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The Relationship Between Firm Characteristics and Tax Debt: Evidence from Small and Medium Enterprises (SMEs) in Hanoi

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Abstract

This study investigates the relationship between firm-specific characteristics and tax debt among small and medium-sized enterprises (SMEs) in Hanoi, Vietnam, during 2022-2024. Employing Exploratory Factor Analysis and multiple linear regression on 285 valid responses from SMEs managers and accountants, the research identifies seven critical determinants influencing tax debt: firm size, corporate governance quality, asset structure, industry sector, debt level, psychological factors, and business performance. The validated model demonstrates robust explanatory power, with firm size emerging as the predominant determinant, followed by corporate governance quality. The findings reveal strong alignment between managerial perceptions and actual tax debt outcomes, indicating that resource constraints and structural limitations - rather than awareness deficits - constitute primary compliance barriers. The research extends firm characteristic theories from tax avoidance to tax debt phenomena in transitional economies, validating the Theory of Planned Behavior and liquidity constraint theories within the SMEs context. Practically, the study suggests differentiated compliance support mechanisms, capacity-building interventions targeting governance competencies, and sector-specific approaches rather than awareness campaigns, contributing evidence-based insights for tax policy formulation in emerging economies.

Keywords: *Tax debt, SMEs, firm characteristics, corporate governance, tax compliance, Vietnam*

1. Introduction

Tax compliance and corporate tax debt have garnered substantial attention within the contemporary academic discourse on fiscal policy and corporate behavior. Extant research has predominantly examined the relationships between firm-specific characteristics encompassing organizational size, financial performance, capital structure, governance architecture, liquidity metrics, and industry classification and corporate taxation behavior, with particular emphasis on tax avoidance and compliance patterns. These factors interact and depend on each other to determine the final tax liability of a business. A comprehensive understanding of these determinants is essential for businesses that want to manage their tax liability effectively and optimize their overall financial performance.

From a financial perspective, several key variables exert substantial influence on corporate tax liability. Profitability represents the most direct determinant, as enterprise profitability fundamentally establishes the basis for corporate income tax calculations, with higher profitability typically corresponding to increased tax liabilities due to the percentage-based nature of tax assessments on taxable profits (Handayani & Edhy, 2024). Capital structure decisions, particularly financial leverage and debt-to-equity ratios, constitute a second critical dimension through which tax positions may be influenced via interest deductibility mechanisms. Elevated debt-to-equity ratios generate increased interest expenses that are generally tax-deductible, thereby reducing taxable income and overall tax liability. Furthermore, firm solvency - the capacity to meet long-term financial obligations - represents an indirect yet important determinant of tax liability, as enterprises with higher solvency ratios typically maintain more stable financial positions that may facilitate strategic tax planning and influence ultimate tax outcomes (Hollysaa & Kuntadi, 2023).

Operational performance metrics constitute a second critical category of determinants influencing corporate tax liability. Net sales revenue and liquidity ratios represent fundamental operational indicators that exert dual effects on tax obligations: they directly influence taxable income calculations while simultaneously affecting the cash flow capacity available for tax remittance. Higher net sales volumes typically generate increased taxable income, thereby elevating potential tax liabilities, whereas adequate liquidity positions ensure that organizations possess sufficient financial resources to meet tax obligations within regulatory deadlines. Furthermore, operating expenses serve as a significant variable in the relationship between financial performance indicators and ultimate tax liability. These expenses, being generally deductible under prevailing tax frameworks, effectively reduce taxable income proportionally to their magnitude, thereby attenuating the tax burden associated with gross revenues (Handayani & Edhy, 2024). This moderate effect highlights the strategic importance of operational cost management in shaping corporate tax positions.

The regulatory and compliance environment constitutes a third fundamental dimension influencing corporate tax liability. Strategic tax planning and management capabilities enable enterprises to minimize tax obligations within prescribed legal parameters through deliberate decisions pertaining to income recognition timing, expense deduction optimization, and strategic utilization of available tax credits and incentives (Ding, 2023). The inherent complexity of tax regulatory frameworks represents a significant determinant that influences both compliance outcomes and the magnitude of tax liability. Enterprises equipped with superior tax expertise - manifested through qualified accounting personnel and sophisticated financial management systems - demonstrate enhanced capacity to navigate regulatory intricacies and optimize tax positions while maintaining compliance (Dascălu et al., 2024). Additionally, corporate governance architecture and practices exert substantial influence on effective tax rates and tax behavior patterns. Empirical research indicates that organizations characterized by greater board independence may be subject to higher effective tax rates, a phenomenon attributed to more rigorous compliance standards and enhanced oversight mechanisms that constrain opportunistic tax avoidance strategies (Ribeiro, 2015). These regulatory and governance factors collectively highlight the critical role of institutional frameworks and organizational capabilities in determining corporate tax outcomes.

External and macroeconomic factors provide a broader contextual environment within which tax liability is determined. Macroeconomic conditions, including inflation rates, economic growth patterns, and sectoral performance metrics, indirectly influence tax liabilities through their effects on enterprise profitability and cost structures (Ekici, 2009). Furthermore, international taxation developments, particularly Base Erosion and Profit Shifting (BEPS) initiatives, have substantially affected multinational corporations' tax obligations across jurisdictions (Kiilu & Mati, 2021). While these factors constitute a comprehensive analytical framework for understanding tax liability determinants, actual tax obligations remain contingent upon specific legal and economic contexts. Legislative amendments or macroeconomic shifts can significantly alter the impact and relative importance of these determinants. Additionally, legitimate tax avoidance strategies may further complicate the relationship between theoretical determinants and observed tax liabilities (Ambarita et al., 2024). Consequently, accurate assessment of corporate tax liability requires a context-sensitive approach that accounts for jurisdictional specificities, regulatory evolution, and firm-specific strategic responses to the prevailing tax environment.

Within the Vietnamese context, Bui (2022) investigated the determinants of corporate income tax (CIT) avoidance behavior among Vietnamese enterprises, employing a Generalized Method of Moments (GMM) regression framework. The findings revealed an inverse relationship between profitability and effective CIT rates, demonstrating that highly profitable enterprises exhibit a propensity to reduce their actual tax burden. This empirical evidence substantiates the significant role of profitability as a determinant of corporate tax behavior. From a tax compliance perspective, Nguyen and Le (2025) established that CIT compliance behavior is simultaneously influenced by both external environmental factors - including tax policy frameworks, enforcement mechanisms, information technology adoption, and inter-agency coordination - and internal organizational factors, notably firm size, managerial capacity, and risk management capabilities. These findings underscore the critical importance of managerial competence and organizational scale in enhancing tax compliance outcomes. Complementing these findings, Nguyen (2024) examined non-financial listed companies in Vietnam and demonstrated that firm-specific characteristics, particularly financial leverage ratios and asset utilization efficiency, exert substantial influence on tax avoidance behavior . These results align with the international evidence provided by Lanis and Richardson (2011), which established that enterprises characterized by complex financial architectures and elevated debt levels tend to optimize tax obligations through strategic accounting practices.

The synthesis of domestic and international empirical literature indicates that firm characteristics constitute a critical determinant of corporate tax behavior. The factors most frequently identified as influential include: (1) organizational size, (2) financial performance, (3) leverage levels, (4) asset composition, (5) industry sector, (6) behavioral and psychological factors, (7) corporate governance structures, and (8) solvency ratios. These variables not only influence the degree of tax compliance but also determine both the capacity and timing of tax remittance.

Nevertheless, the extant literature exhibits a significant research gap. The majority of existing studies have concentrated primarily on tax avoidance strategies or corporate income tax compliance patterns, while the phenomenon of tax debt - an aspect that directly reflects actual tax compliance levels -remains inadequately examined, particularly within the SME sector. Existing research predominantly treats SMEs as components of heterogeneous samples without disaggregated analysis, thereby failing to assess systematically the relationship between SME-specific characteristics (capital constraints, organizational scale, financial structure, governance mechanisms) and tax debt outcomes. This lacuna is particularly pronounced in emerging and transitional economic contexts, where SMEs constitute a substantial proportion of economic activity yet operate under distinct resource and institutional constraints. The present study addresses this critical research gap by examining the relationship between firm characteristics and tax debt among SMEs in Hanoi, Vietnam, thereby extending the theoretical framework of corporate tax behavior to a previously underexplored organizational context within a transitional economy and providing empirical insights relevant to policy formulation and compliance enhancement in the SME sector.

2. Objectives

Small and medium enterprises constitute more than 97 percent of Hanoi’s business population and face persistent challenges in meeting tax obligations due to capital constraints, limited managerial capacity, and volatile cash flows. Recent data from the Hanoi Tax Department indicate a continued rise in SME tax arrears during 2022–2024, particularly in trade, services, and construction, underscoring the need for a systematic assessment of the underlying drivers. Firm-specific characteristics - encompassing firm size, business performance, debt level, asset structure, business sector, psychological factors, and corporate governance - are theorized to exert direct influence on the propensity to accumulate tax debt. Investigation of these determinants within Hanoi's distinctive economic and institutional context enables more precise characterization of tax arrears patterns among SMEs and facilitates the formulation of evidence-based tax administration policies tailored to local conditions. The research objectives of this study are explicitly defined and empirically measurable. First to synthesize theoretical and empirical foundations on firm characteristics affecting tax debt behavior among SMEs. Second, to describe and analyze the current state of tax debt among SMEs operating in Hanoi during the 2022–2024 period, including temporal patterns, sectoral distribution, and magnitude of arrears. Third, to identify and quantify the extent to which specific firm characteristics, including organizational size, financial performance, leverage levels, asset composition, industry sector, behavioral factors, and governance structures, affect tax debt incidence and magnitude among SMEs. Fourth, to develop and empirically validate a quantitative model explaining the relationship between firm characteristics and the probability of tax debt occurrence among SMEs in Hanoi, thereby contributing to both theoretical understanding and practical policy formulation.

3. Materials and Methods

Building upon established research examining tax compliance behavior and corporate financial characteristics (Armstrong et al., 2012; Nguyen, 2024; Nguyen & Le, 2025), this study identifies eight critical internal characteristics hypothesized to influence tax debt levels among small and medium-sized enterprises (SMEs) in Hanoi during the 2022–2024 period. These determinants include: (1) firm size, (2) business performance, (3) debt ratio, (4) asset structure, (5) business sector, (6) psychological factors, and (7) corporate governance (Figure 1).

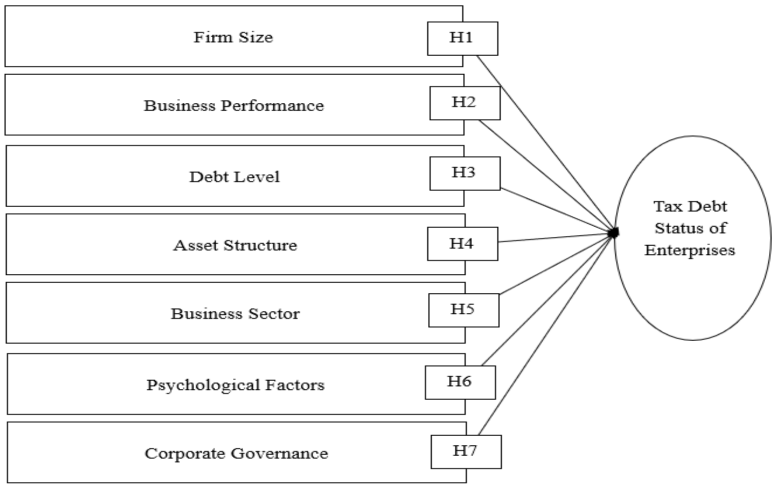

Figure 1 Research Model on the Relationship Between SMEs' Internal Characteristics and Tax Debt

Firm size reflects the overall financial capacity and operational scale of an enterprise. According to Lanis and Richardson (2011), larger firms typically possess more sophisticated accounting systems, robust internal control mechanisms, and superior access to credit facilities, thereby reducing the probability of tax delinquency. Conversely, SMEs frequently encounter capital constraints and lack specialized tax personnel, rendering them more vulnerable to delayed or deferred tax remittances.

Business performance represents the firm's capacity to generate returns from total assets deployed. As demonstrated by Nguyen (2024) and Bui (2022), enterprises exhibiting higher profitability tend to maintain stable cash flows and fulfill tax obligations punctually. In contrast, firms experiencing suboptimal financial performance may postpone tax payments to preserve operational liquidity.

Debt level measures the firm's reliance on external financing within its capital structure. Khuc and Nguyen (2021) argue that highly leveraged firms face substantial interest and principal repayment obligations, which constrain their capacity for timely tax remittance. For SMEs, dependence on short-term borrowing particularly amplifies tax arrears risk.

Asset structure reflects the composition of current versus fixed assets within the firm's asset portfolio. Nguyen (2024) established that firms maintaining higher proportions of fixed assets often experience short-term liquidity constraints, thereby increasing the likelihood of tax delinquency. Conversely, enterprises with greater current asset holdings demonstrate enhanced flexibility in meeting tax obligations.

Business sector reflects industry-specific conditions influencing firms' tax behavior. Frank, Lynch, and Rego (2009) and Noor, Fadzillah, and Mastuki. (2010) show that sectors with volatile profits or high intangible intensity create greater scope for tax planning. Wilson (2009) notes that difficult business sectors capture operational instability, while high-risk sectors denote industries structurally prone to aggressive tax strategies. Firms in stable, highly regulated sectors typically demonstrate stronger compliance.

Psychological factors encompass managerial attitudes, perceptions, and behavioral intentions toward tax compliance. Grounded in Theory of Planned Behavior, tax compliance behavior is influenced by perceived social norms, fairness considerations, and civic responsibility (Ajzen, 1991). Nguyen (2024) further emphasized that firms demonstrating positive tax consciousness tend to meet filing deadlines, whereas those exhibiting tax avoidance orientations are more susceptible to arrears accumulation.

Corporate governance refers to the firm's capacity to organize, monitor, and control financial operations effectively. Armstrong (2012) and Fischer et al. (1992) highlight that sound governance structures mitigate tax non-compliance risk through transparent accounting practices and effective internal controls. Weak or opaque governance arrangements, however, increase the probability of financial misreporting and delayed tax payments.

Detailed operationalization of variables and measurement items employed in the research model are presented in Table 1.

Table 1 Operationalization of Measurement Scales

Code	Observed Variables / Measurement Items
Tax Debt (NT)	
NT1	Firms that delay tax declaration are more likely to accumulate tax debt.
NT2	Firms frequently request tax payment extensions tend to have higher tax arrears.
NT3	Firms that are often reminded by tax authorities about tax obligations are more likely to owe taxes.
Firm Size (DDCQT)	
DDCQT1	The company's total assets significantly influence its tax debt status.
DDCQT2	Firms with a large number of employees tend to accumulate more tax debt.
DDCQT3	Larger firms with complex structures face greater tax payment pressure.
DDCQT4	Smaller firms are generally more flexible in managing tax obligations.
DDCQT5	The firm's total revenue correlates with its likelihood of timely tax payment.
Business Performance (DDHD)	
DDHD1	Firms with a high ROA ratio tend to have lower tax debt levels.
DDHD2	Firms with a high ROE ratio usually incur less tax debt.
DDHD3	Firms with faster capital turnover tend to comply better with tax obligations.
DDHD4	Firms with unstable cash flows are more likely to accumulate tax debt.
DDHD5	Firms with higher net profits after tax tend to have lower tax debt.
Debt Level (YTXH)	
YTXH1	Firms with outstanding wage obligations to employees are more likely to owe taxes.
YTXH2	Firms with unpaid input costs for raw materials and fuels tend to have tax arrears.
YTXH3	Highly leveraged firms must prioritize cash flow balance, thus having a higher likelihood of tax debt.
Asset structure (YTKT)	
YTKT1	Firms investing heavily in fixed assets are more likely to incur tax debt.
YTKT2	Firms with fewer fixed-asset investments tend to comply better with tax regulations.
YTKT3	Firms holding large inventories tend to have higher tax arrears.
YTKT4	Firms engaging in speculative inventory practices are more likely to face tax debt.
Business sector (PLCST)	
PLCST1	Firms with complex business models tend to have higher tax debt levels.
PLCST2	Difficult business sectors negatively affect firms' operational efficiency and tax compliance.
PLCST3	Firms operating in special or high-risk sectors tend to accumulate more tax debt.
Psychological factors (YTTL)	
YTTL1	Firms' awareness of timely tax payment obligations.
YTTL2	Firms' attitude toward the risks associated with tax arrears.
YTTL3	Firms' perception of reminders and enforcement actions from tax authorities.
YTTL4	Firms' trust in tax extension and deferral policies implemented by tax authorities.
Corporate governance (HDTM)	
HDTM1	Firms with effective management of employee compensation tend to pay taxes on time.
HDTM2	Firms managing cash flow effectively tend to meet tax deadlines.
HDTM3	Effective management of fixed assets ensures available funds for timely tax payment.
HDTM4	Firms managing liabilities effectively are more likely to comply with tax payment schedules.

Data Collection: The research employed a two-stage data collection procedure. The pilot survey involved distribution of 135 questionnaires to SME owners and managers in Hanoi to assess the reliability and validity of measurement scales. Subsequently, the main survey deployed 350 questionnaires to directors and managers of SMEs across Hanoi between May and June 2025. Following data screening and cleaning procedures, 285 valid responses were retained for statistical analysis. The sample size adhered to the recommendations established by Hair (2009), ensuring adequacy for both Exploratory Factor Analysis (EFA) and multiple regression analysis . Data were primarily collected through structured face-to-face interviews and processed using SPSS version 19.

Data Analysis: The study employed a sequential analytical approach combining the EFA and multiple linear regression to identify internal factors influencing tax debt among SMEs in Hanoi. All data processing and statistical analyses were conducted using SPSS 19.0. First, reliability analysis was performed to assess the internal consistency and stability of observed variables in the measurement instrument. Cronbach's Alpha coefficient was employed to measure scale reliability, with values exceeding 0.6 indicating acceptable internal consistency (Tavakol & Dennick, 2011). Subsequently, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity were applied to evaluate data suitability for factor analysis. A KMO value above 0.6 indicates adequate sampling, while a statistically significant Bartlett's test ($p < 0.05$) confirms sufficient inter-variable correlations for meaningful factor extraction. Exploratory Factor Analysis was then conducted to extract latent constructs representing internal enterprise characteristics affecting tax debt. Adhering to criteria established by Hair (2009), variables were retained based on three thresholds: (i) eigenvalues exceeding 1.0; (ii) cumulative variance explained surpassing 50%; and (iii) factor loadings exceeding 0.5, indicating substantive correlation between observed variables and underlying constructs. The EFA procedure identified seven principal factor groups reflecting firms' internal characteristics, encompassing firm size, business performance, debt level, asset structure, business sector, corporate governance, and psychological factors. Finally, multiple linear regression analysis was employed to test research hypotheses and quantify the magnitude of each internal factor's influence on SME tax debt. Factor scores derived from EFA served as independent variables in the regression model to determine both directional relationships and effect magnitudes. Statistical significance was evaluated at the conventional 5% level ($p < 0.05$), with standardized coefficients employed to facilitate cross-variable comparison of relative influence.

4. Results and Discussion

Recent statistics show that tax debt among SMEs in Hanoi increased sharply from 2022 to 2024, rising from 4.675 trillion VND to 5.917 trillion VND (approximately 26.5%), with the highest concentrations found in small-scale manufacturing, trade–services, and rapidly expanding construction firms. This upward trend highlights growing financial strain in the post-COVID-19 period and underscores the relevance of examining SME tax delinquency as a key objective of this study. The empirical analysis is based on 285 valid responses obtained from managers and accounting personnel of SMEs operating in Hanoi. Descriptive statistics reveal that sample firms exhibit an average operational tenure of approximately nine years, employ an average workforce of 68 employees, and maintain a mean debt-to-equity ratio approaching 50 percent. This capital structure profile indicates moderate leverage dependence and reflects the characteristic capital constraints prevalent among Vietnamese SMEs. These financial and operational characteristics suggest that a substantial proportion of sample firms operate with limited equity capital and maintain significant reliance on external financing sources. Under such capital structure configurations, adverse fluctuations in business performance can rapidly precipitate delayed or insufficient tax remittances, particularly when enterprises prioritize liquidity preservation over tax obligation fulfillment. This structural vulnerability underscores the relevance of examining firm-specific determinants of tax debt within the SME context.

The reliability of measurement scales was assessed using Cronbach's Alpha coefficient to evaluate the internal consistency of observed variables. The results indicate that all scales satisfied the reliability criteria, with Cronbach's Alpha values ranging from 0.72 to 0.89, substantially exceeding the minimum acceptable threshold of 0.60 recommended by Hair (2009). Variables exhibiting the corrected item-total correlation coefficients below 0.30 were eliminated to ensure scale stability and internal consistency. Following item purification procedures, seven constructions are retained for subsequent multivariate analysis: firm size, business performance, debt level, asset structure, business sector, psychological factors, and corporate governance. These results confirm that the measurement instruments employed demonstrate adequate reliability and appropriateness for subsequent factors and regression analyses.

Following reliability assessment, the EFA was conducted to identify the underlying dimensional structure of the measurement scales and evaluate their convergent and discriminant validity (Table 4). All factor loadings exceed the threshold of 0.50, indicating substantive correlations between observed variables and their corresponding latent constructs. The EFA procedure extracts seven principal factors representing internal enterprise characteristics hypothesized to influence tax debt status: (1) firm size, (2) business performance, (3) debt level, (4) asset structure, (5) business sector, (6) psychological factors, and (7) corporate governance. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy 0.931 and Bartlett's Test of Sphericity ($\chi^2 = 1750.462$, df = 378, p < .001) confirm the appropriateness of the data structure for factor analysis. The extracted factors collectively explained 70.611% of the total variance in the observed variables, demonstrating satisfactory construct validity and providing a robust foundation for subsequent regression analysis (Table 2).

Table 2 Results of Exploratory Factor Analysis

Code	Factors							Construct	Code
	1	2	3	4	5	6	7		
DDCQT4	0,946							Firm Size	DDCQT
DDCQT1	0,928								
DDCQT5	0,926								
DDCQT2	0,905								
DDCQT3	0,887								
DDHD4		0,941						Business Performance	DDHD
DDHD5		0,938							
DDHD2		0,853							
DDHD1		0,770							
DDHD3		0,729							
YTKT4			0,972					Asset Structure	YTKT
YTKT1			0,967						
YTKT3			0,949						
YTKT2			0,908						
YTTL2				0,903				Psychological Factors	YTTL
YTTL4				0,882					
YTTL1				0,830					
YTTL3				0,774					
HDTM4					0,874			Corporate Governance	HDTM
HDTM1					0,864				
HDTM2					0,813				
HDTM3					0,770				
PLCST2						0,962		Business Sector	PLCST
PLCST1						0,949			
PLCST3						0,925			
YTXH1							0,940	Debt Level	YTXH
YTXH3							0,937		
YTXH2							0,932		

Following validation through the EFA, the extracted factors were employed as independent variables in an Ordinary Least Squares (OLS) multiple linear regression model to assess the extent to which internal firm characteristics influence tax debt status among SMEs in Hanoi. Prior to model estimation, comprehensive diagnostic testing was conducted to evaluate compliance with fundamental regression assumptions, including linearity of relationships, normality of residual distribution, absence of multicollinearity (VIF < 2.0), homoscedasticity of error terms, and independence of residuals (1.5 < Durbin-Watson < 2.5). Diagnostic results confirmed that all requisite assumptions were satisfied, establishing the appropriateness of OLS estimation.

To assess the goodness of fit and statistical validity of the estimated model, a comprehensive battery of diagnostic tests was conducted, including the F-test for overall model significance, t-tests for individual coefficient significance, Adjusted R^2 for explanatory power, Variance Inflation Factor (VIF) for multicollinearity assessment, and the Durbin-Watson statistic for autocorrelation detection. The overall F-statistics yielded a significance value below 0.05 ($p < 0.05$), confirming that the regression model is statistically significant and demonstrates adequate fit to the observed data. Furthermore, individual t-tests revealed that all regression coefficients achieved statistical significance at the conventional 5% level ($p < 0.05$), indicating that each internal characteristic exerts a substantive and meaningful influence on the tax debt status of small and medium-sized enterprises (SMEs) in Hanoi. The

Adjusted R^2 of 0.629 demonstrates substantial explanatory power, indicating that the model accounts for 62.9 percent of the variance in tax debt behavior among the sample firms, while the remaining 37.1 percent is attributable to exogenous factors not captured within the current analytical framework. Critical diagnostic statistics further validate model appropriateness: all VIF values remain below 2.0, precluding multicollinearity concerns, while the Durbin-Watson statistic of 1.948 falls within the acceptable range ($1.5 < DW < 2.5$), confirming absence of first-order autocorrelation in residuals. These diagnostic results collectively ensure the reliability and validity of coefficient estimates. Consequently, all seven research hypotheses were statistically validated and accepted at conventional significance levels, empirically confirming that internal firm characteristics significantly influence both the probability and magnitude of tax debt among SMEs in Hanoi.

Based on the Enter method regression analysis, the validated model identifying seven firm-level characteristics that significantly influence tax debt behavior is specified as follows:

$$Y = 0.779X_1 + 0.637X_2 + 0.577X_3 + 0.574X_4 + 0.549X_5 + 0.546X_6 + 0.472X_7$$

Where:

Y represents tax debt status, and X_1 through X_7 denote perceived influence scores for internal firm factors. The uniformly positive standardized coefficients reveal a consistent pattern: firms whose managers/accountants perceive a characteristic as having strong influence on tax debt (higher Likert scores) indeed exhibit higher actual tax debt levels. This alignment validates both the accuracy of managerial awareness and the empirical relevance of these characteristics as tax compliance determinants.

Firm size (X_1, $\beta = 0.779$, $p < 0.001$) exhibits the strongest perceived influence on tax debt probability. Managers/accountants who acknowledge that organizational scale significantly affects tax debt are associated with enterprises demonstrating higher actual tax debt. This validates practitioner recognition that larger firms face greater coordination challenges, competing cash flow demands, and lengthier approval processes that increase payment delay likelihood.

Corporate governance (X_2, $\beta = 0.637$, $p < 0.001$) emerges as the second most influential perceived factor. Managers/accountants who recognize that governance effectiveness - including cash flow control, asset administration, and liability management - substantially influences tax outcomes are associated with firms experiencing higher tax debt. This demonstrates accurate awareness that weak internal controls and inadequate oversight mechanisms directly contribute to compliance failures.

Asset structure (X_3, $\beta = 0.577$, $p < 0.05$) reflects managerial awareness of liquidity constraints. Managers/accountants who perceive that capital-intensive asset compositions significantly affect tax payment capacity are associated with enterprises exhibiting elevated tax debt. This validates practitioners understanding that high fixed asset proportions restrict short-term financial flexibility necessary for timely tax remittance.

Business sector (X_4, $\beta = 0.574$, $p < 0.001$) demonstrates substantial perceived influence. Managers/accountants who acknowledge that their business sector - particularly industries with irregular cash flows or extended operating cycles - significantly affects tax compliance - are associated with firms demonstrating higher actual tax debt. This indicates accurate awareness of cross-sectoral variations in revenue volatility and operational characteristics that create differential compliance constraints.

Debt level (X_5, $\beta = 0.549$, $p < 0.001$) exhibits significant perceived influence. Managers and accountants who recognize that financial leverage and competing debt obligations substantially affect tax payment capacity are associated with enterprises experiencing higher tax debt. This demonstrates understanding of strategic trade-offs when firms prioritize creditor payments over tax compliance under liquidity constraints.

Psychological factors (X_6, $\beta = 0.546$, $p < 0.001$) show substantial perceived influence. Managers and accountants who acknowledge that attitudinal dimensions - including risk perceptions, enforcement awareness, and trust in extension policies - significantly affect payment behavior are associated with firms exhibiting higher tax debt. This proves that practitioners recognize subjective factors beyond pure financial constraints as meaningful compliance determinants.

Business performance (X_7, $\beta = 0.472$, $p < 0.001$) exhibits the weakest yet significant perceived influence. Managers/accountants who acknowledge that operational effectiveness and profitability significantly affect tax debt propensity are associated with enterprises demonstrating higher tax debt. This indicates recognition that suboptimal financial performance constrains cash flows available for tax obligations.

The findings reveal three key patterns. First, the hierarchy of influence establishes firm size as the predominant determinant, followed by corporate governance quality, indicating that structural and managerial factors exert stronger influences than purely financial variables such as business performance. This challenges conventional assumptions that financial profitability represents the primary driver of tax compliance, instead highlighting the critical roles of organizational complexity and governance capacity. Second, the uniformly positive and statistically significant coefficients across all seven characteristics demonstrate strong alignment between managerial perceptions and actual tax debt outcomes, indicating that SME managers and accountants in Hanoi possess accurate awareness of the multidimensional factors contributing to their firms' tax compliance challenges. Third, this perception-reality consistency suggests that information deficits or awareness gaps are not the primary barriers to compliance; rather, resource constraints, competing financial pressures, and structural limitations beyond immediate managerial control constitute the binding constraints on tax compliance behavior. This subsection does not represent an additional regression variable; instead, it provides an interpretive comparison between managers' perceptions and the empirical results. The strong alignment between managerial perceptions and actual outcomes indicates that SME managers/accountants in Hanoi possess accurate awareness of multidimensional factors contributing to tax compliance challenges. This suggests that the primary barrier to compliance may not be lack of awareness but rather resource constraints or institutional factors beyond immediate managerial control. The hierarchy of perceived influence with firm size and governance quality as strongest factors indicates that interventions targeting structural and governance dimensions may be most effective and aligned with practitioners' understanding of compliance barriers.

5. Conclusion

This study investigated the relationship between firm-specific characteristics and tax debt among SMEs in Hanoi, Vietnam, during the period 2022-2024. Employing a sequential analytical approach combining Exploratory Factor Analysis and multiple linear regression on data from 285 valid responses, the research identified seven critical internal determinants that significantly influence tax debt occurrence: firm size, corporate governance , asset structure, business sector, debt level, psychological factors, and business performance. The validated regression model demonstrates robust explanatory power in tax debt behavior among sample firms.

The empirical evidence validates several theoretical propositions: the significant influence of psychological factors supports application of the Theory of Planned Behavior to tax compliance contexts in emerging economies; the substantial impact of asset structure corroborates liquidity constraint theories; and strong sectoral effects underscore the importance of industry-specific operating characteristics in determining compliance capacity. These findings extend firm characteristic theories from tax avoidance contexts to tax debt phenomena, thereby broadening analytical scope to encompass actual compliance failures rather than merely strategic tax minimization, while providing empirical evidence from a transitional economy that addresses gaps in literature historically concentrated on developed economies.

This research generates significant theoretical and practical implications for tax policy formulation, and administrative practice. Theoretically, the study validates perception-based measurement approaches by demonstrating strong alignment between managerial assessments and observed outcomes, particularly valuable for emerging economy contexts with limited objective data availability. The predominance of firm size and governance quality as determinants over financial performance redirects scholarly attention toward organizational capacity factors particularly relevant for understanding SMEs compliance behavior in resource-constrained environments.

Practically, the findings suggest five actionable policy directions. First, tax authorities should develop differentiated compliance support mechanisms calibrated to organizational scale - larger SMEs require assistance managing organizational complexity and implementing integrated financial management systems, while smaller enterprises need simplified reporting requirements and basic financial management advisory services. Second, given corporate governance quality's substantial influence, capacity-building interventions targeting managerial competencies, including training programs focused on cash flow management, tax obligation planning, and internal control systems tailored to SMEs contexts, could yield significant compliance improvements. Third, the documented sectoral variations call for industry-specific approaches to tax administration, with sectors characterized by irregular cash flows (construction, wholesale trade, services) benefiting from flexible payment scheduling, industry-tailored extension policies, and sector-specific guidance aligned with typical business cycles. Fourth, the influence of psychological factors suggests that tax authorities should invest in taxpayer education programs emphasizing normative dimensions of tax citizenship, perceived fairness, and transparent enforcement communication, as clearly articulated relief mechanisms can positively shape compliance patterns. Fifth, the strong perception-reality alignment indicates that compliance interventions should focus on enabling mechanisms addressing structural constraints, such as working capital financing access, supply chain payment discipline, and electronic filing infrastructure, rather than primarily emphasizing awareness-raising campaigns for enterprises already cognizant of their vulnerabilities.

Despite its contributions, this study exhibits limitations warranting future research. The cross-sectional design precludes causal inference; longitudinal studies employing panel data could reveal dynamic relationships, lag structures, and threshold effects. Reliance on perceptual measures should be triangulated with objective financial records and tax authority administrative data in future work. Geographic focus on Hanoi limits generalizability; comparative studies across Vietnamese regions and other Southeast Asian countries would identify universal versus context-specific determinants. The model's explanatory power (62.9%) indicates that additional factors - including entrepreneur characteristics, peer effects, professional advisory access, and digital technology utilization- warrant investigation. Finally, research examining compliance resolution processes and pathways from tax debt occurrence to resolution could inform more effective debt management approaches beyond merely preventing compliance failures.

In conclusion, tax debt among SMEs constitutes a multidimensional phenomenon shaped by structural, governance, sectoral, and behavioral factors. The predominance of organizational capacity dimensions over financial performance, combined with strong perception-reality alignment, indicates that sustainable compliance improvements in transitional economies require moving beyond traditional enforcement paradigms toward capacity-building and enabling interventions that address the binding constraints on SME compliance behavior.

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