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ADVANTAGES OF CAPITAL SCALE OF LISTED ENTERPRISES IN VIETNAM

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Abstract

The study aims to clarify the relationship between company size and profitability of listed companies in Vietnam. The research sample consists of 1,144 listed companies on the Ho Chi Minh Stock Exchange (HoSE) and the Hanoi Stock Exchange (HNX), corresponding to 13,728 observations from 2010 to 2021. By using a quantitative research method (linear regression), the author identifies that company capital size significantly affects profitability, including: (1) The scale of the company (LnTTS) has a negative impact on profitability, and (2) Owner's equity (LnVCSH) has a positive impact. Based on the research findings, the author provides discussions and evaluations regarding the importance of increasing owner's equity size and offers financial solutions to enhance profitability for listed companies.

Keywords: *Company scale, profit capability, operational efficiency*

Introduction

In a market economy, to carry out business operations, companies require a certain amount of capital that is suitable for their scale and business conditions. With sufficient capital, companies can invest with the aim of maximizing profitability, which is considered their survival factor. This is because when a company has a large scale, there are opportunities for increased revenue, brand reputation, cash flow, profit, turnover, funding sources, and company credibility to grow rapidly. The large scale of a company essentially has two aspects: when the company controls and ensures the stability of funding for growth, sustainable growth will bring maximum benefits to the company.

On the other hand, if a company's scale is not controlled, and there is an imbalance between resources and financial needs, the growth rate of revenue exceeds the rate of increase in net cash flow, interest income, and capital inflows will depend on external financial sources, resulting in an inability to repay debts and potential financial imbalances and risks. At the same time, other companies that experience slow growth may miss out on development opportunities.

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In reality, in Vietnam, alongside large companies that have leveraged the advantage of scale by investing in technological innovation, production processes, and management methods to meet competitive requirements, there still exist many large-scale companies that have not operated efficiently and lack strategic plans. Examples of such companies include the Vietnam Shipbuilding Industry Group, the Vietnam Maritime Corporation, and the national airline Vietnam Airlines.

Research Overview and Theoretical Basis

Different perspectives on the relationship between company size and profitability exist worldwide, and several studies have been conducted on this topic:

According to the optimal capital structure theory (also known as the traditional capital structure theory), managers can establish an optimal capital structure to maximize the value of the company by maintaining an appropriate financial leverage. Therefore, according to this theory, managers not only increase the scale of capital but also balance the proportion of equity and debt, or internal and external forces (Modigliani & Miller, 1958).

According to Sitkoff (2003), large and complex companies engaged in multiple activities may face issues of agency problems and poor corporate governance, which can increase risks and reduce efficiency. From this perspective, companies tend to naturally accept excessive risks and increase their scale, while regulatory agencies, by focusing on micro-level safety regulations, have done little to prevent the accumulation of systemic risks and increase the costs of risk management. As a result, large companies tend to share more risk factors, such as high leverage, diversified operations, and interconnectivity (Sitkoff, 2003).

According to Pil and colleagues (2003), focusing on scale does not always lead to good business results or high profitability. Large-scale companies often face limitations in innovation, slow response to customer needs, limitations in staff development, and a lack of adaptability to industry and environmental changes. On the other hand, small-scale companies have significant competitive advantages, such as identifying hotspots, leveraging local knowledge networks, and being able to quickly respond to customer needs. They also allow companies to monitor cost-saving technologies and develop managerial human resources (Pil & Holweg, 2003).

According to Becker-Blease and colleagues (2010), an analysis of the scale advantage and profitability of 109 four-digit SIC manufacturing industries found that profitability increases with a decreasing rate and eventually declines in a maximum of 47 industries. No significant relationship between profitability and scale was found in up to 52 industries. Profitability continues to increase as companies become larger in up to 11 industries. Therefore, the relationship between scale and profitability is industry-specific. Additionally, profitability is inversely correlated with scale measured by total assets (Becker-Blease, Kaen, Etebari, & Baumann, 2010).

According to Doğan (2013), evidence was found for a positive relationship between company size and profitability, while age and leverage had a negative relationship. The conclusions were drawn

from an empirical study on data from 200 active firms listed on the Istanbul Stock Exchange in Turkey from 2008 to 2011, where size variables included total assets and revenue, and profitability was measured using the return on assets (Doğan, 2013).

According to Rizqia and Sumiati (2013), an examination was conducted on the impact of management ownership, financial leverage, profitability, company size, and investment opportunities on dividend policies and the impact of all these variables on firm value. The sample consisted of firms from 2006 to 2011. The results showed that ownership management and investment opportunities influence dividend policies, while financial leverage, profitability, and company size affect firm value (Rizqia & Sumiati, 2013).

According to Kurshev and Strebulaev (2015), the presence of fixed costs of external finance channels leads to infrequent restructuring and creates a gap between large-scale and small-scale companies. There is an influence of company size on the issuance of debt. Small-scale companies choose higher leverage at the time of recapitalization to compensate for less frequent rebalancing. Longer waiting times between recapitalizations result in lower leverage at the end of the restructuring period. In a recapitalization cycle, the relationship between leverage and company size is negative. However, many small companies choose not to use financial leverage. Conversely, there is evidence of a positive relationship between leverage and scale, and fixed financial costs contribute to explaining the leverage-scale relationship. However, the relationship changes when companies are not leveraged (Kurshev & Strebulaev, 2015).

According to Kartikasari and Merianti (2016), in order to examine the impact of company size and leverage on the profitability of companies, a sample of 100 listed companies from 2009 to 2014 was used. The research results showed that the debt ratio significantly affects profitability in the same direction, while the total capital has a significantly negative impact. Furthermore, total revenue did not have a statistically significant impact on profitability (Kartikasari & Merianti, 2016).

According to Ozcan, Unal, and Yener (2017), the impact of company size on their profitability was examined in the context of 112 publicly listed manufacturing companies in Turkey from 2005 to 2013. The generalized method of moments (GMM) approach, considering the potential endogeneity of company-level variables, was used to estimate the effects of company size indicators on profitability. The results showed that company size tends to have a positive impact on profitability, measured by return on assets (Ozcan, Unal, & Yener, 2017).

According to Alarussi and Alhaderi (2018), based on a sample of 120 companies listed on Bursa Malaysia from 2012 to 2014 extracted from the annual reports of the companies, the research group examined the factors influencing the profitability of Malaysian listed companies. The results demonstrated a strong positive relationship between company size and profitability. Conversely, a negative relationship was found between the ownership-to-debt ratio and leverage ratio and profitability (Alarussi & Alhaderi, 2018).

According to Hirdinis (2019), the goal was to determine the impact of capital structure and company size on firm value, mediated by profitability. The study's sample consisted of listed companies, and the results showed that capital structure significantly and positively affects firm value, while company size has a significantly negative impact on firm value. According to the author, profitability cannot mediate the effects of capital structure and company size on firm value (Hirdinis, 2019).

According to Sudrajat and Setiyawati (2021), company size has a significant impact on firm value. No indirect and significant effects were found between company size, capital structure, and firm value. Similarly, no indirect and significant effects were found between company size, capital structure, and firm value. No indirect and significant effects were found between profitability, capital structure, and firm value (Sudrajat & Setiyawati, 2021).

Methodology and Research Model

Research objective

The quantitative research aims to examine the impact of capital size on the profitability of listed companies in Vietnam using a linear regression model based on panel data. Pooled OLS, Fixed Effects Model (FEM), and Random Effects Model (REM) will be employed to test the relationship.

Methodology

The study utilizes STATA 14 software for regression model selection, testing, and estimation of the panel data regression model (StataCorp, 2005).

Research data

The data used in the study is secondary data obtained from Vietstock.vn, annual reports of environmental businesses, and the General Statistics Office of Vietnam (Gso.gov.vn). The dataset comprises financial reports of 1,144 listed companies in Vietnam during the period of 2010 to 2021, corresponding to 13,728 observations.

The study will exclude newly established or merged companies that may affect data comparability and companies that do not disclose sufficient information necessary for the research.

Selection of variables in the model

The dependent variable is the profitability of the company (measured by the variable ROA), and the independent variables are the capital size and the control variable is the age of the company.

Statistical summary of variables in the model, variable names and symbols, calculation formulas.

No.	Variable Name and Symbol	Calculation Formula	Citation
Dependent variable: Profitability of the business (ROA - Net profit after tax/Average total assets, ROE - Net profit after tax/Average equity)			
Independent Variables:			
1	Firm Size (LnTTS)	Ln(Total Assets)	Sitkoff (2003), Pil et al. (2003), Becker-Blease et al. (2010), Doğan (2013), Rizqia et al. (2013), Kurshev (2015), Kartikasari et al. (2016), Ozcan et al. (2017), Alarussi et al. (2018), Hirdinis (2019), Sudrajat et al. (2021)
2	Net Revenue Size (LnTDT)	Ln(Total Revenue)	Sitkoff (2003), Pil et al. (2003), Becker-Blease et al. (2010), Doğan (2013), Rizqia et al. (2013), Kurshev (2015), Kartikasari et al. (2016), Ozcan et al. (2017), Alarussi et al. (2018), Hirdinis (2019), Sudrajat et al. (2021)
3	Owner's Capital Size (LnVCSH)	Ln(Owner's Equity)	Sitkoff (2003), Pil et al. (2003), Becker-Blease et al. (2010), Doğan (2013), Rizqia et al. (2013), Kurshev (2015), Kartikasari et al. (2016), Ozcan et al. (2017), Alarussi et al. (2018), Hirdinis (2019), Sudrajat et al. (2021)
4	Age of the firm (Age)	Ln(Year of Data Collection - Year of Establishment)	Sitkoff (2003), Pil et al. (2003), Becker-Blease et al. (2010), Doğan (2013), Rizqia et al. (2013), Kurshev (2015), Kartikasari et al. (2016), Ozcan et al. (2017), Alarussi et al. (2018), Hirdinis (2019), Sudrajat et al. (2021)

(Author's compilation from theoretical basis)

* The research model is represented as follows: $ROA = \beta_1 + \beta_2*LnTTS_{it2} +\beta_3*LnTDT_{it3}\beta_3*LnVCSH_{it4} +\beta_5*Age_{it6} + v_i + \varepsilon_{it}$ with i =1,2,…,n and t = 1,2,..,t (*)

Where:

β_1,: Intercept coefficient

β_2, β_3, β_4, β_5: Slope coefficients of the independent variables

$\mu_{it} = v_i + \varepsilon_{it}$, the model's error term is decomposed into two parts: vi represents unobserved factors that vary between entities but do not change over time, and εit represents unobserved factors that vary between entities and change over time.

Regression model testing and discussion of results

Research Sample Information

Table 1: Statistical summary of variables in the model

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	13,764	.032902	.2522311	-2.420.474	.9019304
LnTTS	13,764	2.336.291	9.347.731	0	3.369.104
LnDTT	13,764	2.287.382	9.380.893	0	3.266.037
LnVCSH	13,764	2.185.669	9.785.244	0	3.270.352
Age	13,728	3.289.206	.5892824	.6931472	5.081.404

(Source: Statistical analysis conducted using STATA 14 software)

Standard deviation is used to measure the level of dispersion of a dataset around its mean. It can be observed that the STD Deviation/Mean values of the majority of variables are less than 1, indicating that the standard deviation is smaller than the mean. This suggests that the data has weak fluctuations and the statistical observations of the sample exhibit low variability (Figure 1).

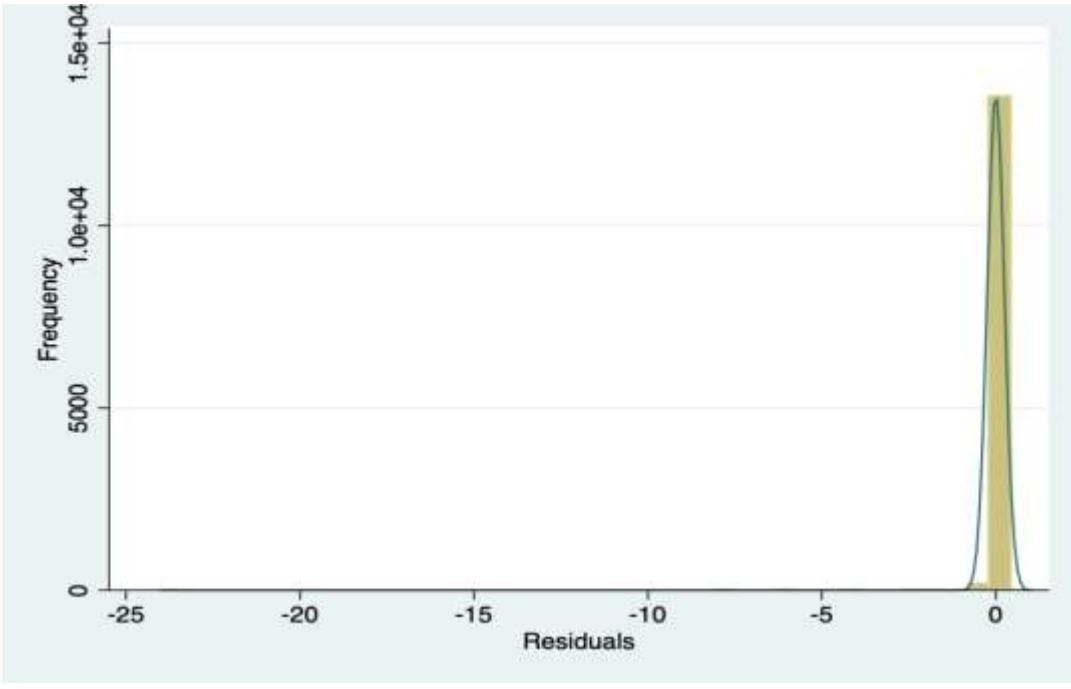

Figure 1: Distribution of sample data

(Source: Author's statistical analysis using STATA 14 software)

Regression Model Diagnostics

Multicollinearity test: The study employed the Variance Inflation Factor (VIF) to check for multicollinearity. If the VIF values do not exceed 10, it indicates no significant multicollinearity in the research model.

Table 2: Multicollinearity test results in the model

Variable	VIF	1/VIF
LnTTS	5.73	0.174654
LnVCSH	5.13	0.195112
LnDTT	1.82	0.549761
Age	1.02	0.980467
Mean VIF	3.42	

(Source: Author's statistical analysis using STATA 14 software)

The variables included in the model (*) are related to capital mobility and have certain interrelated characteristics. Therefore, to avoid multicollinearity, the author conducted separate regressions for each variable. However, to examine whether the remaining independent variables are multicollinear with each other, the author conducted a multicollinearity test by including them simultaneously in the model. Observing Table 2, it can be seen that the VIF (Variance Inflation Factor) values for all variables in the model are less than 10. This indicates that the regression model used in the study does not suffer from multicollinearity, and the independent variables do not affect the explanatory power of the model.

Regression results of the capital scale model on the profitability of listed companies in Vietnam with the dependent variable being ROA.

Table 3: Regression results of the capital scale model on the profitability of listed companies

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. reg ROA LnTTS LnDTT LnVCSH Age
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Source	SS	df	MS	Number of obs	=	13,728
				F(4, 13723)	=	183.06
Model	44.3524898	4	11.0881225	Prob > F	=	0.0000
Residual	831.218043	13,723	.060571161	R-squared	=	0.0507
				Adj R-squared	=	0.0504
Total	875.570533	13,727	.063784551	Root MSE	=	.24611

ROA	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
LnTTS	-.0105215	.0005415	-19.43	0.000	-.0115829	-.0094602
LnDTT	.0004454	.000304	1.47	0.143	-.0001504	.0010413
LnVCSH	.0126197	.0004886	25.83	0.000	.011662	.0135773
Age	.0044999	.0036	1.25	0.211	-.0025567	.0115564
_cons	-.0221175	.0126152	-1.75	0.080	-.0468451	.0026101

(Source: Regression analysis conducted using STATA 14 software)

Conclusion and Suggestions for Solutions

The regression model results indicate the following equation:

ROA = -0.0221175 – 0.0105215LnTTS+0.126197LnVCSH

The regression results show that the variable LnTTS has a negative effect on profitability (ROA) of listed companies, while the variable LnVCSH has a positive relationship with profitability. This implies that as the company scale increases, the profitability of listed companies tends to decrease, whereas profitability tends to increase with an increase in owner's capital. This finding aligns with previous studies by Sitkoff (2003), Pil et al. (2003), Becker-Blease et al. (2010), Kartikasari et al. (2016), and is contrary to the findings of Doğan (2013), Rizqia et al. (2013), Kurshev (2015), Ozcan et al. (2017), Alarussi et al. (2018), Hirdinis (2019), and Sudrajat et al. (2021). This is consistent with the reality in Vietnam, where companies with larger owner's capital are better financially equipped and have more opportunities to undertake business projects and withstand risks. However, the use of debt by companies is currently not efficient. Additionally, the variable Age has an insignificant effect on profitability, indicating that long-established companies need to restructure and reduce costs to enhance profitability.

Based on the research findings, several financial solutions are recommended to enhance the profitability of Vietnamese companies. These solutions include:

Firstly, increasing owner's capital through retained earnings. Profitable companies at a certain level should temporarily retain 100% of after-tax profits to enhance financial capacity and ensure long-term sustainable growth.

Secondly, increasing owner's capital through the issuance of new shares. Private placement of shares can be a feasible option, especially for small and medium-sized companies.

Thirdly, utilizing debt capital through issuing bonds (convertible bonds with a reasonable maturity period of 2-3 years). After a certain period, the bond debt can be converted into owner's capital.

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