DOES GENDER DIVERSITY IMPACT ON DEBT STRUCTURE OF INFORMATION TECHNOLOGY FIRMS: EMPIRICAL EVIDENCE FROM VIETNAM

Duong Minh Tran – Minh Tuan Phung

Abstract

This study investigates the impact of gender diversity on corporate debt structure of Vietnamese information technology (IT) listed companies during the period of 2009-2022. The study data consists of 54 firms operating in IT industry with 700 firm-year observations, obtained from three main stock exchanges in Vietnam, namely Hanoi Stock Exchange (HNX), Ho Chi Minh Stock Exchange (HOSE), and UPCOM. By examining the relationship between dependent and independent variables through different regression techniques, including OLS, fixed effects (FEM), and random effects (REM), Generalized Least Squared (GLS) is the most optimal method, correcting auto-correlation and heteroskedasticity in the analysis. This finding suggests that female board members, private ownership, and independent directors have a negative effect on short-term debt and debt ratio, whilst there is a positive association between board ownership, firm size and short-term debt, debt ratio. In general, this analysis simultaneously provides important insights about the association between corporate governance and debt financing decision, and theoretical references for policy implications.

Key words: Gender diversity, Cost of debt capital, corporate governance

**JEL Code:** J16, O16

1   Introduction

Viet Nam is an emerging economy in Southeast Asian region in which its capital market has developed rapidly over the last few decades. Since the implementation of economy renewal policy, called "Doi Moi", shifting economic system from planned to market-oriented economy, extensive credits with more favorable interest rates have been provided by Vietnamese government creating opportunities for enterprises to access external sources of capital. In spite of recent acceleration in Vietnamese capital market, there has been a

deficiency of empirical studies about corporate factors affecting capability to financially access external resources.

Whilst gender inequality has become a widely debatable agenda amongst most of empirical studies, there has been a deficiency in the amount of research on emerging economies in comparison with their developed counterparts like the US or China. Empirical studies on developed economy contexts might be irrelevant to emerging markets due to differences in regulations and culture, especially in Vietnam where gender inequality has been a social phenomenon. Hence, our empirical study aims to investigate the association between gender differences and cost of debt in this emerging economy to correct the limitation of current literature.

Even though there has been an increase in the amount of literature about emerging economies over the last few years, nonetheless, most of them focus on corporate values, namely ROA, ROE, and EPS, rather than debt financing whereas external sources of capital play an essential role in the survival and development of firms. Access to capital sources is a major constraint faced by a majority of Vietnamese enterprises, especially when raising capital from large-scale financial institutions. Notably, as detailed in the survey of The World Bank (**Figure 1**), approximately 22% of firms perceived that the most challenging barrier when operating in Vietnamese business environment is accessing financial resources.

Figure 1: Vietnam ranking of the top business environment obstacles for firms
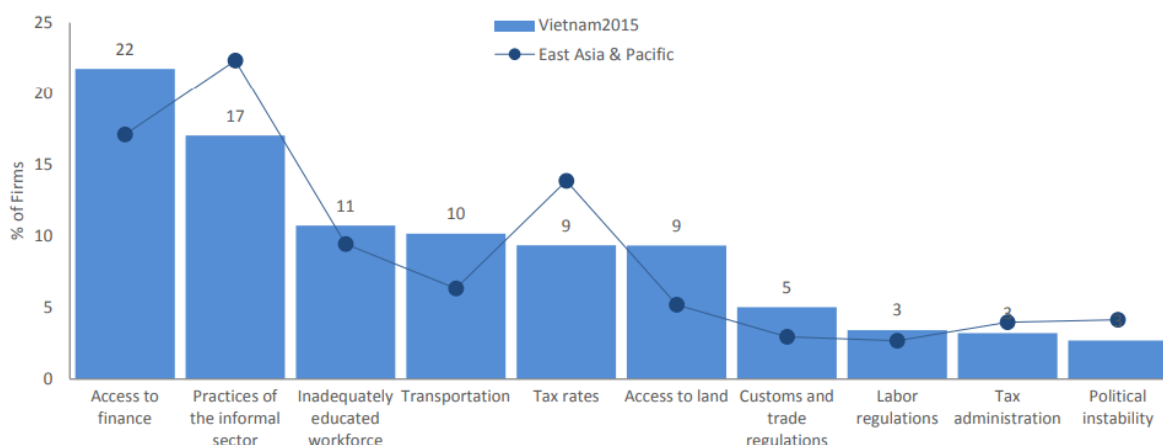
Source: World Bank Enterprises Survey 2015

Most of current empirical studies tend not to directly investigate the causal relationship between debt and gender within a single-industry context. Notably, practical implication of these previous literatures can be biased, due to ignorance about variation of debt-related policies as well as corporate governance across particular industries. For instance, recent study in Ghana by Abor (2007) found the highest capital structure in agricultural sector, whereas wholesale and retail counterparts exhibit the lowest debt ratio. Otherwise, short-term debt financing tends to be less attractive to construction, mining, and hospitality enterprises. Hence, this empirical study specifically analyses Vietnamese IT enterprises to overcome biases caused by differences in the nature of industry.

New evidence for the association between debt financing and gender aspect in Vietnamese technology enterprises has been provided in our study. For this purpose, our paper is constructed into four main sections, namely introduction, literature review, data and research methodology, result and discussion, and conclusion. Notably, our hypotheses are theoretically based on the previous studies about gender discrimination, corporate governance and access to sources of finance which are presented in our literature review section. Then, the third section explicitly explains about theoretical framework and variables, both dependent and independent. Thereafter, representation of statistical results, including OLS, FEM, REM, and GLS, together with tests of validity, is provided in the fourth section. Finally, the fifth section aims to summarize the main points, indicate several limitations for further improvement, and provide suggestion for policy implication.

2   Literature Review and hypotheses development

There has been a considerable improvement of gender equality within corporate boards drawing attention of regulators and policymakers across the globe. Quotas and regulations about female representation have been imposed on enterprises in several European nations. According to the European Commission (2012), for Austria and Spain, the qualified proportion of women on boards in large listed, non-listed, and state-owned firms is 40%, whereas the gender quota for large-scale enterprises in Germany and Netherlands is 30%.

Since there has been an emergence of anti-discrimination policies around the globe, most of researchers focus on investigating the association between gender diversity and economic efficiency. Notably, an empirical study by Nguyen et al. (2015) has shed light on positive relationship between gender diversity and firm values whilst Kim & Starks (2016) highlighted

that women contribute particular expertise to board performance which cannot be found in their male counterparts. Additionally, empirical study on the context of Australian corporate environment by Capezio & Mavisakalyan (2016) opined that women representation on boards surpresses the exposure to fraudulent and corporate scandals caused by the 'boys clubs', due to their exclusion from corporate elite. In contrast, Isidro & Sobral (2014) argued that decision-making process with the involvement of female directors tends to be time consuming and inefficient that potentially inhibits the developement of firm value due to conflicts of communication and cooperation.

Eventhough the association between gender diversity and economic efficiency has gradually become a phenomenon in most of empirical studies on developed economies, the amount of literature on this topic within emerging economies is considerably limited. Specifically, Singhathep & Pholphirul (2015) have discovered a positive correlation between the presence of female CEOs and financial effectiveness in the context of Thai SMEs. Similar result by Zakaria et al., (2021) researching on the context of Indonesia, stated that variation in gender positively affects firms performance.

Corporate cost of debt is another crucial agenda when evaluating performance of firms, especially when considering the association between this key element and gender diversity. Previously, worldwide studies on gender discrepancy and debt financing, namely García & Herrero (2021) and Sharma et al., (2024) have discovered a negative relationship between these two factors. Both of these studies have highlighted the fact that women tend to be more risk-averse compared to their male counterparts, suppressing the utilisation of debt instruments.

Several researchers, including Nguyen et al., (2015) and Minh Ha et al., (2021) - studying on Vietnamese corporate environment - have found similar results. Particularly, loan applications of SMEs with male owners have higher probability of being successfully approved, whereas their female counterparts are more likely to be rejected for credit access. More intensive literature done by Bui et al., (2022) stated that in the context of commercial banks, even though female-managed companies have less probability for loan approvals in comparison with their male counterparts, the loans size of the former will be larger than the latter if applications for debt instruments are approved. Based on a majority of previous studies, the first hypothesis is proposed as follows:

H1: There is a negative association between debt financing and the number of female members on boards.

Previous empirical studies have endeavored to figure out the impact of privatisation on debt financing. For instance, Bai et al., (2013) have found that fully privatised enterprises are highly leveraged. Similarly, Rossi & Cebula (2016) hypothesize that the main role of concentrated ownership is expropriation rather than monitoring agency costs, presented by a rise in debt usage. Based on previous findings, we propose the second hypothesis as follows:

H2: Private ownership positively correlates with short-term debt and debt ratio, but negatively impacts on debt maturity.

3   Data and Research Methodology

The main aim of this analysis is to explore the association between gender diversity and debt financing of Vietnamese firms listed on three major stock exchanges, including HOSE, HNX, and UPCOM, between 2009 and 2022. Our paper focuses on 54 IT companies with 700 firm-years observations. Several tests are carried out, namely Hausman Test, Breusch–Pagan test, Wooldridge Test, Breusch-Pagan Lagrange Multiplier test, and Modified Wald test for not only identifying biases within estimation, including heteroskedasticity and serial correlation, but also choosing optimal regression model. The following model is based on previous theoretical research:

$$DS = \beta_0 + \beta_1\, FEMBO + \beta_2\, PRIOW + \beta_3\, BOW + \beta_4\, BSIZE + \beta_5\, INDEP + \beta_6\, CEOTERM + \beta_7\, lnFSZ + \beta_8\, FIRMAGE + \varepsilon_{it}$$

The dependent variable is debt structure (DS), measured by debt ratio, natural logarithm of short-term debt and long-term debt. Details of dependent, independent, and control variables are fully described by the Table 3 below.

Table 3: Variables definitions and measurements

Variables	Definitions and Measurements
Dependent Variables	
lnSHDEBT	Natural logarithm of Short-term Debt.
lnLDBT	Natural logarithm of Long-term Debt.
DBTRA	Debt Ratio, measured by ratio of total liabilities to total assets.
Independent Variables	
FEMBO	Total number of female members on boards.
PRIOW	Proportion of shares owned by private investors.
BOW	Proportion of shares owned by members of boards.
BSIZE	Board size, measured by total number of board members.
INDEP	Proportion of independent directors, measured by the number of independent directors divided by the total number of directors on boards.
CEOTERM	CEO tenure, total number of years that a CEO held their position.
Control Variables	
lnFSZ	Natural logarithm of firm size, measured by total assets.
FIRMAGE	Total number of years since foundation.

Source: Author

4 Results and Discussion

4.1 Descriptive statistics

Table 4: Descriptive Statistics on key variables

Variables	Obs	Mean	Std. Dev.	Min	Max
lnSHDEBT	700	25.103	2.017	20.055	31.024
lnLDBT	700	15.616	10.04	0	30.374
DBTRA	700	.432	.192	.01	1.246
FEMBO	700	1.053	.888	0	4
PRIOW	700	25.019	23.408	0	91.31
BOW	700	5.147	7.92	0	37.18
BSIZE	700	5.483	1.078	1	11
INDEP	700	3.676	1.159	1	9
CEOTERM	700	3.4	2.776	0	14
lnFSZ	700	26.192	1.733	23.33	31.74
FIRMAGE	700	19.471	12.763	0	70

Source: Author's calculation

Descriptive statistic for overall minimum, maximum, and mean values of dependent variables (Debt structure), explanatory variables (corporate governance), and control variables, is explicitly detailed by Table 4. The first proxy indicating corporate debt structure is the natural logarithm of short-term debt (lnSHDEBT). The mean values of lnSHDEBT, lnLDBT, and DBTRA are 25.103, 15.616, and 0.432, respectively. Specifically, average short-term debt level of Vietnamese firms is relatively high with the min and max values are 20.055 and

31.024 respectively. The min and max values of natural logarithm of long-term debt (lnLDBT) are 0 and 30.374, respectively. Otherwise, the mean of debt ratio (DBTRA) is 0.432 which is an acceptable level with 0.01 of minimum and 1.246 of maximum values. The mean value of female members on boards (FEMBO) is 1.053 which indicates a shortage of women on boards, whereby a few IT firms entirely have no female members in their executive boards (0 of min and 4 of max values).

4.2   Robustness tests

Table 5 details the correlation matrices identifying whether multi-collinearity exists amongst explanatory variables. The correlations between independent variables are weak if correlation values between them are lower than 0.8. Specifically, the results indicate that the highest correlation value between explanatory variables, namely INDEP and BSIZE, is 0.69, denoting that multi-collinearity phenomenon is less likely to occur. Alternatively, calculation of VIF is used to investigate the existence of collinearity. Notably, the result in Table 5 depicts that there is no VIF value exceeding 5, with 2.27 is maximum value, confirming the unlikeliness of multicollinearity issue in this analysis.

Table 8 details the results of different regression techniques, namely OLS, Fixed Effects (FEM) and Random Effects (REM) of particular dependent variables; whereas Table 7 depicts

Table 5: Correlation of Variables

|	lnSHDEBT	lnLDBT	DBTRA	FEMBO	PRIOW	BOW	BSIZE	INDEP	CEOTERM	lnFSZ	FIRMAGE	VIF
lnSHDEBT	1.0000											
lnLDBT	0.3889	1.0000										
DBTRA	0.6666	0.2198	1.0000									
FEMBO	-0.1341	-0.0435	-0.2005	1.0000								2.27
PRIOW	0.0416	0.0393	-0.1472	0.1164	1.0000							2.04
BOW	0.0830	0.0266	0.0939	-0.0509	0.3510	1.0000						1.29
BSIZE	0.3264	0.3105	0.2032	-0.0212	0.1877	0.1546	1.0000					1.21
INDEP	0.3441	0.2626	0.0786	0.0404	0.2535	0.0312	0.6898	1.0000				1.20
CEOTERM	-0.1248	0.0535	-0.0861	-0.0145	0.1706	0.1336	0.0144	-0.1268	1.0000			1.11
lnFSZ	0.9552	0.4436	0.4800	-0.0597	0.1136	0.0545	0.3154	0.3840	-0.1131	1.0000		1.04
FIRMAGE	-0.1262	0.0246	-0.1103	-0.0654	0.0158	0.0111	0.0074	0.0568	0.0820	-0.0789	1.0000	1.03

Source: Author's calculation

statistical result of different test for validity of models, consisting of Hausman Test, Breusch-Pagan Lagrange Multiplier Test (LM test), Wooldridge Test, and Modified Wald test. After

implementing OLS, FEM, and REM (Table 8), the Hausman test has been carried out to decide the most appropriate regression technique. Table 7 shows that the Null hypothesis is rejected for both long-term debt and debt ratio but not for short-term debt due to statistically insignificance (p-value > 0.05). Hence, FEM is more efficient than REM for both long-term debt and debt ratio; otherwise, REM is more effective for short-term debt (Jauhari et al. 2019).

Subsequently, the LM test is implemented for choosing between REM or pooled OLS for short-term debt. Since FEM is found to be the most appropriate for long-term debt and debt ratio, LM is unnecessary for these dependent variables (Jauhari et al. 2019). The result in Table 7, rejecting the Null hypothesis, confirms that REM is an optimal regression method for short-term debt (lnSHDEBT). Additionally, the result of Wooldridge test indicates a possibility of auto-correlation problem. Furthermore, to investigate heteroskedasticity phenomenon in the models, Modified Wald test and Breusch-Pagan/Cook–Weisberg test have been simultaneously implemented. Notably, the results of both tests for all dependent variables in Table 7 suggest the existence of heteroskedasticity within the models. Additionally, as indicated in Table 6 below, there is no distinctive patterns amongst residuals' distribution, suggesting the existence of heteroskedasticity phenomenon.

Table 6: Residual plots for Short-term debt, Long-term debt and Debt Ratio, respectively
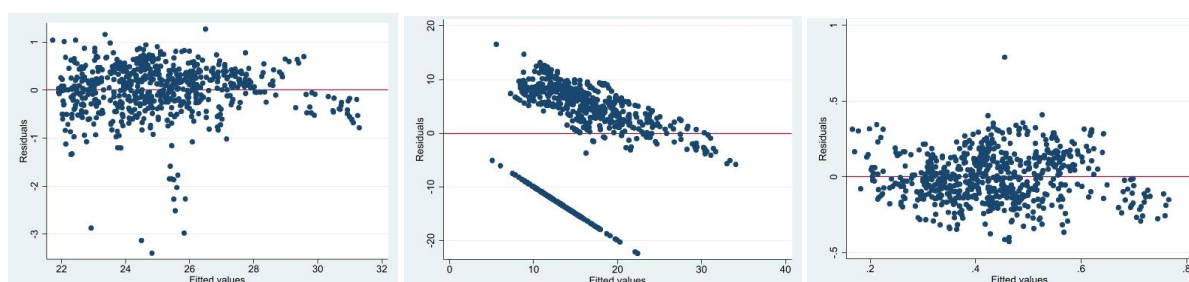
Source: Author's calculation

Table 7: Results of Hausman Test, Breusch-Pagan Lagrange Multiplier Test, Wooldridge Test, Modified Wald test

	SHORT-TERM DEBT (lnSHDEBT)	LONG-TERM DEBT (lnLDBT)	DEBT RATIO (DBTRA)
Hausman Test	p > χ2 = 0.4198	p > χ2 = 0.0000	p > χ2 = 0.0000
LM Test	p > χ̄2 = 0.0000	p > χ̄2 = 0.0000	p > χ̄2 = 0.0000
Modified Wald test	p > χ2 = 0.0000	p > χ2 = 0.0000	p > χ2 = 0.0000

Breusch-Pagan/ Cook–Weisberg test	p > χ2 = 0.0352	p > χ2 = 0.0000	p > χ2 = 0.0019
Wooldridge test	p > F = 0.0001	p > F = 0.0000	p > F = 0.0011

Source: Author's calculation

4.3   Results of Generalised Least Squared

As detailed in Table 9, there is a negative association between the number of female members on boards (FEMBO) and short-term debt (lnSHDEBT), in which the correlation coefficient is -0.0605 with significance at 1% level. This result is consistent with Setiawan & Navianti (2020) and Nguyen (2023). Similarly, the correlation coefficient is -0.0178 with 1% level significance indicating that female members (FEMBO) negatively correlate with debt ratio (DBTRA). This result is in line with Cavalluzzo et al., (2002) and Faccio et al. (2012). Nonetheless, no association between long-term debt (lnLDBT) and gender (FEMBO) was found in our model. Our estimating results are consistent with initial hypothesis explaining the effect of gender diversity on corporate debt financing.

Similarly, our study has found that private ownership (PRIOW) has significantly posed an adverse effect on both short-term debt (lnSHDEBT) and debt ratio (DBTRA) simultaneously, with correlation coefficients are -0.00375 and -0.00126 respectively (both are significant at 1% level), meaning that the more proportion of shares owned by private investors, the less likelihood that firms raise their capital expenditures through selling debt instruments. Our findings contradict the second hypothesis in which private ownership positively correlates with short-term debt and debt ratio.

As depicted in Table 9, there is a positive relationship between short-term debt (lnSHDEBT) and corporate board ownership (BOW), with the correlation coefficient is 0.00455 being significant at 5% level. This result is consistent with the finding of Shuto & Kitagawa (2011).

Board size (BSIZE) positively affects long-term debt (lnLDBT) and debt ratio (DBTRA) in which correlation coefficients are 0.302 and 0.0117 respectively, and both are significant at 5% level. Our finding is in line with Jantadej et al., (2020) who have also discovered positive association between cost of debt and board size in Thailand corporate environment. In contrast, there is a negative association between proportion of independent directors (INDEP) and short-term debt (lnSHDEBT) as well as debt ratio (DBTRA), with statistical significance level of 5%.

For control variables, firm size (lnFSZ) positively influences on short-term debt (lnSHDEBT) long-term debt (lnLDBT), and debt ratio (DBTRA) at 1% significance level, whilst firm age

(FIRMAGE) is only negatively correlated with long-term debt (lnLDBT) with significance level at 5%.

Table 9: Results of Generalised Least Squared

	Generalised Least Squared (GLS)		
Variables	**lnSHDEBT**	**lnLDBT**	**DBTRA**
FEMBO	-0.0605***	-0.0909	-0.0178***
	(0.0160)	(0.174)	(0.00490)
PRIOW	-0.00375***	0.00865	-0.00126***
	(0.000765)	(0.00875)	(0.000251)
BOW	0.00455**	-0.0229	0.00154**
	(0.00208)	(0.0245)	(0.000756)
BSIZE	0.0145	0.302**	0.0117**
	(0.0118)	(0.154)	(0.00454)
INDEP	-0.0275**	-0.00725	-0.00890**
	(0.0115)	(0.153)	(0.00427)
CEOTERM	-0.00372	0.0507	-0.00159
	(0.00418)	(0.0503)	(0.00128)
lnFSZ	1.184***	2.226***	0.0869***
	(0.0132)	(0.136)	(0.00482)
FIRMAGE	-0.00224	-0.0551**	0.000217
	(0.00216)	(0.0259)	(0.000765)
_cons	-5.668***	-41.26***	-1.829***
	(0.338)	(3.868)	(0.125)
Standard errors in parentheses			
* p<0.10 ** p<0.05 *** p<0.01			

Source: Author's calculation

5   Conclusion

Gender equality has gradually emerged across the globe whereby female directors and officials' role has become significant within corporate environment. Hence, female members on boards have fundamentally impacted on not only economic performance but also the decision on corporate debt instruments, particularly in social network-based economies including Vietnam. Even though the role of women in corporations has been relatively recognizable, there has been a shortage of studies on the causal relationship between gender and debt in Vietnamese corporate environment. Accordingly, this study purposely evaluates the association between these aspects by measuring the total number of female members on board as independent variable, while short-term, long-term debts and debt ratio are dependent variables. The data of this paper encompasses 54 publicly listed companies operating in IT industry from three large Vietnamese stock exchanges. Since the implementation of Pooled

OLS is relatively insufficient to overcome estimation biases, this study has addtionally applied more advanced regression techniques, consisting of FEM, REM, and GLS for more reliable results.

Our finding has indicated an inverse correlation between the presence of female members and debt financing which is consistent with our expectation. This means that Vietnamese firms with female domination tend to be more defensive with less debt in comparision with those dominated by men. In particular, this phenomenon can be partially explained by the natural features of particular gender in business environment, in which women are risk-averse and financially secure whilst men are risk-takers. Another possible explanation is that there has slightly been gender discrimination in Vietnamese financial market, whereby female-owned firms are likely to be rejected from loan approval, so that they have to additionally seek for internal resources. Even though short-term debt and debt ratio are negatively associated with gender diversity, we found no relationship between the latter and long-term debt.

Regulators and policymakers can utilise the information in this study to deeply estimate the effectiveness of their current policies, so that they can implement more efficient policies for gender-diversed enterprises. Our study also plays an essential role for IT corporations with gender-diversed operation, since there has been a shortage of academic literature on this sector. Nonetheless, there is a limitation on the number of firms and observations relatively decreasing reliability of this paper. Hence, more observations and companies should be added for further improvement with more reliable results.

Table 8: Results of OLS, Fixed Effect and Random Effect Models for Short-term Debt, Long-term Debt and Debt Ratio

Variables	SHORT-TERM DEBT (lnSHDEBT)			LONG-TERM DEBT (lnLDBT)			DEBT RATIO (DBTRA)		
	OLS	FEM	REM	OLS	FEM	REM	OLS	FEM	REM
FEMBO	-0.153***	-0.0882***	-0.101***	-0.0597	-0.109	-0.380	-0.0289***	-0.00682	-0.0114
	(0.0234)	(0.0272)	(0.0255)	(0.381)	(0.467)	(0.433)	(0.00681)	(0.00691)	(0.00665)
PRIOW	-0.00626***	-0.00574***	-0.00580***	-0.0226	-0.0456**	-0.0496***	-0.00171***	-0.00146***	-0.00161***
	(0.000991)	(0.00117)	(0.00109)	(0.0161)	(0.0201)	(0.0186)	(0.000288)	(0.000297)	(0.000286)
BOW	0.0121***	0.00840**	0.00953***	-0.0279	-0.0390	-0.0378	0.00276***	0.00210**	0.00225**
	(0.00282)	(0.00359)	(0.00334)	(0.0459)	(0.0616)	(0.0565)	(0.000821)	(0.000913)	(0.000876)
BSIZE	0.116***	0.0273	0.0459	1.834***	0.284	0.976**	0.0363***	0.0117	0.0155**
	(0.0270)	(0.0310)	(0.0287)	(0.440)	(0.531)	(0.487)	(0.00786)	(0.00787)	(0.00752)
INDEP	-0.0726***	-0.0291	-0.0335	-0.0361	0.736	0.393	-0.0326***	-0.00554	-0.00915
	(0.0265)	(0.0244)	(0.0237)	(0.432)	(0.418)	(0.408)	(0.00772)	(0.00620)	(0.00612)
CEOTERM	-0.0105	-0.00158	-0.00190	0.376***	0.338***	0.235**	-0.00239	0.00132	0.000103
	(0.00772)	(0.00715)	(0.00680)	(0.126)	(0.122)	(0.117)	(0.00225)	(0.00182)	(0.00176)
lnFSZ	1.103***	1.055***	1.085***	2.348***	2.965***	2.272***	0.0545***	0.0814***	0.0661***
	(0.0129)	(0.0339)	(0.0229)	(0.211)	(0.581)	(0.365)	(0.00377)	(0.00861)	(0.00651)
FIRMAGE	-0.00823***	-0.00649	-0.00797**	0.0375	-0.365***	-0.0998**	-0.000988**	-0.00515***	-0.00270***
	(0.00162)	(0.00500)	(0.00319)	(0.0264)	(0.0857)	(0.0503)	(0.000472)	(0.00127)	(0.000922)
_cons	-3.694***	-2.242**	-3.091***	-57.06***	-58.89***	-47.72***	-0.988***	-1.615***	-1.259***
	(0.334)	(0.871)	(0.603)	(5.437)	(14.92)	(9.607)	(0.0972)	(0.221)	(0.171)
N	700	700	700	700	700	700	700	700	700
R-sq	0.929	0.655		0.244	0.073		0.340	0.171	

Standard errors in parentheses

* $p<0.10$ ** $p<0.05$ *** $p<0.01$

Source: Author's calculation

References

Abor, J. (2007). Industry Classification and the capital structure of Ghanaian smes. *Studies in Economics and Finance*, *24*(3), 207–219. https://doi.org/10.1108/10867370710817392

Bai, Y., Lin, B.-X., Wang, Y., & Wu, L. (2013). Corporate ownership, debt, and expropriation: Evidence from China. *China Journal of Accounting Studies*, *1*(1), 13–31. https://doi.org/10.1080/21697221.2013.781771

Bui, A. T., Nguyen, C. V., Pham, T. P., & Phung, D. T. (2022). Female leadership and borrowing constraints: Evidence from an emerging economy. *International Review of Financial Analysis*, *81*, 101332. https://doi.org/10.1016/j.irfa.2019.01.012

Capezio, A., & Mavisakalyan, A. (2016). Women in the boardroom and fraud: Evidence from Australia. *Australian Journal of Management*, *41*(4), 719–734. https://doi.org/10.1177/0312896215579463

Cavalluzzo, K. S., Cavalluzzo, L. C., & Wolken, J. D. (2002). Competition, small business financing, and discrimination: Evidence from a new survey. *The Journal of Business*, *75*(4), 641–679. https://doi.org/10.1086/341638

European Commission. *Gender Balance on Corporate Boards—Europe is Cracking the Glass Ceiling*. Fact Sheet from Directorate-General for Justice and Consumers. Luxembourg: European Commission, 2016.

European Commission (2012), *Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on improving the gender balance among non-executive directors of companies listed on stock exchanges and related measures, COM/2012/0614 final - 2012/0299 (COD)*, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52012PC0614.

Faccio, M., Marchica, M.-T., & Mura, R. (2012). CEO Gender, corporate risk-taking, and the efficiency of capital allocation. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2021136

Finance in Transition : Unlocking Capital Markets for Vietnam's Future Development (English). Washington, D.C. : World Bank Group. http://documents.worldbank.org/curated/en/971881576078190397/Finance-in-Transition-Unlocking-Capital-Markets-for-Vietnam-s-Future-Development

García, C. J., & Herrero, B. (2021). Female directors, capital structure, and financial distress. *Journal of Business Research*, *136*, 592–601. https://doi.org/10.1016/j.jbusres.2021.07.061

Holmes, M. (2023). The role of the board of directors. OECD Publishing. https://www.oecd.org/corporate/ca/Session-2-the-role-of-the-board-of-directors.pdf

Isidro, H., & Sobral, M. (2014). The effects of women on corporate boards on firm value, financial performance, and ethical and social compliance. *Journal of Business Ethics*, *132*(1), 1–19. https://doi.org/10.1007/s10551-014-2302-9

Jantadej, K., & Wattanatorn, W. (2020). The effect of corporate governance on the cost of debt: Evidence from Thailand. *The Journal of Asian Finance, Economics and Business*, *7*(9), 283–291. https://doi.org/10.13106/jafeb.2020.vol7.no9.283

Jauhari, Achmad Faridz, Suprapto, Yoyon K, and Mauludiyanto, Achmad (2019), 'Data panel modelling with fixed effect model (FEM) approach to analyze the influencing factors of DHF in Pasuruan Regency', *ICASESS,* 2020, 224.

Kim, D., & Starks, L. T. (2016). Gender diversity on corporate boards: Do women contribute unique skills? *American Economic Review*, *106*(5), 267–271. https://doi.org/10.1257/aer.p20161032

Minh Ha, N., Ha, T. T., & Vuong, P. M. (2021). The effect of CEO characteristics on financial leverage: Findings from listed companies in Vietnam. *Cogent Business & Management*, *8*(1). https://doi.org/10.1080/23311975.2021.2002129

Nguyen, C. (2023). Do board characteristics affect the choices on capital structure of Vietnamese firms? *Science & Technology Development Journal - Economics - Law and Management*. https://doi.org/10.32508/stdjelm.v7i4.1278

Nguyen, N., Gan, C., Hu, Baiding. (2015). An empirical analysis of credit accessibilty of small and medium sized enterprises in Vietnam. *Banks and Bank Systems,* 10 (1), 34-46.

Nguyen, T., Locke, S., & Reddy, K. (2015). Does boardroom gender diversity matter? evidence from a transitional economy. *International Review of Economics & Finance*, *37*, 184–202. https://doi.org/10.1016/j.iref.2014.11.022

Noland, M., Moran, T., & Kotschwar, B. R. (2016). Is gender diversity profitable? evidence from a global survey. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2729348

Rossi, F., & Cebula, R. J. (2016). Debt and ownership structure: Evidence from Italy. *Corporate Governance: The International Journal of Business in Society*, *16*(5), 883–905. https://doi.org/10.1108/cg-02-2016-0025

Setiawan, R., & Navianti, D. R. (2020). CEO Gender and firm debt policy: An empirical study in Indonesia. *Proceedings of the 3rd Global Conference On Business, Management, and Entrepreneurship (GCBME 2018)*. https://doi.org/10.2991/aebmr.k.200131.020

Sharma, A., Chauhan, S., Mia, M. A., Sangwan, S., Siddiqui, S. A., & Kumar, S. (2024). Board gender diversity and debt utilization: Evidence from the global microfinance industry. *Borsa Istanbul Review*. https://doi.org/10.1016/j.bir.2024.02.012

Shuto, A., & Kitagawa, N. (2011). The effect of managerial ownership on the cost of debt. *Journal of Accounting, Auditing & Finance*, *26*(3), 590–620. https://doi.org/10.1177/0148558x11401553

Singhathep, T., & Pholphirul, P. (2015). Female CEOS, firm performance, and firm development: Evidence from Thai manufacturers. *Gender, Technology and Development*, *19*(3), 320–345. https://doi.org/10.1177/0971852415596865

The World Bank Group. (2015). Enterprise surveys: What Businesses Experience. https://www.enterprisesurveys.org/content/dam/enterprisesurveys/documents/country/Vietnam-2015.pdf

Zakaria, A., Suherman, S., Buchdadi, A. D., Rahmayanti, S. A., & Siregar, M. (2021). Do gender and education matter for company financial performance? evidence from Indonesian companies. *Jurnal Manajemen Dan Kewirausahaan*, *9*(1), 14. https://doi.org/10.26905/jmdk.v9i1.5801

Contact

Duong Minh Tran

NTT Institute of International Education

458/3F Nguyen Huu Tho Street, Tan Hung, District 7, Ho Chi Minh city

Mail: gtcoffee0912@gmail.com

Minh Tuan Phung

Faculty of Business Administration, Ton Duc Thang University

19 Nguyen Huu Tho Street, Tan Hung, District 7, Ho Chi Minh city

Mail: phungminhtuan@tdtu.edu.vn