coefficient value of 0.0131 with a significance level of 1%. The positive direction on the regression coefficient indicates that the larger the companies are, the higher the likelihood of tax avoidance. The result is in line with the research of Saragih et al. (2021) and Indrastuti and Apriliawati (2023). Indrastuti and Apriliawati (2023) researched that bigger firms make greater profits and are more likely to employ the use of subsidiary companies to shift profits which involves decreasing the fiscal profits to minimize tax liabilities.

According to Saragih et al. (2021) it is easier for large companies to access extensive resources, including both financial and human capital. These companies usually have in-house tax divisions, or they may contract out to external tax specialists for assistance in transfer pricing strategies. As a result, these companies are able to carry out transfer pricing manipulations to reduce tax payments more conveniently (Mintz & Weichenrieder, 2010). Moreover, large firms operate in many countries, all of which have different laws and policies regarding taxation. This situation gives firms the chance to take advantage of the disparity in tax and regulatory frameworks via transfer pricing. Multinational corporations design their organizational structures to maximize tax benefits by distributing profits and costs among affiliates of the firm (Clausing, 2016).

Thirdly, the results of this study revealed that both company growth and return on assets have a positive relationship with tax avoidance through transfer pricing practices with coefficients of 0.00793 and 0.389 under a 1% significance level, respectively. This supports the argument made by Ningsih and Oviari (2021) as well as Khamisan and Astuti (2023), who argued that tax avoidance is positively influenced by company growth and profitability. Firms with high growth potential, which are likely to achieve significant profits are expected to pay more taxes, thus driving the firm's tendency towards aggressive tax planning (Nadhifah & Arif, 2020). Corporations with more advanced stages of growth often have more revenue and profit and therefore greater financial resources. The availability of these resources enables these companies to engage in sophisticated tax planning, such as transfer pricing. Dharmapala, Riedel, and Vollrath (2015) suggested that firms with high growth rates may engage in regulatory arbitrage behavior to reduce tax payments. Taxes and expenses can be distributed or consolidated across different countries due to transfer pricing policies, which may result in varying tax rates and regulations, allowing companies to lower their tax rates in their home countries without breaching legal obligations.

In light of the context where the Vietnamese government has implemented many favorable regulations and policies to stimulate foreign investment, the conclusion about the positive relationship between business expansion, ROA, and tax relief through transfer pricing is more compelling. This is evident in the prevalence of companies reporting losses over consecutive years while simultaneously expanding their business activities in Vietnam. As reported in 2020, a significant portion of FDI enterprises in Vietnam, approximately 56%, reported losses. This phenomenon continues even when these businesses are experiencing growth in their activities. Notably, the total loss incurred by FDI enterprises in 2020 amounted to VND 151,064 billion. This trend is exemplified by companies like Airpay and Shopee, which demonstrated robust revenue growth reaching VND 4,555 billion and VND 2,329 billion, respectively. However, both companies reported losses, resulting in minimal contributions to the state budget.

What adds to the paradox is that despite declaring losses, FDI enterprises had a total asset growth of 8.1% over the previous year, amounting to 2.91 million billion VND. On the other hand, domestic state budget revenue from FDI enterprises in 2020 witnessed a reduction of 6,111 billion VND compared to 2019, reaching a relatively modest

figure of 206,088 billion VND. This intricate scenario underscores the significance of transfer pricing as a mechanism for tax avoidance among FDI enterprises in Vietnam. The assertion of these firms being able to economically grow and simultaneously declare operating losses exemplifies the ease of minimizing tax liabilities through transfer pricing. This heightens the need for efficient regulation that prevents tax evasion and provides transparency concerning the inflow of foreign investments and their effects on the economy of Vietnam.

Fourth, asset tangibility and tax avoidance show a positive relationship under 5% significance level. With a coefficient of 0.0158, this finding suggests that companies with more tangible assets are likely to engage in transfer pricing activities to reduce their tax obligations. Armstrong, Blouin, Jagolinzer, and Larcker (2015) and Amidu et al. (2019) also found that more aggressive tangibles gave rise to more aggressive transfer pricing, especially profit shifting among subsidiaries.

The tangible nature of assets such as land, buildings, and machinery enables firms to engage in price manipulations by allocating costs and revenues across different divisions or jurisdictions. The direct relationship between the tangibility of assets and tax avoidance through transfer pricing is due to the ease with which tangible assets are valued, depreciated, or transferred between units.

This provides the flexibility to allocate profits and costs for tax purposes in an optimal manner while justifying transfer pricing with the values of the company's tangible assets. Moreover, Foss, Mudambi, and Murtinu (2019) showed that firms with substantial tangible assets often operate within intricate supply chains or engage in extensive international operations, presenting ample opportunities for adjustments in transfer pricing to align with tax planning objectives. Specifically, multinational enterprises take advantage of differences in tax controls and tax rates among countries for profit shifting via transfer pricing. This entails that profits can be moved to jurisdictions where taxation is low, and costs are shifted to jurisdictions where taxation is high, thus minimizing total taxes payable and maximally improving net profits.

Table 8 presents the LM Breusch–Pagan, F-test, and Hausman tests to determine the appropriate panel data estimation method for the model.

Table 8. Testing result.

LM Breusch - Pagan test	
Chibar2(01)	22.20
Prob > chibar2	0.0000
F-test	
F-test	1.74
Prob > F	0.0000
Hausman test	
Chi2(8)	34.02
Prob > Chi2	0.0001

4.3. Evaluate the Foreign Ownership as a Moderator for the Impact of Transfer Pricing on Tax Avoidance in Vietnam

4.3.1. Model Selection Test

After selecting the most appropriate model for Hypothesis 1 among the three models (Pooled Ordinary Least Squares, Random Effects Model, Fixed Effects Model), the chosen Fixed Effects Model will undergo tests for deficiencies, including multicollinearity, heteroskedasticity, and autocorrelation phenomena. The results of these three tests are presented in Tables 9 and 10.

Table 9 presents the variance inflation factors (VIF) used to assess multicollinearity among the independent variables in the model.

Table 9. Variance inflation factor.

Variable	VIF	1/VIF
FO	2.02	0.496
TP	1.33	0.751
TPO	3.54	0.283
SIZE	2.05	0.487
PROFIT	1.63	0.613
LEV	1.35	0.742
TANG	1.34	0.748
LIQ	1.07	0.936
GROWTH	1.09	0.915
Mean VIF	1.71	

Table 10 presents the Modified Wald and autocorrelation tests to check for heteroscedasticity and autocorrelation in the model.

Table 10. Testing model defects.

Modified Wald test	
Prob > chibar2	0.00
Autocorrelation test	
Prob > F	0.293

The VIF results, ranging from 1.07 to 3.54, indicate a moderate level of multicollinearity among the independent variables in the regression model. In the Modified Wald test to examine for heteroskedasticity, the recorded p-value is 0.00 < 0.05, indicating the rejection of the null hypothesis - H0 and the selection of the alternative hypothesis - H1. Therefore, the Fixed Effects Model exhibits heteroskedasticity. Regarding the autocorrelation test, the recorded p-value is 0.293 > 0.05, indicating acceptance of the null hypothesis - H0. Thus, the Fixed Effects Model does not exhibit autocorrelation. To address these deficiencies, the Generalized Least Squares regression model will be employed to adjust for autocorrelation in the Fixed Effects Model.

4.3.2. Research Result

Table 11 presents regression results examining foreign ownership as a moderator of the relationship between transfer pricing and tax avoidance across different panel models.

Table 11. Foreign ownership as a moderator for transfer pricing on tax avoidance.

Variable	Pooled – OLS	FEM	REM	GLS
FO	0.0456	0.0758	0.0494	-0.0315**
	(1.23)	(1.44)	(1.27)	(-2.19)
TP	0.00792	0.00799	0.00809	0.00284**
	(1.63)	(1.30)	(1.62)	(1.25)
TPO	0.0390***	0.0598***	0.0439***	0.0451***
	(3.51)	(3.96)	(3.78)	(8.74)
SIZE	0.00769	-0.000504	0.00500	0.00635**
	(1.61)	(-0.10)	(1.06)	(2.89)
LEV	-0.0133	0.123	-0.0106	-0.0189
	(-0.39)	(1.31)	(-0.27)	(-1.33)
PROFIT	0.370***	0.306***	0.353***	0.336***
	(5.68)	(3.98)	(5.37)	(11.18)
TANG	0.0247	-0.105	0.0189	0.0145
	(1.08)	(-1.46)	(0.72)	(1.52)
GROWTH	0.00670***	0.00576**	0.00655***	0.00694***
	(3.69)	(2.94)	(3.68)	(4.72)
LIQ	-0.0000538	-0.000679	-0.000153	-0.000558
	(-0.06)	(-0.45)	(-0.15)	(-1.36)
_cons	-0.188***	-0.0956	-0.159**	-0.125***
	(-3.49)	(-1.56)	(-2.97)	(-5.02)
N	868	868	868	868

Note: t statistics in parentheses.
** p<0.05; *** p<0.001.

Based on the results of hypothesis testing, it is known that foreign ownership significantly enhances the correlation with tax avoidance through transfer price manipulations among businesses operating in Vietnam. This means that firms with foreign ownership are more likely to engage in transfer pricing than domestic firms for the purpose of tax avoidance. This observation aligns with prior research by Sudaryono and Murwaningsari (2023) who found that MNCs often have greater flexibility as well as greater resources to undertake elaborate transfer pricing for tax benefit purposes in the host countries. Furthermore, the results are aligned with the theoretical framework proposed by Lee and Guenther (2014) which argues that foreign-owned firms are more likely to engage in tax avoidance because of their access to global tax exploitation strategies and resources. Moreover, the moderated regression analysis highlights the relevance of foreign ownership as an important moderator in the context of transfer pricing and tax avoidance activities. The research shows a statistically significant weak positive correlation coefficient of 0.00284 between transfer pricing and tax avoidance. Furthermore, when foreign ownership is introduced as a moderator, the correlation coefficient increases to 0.0451 at a significance level of 1%, indicating a stronger positive relationship. These findings suggest that the presence of foreign ownership amplifies the relationship between transfer pricing and tax avoidance, implying that companies with foreign ownership might engage in transfer pricing practices more aggressively to minimize their tax liabilities. Considering Vietnam's ongoing economic globalization and inflow of foreign investment, it is crucial for policymakers and regulatory agencies to understand the impacts of foreign ownership on tax behavior. It is particularly important to note that transfer pricing fraud has been identified as one of the major issues leading to revenue erosion for the government. This problem has become more pronounced as FDI enterprises constitute significant portions of Vietnam's key economic indicators, including more than 20% of GDP, 25% of total social investment capital, 40% of industrial production value, and 50% of total export turnover. These insights highlight the need for the government to implement active and effective regulatory measures to prevent transfer pricing abuses and safeguard the integrity of the tax system in Vietnam.

5. RECOMMENDATIONS

Based on the identified limitations, several recommendations can be proposed to enhance the quality and scope of future research:

Firstly, future studies should aim to broaden the scope of their samples to include a wider range of industries in Vietnam, including both listed industrial firms and other non-listed firms. This broader sample would allow for a better understanding of the diversity in transfer pricing practices and tax avoidance activities across different types of businesses with varying ownership structures.

Secondly, to achieve a more comprehensive understanding of transfer pricing and tax avoidance, future studies should consider using multi-method approaches that include both qualitative and quantitative methods. Qualitative approaches such as interviews, surveys, and case studies help explain contextual behaviors, including organizational structure, legal systems, and sector-specific details.

Thirdly, the collaboration of industry stakeholders and government institutions can assist in supporting useful data that guarantees the integrity and suitability of the dataset. Additionally, investing in the collection of contextual information and financial data enhances the analytical framework and improves the accuracy of the research. This collaboration of government institutions ensures their data relevance, which aids in filling gaps reported by stakeholders.

Fourthly, due to the complex nature of transfer pricing and tax avoidance, interdisciplinary collaboration among researchers from various fields, including economics, accounting, law, and business administration, can enrich the research process and foster new perspectives on these issues and phenomena. This collaboration would enable the combination of different concepts, approaches, and outcomes, significantly strengthening the research.

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