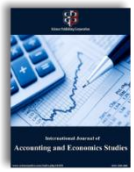
International Journal of Accounting and Economics Studies, 13 (2) (2026) 251-261

International Journal of Accounting and Economics Studies

Website: www.sciencepubco.com/index.php/IJAES
https://doi.org/10.14419/sqhtpg06
Research paper



The Nexus Between Firm Characteristics and Tax Avoidance: Insights from Vietnam

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Received: December 19, 2025, Accepted: January 23, 2026, Published: February 18, 2026

Abstract

This study investigated the nexus between firm characteristics and tax avoidance in Vietnam. The data for analysis were obtained from 307 companies, encompassing 1,138 observations, listed on the Ho Chi Minh Stock Exchange (HOSE) from 2015 to 2020 through the Fiinpro platform. The findings emphasized the favorable impact of firm size and return on assets (ROA) on tax avoidance and the adverse effect of loss status and financial leverage, while refuting any significant influence of healthy age on tax avoidance strategies. These results offer valuable insights for tax administration in developing countries like Vietnam, highlighting the importance of monitoring larger firms' tax reporting practices, encouraging responsible tax strategies, and recognizing the need for a nuanced approach to address tax avoidance in highly leveraged companies while understanding the distinctive tax behavior of firms based on their financial status and age.

Keywords: *Book-Tax Different; Effect Tax Rate; Tax Avoidance; Tax Behavior; Linear Regression.*

1. Introduction

Taxation is the preeminent source of fiscal revenue for governments, overshadowing a multitude of alternative revenue channels, including administrative levies, government endowments, income derived from state-owned assets, fines, forfeitures, proceeds from lotteries dedicated to public welfare, and government subsidies. The paramount significance of this revenue source emerges from its indispensable role in funding a comprehensive array of essential public services, encompassing critical domains such as healthcare, education, infrastructure development, and social welfare provisions. This significance is particularly pronounced within the context of developing nations.

In Vietnam, tax revenue represents a substantial portion, approximately 70-80%, of the aggregate state budget revenue (see IMF, 2018, 2021, 2023), rendering it indispensable for realizing economic development objectives, poverty mitigation, and the promotion of societal equity. Nevertheless, attaining tax collection targets, particularly within the Vietnamese context, confronts formidable impediments stemming from taxpayer compliance issues. Many taxpayers adopt strategies to minimize their tax liabilities, adversely affecting their economic viability and fostering an upward trajectory in tax evasion and avoidance practices. From 2013 to 2022, despite fluctuations, the ratio of Corporate Income Tax (CIT) to total budget revenue has generally exhibited a decreasing trend in taxation and economics. It declined from 28.1% in 2013 to approximately 18.7% in 2022 (see IMF, 2018, 2021, 2023). Concurrently, the number of registered business establishments experienced a significant and rapid increase during this period. This phenomenon partly reflects the inefficiency in tax management capacity and the low level of taxpayer legal compliance responsibility, contributing to budget revenue losses.

This predicament is further exacerbated by outdated tax policies incongruent with contemporary realities, as substantiated by reports from the Vietnam Institute for Economic and Policy Research (VEPR) and Oxfam (VietNamNews, 2020). Notably, between 2010 and 2018, many businesses in Vietnam transgressed corporate income tax regulations, resulting in substantial annual revenue losses amounting to trillions of VND. Concurrently, tax revenue declined from 27.3% to 23.7% over this period, with the proportion of corporate income tax to GDP diminishing from 6.9% to 4.3% between 2010 and 2017. The estimated revenue deficit attributable to tax avoidance and evasion during this timeframe ranged from VND 15.6 to 20.7 trillion annually, constituting 7.5% to 9.9% of corporate income tax revenue (Nguyen Tung, 2020).

As per the assertion put forth by Friedman (1970), corporations are primarily obligated to prioritize maximizing shareholder wealth, encompassing the firm's overall value. This mandate is further underscored by the perspective of Taufik and Novita (2022), who emphasize the fundamental nature of this responsibility. Businesses are confronted with various operational costs, including corporate income tax, in their pursuit of profit maximization. Despite the substantial nature of corporate income tax as an expense, it is within the purview of management to control and minimize it, much akin to managing other operational costs, as elucidated by Garbarino (2011). In their quest to augment after-tax income, corporations often employ strategies to reduce tax expenditures through tax avoidance methods, a practice elucidated by Lee and Kao (2018).

Examining businesses' tax avoidance behavior and its influencing factors holds paramount significance in theoretical and practical contexts. Understanding the dynamics of tax evasion practices is crucial for policymakers, tax authorities, and scholars alike, as it provides insights into the efficacy of tax policies and enforcement measures. Furthermore, it sheds light on the broader implications for economic

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development and social equity within developing nations like Vietnam. In practice, research into tax evasion behavior helps identify patterns and trends that can inform the formulation of more effective tax policies and compliance strategies. By gaining insights into the motivations behind businesses' tax evasion strategies, policymakers can tailor interventions to mitigate these behaviors, thereby enhancing tax revenue collection. Additionally, a deeper understanding of the factors that drive tax evasion can contribute to the design of targeted incentives and disincentives, encouraging greater compliance among businesses. Furthermore, research in this area can also illuminate the ethical dimensions of tax avoidance, highlighting the moral responsibilities of companies and their impact on societal well-being. It underscores the importance of fostering a culture of tax compliance and corporate social responsibility, aligning with the global trend towards greater transparency and ethical business practices.

Despite numerous studies examining the impact of firm characteristics, such as firm size, firm age, profitability, leverage, etc., on corporate tax avoidance behavior, each business entity in different countries and economic environments possesses unique characteristics and specificities. Consequently, the influence of firm characteristics on tax avoidance behavior is inherently diverse. Moreover, in Vietnam, research on tax avoidance is relatively scarce, particularly studies focusing on the direct effects of firm characteristics on the tax avoidance decisions of businesses. Therefore, we aim to study the relationship between firm characteristics and the tax avoidance behavior of enterprises in Vietnam. This research intends to provide empirical evidence for the nexus between these two aspects in an emerging country and contribute to the existing body of knowledge in this area.

This study scrutinizes the factors that drive corporate tax avoidance behavior by utilizing a dataset comprising 307 publicly listed companies, meticulously collected from the Ho Chi Minh City Stock Exchange and compiled from the Fiinpro platform from 2015 to 2020. It aims to provide valuable insights into this intricate phenomenon within the context of Vietnam. Specifically, the study seeks to deliver empirical findings regarding the impact of firm-specific characteristics on the tax evasion tendencies exhibited by publicly listed companies operating in Vietnam. Furthermore, it endeavors to present and establish illuminating comparative perspectives between these empirical research outcomes within the Vietnamese corporate landscape and previous studies examining the influence of firm-specific attributes on tax avoidance behaviors.

2. Literature Review

2.1. Critical concepts of tax avoidance

In scholarly discourse, tax avoidance, often called tax aggressiveness, is commonly defined as the legitimate business practices utilized to mitigate taxpayers' tax liability (Braithwaite, 2005). These practices include asset, liability, or equity valuation (Armstrong et al., 2015; Oyebanji & Oyebanji, 2017). As expounded upon by Bruce et al. (2007), Hanlon and Heitzman (2010), and Chen et al. (2010), tax avoidance encompasses a spectrum of activities, ranging from lawful to potentially unlawful, all directed towards the reduction of a taxpayer's tax obligations. These activities may contain but are not limited to (i) capitalizing on tax incentives in economically disadvantaged regions or preferred investment sectors, (ii) actively pursuing tax exemptions or reductions, and (iii) strategically seeking tax advantages through lobbying efforts and exploiting gaps in tax legislation.

Determining the legality of corporate tax avoidance, as Slemrod (2004) notes, can be challenging since it encompasses any actions undertaken by companies to decrease their tax liability. While tax avoidance is generally legal, it can cross into illegality when it becomes aggressive, as Hanlon and Heitzman (2010), who describe it as "pushing the boundaries of tax laws," argues. Furthermore, Slemrod and Yitzhaki (2002) assert that tax aggressiveness is a subset of tax avoidance, representing an extreme form of tax reduction that may involve actions beyond what tax authorities permit, including illegal acts. Establishing an objective and accurate threshold to distinguish aggressive tax avoidance from legal tax avoidance poses a significant challenge. Determining this threshold is mainly subjective and dependent on the researcher's viewpoint. Lietz (2013) proposed a threshold, also known as a reference point, whereby a tax position that has a > 50% chance of being accepted by the Internal Revenue Service (IRS) or any other relevant authority during an audit is considered tax avoidance (legally sustainable). Conversely, a tax position with equal or lesser legal sustainability is classified as aggressive tax avoidance (see Figure 1). While difficulties exist in determining the "correct" legally sustainable tax positions, the proposed reference point offers the advantage of aligning with a widely recognized assessment dimension of legitimacy.

As defined by various researchers (Lasser, 1948; Hoffman, 1961; CCH, 1988; Adetola & Oke, 2016), tax planning refers to legal activities to reduce taxpayers' tax burdens. Companies employ tax planning strategies by leveraging differences in tax rates across jurisdictions, engaging in specific economic activities, and capitalizing on tax incentives provided by tax laws (Fallan et al., 1995; Vasanthi, 2015). Tang and Firth (2011) characterize tax planning as exploiting "loopholes" in tax legislation to report taxes favorably and minimize tax liabilities. They suggest that tax planning involves the identification of a goal to reduce taxes and the development of strategies to achieve it, which can be either legal or illegal.

In the context of tax avoidance studies, some empirical research has referred to tax sheltering activities within enterprises (Wilson, 2009; Lisowsky, 2010). According to Lisowsky et al. (2013), tax sheltering represents an extreme subset of aggressive tax avoidance, where the boundaries of legitimacy are tested. However, the theoretical framework proposed by Lietz (2013) does not include tax evasion as a distinct category within corporate tax planning, alongside tax avoidance, tax aggressiveness, and tax sheltering. According to Lietz (2013), tax sheltering involves a series of tax planning actions to reduce taxpayers' tax burdens. Taxpayers may employ legitimate means, such as favorable investment taxes, tax credits or deductions, and tax havens, to lower their taxable income (see Figure 1).

Tax evasion is another method employed to reduce taxpayers' tax liabilities. The defining characteristic of tax evasion is its explicit illegality (Slemrod and Yitzhaki, 2002). In contrast to aggressive (illegal) tax avoidance, tax evasion involves a deliberate attempt to evade taxes (Miller & Fulcher, 2014; Dover et al., 2015).

In summary, tax planning involves intentional efforts by business managers to reduce tax payments through legal or illegal strategies, which can be considered subsets of tax avoidance and tax evasion. However, distinguishing between lawful and unlawful tax planning is a complex task that requires a case-by-case assessment due to the unclear distinction between legal and illegal actions. Competent authorities determine a taxpayer's legal tax liability after fulfilling tax obligations. Tax evasion, as defined by Slemrod and Yitzhaki (2002), refers to a deliberate attempt to reduce one's tax liability and can result in legal consequences such as administrative sanctions and criminal penalties. On the other hand, tax avoidance refers to the lawful act of evading tax declaration and payment through legal "loopholes" to benefit taxpayers.

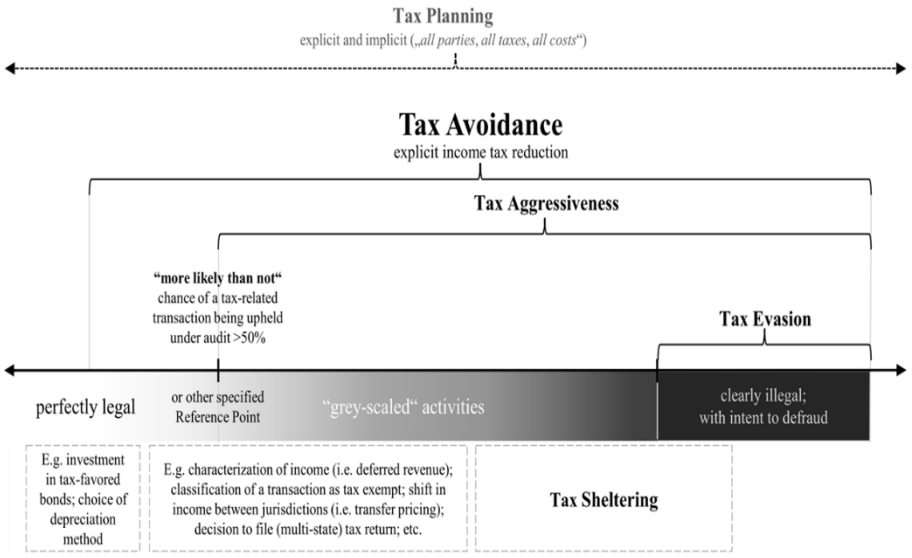


Fig. 1: A Conceptual Framework for Corporate Tax Planning. (Source: Lietz, 2013).

Additionally, organizational legitimacy can be understood from an ethical and social perspective, defined as the perception or assumption that an entity's actions align with the norms, values, beliefs, and definitions within a socially constructed system. Legitimacy reflects stakeholder acceptance and conformity to societal expectations, and companies must function effectively. However, corporate tax practices sometimes fail to meet social or ethical norms and values, making tax planning viewed as socially illegitimate and affecting societal acceptance beyond business stakeholders.

Tax planning encompasses a broad spectrum, ranging from legitimate practices that utilize tax incentives in alignment with business strategies to illegal practices that abuse tax laws and have negative societal impacts. This continuum of tax planning can be depicted as a faint line between the two extremes of tax avoidance and tax evasion, and it requires careful analysis on a case-by-case basis. The European Commission has also acknowledged the continuum of tax planning in its report, noting that while it is theoretically possible to differentiate between acceptable tax planning and aggressive tax planning, the boundaries, in reality, may be somewhat blurred. Figure 2 illustrates various firm behaviors on a continuum of tax aggressiveness, ranging from activities clearly within the bounds of the law, such as claiming tax credits or utilizing loss carry-forwards, to illegal behavior, namely tax evasion.

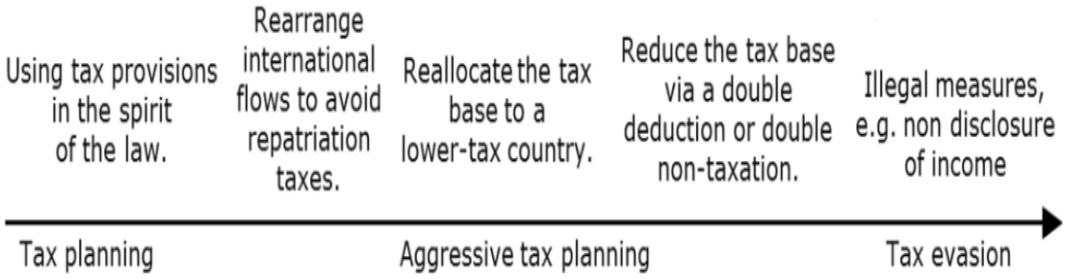


Fig. 2: Boundaries of Aggressive Tax Planning Definition. (Source: European Commission, 2017).

Earlier, Hanlon and Heitzman (2010) and Lietz (2013) outlined a continuum of tax avoidance behaviors, spanning from conventional tax-saving strategies (legal tax avoidance) to more aggressive tax avoidance strategies, which may involve (unlawful) tax evasion. According to Hanlon and Heitzman's model, a company's tax avoidance strategy (tax planning) can fall anywhere along the continuum, depending on how much the business seeks to minimize its tax liabilities.

2.2. Relevant theories

The Positive Accounting Theory (PAT), developed by Watts and Zimmerman in 1978, describes and explains the practical accounting behavior of businesses. In line with Positive Accounting Theory, each firm characteristic in this study reflects different managerial incentives and constraints in tax-related decisions. Firm size and profitability capture political cost and performance incentives, leverage reflects contractual constraints from creditors, while loss status and firm age represent changes in expected benefits and legitimacy pressures in tax planning. Accordingly, these variables are hypothesized to influence tax avoidance through the cost–benefit trade-offs emphasized by PAT. For example, Positive Accounting Theory seeks to explain why some companies continue using historical cost accounting methods instead of adopting fair value accounting, while others may change their accounting techniques. In the context of tax avoidance behavior, PAT can be applied to understand why businesses undertake actions to minimize their tax obligations through various aspects, such as:

- Enterprises may employ accounting strategies to increase or decrease profits in specific tax periods, ultimately reducing their taxes. PAT posits that businesses engage in such actions to optimize shareholder value and maintain or enhance their reputation within the investment community. For instance, profitable enterprises may shift income from one period to another to mitigate taxes.
- Positive Accounting Theory assumes businesses can choose among different accounting methods to achieve the best outcomes. For instance, choosing between other forms of inventory valuation can impact profits and, consequently, tax obligations.
- Businesses can adjust their financial structure to minimize tax liabilities. For example, debt may offer tax advantages, as interest expenses can be directly deducted from pre-tax profits.

2.3. Tax avoidance measurements

Most studies primarily concentrate on non-conforming tax avoidance, which involves reducing taxable income without reducing accounting income, while giving less attention to conforming tax avoidance, which encompasses reducing both taxable and accounting income (Hanlon & Heitzman, 2010; Lee et al., 2015; Badertscher et al., 2019).
Annuar et al. (2014) have classified tax avoidance measures commonly used in empirical studies, including the Effective Tax Rate (ETR), the Book-Tax Difference (BTD), and other measures.

2.4. Effective tax rate (ETR)

2.4.1. Accounting ETR

The Effective Tax Rate (ETR), or the accounting ETR, is calculated by dividing the tax expense in the financial statements by the pre-tax accounting income (Hanlon & Heitzman, 2010). The tax expense includes current and deferred tax expenses due to the accrual accounting principle. The current tax expense is based on taxable income and the applicable tax rate, while deferred tax arises from differences between accounting and tax regulations regarding revenue/expense recognition. The ETR is then compared to the statutory corporate income tax rate. If a company's ETR is lower than the statutory rate, it suggests the company may be engaging in tax avoidance activities. However, the accounting ETR has limitations, including not capturing tax-deferred strategies achieved through managerial discretion and accounting policy choices. It mainly focuses on "permanent" tax avoidance measures, as changes in current tax expenses offset corresponding adjustments in deferred tax expenses (Hanlon & Heitzman, 2010; Salihu et al., 2013). Other limitations include manipulating pre-tax income for earnings management purposes, annual fluctuations, and difficulty calculating when pre-tax income is negative (Dyreng et al., 2008; Annuar et al., 2014; Henry & Sansing, 2014). In addition to the accounting ETR, various ETR measurements exist, such as current ETR, cash ETR, long-run ETR, and cash flow ETR. These measures differ based on how the numerator and denominator are determined.

2.4.2. Current ETR

To address the limitations of the accounting ETR, the current ETR is calculated by dividing the current corporate income tax expense by the pre-tax accounting income, excluding deferred tax expenses (Salihu et al., 2013). The current ETR focuses on current tax payments and offers advantages in capturing deferred tax strategies. However, it shares similar limitations with the accounting ETR, including annual fluctuations and an inability to reflect multi-year tax avoidance activities (Lee et al., 2015).

2.4.3. Cash ETR

Due to accrual accounting's influence on financial statements, the cash ETR is introduced to overcome this limitation. It calculates the ratio by dividing the actual tax paid (recorded in the cash flow statement) by the pre-tax accounting income (Hanlon & Heitzman, 2010). The cash ETR measures the real tax avoidance per unit of accounting income and includes the impact of deferred tax strategies. However, it also shares limitations with other ETR measures, such as a mismatch between numerator and denominator and potential data truncation when net operating cash flow is negative (Salihu et al., 2013).

2.4.4. Cash flow ETR

The cash flow ETR is calculated by dividing the total tax expense by the net cash flow from operating activities. It can be measured as CFM1 (Zimmerman, 1983) or CFM2 (Salihu et al., 2013). CFM1 is unaffected by accrual accounting in the denominator but still influenced by accrual accounting in the numerator, making it suitable for capturing non-conforming tax avoidance. CFM2 uses the tax amount as the numerator and is not affected by accrual accounting in either the numerator or the denominator, enabling it to measure conforming tax avoidance. However, the cash flow ETR faces challenges related to data truncation when net operating cash flow is harmful and requires further examination to ensure its reliability in capturing conforming tax avoidance (Hanlon & Heitzman, 2010; Badertscher et al., 2019).

2.4.5. Long-run ETR

The long-run ETR is calculated using the accounting or cash ETR for 3 to 10 years. It provides a measure that reduces annual volatility and captures tax avoidance activities over an extended period (Dyreng et al., 2008; Hanlon & Heitzman, 2010). However, the long-run ETR may not fully capture conforming tax avoidance and can be subject to bias when eliminating loss-making firms (Henry & Sansing, 2014).
In summary, ETR measures offer various perspectives on tax avoidance, with some measures emphasizing non-conforming tax avoidance and others capturing conforming tax avoidance. However, only some steps capture the entirety of tax avoidance. Researchers should consider the limitations and specificities of each measure when selecting the appropriate measurement.

2.5. Book-tax difference (BTD)

In addition to ETR measures, researchers have used the Book-Tax Difference (BTD) to measure corporate tax avoidance. The BTD captures differences between accounting and taxable income resulting from different rules and principles applied in accounting and tax regulations (Comprix et al., 2010; Nguyen Cong Phuong, 2010, 2011).

2.5.1. Total BTD

The total BTD represents the difference between accounting and taxable income and serves as a proxy for a range of tax avoidance measures, including both intentional tax avoidance and unintentional differences resulting from accounting income management (Hanlon & Heitzman, 2010; Lee et al., 2015; Gebhart, 2017). It captures permanent and temporary differences and has been used extensively in research. However, total BTD has limitations in distinguishing between intentional and unintentional differences and may include factors unrelated to tax avoidance, such as tax credits or government bond interest (Hanlon & Heitzman, 2010; Gebhart, 2017).

2.5.2. Temporary BTD

The temporary BTD measures differences resulting from timing discrepancies in revenue and expense recognition for accounting and tax purposes (Comprix et al., 2010). While it can capture temporary differences from accounting earnings management, it does not fully distinguish between intentional tax avoidance and non-discretionary factors (Hanlon & Heitzman, 2010).

2.5.3. Total discretionary BTD

To address the issue of distinguishing between intentional and non-discretionary BTD, researchers have proposed the concept of total discretionary BTD. It measures deliberate tax avoidance by regressing total BTD against total accruals, excluding non-discretionary factors (Desai & Dharmapala, 2006). However, this measure is subject to errors and may still suffer from interpretation ambiguity (Gebhart, 2017).

2.5.4. Discretionary permanent BTD

Building on the total discretionary BTD, the discretionary permanent BTD focuses on intentional tax avoidance by considering permanent differences (Frank et al., 2009). It attempts to control non-discretionary factors that affect total BTD. However, it may not capture deferred tax strategies and has limitations in measuring tax avoidance comprehensively (Hanlon & Heitzman, 2010; Lee et al., 2015).

2.5.5. Tax effect BTD

An alternative approach, Tang and Firth (2011) proposed, is to assess the tax effect on BTD. It calculates the difference between the tax impact on accounting income and the current tax expense, estimating the effect of taxes on BTD. This measure resolves some estimation problems related to gross income and is suitable for studying businesses subject to different tax rates or engaging in income mobility strategies. However, further empirical analysis is needed to validate its effectiveness.
The BTD measures offer insights into tax avoidance by comparing accounting and taxable income. However, each action has its limitations and may be influenced by factors unrelated to tax avoidance or affected by errors in estimation.

2.6. Firm characteristic and tax avoidance nexus

Previous scholars have explored the intricate relationship between firm characteristics and corporate tax avoidance, revealing empirical evidence of various firm attributes associated with tax avoidance. These characteristics encompassed firm size, firm age, profitability (measured by return on assets or ROA), capital intensity (represented by tangible assets or inventory), and capital structure (leverage and financial distress or bankruptcy). However, it is noteworthy that these studies employed diverse empirical methodologies, sample selection criteria, timeframes, data collection techniques, definitions of tax avoidance, and multiple measures, resulting in varying research outcomes.
Previous studies consistently identified a positive correlation between firm size and tax avoidance. This finding suggested that larger firms tended to maintain a lower effective tax rate (ETR) in comparison to smaller businesses (Zimmerman, 1983; Rego, 2003; Richardson & Lanis, 2007; Desai & Dharmapala, 2008; Wilson, 2009; Dyreng et al., 2010; Chen et al., 2010; Minnick & Noga, 2010; Richardson et al., 2014; Yahaya & Kabir, 2020). This empirical observation aligned with similar findings in the context of Vietnam (Ha et al., 2017; Quyen, 2017; and Ha, 2021). The rationale behind this relationship was that larger firms, endowed with superior resources and influence, possessed the capacity to shape the political process through lobbying and negotiations, enabling them to mitigate their tax liabilities or influence tax regulations (Stickney & McGee, 1982; Gupta & Newberry, 1997; Mocanu et al., 2020). Moreover, substantial enterprises enriched with extensive resources and expertise were more inclined to engage in tax avoidance practices (Fauzan et al., 2019). Conversely, some studies suggested an inverse relationship, positing that smaller firms exhibited a higher inclination for tax avoidance (Siegfried, 1974; Stickney & McGee, 1982; Porcano, 1986; Tanko et al., 2022; Ogbeide et al., 2022; Sa'ad et al., 2023), a viewpoint consistent with research conducted on listed firms in Vietnam (Nguyen Hoang Anh & Vu Hoang Phuc, 2021; Dang & Tran, 2021). Nevertheless, several studies failed to establish a significant association between ETR and firm size (Gupta & Newberry, 1997; Mills et al., 1998; Taufik & Novita, 2022).
Firm age, defined in terms of the duration of operation or time since listing on the stock exchange, constituted another factor assessed for its impact on tax avoidance (AICPA, 1987). Newly listed companies may have heightened incentives for tax avoidance as managers endeavored to meet earnings expectations (Richardson et al., 2015; Yahaya & Kabir, 2020). In contrast, firms with a more extended trading history were more likely to gradually align their practices with compliance obligations (Amidu et al., 2019). According to Ogbeide et al. (2022), there is no significant association between company age and tax avoidance. Conflicting findings characterized the relationship between firm age and tax avoidance in the Vietnamese context. While some studies posited that firms with a more extended operating history were less inclined to engage in tax avoidance (Nguyen Hoang Anh & Vu Hoang Phuc, 2021), others contended that listing on the stock market provided advantages for corporate income tax avoidance (Ha et al., 2017).
Profitability was an intuitive indicator that could influence a firm's effective tax rate (ETR). Extensive research consistently demonstrated a positive association between profitability, as measured by return on assets (ROA) or cash flow from operations, and tax avoidance. The rationale behind this relationship was that highly profitable firms exhibited a greater incentive to minimize their tax burdens compared to less profitable counterparts (Gupta & Newberry, 1997; Richardson & Lanis, 2007; Minick & Noga, 2010; Dunbar et al., 2010; Armstrong et al., 2012; Tanko et al., 2022; Ogbeide et al., 2022; Sa'ad et al., 2023). These companies, driven to maintain operational efficiency and safeguard profits, were more inclined to employ tax avoidance strategies (Eichfelder & Hechtner, 2018). Additionally, profitable businesses endowed with ample resources were better positioned to engage financial consultants to optimize their tax liabilities (Eichfelder & Hechtner, 2018). Moreover, highly profitable firms benefited from reduced tax administration-related costs, as they could allocate more resources to tax planning activities, resulting in lower actual tax rates (Rego, 2003; Dyreng et al., 2008; Quyen, 2017; Fauzan et al., 2019; Taufik & Novita, 2022). Nevertheless, some studies identified a negative relationship between profitability and tax avoidance, suggesting that firms intensified tax avoidance efforts in response to declining corporate profits (Yahaya & Kabir, 2020; Nguyen Hoang Anh & Vu Hoang Phuc, 2021). Some studies also revealed no substantial relationship between ROA and tax avoidance (Renfiana & Dewi, 2018).
Related to profitability was the consideration of losses. The theoretical framework presented by Dyreng et al. (2019) posited that losses diminished firms' incentives to engage in (future) tax avoidance. This framework hypothesized that a profit-maximizing firm would engage in tax avoidance if the marginal benefits of such activities exceeded the additional costs (Scholes & Wolfson, 1992). Many tax systems permit firms to offset losses with profits from other periods (Bethmann et al., 2018). The ability to offset losses with future profits reduced corporate tax liabilities and consequently diminished firms' incentives to engage in tax avoidance.

Investment and corporate financial decisions also had the potential to impact tax avoidance. Corporate taxes might somewhat constrain managers' investment decisions due to uncertainty regarding tax payments and the inclusion of deductions in investment value calculations (Hanlon et al., 2010). Capital-intensive businesses equipped with substantial tangible assets had increased opportunities for tax planning (Dyreng et al., 2008; Quyen, 2017; Amidu et al., 2019; Ha, 2021; Dang & Tran, 2021). Some studies demonstrated that capital intensity negatively influenced tax avoidance behavior (Gupta & Newberry, 1997; Derashid & Zhang, 2003; Richardson & Lanis, 2007). In contrast, other studies found no discernible association between capital intensity and tax avoidance (Pratiwi & Siregar, 2019; Taufik & Novita, 2022).

Additionally, examining capital structure was essential when considering its effect on firms' effective tax rates (ETR). The choice between debt and equity financing was pivotal in determining the most appropriate funding methods. While equity financing might offer a cost-effective solution for the cost of capital, dividends paid to investors are not tax-deductible. Conversely, with its tax-deductible interest expenses, debt financing often represented a more favorable option for businesses. Leverage, reflecting the degree of debt employed to fund operations, was a crucial factor affecting effective tax rates. Higher debt levels led to increased interest payments, reducing a business's pre-tax income and lowering the tax burden. Leverage could also indicate the complexity of a firm's financial transactions, suggesting that highly leveraged firms might be more likely to engage in tax avoidance through financial maneuvers (Mills et al., 1998). Some studies revealed a negative relationship between leverage, used as a proxy for capital structure, and effective tax rates (ETR) or book-tax difference (BTD), indicating that greater debt levels corresponded to reduced ETR and heightened tax avoidance behavior (Gupta & Newberry, 1997; Mill & Newberry, 2005; Richardson & Lanis, 2007; Chyz et al., 2013; Quyen, 2017; Mocanu et al., 2020; Yahaya & Kabir, 2020; Nguyen Hoang Anh & Vu Hoang Phuc, 2021; Sa'ad et al., 2023). However, several other studies reported a positive relationship between leverage and ETR (Khanh & Khuong, 2019; Fauzan et al., 2019; Dang & Tran, 2021; Taufik & Novita, 2022; Tanko et al., 2022). Specifically, some research suggested that high leverage levels did not necessarily drive tax avoidance but might increase the likelihood of tax avoidance through deferred tax strategies (Ogbeide et al., 2022). In summary, leveraged firms might be strongly incentivized to avoid taxes to preserve cash for debt repayment, or they might have a relatively weak incentive to engage in tax avoidance due to the beneficial tax shield provided by interest expenses (Badertscher et al., 2011).

Research gap. Despite the growing literature on corporate tax avoidance, existing studies provide mixed and often context-specific evidence on how firm characteristics shape tax behavior. In Vietnam, empirical research remains limited and largely fragmented, with little attention to the combined roles of firm resources, contractual constraints, and institutional monitoring. This study addresses this gap by providing panel-based evidence on how key firm characteristics jointly influence tax avoidance in an emerging economy setting.

3. Methodology

3.1. Sampling method

This study used data from companies listed on the Ho Chi Minh Stock Exchange (HOSE) from 2015 to 2020, sourced from the Fiinpro platform. Notably, this dataset excludes banks, insurance companies, trusts, and other financial entities, as they are subject to distinct regulatory frameworks and operational policies, as outlined by Richardson et al. (2015). Furthermore, due to data unavailability or inadequacy of certain businesses in specific fiscal years, our research is confined to data collection and analysis within years characterized by comprehensive and reliable datasets. Accordingly, the study compiled data from 307 businesses over the above frame, encompassing 1,138 observations. We briefly describe the study sample selection process in Table 1.

Table 1: Sample selection process

Panel A: Sample selection procedure		
Explanation		No. of observations
Initial sample from 2015 to 2020		2,148
Financial institutions (were excluded)		306
Firm years with insufficient or missing data were excluded.		704
The final sample for analysis		1,138
Panel B: Classify businesses by industry		
Industry	No. of observations	Percent
Manufacturing	352	30.9
Consumer Goods	278	24.4
Materials	229	20.1
Utilities	126	11.1
Consumer service	97	8.6
Pharmaceuticals and Healthcare	56	4.9
Total	1,138	100

Source(s): sourced from the Fiinpro platform.

3.2. Regression model and analysis

To investigate the impact of firm characteristics on tax avoidance, we have employed the following multivariate regression model:

$$TAXit = \alpha0 + \alpha1FIRMSIZEit + \alpha2FIRMAGEit + \alpha3LEVit + \alpha4LOSSit\text{-}1 + \alpha5TANGIBLESit + \alpha6ROAit + \varepsilon it \quad (1)$$

Dependent variables: This study's dependent variable under investigation is tax avoidance (TAX). Following the methodology employed in prior research by McGuire et al. (2012), Lee and Kao (2018), and Kim and Im (2017)This construct is operationalized through the utilization of two distinct measures. The first measure is the Total book-tax difference (BTD), a metric designed to capture tax avoidance activities that result in both permanent and temporary disparities between financial statements and taxable income (Hanlon & Heitzman, 2010; Lee et al., 2015; Gebhart, 2017). BTD is calculated by deducting pre-tax book income from taxable income, derived by dividing total tax expense by the statutory tax rate. The second measure, the Tax effect book-tax difference (effBTD), represents a variant intended to encapsulate the tax impact of these differences. (Tang & Firth, 2011). effBTD is computed by subtracting current tax expense from the product of accounting income and the statutory tax rate.

Independent variables: In our examination, we investigate the relationship between a set of firm characteristics and tax avoidance. Specifically, we explore the impact of firm size, age, financial leverage, firm loss status, tangible assets, and return on assets (ROA) on tax avoidance. These firm characteristics have been identified in prior studies as factors that exhibit associations with tax avoidance. (Hoseini et al., 2018; Richardson et al., 2016).

1) FIRMSIZE: Firm size is measured as the logarithm of the firm's total assets.
2) FIRMAGE: Firm age is defined as the number of years that a firm operated
3) LEV: Leverage is measured as the total debts divided by equity
4) LOSS: A dummy variable that takes the value of 1 for a loss firm at the end of the previous year, 0 otherwise
5) TAN: Logarithm of tangible assets of a firm
6) ROA: Return on assets

Table 2: Definition of Variables in the Model

Variable types	Abbreviation	Calculation	Expected signs
Dependent variable			
Total book-tax difference	BTD	(Total tax expense/ Statutory tax rate) - Pre-tax book income	N/A
Tax effect book-tax difference	effBTD	The product of accounting income and the statutory tax rate - Current tax expense	N/A
Independent variable			
Firm size	FIRMSIZE	Logarithm of total assets at the end of the year	+/-
Firm existence	FIRMAGE	The number of years that a firm operated	+/-
Leverage	LEV	Total debt to equity ratio at the end of the year	-
Loss	LOSS	1 for a loss firm at the end of the previous year, 0 otherwise	+
Tangible assets	TAN	Logarithm of total tangible assets at the end of the year	+/-
Return on assets	ROA	Return on assets at the end of the year	-

Source(s): adapted by author.

Although panel data are employed, the study adopts pooled OLS based on the Hausman and LM tests. We acknowledge that this approach may not fully provide for unobserved firm-specific heterogeneity, which could influence tax avoidance behavior. However, given the statistical evidence and the relatively short time dimension of the panel, pooled OLS is considered appropriate for identifying average relationships. In addition, potential endogeneity, particularly reverse causality between profitability and tax avoidance, cannot be entirely ruled out. This limitation is recognized, and future studies could address it using dynamic panel methods or instrumental variable approaches to provide stronger causal inference.

4. Results and Discussions

4.1. Descriptive statistics and correlation between variables

Table 3 presents the descriptive statistics of the variables used in this study. The mean value of ROA is 0.08, suggesting that most companies tend to have a positive profit. Notably, the firm age spans from a minimum of one to a maximum of 130, indicating a notably broad range of firm existence. Furthermore, the mean firm size is 28.07, equivalent to 4,682 trillion VND. The mean values for leverage and loss are 1.32 and 0.03, respectively.

Table 3: Descriptive Statistics of Key Variables

Variables	Min	Max	Mean	Median	St. Dev.
BTD	-4.42	11.23	-0.03	-0.20	0.80
effBTD	-4.31	10.92	-0.03	-0.20	0.80
FIRMSIZE	25.21	32.51	28.07	27.95	1.32
FIRMAGE	1	130	22.47	18	14.64
LEV	0.00	33.03	1.32	0.86	2.19
ROA	-0.22	0.49	0.08	0.06	0.08
LOSS	0	1	0.03	0	0.17
TAN	5.32	11.39	9.76	9.69	0.46

Source(s): sourced from the Fiinpro platform.

Furthermore, our examination reveals that the independent variables in the regression model exhibit low correlations, as evidenced by the correlation coefficients. This observation implies the absence of multicollinearity, a phenomenon typically deemed significant when the Variance Inflation Factor (VIF) values surpass ten or the tolerance coefficient (1/VIF) falls below 0.1. Our correlation results demonstrate that all VIF values remain below the threshold of ten, and the tolerance coefficients exceed 0.1, collectively indicating that multicollinearity is unlikely to influence the results substantially.

4.2. Influence of firm characteristics on tax avoidance

This study investigates the impact of firm characteristics on tax avoidance behavior within the context of companies listed on the Ho Chi Minh Stock Exchange (HOSE) during the period spanning from 2015 to 2020. The analysis is based on a final sample of 1,138 observations, following the exclusion of financial institutions and firm years with insufficient data. Tax avoidance is operationalized using two proxies: Total book-tax difference (BTD) and Tax effect book-tax difference (effBTD).

We used the Hausman test to choose between random effects and fixed effects. Since the P-value is 0.8108, we failed to reject the null, and conclude that Random effects regression is more appropriate. Further, we employed the Breusch-Pagan Lagrange multiplier (LM) test to choose between random effects and OLS. Since the P-value is 0.1132, we failed to reject the null and conclude that there is no evidence of significant differences across firms. Therefore, we run a pooled OLS regression for analysis. Our findings offer valuable insights into the interplay between diverse firm characteristics and tax avoidance strategies. The outcomes of the regression model are succinctly presented in Table 4.

Table 4: Estimation Results of Factors Influencing Tax Avoidance

	FIRMSIZE	FIRMAGE	LEV	ROA	LOSS	TAN	Constant
BTD	0.248**	-0.001	-0.060*	2.012**	-0.070	-0.111	-6.16**
effBTD	0.242**	-0.01	-0.058*	1.958**	-0.068	-0.108	-6.00**
R^2 0.149 0.149							
Adjusted R^2 0.126 0.126							
F Statistic 131.186** 131.186**							

*, ** Significant at 5%, and 1%, respectively.
Source(s): sourced from the Fiinpro platform.

The empirical results indicate that firm size and profitability are positively associated with corporate tax avoidance, while financial leverage and loss status are negatively related. Although these findings are broadly consistent with prior studies, their combined interpretation reveals several important insights into the nature of corporate tax avoidance in the Vietnamese context.

First, the positive effects of firm size and return on assets suggest that tax avoidance in Vietnam is primarily an optimization strategy employed by financially strong firms rather than a survival mechanism of financially distressed firms. Larger and more profitable firms possess greater financial resources, access to specialized expertise, and organizational capacity to engage in tax planning activities within legal boundaries. In contrast, firms experiencing losses exhibit limited incentives and capacity to pursue tax avoidance due to their reduced taxable income base. This pattern challenges the common perception that tax avoidance is mainly associated with struggling firms and instead highlights its strategic role among economically stable enterprises.

Second, the negative relationship between financial leverage and tax avoidance underscores the disciplining role of institutional monitoring. Highly leveraged firms are subject to closer scrutiny from creditors, auditors, and regulatory authorities, which constrains managerial discretion and increases the perceived risks of aggressive tax planning. As a result, such firms appear to adopt more conservative tax strategies despite the potential tax shield benefits associated with debt financing. This finding suggests that corporate tax avoidance in Vietnam is institutionally bound and compliance-aware rather than inherently aggressive.

Third, the joint effects of profitability and loss status imply that tax avoidance behavior is cyclical and contingent on firms' earnings conditions. Firms tend to increase tax avoidance efforts during profitable periods, when the marginal benefits of tax planning are higher, while reducing such activities during periods of financial distress. This dynamic behavior indicates that tax avoidance is responsive to short-term cost–benefit considerations rather than embedded as a persistent long-term corporate policy.

Fourth, the absence of a significant relationship between firm age and tax avoidance suggests that tax planning advantages are driven by scale-related resources rather than accumulated experience or longevity. This implies that long market presence alone does not enhance firms' ability to avoid taxes; instead, organizational capacity and access to resources associated with firm size play a more decisive role. Such evidence points to potential structural asymmetries in tax compliance and enforcement, whereby larger firms are better equipped to navigate complex tax regulations than smaller firms.

Finally, the lack of a significant effect of tangible assets indicates that corporate tax avoidance in Vietnam is not primarily based on asset-driven mechanisms such as depreciation or capital allowances. Instead, firms may rely more on accounting-based adjustments, income timing, and reporting strategies that influence book–tax differences. This finding highlights the importance of reporting discretion as a channel of tax avoidance in emerging markets.

Overall, these findings portray corporate tax avoidance in Vietnam as a resource-dependent, compliance-aware, and institutionally constrained behavior. Tax avoidance is neither uniformly aggressive nor randomly distributed across firms; rather, it reflects firms' financial capacity, monitoring environment, and strategic assessment of risks and benefits. From a policy perspective, enhancing transparency, strengthening financial and creditor oversight, and improving enforcement consistency may be more effective than uniformly tightening tax regulations. Future research could further explore the roles of ownership structure, corporate governance, and enforcement heterogeneity across industries to deepen the understanding of tax avoidance behavior in emerging economies.

To sum up, compared with prior studies in Vietnam and other ASEAN countries and China, our findings show both convergence and divergence. In the same vein, evidence from the given regions about firm size and profitability is positively associated with tax avoidance, suggesting that resource advantages consistently shape tax planning in emerging markets. However, the negative effect of leverage observed in Vietnam is quite different from some studies in ASEAN that imply a tax-shield-driven positive effect, indicating that institutional monitoring and creditor discipline play a stronger role in the Vietnamese context. Theoretically, these findings also extend Positive Accounting Theory by showing that managerial tax decisions are not driven solely by economic incentives, but are also strongly conditioned by institutional constraints, thereby highlighting the context-dependent nature of accounting and tax behavior in emerging economies.

5. Conclusions

This study investigates the nexus between firm-specific attributes and tax avoidance behaviors in the context of non-financial companies listed on the Vietnam Ho Chi Minh Stock Exchange (HOSE). Our empirical analysis, based on regression analysis, establishes compelling evidence regarding the determinants of tax avoidance. Specifically, we discern that tax avoidance tendencies are positively associated with firm size and return on assets (ROA). This positive relationship suggests that more prominent and prosperous enterprises employ tax planning strategies to mitigate their tax liabilities. This propensity can be attributed to such entities' ample resources and substantial taxable income.

Conversely, our investigation reveals a negative impact of financial leverage on tax avoidance. This finding underscores the adverse consequences of higher indebtedness, which may subject businesses to heightened scrutiny from regulatory bodies and stakeholders. Consequently, companies burdened with elevated levels of financial leverage may adopt a more conservative approach to tax planning to mitigate potential risks.

This study contributes meaningfully to the existing knowledge on tax avoidance and corporate characteristics. The affirmative correlation between firm size, ROA, and tax avoidance underscores the significance of policymakers and tax authorities directing their attention toward the tax planning practices of larger and more profitable entities. Moreover, the inverse relationship between financial leverage and tax avoidance underscores the intricate trade-offs between financial risk management and tax planning strategies.

The outcomes of this study offer valuable insights for practitioners in the field. Understanding the interplay of firm-specific attributes and tax avoidance behaviors can empower companies to formulate responsible and sustainable tax planning strategies that align with their financial objectives and corporate values. By integrating tax planning practices into their overall business framework, companies can enhance their reputational standing and contribute to the broader discourse on responsible tax management.

Collectively, these insights suggest that corporate tax avoidance in Vietnam is best characterized as a compliance-aware, institutionally bounded, and resource-dependent behavior. Tax avoidance is neither random nor uniformly aggressive; rather, it reflects firms' financial capacity, monitoring environment, and cost–benefit considerations. For policymakers, this implies that strengthening financial transparency, enhancing creditor and auditor oversight, and improving enforcement consistency may be more effective than uniformly tightening tax regulations.

Future research could extend this analysis by examining ownership structures, governance mechanisms, and enforcement heterogeneity across industries to further uncover the institutional drivers of tax avoidance in emerging economies.

Conflicts of Interest

The authors declare no conflicts of interest.

Acknowledgement

The authors sincerely thank the relevant institutions, organizations, and individuals for their support and for providing data and information for this study.

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