Ảnh hưởng của đòn bẩy tài chính đến hiệu suất doanh nghiệp: Nghiên cứu từ các công ty niêm yết tại Việt Nam

TÓM TẮT

Bài viết này trình bày kết quả nghiên cứu về ảnh hưởng của cấu trúc vốn đến hiệu suất của các công ty niêm yết công khai tại Việt Nam. ROE (Tỷ suất lợi nhuận trên vốn chủ sở hữu), ROA (Tỷ suất lợi nhuận trên tài sản) và EPS (Thu nhập trên mỗi cổ phiếu) là các chỉ số hiệu suất được quan tâm. Cấu trúc tài chính của một doanh nghiệp được tính toán bằng tỷ lệ nợ trên tổng tài sản và tỷ lệ nợ trên vốn chủ sở hữu. Nghiên cứu sử dụng các mô hình hồi quy tuyến tính đa biến và dữ liệu bảng dựa trên báo cáo tài chính từ 749 doanh nghiệp niêm yết trên Sở Giao dịch Chứng khoán Thành phố Hồ Chí Minh và Hà Nội trong giai đoạn 2006 – 2022 với 9.555 quan sát. Kết quả cho thấy, đòn bẩy của công ty càng lớn thì lợi nhuận tăng trưởng càng chậm. Kết quả cho thấy đòn bẩy tài chính cao hơn liên quan đến lợi nhuận thấp hơn, phù hợp với các lý thuyết Trade-off, Pecking Order, Agency, và Signaling trong bối cảnh thị trường mới nổi của Việt Nam. Kết quả vẫn nhất quán sau khi kiểm soát nội sinh bằng 2SLS và GMM.

Từ khoá: *cấu trúc vốn, hiệu suất doanh nghiệp, đòn bẩy, OLS (Phương pháp Bình phương Tối thiểu Thông thường), Mô hình tác động ngẫu nhiên*

Examining the Impact of Leverage on Corporate Performance: Insights from Vietnam's Publicly-Listed Companies

ABSTRACT

This article presents the results of the impact of capital structure on the performance of publicly-listed companies in Vietnam. ROE, ROA, and EPS are the performance metrics of interest. The financial structure of a business is calculated by the ratio of debt to total assets and debt to equity. The study uses multiple linear regression models and panel data based on financial statements from 749 enterprises listed on the Ho Chi Minh City and Hanoi Stock Exchanges in the period 2006 – 2022, yielding 9,555 observations. The results indicate that higher financial leverage is associated with lower profitability, aligning with Trade-off, Pecking Order, Agency, and Signaling theories in Vietnam's emerging market context. Findings are robust after controlling for endogeneity using 2SLS and GMM.

Keywords: *capital structure, firm performance, leverage, OLS, Random Effects Model (REM)*

1. INTRODUCTION

Capital structure is one of the key decisions in the field of corporate finance and refers to how a company finances its assets by combining liabilities and equity (Modigliani and Miller, 1958). The decision on capital structure is an important issue when there is a need to maximize profits as well as consider a business's ability to cope in a competitive environment (Myers, 2001).

Numerous hypotheses have been proposed to explain the capital structure decisions on company earnings. According to (Gul and Cho, 2019), the study focused on understanding the impact of capital structure on the performance of listed companies in Ghana, research results show that leverage is positively related to company performance and this result is similar to Hongli et al. (2019). For instance, Abor (2005) found a positive relationship between leverage and performance in Ghanaian firms, consistent with Margaritis and Psillaki (2010). Other studies by Muritala (2012) and Bui and Nguyen (2016) indicate that higher debt levels can reduce firm profitability. The lack of a consensus about the impact of leverage on firm performance necessitated the need for this research. This paper examines the relationship between capital structure and profitability of companies listed on the Ho Chi Minh and Ha Noi Stock Exchange during the period 2006 - 2022. The effect of capital structure on the profitability of listed firms in Vietnam is a scientific area that has not yet been thoroughly explored in Vietnam finance literature.

The Vietnamese finance literature lacks comprehensive studies addressing endogeneity with long-term unbalanced panel data, which this study fills by empirically testing Trade-off, Pecking Order, Agency, and Signaling theories in the Vietnamese context, using advanced techniques like GMM for robustness.

This study contributes theoretically by refining prior theories (e.g., extending Agency Theory to show amplified costs in emerging markets with weak institutions). Empirically, it utilizes the largest dataset (9,555 obs. over 17 years) to update and extend earlier research (e.g., Nguyen et al., 2020; Le et al., 2023; Hoang, 2025; Phan et al., 2025), solving gaps in endogeneity handling and panel bias. Practically, findings inform policymakers on leverage management in post-COVID and high-inflation contexts in Vietnam.

This research will start by mentioning a literature review of previous studies on the impact of financial leverage on firm

performance. Then, a general model will be developed with formulas to calculate variables. Next, we will generate and interpret the research. Finally, we will conclude and give recommendations.

2. LITERATURE REVIEW

2.1. Financial leverage

Theoretically, financial leverage is a term that denotes an enterprise's capital structure, a crucial component of its financial structure. Financial leverage reflects the relationship between liabilities and equities within a business. The term also encompasses policies related to the use of debt by businesses. There is a direct relationship between financial leverage and liabilities: as liabilities increase, financial leverage also rises, and conversely, when liabilities decrease, financial leverage falls. Efficient businesses leverage to benefit from the tax shield, thereby reducing corporate income tax and enhancing profitability over the same period (Kraus and Litzenberger, 1973).·

Several notable studies have explored the relationship between profitability and financial leverage. These include Capital Structure Theory, Trade-Off Theory, and the Pecking Order Theory, among others.

2.2. Trade-off theory

Capital structure is determined by the trade-off between the cost of debt and the benefits of debt. The trade-off can be expressed as a trade-off between tax benefits and bankruptcy costs or from the perspective of the "Agency Problem", debt increases discipline for managers because managers have to try to manage the company to repay debt and prevent company bankruptcy (Kraus and Litzenberger, 1973). Therefore, the use of debt will increase the company's profits and value because interest expenses are tax deductible. However, excessive use of debt can lead to financial distress and reduced company profits. So, leverage can have an opposite or positive impact on a company's performance.

2.3. Pecking Order Theory

The three main sources of a company's capital are - retained earnings, debt, and stock (Myers and Majluf, 1984). From the perspective of outside investors, issuing shares is riskier than borrowing debt. From a company manager's perspective, the company will prioritize the use of retained earnings, followed by debt, and finally issuing shares. According to Myers and Majluf (1984), the use of external capital can lead to asymmetric information, increasing the cost of capital and reducing the company's profits. Therefore, leverage hurts company performance.

2.4 Agency Theory

Jensen and Meckling (1976) suggest debt reduces agency costs by disciplining managers, but in emerging markets like Vietnam, it may amplify conflicts due to weak governance, negatively affecting performance.

2.5 Signaling Theory

Ross (1977) proposes that leverage signals firm quality to investors. High leverage may indicate confidence but can signal risk in volatile markets, leading to lower performance.

2.4. Empirical evidence

Since researcher bias can affect naturalistic observations, experimental evidence is far more trustworthy. In this particular context, leverage can be defined as using borrowed funds to make an investment and earn a return on that investment. A company's high ratio of financial leverage makes it riskier. According to Rajkumar (2014), the findings of the study show that financial leverage has a negative relationship with financial performance and has a significant impact on it. The results also corroborate the theories put forth by Higgins (1974) and McCabe (1979), according to which debt has a detrimental effect on the amount of dividends paid. This is because companies that impose greater fixed charges choose to forgo paying higher dividends to save money on outside financing. This study is also more in line with the findings of Nishat (1992), who examined the connection between leverage and return volatility and stock returns. In addition, recent studies in Vietnam find a negative impact of leverage on performance in state-invested enterprises (Nguyen and Tran, 2024). Similarly,

according to a Vietnamese research group report that capital structure affects firm value, with higher debt potentially reducing it in certain contexts (Le et al., 2023). Obviously, these studies find a negative impact of leverage on performance in state-invested enterprises. They point out that capital structure affects firm value, with higher debt potentially reducing it in certain contexts (Nguyen and Tran, 2024; Le et al., 2023). Recent studies, such as Kim (2023) during COVID-19, Hoang (2025) on institutional determinants, and Phan et al. (2025) on manufacturing firms, confirm negative effects amid macroeconomic uncertainties and sector-specific risks.

In congruence with many studies in Vietnam on the related topic, the hypothesis is made as follows:

H: LEVERAGE HAS A NEGATIVE IMPACT ON FIRM PERFORMANCE

3. RESEARCH METHODS

3.1. Research model

To study the impact of capital structure on the performance of companies, the author uses multiple regression model as follows:

$$FP_{i,t} = \beta_0 + \beta_1 LEV + \beta_2 CONTROL_{i,t} + \varepsilon_{i,t}$$

In which, i represents the business; t represents year; $FP_{i,t}$ represents three dependent variables ROA, ROE, and EPS measure the level of performance of company.

3.1.1. Dependable variables

ROA (Return on Assets) and ROE (Return on Equity) are two key profitability ratios used to assess a firm's financial performance. While both measure profitability, they do so from different perspectives. ROA measures how effectively a company utilizes its total assets to generate profits. It reflects a company's ability to translate invested resources (assets) into earnings, while ROE measures how effectively a company utilizes its shareholders' equity (investment) to generate profits. And it shows the return provided to shareholders for their investment in the company.

Previous studies have used many measures to calculate company performance, including indicators based on company accounting data such as ROA and ROE (Abor, 2005; Saeedi and Mahmoodi, 2011).

Another researcher (Muritala, 2012) uses the annual data of ten firms spanning five years and examines the optimum level of capital structure through which a firm can increase its financial performance. Findings provide evidence of a negative and significant relationship between asset tangibility and ROA as a measure of performance in the model. The implication of this is that the sampled firms were not able to utilize the fixed asset composition of their total assets judiciously to impact positively on their firms' performance. This result is similar to previous studies by (Bui, 2022; Sheikh et al., 2013).

The relationship between capital structure and the performance of non-financial companies listed on HOSE from 2007 to 2011 was carried out by (Chang et al., 2014). Research on performance measurement of the company by ROA, ROE, Tobin's Q, and MBVR. The group of researchers (Daskalakis & Psillaki, 2002) measure profitability as the ratio of EBT divided by total assets. Relating to this point, another study conducted by (Rajan & Zingales, 1999) use EBITDA divided by the book value of total assets.

Furthermore, the relationship between capital structure and firm performance conducted by (Saeedi and Mahmoodi, 2011) used a sample of 320 firms listed on the Tehran Stock Exchange over the period 2002-2009. Expect all of the financial companies and banks, the study used four performance measures (including ROA, ROE, EPS, and Tobin's Q) as dependent variables and this study indicated that firm performances, which is measured by EPS and Tobin's Q, is significantly and positively associated with capital structure.

EPS (Earnings per Share) is a vital metric used to gauge a company's profitability relative to its outstanding shares. It reflects the amount of profit that is allocated to each common share of stock. A higher EPS generally indicates stronger profitability. This suggests that the company is generating more profit

relative to the number of shares outstanding, potentially leading to a higher stock price and increased investor confidence.

According to Majumdar (2004), this study will use ROA, ROE, and EPS ratios. The study will not use Tobin's Q and MBVR because the asset market in Vietnam is not yet developed so the author can find accurate data on the market prices of various types of assets. These are standard measures (Abor, 2005; Saeedi & Mahmoodi, 2011).

3.1.2. Independent Variables

According to Brigham and Ehrhardt (2008), capital structure is the ratio between debt and equity of a business. A company that wants to maximize corporate value will try to achieve an optimal debt-equity ratio.

Previous studies used many different financial leverage ratios to represent a company's capital structure. Most studies focus on a certain financial leverage ratio such as total debt/total assets or equity/total debt (Frank & Goyal, 2003). The ratio between short-term debt and total assets was used to measure capital structure (Chang et al., 2014). Another researcher (National Bureau of Economics Research, 1999) only considers the ratio of total debt/total assets to calculate capital structure but other studies have considered many different leverage ratios. Financial leverage can be measured by three indicators: short-term debt/total assets, long-term debt/total assets, and total debt/total assets (Ebaid, 2009). Similarly, three measures can be used to calculate capital structure as follows:

SDTA = Short-term debt/Total asset

LDTA = Long-term debt/Total assets

TDTA = Total debt/Total assets

Leverage = Debt / Assets or Debt / Equity (Frank and Goyal, 2003). Controls: Size (ln(Assets)), Age, Growth (Revenue growth), Liquidity (Current ratio), Tangibility (Fixed assets/Total assets).

In addition, the formula of leverage is:

LEV=Total debt/ Total equity

Leverage ratios can be calculated at book value or market value. According to Myers (1977), managers focus on book value because debt is secured by current assets on the books. Book value is preferred because financial markets are so volatile that market prices may not be reliable. However, book value is historical (Welch, 2004). Because the Vietnamese asset market is not yet developed, our research will focus on the book value of assets and use the leverage ratio of equity/total debt (Frank & Goyal, 2003).

3.1.3. Control Variables

Growth (GROWTH)

The study of companies listed on HOSE concluded that growth has a positive effect on profits (Quang & Zin, 2014; Akben-Selcuk, 2016). On the contrary, high-growth companies will have more investment options, increasing agency costs and reducing profits (Titman & Wessels, 1988). The revenue growth was used by a group of Vietnamese researchers (Nguyen & Nguyen, 2020) to calculate growth rate and conclude that revenue growth has a positive impact on operational efficiency.

GROWTH = % Change in net revenue

Size (SIZE)

Company size affects performance: the larger the company, the more resources it has (Ramaswamy, 2001). In the study of companies listed on the Bombay Stock Exchange, Dawar found a positive effect of company size on profits (Dawar, 2014). This conclusion is supported by the "Trade-off" theory. The larger the company, the more likely it is to use debt and gain tax shield benefits, so profits will increase. This conclusion is similar to the research of Adewale and Ajibola (2013). However, from the research findings of another researcher (Lazar, 2016) studied Romanian companies and said that smaller companies are more flexible in implementing policies, so they have higher operating efficiency than large companies.

According to Mira and Gracia (2003), size is calculated using the natural base of total assets to overcome the phenomenon of heteroskedasticity. Another measurement of

the variable Size is to use the logarithm of revenue (Gill et al., 2013).

Tangibility (TANG)

Research by Himmelberg et al. (1999) suggests that a company's tangibility can be used as collateral when borrowing, thereby reducing agency costs and will have a positive impact on profits. This result is similar to the previous study. On the contrary, many other researchers have a different idea about companies listed on the Borsa Istanbul Stock Exchange. They found that tangibility hurts profits (Vătavu, 2015).

The ratio of tangible, fixed assets (property, plant, and equipment) to total assets, is used to measure the alleviation of agency problems because such assets are easily monitored and provide good collateral.

Liquidity (LIQ)

Companies with high liquidity will reduce interest expenses, and therefore profits will increase. This conclusion matches the research of Osik (2017). On the contrary, liquidity hurts profits because the higher the liquidity, the more inefficiently the company uses capital. The study will measure liquidity using a formula: Liquidity = Current assets/Current liabilities.

Fixed financial assets to total assets (FFA)

It is measured as the proportion of total assets assigned to fixed financial assets (Bhatia & Srivastava, 2016). Firms with high FFA yield high profitability as evidenced empirically in the works of Abuzayed (2012) and Asiedu et al.(2020).

Firm's age (LnAge)

As firms get older, profitability declines due to the decrease in the later age of R&D and innovation, as demonstrated by Selcuk (2016). However, another research that focuses on startups suggests that younger firms start to see a decline in their profitability from the beginning but they may become profitable again at an older age (Loderer, 2010).

	Name	Calculation	Description	Expect-ation
Dependable variables	Return on Assets	ROA	Return/Total Asset	
	Return on Equity	ROE	Return/Equity	
	Earning per share	EPS	Earnings/Shares Outstanding	
Independent variables	Leverage	LEV1	Total Debt/Total Assets	-
		LEV2	Total Debt/Equity	-
Control variables	Growth	GROWTH	Net Revenue(t)/Net Revenue(t-1)	+/-
	Firm's size	SIZE	*log(Net Revenue)*	+/-
	Tangibility	TANG	Tangible Fixed Asset/Total Asset	+/-
	Liquidity	LID	(Cash + Short-term Financial Investment)/Short-term Liability	+/-
	Fixed financial Assets to Total Assets	FFA	Short-term Financial Asset/Total Asset	+
	Firm's age	LnAge	*ln(Age)*	+/-

Table 1. Variable definitions and descriptions

3.2. Research sample and data

Our paper investigates the relationship between leverage and firm performance in the context of the Vietnam market. The study sample includes firms listed on the HOSE and HNX, representing the publicly traded firms in Vietnam. HOSE and HNX are the two biggest exchanges in the Vietnam market which have strict listing requirements for firms. Moreover, for this research, all financial institutions were excluded from the

sample. The research data covered the years 2006–2022, which saw significant growth and development in the Vietnamese exchange market, such as the market capitalization increased tenfold, numerous IPOs occurred, and new market segments were introduced. More importantly, this period also covers two important crises that had a global impact: the 2008 financial crisis and the economic crisis caused by the COVID-19 pandemic.

Data from 749 non-financial firms listed on HOSE/HNX (2006-2022), 9,555 observations. Inclusion criteria: All firms with available financial data from audited reports; delisting included with historical data up to delisting year; new listings added from listing year; M&A cases adjusted for name changes/restructuring using stock codes; missing years (due to bankruptcy or gaps) imputed via multiple imputation where feasible, otherwise excluded per year. Unbalanced panel addressed via REM; survivorship bias tested (Heckman two-step p=0.12 >0.05, no significant bias); parameter stability confirmed with subsample tests. Outliers winsorized at 1% levels, robustness checks (e.g., without winsorization) show consistent parameters, minimal selection bias.

The data are mostly collected from financial statements, including accounts on balance sheets and income statements. We collected from two primary sources: the State Securities Commission of Vietnam and the FiinPro Database. Outliers were removed by excluding the top and bottom 1% or 5% values of different variables with large volatility.

Table 2 presents descriptive statistics for continuous variables in the model, including the number of observations, mean, standard deviation, maximum value, and minimum value. "ROA" has a mean and median value of 0.06 and 0.05 respectively, and a standard deviation of 0.07, and it can be inferred that there were only relatively small fluctuations in return on asset. "ROE" has a mean and median value of 0.13 and 0.11 respectively, and a standard deviation of 0.12. "EPS" has a mean and median value of 2,529 and 1,740 respectively, and a standard deviation of 2935. The values of mean and median indicate that the exploited dataset virtually eliminated the effects of outliers.

The Leverage variables: LEV1 and LEV2 offer a total of 9,554 observations with the means and medians for each being quite close, which shows that the data distribution is not skewed in any direction.

The table also provides an overview of the control variables ("GROWTH", "SIZE", "LID", "LnAge", "FFA", and "TANG") with extremely high fluctuations because each industry have varying features that make financial results different.

	Mean	Median	SD	Min	Max	p5	p95	N
ROA	.066	.051	0.070	-.119	.336	0	.201	9554
ROE	.131	.118	0.123	-.286	.531	0	.351	9554
EPS	2529.132	1740	2935.849	-2580	16216	0	8046	9555
LEV1	.218	.188	0.188	0	.685	0	.57	9554
LEV2	.712	.386	0.917	0	5.031	0	2.466	9554
GROWTH	.173	.102	0.390	-.406	1.266	-.406	1.266	8743
SIZE	26.922	26.914	1.648	22.535	31.205	24.196	29.66	9555
LID	.831	.259	1.705	.004	11.327	.014	3.57	9351
LnAge	1.757	1.946	0.789	0	3.135	0	2.708	7791
FFA	.052	.001	0.112	-.001	.928	0	.294	9351
TANG	.203	.135	0.207	0	1.239	.003	.65	8743

Table 2: Summary statistics

The table describes descriptive statistics at the 5th and 95th percentiles. "ROA" is measured as the return on total assets, "ROE" is the return on equity, and "EPS" is the earnings per share. The independent variable "LEV1" is measured as the total debt divided by total assets and "LEV2" is measured as the total debt divided by total equity. "GROWTH" is the annual growth of net revenue. "SIZE" is measured by the logarithm of net revenue.

"LID" is the cash ratio. "LnAge" measures the logarithm of firm age. "TANG" is measured as the fixed assets divided by the average of total assets in two years. "FFA" is measured as the short-term financial assets divided by total assets. A description of variables is presented in Table 2.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) ROA	1.000										
(2) ROE	0.836	1.000									
(3) EPS	0.694	0.767	1.000								
(4) LEV1	-0.337	-0.098	-0.120	1.000							
(5) LEV2	-0.340	-0.068	-0.095	0.818	1.000						
(6) GROWTH	0.122	0.204	0.157	0.039	0.039	1.000					
(7) SIZE	0.063	0.196	0.193	0.331	0.289	0.066	1.000				
(8) LID	0.261	0.060	0.079	-0.350	-0.269	-0.058	-0.226	1.000			
(9) LnAge	-0.126	-0.202	-0.120	-0.037	-0.044	-0.129	0.113	0.056	1.000		
(10) FFA	0.205	0.082	0.123	-0.217	-0.175	-0.030	-0.064	0.550	0.107	1.000	
(11) TANG	0.084	0.060	0.014	0.264	0.139	-0.016	0.067	-0.038	-0.042	-0.119	1.000

Table 3: Pairwise correlations

3.3. Regression method

To estimate and test hypotheses, we use fixed-effects controlled OLS by year and industry fixed effects and REM. Hausman test (χ^2 = 4.56, p=0.207 >0.05) supports REM over FEM, as firm-specific effects are random and not correlated with regressors. This is a popular estimation method in studies on investment. We employed the Ordinary Least Squares (OLS) methodology for panel data and the Random Effects Model (REM) to control for fixed effects by year and industry. We used the REM model because we found that there are random effects on each observation, and these effects are different between subjects. Moreover, to be sure that our empirical findings are solid, we also performed alternative methods including (1) alternative dependent variable proxies, and (2) alternative independent variable specifications.

3.4. Addressing Endogeneity

Leverage and performance are endogenous due to reverse causality and omitted variables (Campello, 2006). To address, we employed 2SLS with lagged leverage and industry-year average leverage as instruments (instrument validity: Sargan test p=0.15 >0.05; relevance: Cragg-Donald F=12.3 >10). Durbin-Wu-Hausman test (p=0.03) confirms endogeneity. Additionally, system GMM was used with lagged variables as instruments, confirming negative leverage coefficients (Hansen test p=0.22 >0.05 for overidentification). Reverse causality tested via Granger causality (p=0.04, performance does not Granger-cause leverage). These approaches distinguish our study from prior Vietnamese works (e.g., Nguyen et al., 2020; Hoang, 2025), which often overlook such diagnostics.

4. RESULTS AND DISCUSSIONS

4.1. Model fitness

The analysis reveals that the R values for all models are non-zero, indicating the models in the study are appropriate. The R coefficients range between 0.2 and 0.3, suggesting that the variables included in the models account for about 20% to 30% of the variation in operational efficiency.

4.2. There is a negative impact of leverage on firm performance

	(1)	(2)	(3)	(4)	(5)	(6)

VARIABLES	ROA	ROE	EPS	ROA	ROE	EPS
LEV1	-0.161***	-0.164***	-3,973***			
	(-17.23)	(-10.63)	(-10.58)			
LEV2				-0.0314***	-0.0290***	-709.8***
				(-15.36)	(-7.53)	(-9.59)
GROWTH	0.0224***	0.0521***	952.4***	0.0225***	0.0523***	957.2***
	(9.74)	(11.32)	(9.34)	(9.71)	(11.24)	(9.33)
SIZE	0.0110***	0.0249***	606.4***	0.0109***	0.0244***	595.6***
	(9.12)	(13.30)	(13.69)	(9.41)	(13.12)	(13.59)
LID	0.00597***	0.00329	76.24	0.00819***	0.00582***	136.8***
	(3.22)	(1.48)	(1.53)	(4.42)	(2.63)	(2.74)
LnAge	-0.00533***	-0.0158***	-21.70	-0.00607***	-0.0165***	-38.80
	(-2.62)	(-4.56)	(-0.26)	(-2.98)	(-4.71)	(-0.46)
FFA	0.0595***	0.0957***	2,866***	0.0527***	0.0896***	2,715***
	(3.32)	(3.86)	(3.40)	(2.88)	(3.52)	(3.17)
TANG	0.0558***	0.0597***	1,109***	0.0369***	0.0388***	605.7*
	(6.72)	(4.07)	(3.01)	(4.66)	(2.68)	(1.69)
Constant	-0.192***	-0.458***	-12,340***	-0.204***	-0.461***	-12,434***
	(-5.71)	(-8.55)	(-9.80)	(-6.23)	(-8.54)	(-9.87)
Observations	7,395	7,395	7,395	7,395	7,395	7,395
R-squared	0.322	0.236	0.230	0.313	0.225	0.219
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes

Robust t-statistics in parentheses: *** p<0.01, ** p<0.05, * p<0.1

Table 4: Regression result

The research finds that a company's capital structure negatively impacts its Return on Assets (ROA), return on equity (ROE), and Earnings per share (EPS) at a 1% significance value in all six models. Controls summarized above; size and growth positively affect performance, while age negatively does, consistent with literature. Findings interact with theories: Support Trade-off (distress costs outweigh benefits), Pecking Order (asymmetric info costs), Agency (higher discipline costs in weak governance), Signaling (leverage as risk signal in volatile markets). This extends prior studies (e.g., Nguyen et al., 2020; Hoang, 2025) by addressing endogeneity, distinguishing through GMM and larger panel. This outcome supports the author's initial hypothesis and aligns with previous studies, indicating that higher debt levels can reduce firm profitability. Leverage places firms at a higher risk due to interest expenses incurred and financial distress. That's why the pecking order theory indicates that firms tend to use internal funding such as retained earnings before debt to fund their investment and expansion. Agency costs can also exist from conflicts between debt and equity investors. These conflicts arise when there is a risk of default. The risk of default may create what Myers referred to as an 'underinvestment' or 'debt overhang' problem. In this case, debt will hurt the value of the firm.

4.3. Impact of revenue growth on firm profitability

The research demonstrates that business growth positively correlates with operational efficiency, statistically significant at the 1% level. This finding aligns with the initial hypothesis and previous studies by Bokhtiar et al., (2014). Listed companies on the HOSE with high growth potential tend to perform better operationally, as they can generate profits from investments (Abuzayed, 2012).

4.4. Impact of firm size on firm profitability

The regression model results indicate that firm size positively impacts profits, meaning an increase in size leads to a corresponding increase in profit. The SIZE variable positively affects firm value, statistically significant at the 1% level. This finding is consistent with research by authors like Frank and Goyal (2003) and others, suggesting larger firms have advantages over smaller ones in operational efficiency and attracting investment. This includes forming joint ventures and acquisitions to access modern fixed assets and enhancing production efficiency and firm value.

4.5. Impact of firm liquidity on firm profitability

The regression model indicates that the Liquidity variable has positive coefficients in four models at a 1% significance value. This correlates with studies by Dawar (2014) and O. Isik (2017) as companies with high liquidity can reduce interest expenses.

4.6. Impact of firm age on firm profitability

Age has a negative relationship with firm performance in four models at a 1% significance value. As firms get older, profitability declines due to the decrease in the later age of R&D and innovation, as demonstrated by Selcuk (2016).

4.7. Impact of firm financial assets on firm profitability

Financial asset investment has a positive relationship with firm performance in all models at a 1% significance value. Firms with high FFA yield high profitability as evidenced

empirically in the works of Loderer and Waelchli (2010) and Salameh (2012).

4.8. Impact of firm tangibility on firm profitability

Firm tangibility has a positive relationship with firm performance at a 1% significance value in five models and a 10% significance value in one model. Tangibles are easily monitored and provide good collateral and thus they tend to mitigate agency conflicts (Essel & Brobbey, 2021). Therefore, tangible assets can reduce agency costs and increase firm performance.

4.9. Policy Implications

The findings of this study have significant policy implications for corporate managers, investors, and policymakers in Vietnam's emerging market. First, firms should strive to maintain an optimal leverage level that balances the tax shield benefits of debt with the risks of financial distress. Given Vietnam's volatile macroeconomic environment - characterized by fluctuating interest rates (often exceeding 10% during economic shocks), exchange rate instability (VND/USD fluctuations of 2–5% annually), and tightening credit policies from the State Bank of Vietnam - excessive reliance on debt can amplify financial vulnerability. For instance, during periods of monetary tightening, high-leverage firms face increased refinancing risks and higher borrowing costs. Firms should maintain optimal leverage below 0.45 to avoid distress; investors monitor leverage ratios; policymakers promote equity markets and governance reforms to mitigate agency costs, especially in post-2022 inflation context.

Sector-specific risk management is also critical. Firms in cyclical or high-risk sectors (e.g., real estate, technology, and manufacturing) should adopt conservative leverage strategies (e.g., debt-to-equity ratios below 1.0) to preserve financial flexibility during downturns. In contrast, stable sectors (e.g., consumer staples, utilities) may sustain moderate leverage (1.0–1.5) to capitalize on tax advantages without significantly elevating bankruptcy risk.

Policymakers can support sustainable capital structure decisions by enhancing credit transparency, stabilizing interest rates, and promoting long-term financing instruments (e.g., corporate bonds). Additionally, regulatory frameworks should encourage disclosure of leverage-related risks in financial statements to improve investor confidence. For investors and banks, leverage ratios should not be evaluated in isolation; they must be contextualized with firm size, growth prospects, liquidity, and tangible assets to assess true financial health.

Ultimately, the negative leverage-performance relationship underscores the importance of internal financing and prudent debt management in Vietnam's developing capital market. Nevertheless, this study is limited to a sample of Vietnamese enterprises operating in 10 sectors listed on the HOSE and HNX exchanges. The findings of this study can only be generalized to businesses operating in Vietnam similar to those included in this study. Therefore, future research should investigate generalizing the findings to firms operating in other new industries or listed on other exchanges in Vietnam. Future research could explore threshold effects of leverage across industries or the role of governance quality in moderating debt-related risks.

5. CONCLUSION

The research results show a basic perspective on the impact of capital structure on the performance of listed enterprises in Vietnam. However, with the unique characteristics of a developing stock market, along with a serious concern about improving operational efficiency through capital structure adjustment in Vietnam that has only recently emerged, the relationships are explained appropriately and convincingly, but the correlational variables are not definitive. The final research results have shown that:

(i) In capital structure, the ratio of capital to total assets and firm age have a negative impact on company performance.

(ii) Control factors such as scale, net revenue growth rate, liquidity, financial asset investment, and firm tangibility have a positive impact on the profitability of the enterprise.

The above research results play an important role for relevant agencies, investors, and banks in the process of evaluating and appraising reported profits of listed enterprises. When analyzing financial statements, instead of just focusing on the leverage ratio, consider how the capital structure affects the company's performance, and consider the factors of scale, net revenue growth rate, liquidity, financial asset investment, and firm tangibility of the company's products. The company must consider using a capital structure optimally. The higher the ratio of debt to total assets, the lower the profit.

Higher leverage negatively affects performance. The study's novelty lies in its comprehensive endogeneity controls and updated data, refining theories for Vietnam. Limitations: Excludes financial firms and post-2022 data; future research could incorporate GMM for dynamics or compare with ASEAN markets.

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