"Does capital structure affect firm value in Vietnam?"

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DOES CAPITAL STRUCTURE AFFECT FIRM VALUE IN VIETNAM?

Abstract

This study aims to examine whether the capital structure and several factors have significant influences on firm value in Vietnam. To achieve this objective, 435 non-financial listed companies have been selected from 2012 to 2019 on Vietnamese stock exchanges. Four groups of firms continue to be chosen from the total to investigate the differences in the outcomes among industries. The results altogether using the GMM method show that the impact of capital structure and other control variables on firm value is significant, yet different across industries: capital structure has a significant positive impact on firm value in the food and beverage industry, but has a significant negative effect on the value of the firm in wholesale trade and construction, as well as real estate industry, while has an insignificant influence on enterprise value considering all industries. Apart from the firm size, the impact of other control factors on firm value also indicates mixed results.

Keywords	firm value, Vietnamese securities market, GMM method, capital structure
JEL Classification	G32, G34, M21

INTRODUCTION

Despite the negative effects of COVID-19, Vietnam is recognized by the Asian Development Bank (ASB) as one of the fastest-growing countries in Southeast Asia and is expected to rebound starting from 2021 (Do, 2020). Besides, four industries have a substantial influence on the Vietnamese economy: wholesale trade industry and other market services are important factors that led to the economic growth of Vietnam during the first half of 2020 (GSO of Vietnam, 2020). The European-Vietnam Free Trade Agreement (EVFTA) taking effect in August 2020 is an excellent opportunity for Vietnamese economic recovery, such as the tariffs' liberalization of the food and beverage (F&B) industry's products to export to the EU markets (Nguyen, 2020). Another industry forecasted to have a strong growth in the next 10 years is construction, owing to the increase in income level and demand and the positive impact of investment laws on FDI inflows (Ngoc, 2020). Although the real estate industry is pointed out to have the same optimistic outlook due to the increase in demand and new FDI trends and segments, the sustainable growth of the industry is questionable due to the transparency and efficiency in regulation (Nguyen, 2020).

Financing is one of the most crucial decisions to maximize shareholder's wealth (Arnold, 2013). Simultaneously, the choices of debt and equity are still an ongoing debate until nowadays with various types of research on financing decisions such as determinants of capital structure, estimates the adjustment speed toward optimal capital structure, etc. Nevertheless, the published research on the relationship between capital structure and firm value in Vietnam is stated to be limited (Vo & Ellis, 2017): the scope of the investigation is one industry only such as the research of Cuong and

Canh (2012), or listed firms in one stock exchange in the study of Vo and Ellis (2017) and Dang et al. (2019). To the best of our knowledge, no formal empirical studies have examined the factors that influence firm value, including capital structure, and investigated the differences in the outcomes among groups of firms in Vietnam. The present study intends to investigate the impact of capital structure on firm value of listed firms on the Vietnamese Stock Exchange using the GMM method from 2012 to 2019.

1. LITERATURE REVIEW

The propositions of first-ever meticulous theoretical research set in a frictionless world by Modigliani and Miller (1958) in which there are either taxes or transaction costs, no financial distress, agency costs, and all information are available to investors. They propose that firm value is unrelated to its capital structure, and when the gearing ratio increases, the expected return of equity will also rise at the same proportion. The authors continued to develop their propositions assuming in the world with taxes, the value of the firm is affected by its choices of debt and equity: which firm can take advantages of tax reduction to lower the cost of capital, thus increase the value of the firm (Modigliani & Miller, 1963).

The effect of tax on debt is expanded in both costs and benefits: Miller (1977) argued that taxes could also bring disadvantages to debt structure as low personal taxes on equity will increase the costs of risky debt. A non-debt tax shield is another factor that reduces marginal tax advantages (DeAngelo & Masulis, 1980). Graham (2000) pointed out a specific number of tax benefits to firm value, which is 9.7%, and the benefits could be double by debt issuance until marginal tax advantages start to decrease.

The inability to make repayment on interests and principal of the debts – financial distress costs by Gordon (1970) and managers may not monitor as they do not in the benefits of debt holders – agency costs by Jensen and Meckling (1976) were taken into account and led to the development of trade-off theory. It is stated that those costs can outweigh the low costs of debts, including tax benefits, in turn, increase the cost of capital and decrease firm value. While the static trade-off models by Kraus and Litzenberger (1973), Scott (1977), Myers (1977), Bradley et al. (1984) focused on one period only, the dynamic trade-off models by Fischer et al. (1989) emphasized multiple periods, including the costs in transactions and adjustments toward target debt ratio.

Another popular approach on the choices of capital structure is pecking-order theory (Myers, 1977; Myers, 1984; Myers & Majluf, 1984), in which asymmetric information results in the preference of internal financing and if there is a requirement for external financing, debt issuance is prioritized before share flotation. Signaling theory by Ross (1977) considers debt increase a good signal for on-going business, and the value of the firm will go up. The market timing theory by Baker and Wurgler (2002) claimed that the fluctuation of equity markets heavily influences financing decision: firms will issue new shares when they are overvalued and repurchase them when share prices are low; hence, there is no optimal debt ratio. However, later evidence suggested that this is only a short-run effect, and firms can reach a target capital structure in the medium and long term (Arnold, 2013).

Empirical research on the relationship between capital structure and firm value provides various results, including significant, insignificant, and other mixed outcomes from the previous investigations. As for the empirical findings on non-Vietnamese firms, a significant positive influence of capital structure on firm value can be found in the study of Cheng and Tzeng (2011) and their later work in 2014 on Taiwanese companies using, Gill and Obradovich (2012) on firms of two sectors in the US, Rizqia and Sumiati (2013) on manufacturing businesses, and Hasbi (2015) on microeconomic businesses in Indonesia.

Besides, there is an insignificant influence in Al-Sleha's (2020) work on Jordanian mining and extraction listed companies. The study of Aggarwal and Padhan (2017) on the Indian hotel industry indicates both direction impact using different firm value measurement types. Cheng et al.'s (2010) research on Chinese firms also comes to the same conclusion, but the relationship is proved to be non-linear in inverted U-shape. Moreover, Singh and Bansal's (2016) work on the FMCG industry in India concludes a significant positive impact on one

firm value indicator but an insignificant impact on the other.

As for the empirical findings on Vietnamese firms, a significant negative influence of firm leverage on firm value is pointed out in the research on listed firms by Vo and Ellis (2017). Furthermore, the results of Cuong and Canh (2012) on Vietnamese seafood processing are the same as Cheng et al. (2010), using the same panel threshold regression model. Additionally, another research on listed firms by Dang et al. (2019) indicates a significant positive relationship between capital structure on enterprise value but an insignificant connection between capital structure and Tobin's Q.

Although it can be seen that there is a variety of work on the topic, some certain gaps are remaining that need to be filled, particularly the empirical evidence in Vietnam: GMM method is rarely used in the previous study and only in the research of Cheng and Tzeng (2011) and has not yet been applied in any previous work regarding the relationship between capital structure and firm value in Vietnam. Apart from the panel threshold method by Cheng et al. (2010) and Cuong and Canh (2012), most research mentioned applies OLS panel regressions. Moreover, except for the research of Gill and Obradovich (2012), which investigates two industries, previous studies mentioned examine solely one industry, such as the study of Cuong and Canh (2012) on Vietnamese seafood firms, or listed firms from one stock exchange like the study of Vo and Ellis (2017) and Dang et al. (2019) on Ho Chi Minh stock exchange in Vietnam. Thus, the article investigates the impact of capital structure on firm value not only from all industries as a whole but also from several industries, to investigate the differences in various outcomes under an advanced estimation technique.

2. HYPOTHESES AND METHODOLOGY

The article addresses the effect of capital structure on non-financial listed companies' firm value from 2012 to 2019 by applying both micro and macroeconomic variables. The independent variable (firm value) is measured by enterprise value, which is equal to market capitalization plus book value of debt minus cash and cash equivalents. The indicator appears in the empirical research of Singh and Bansal (2016), Aggarwal and Padhan (2017), and Dang et al. (2019) and considered a fine measurement owing to the combination of both equity and debt, as well as market value and book value. Other dependent variables and alternative hypotheses include:

Capital structure (firm leverage): equals total liabilities divided by total assets. It is mentioned in the empirical study of Gill and Obradovich (2012) and Vo and Ellis (2017). The alternative hypothesis only indicates the significance because of the mixed results in the relationship in theoretical and empirical research:

H1.1: Capital structure has a significant impact on firm value.

Firm size: equals the natural logarithm of total assets. It is a common factor mentioned in most previous studies, except for the research of Cheng and Tzeng (2011, 2014) and Singh and Bansal (2016). The larger the firm, the more diversification and ability to withstand unfavorable changes that affect business operations, but previous findings demonstrate mixed results:

H1.2: Firm size has a significant impact on firm value.

Firm profitability: equals a return on total assets (ROA). It is mentioned in several past research in which the most recent ones are Singh and Bansal (2016), Aggarwal and Padhan (2017), Dang et al. (2019). However, EBIT will be employed in the numerator instead of earnings after taxes because it indicates a better quality of earnings generation by excluding the effects of interest expenses and income taxes. High earnings increase the ability to meet financial obligations in the future, but each of the previous empirical studies shows different results on their findings:

H1.3: Firm profitability has a significant impact on firm value.

Firm growth: equals to proportional changes in the total assets. It appears in both theoretical and empirical studies: while the growth opportuni-

ties will lead to conflicts of interest as ineffective projects are chosen by managers according to the agency theory by Jensen and Meckling (1976), later empirical findings of Cheng et al. (2010), Aggarwal and Padhan (2017) and Dang et al. (2019) demonstrate various results:

H1.4: Firm growth has a significant impact on firm value.

Firm tangibility: equals the proportion of fixed assets in total assets. Although a large amount of fixed assets can reduce the problem of information asymmetry, the results by Singh and Bansal (2016), Aggarwal and Padhan (2017), and Al-Sleha (2020) are different from each other:

H1.5: Firm tangibility has a significant impact on firm value.

Firm liquidity: equals current assets divided by current liabilities. A high current ratio means a better chance for a firm to meet its short-term financial obligations, yet the results by Aggarwal and Padhan (2017) yield both positive and negative substantial influence on firm value:

H1.6: Firm liquidity has a significant impact on firm value.

Inflation rates: equal to the proportional changes in the CPI. A high inflation rate will lower the cash flows and increase the cost of capital, thus lowering the firm's value. Cheng and Tzeng (2011, 2014) show an opposite relationship but inconclusive in Aggarwal and Padhan (2017):

H1.7: Inflation rates have a significant impact on firm value.

One of the common issues of OLS methods is endogeneity and, in turn, leads to errors and biases in estimation models. Thus, the GMM method will be employed to solve this problem (Verbeek, 2017).

The regression model is presented as follows:

$$EV_{i,t} = \beta_1 EV_{i,t-1} + \beta_2 LEV_{i,t} + \beta_3 SIZE_{i,t} +$$
$$+ \beta_4 ROA_{i,t} + \beta_5 GROW_{i,t} + \beta_6 TANG_{i,t} + \quad (1)$$
$$+ \beta_7 CR_{i,t} + \beta_8 INFL_{i,t} + \varepsilon_{i,t},$$

where EV – Enterprise value, $EV_{i,t-1}$ – Enterprise value of previous year, ROA – Firm profitability, $GROW$ – Firm growth, $TANG$ – Firm tangibility, CR – Firm liquidity, $INFL$ – Inflation rate.

After comparing and contrasting between the database of Bureau van Dijk's Osiris and classification of Finpro database, secondary data of 435 non-financial listed Vietnamese firms on HNX and HOSE have been chosen for this research, along with inflation rates from General Statistics Office (GSO) of Vietnam from 2012 to 2019. Four industries continued to be extracted from the total listed firms, including 30 wholesale trade companies, 32 F&B companies, 56 construction companies, and 38 real estate companies. The number of firm-year observations in balanced panel data is 27,840.

3. EMPIRICAL RESULTS

The distribution of all variables in Table 1 is non-normality as the Jarque-Bera tests' probabilities are significant at 1% level. Enterprise values are absolute numbers without modification, and it has much higher standard deviations than other

Table 1. Descriptive statistics

Variables	EV	LEV	SIZE	ROA	GROW	TANG	CR	INFL
Mean	1888.289	0.499712	6.382803	0.065949	0.102992	0.373828	2.316371	0.041188
Max	291754.9	1.760588	11.48553	5.191044	21.19322	0.977396	67.14000	0.091000
Min	−1141.201	0.002674	2.607094	−1.464455	−0.842050	0.000000	0.140000	0.006300
Std. Dev.	11109.77	0.221255	1.511985	0.124273	0.623514	0.228111	3.227422	0.024415
Skewness	14.63751	−0.091950	0.122721	19.41675	22.82339	0.564813	8.587812	0.779105
Kurtosis	264.6809	2.643299	2.969114	841.2100	685.9119	2.448942	119.5924	2.849073
Jarque-Bera Prob.	0.000000	0.000008	0.011835	0.000000	0.000000	0.000000	0.000000	0.000000
Observation	3,480	3,480	3,480	3,480	3,480	3,480	3,480	3,480

Table 2. Correlation matrix of independent variables

	LEV	SIZE	ROA	GROW	TANG	CR	INFL
LEV	1.0000						
SIZE	0.3060	1.0000					
ROA	−0.1895	0.0173	1.0000				
GROW	0.0144	0.0719	0.0209	1.0000			
TANG	−0.1564	0.1767	−0.0242	−0.0251	1.0000		
CR	−0.4874	−0.1849	0.0056	0.0543	−0.1026	1.0000	
INFL	0.0384	−0.0680	0.0220	−0.0495	0.0025	−0.0496	1.0000

variables. It is noticed that database also consists of negative figures as the minimum values of some variables are lower than 0, including enterprise value, firm profitability, and firm growth.

The coefficients in Table 2 show that financial leverage and firm liquidity have the highest correlations (–0.4874), while firm tangibility and inflation rates have the lowest (0.0025). All independent variables have coefficient correlations lower than 0.8 and higher than –0.8; thus, multi-collinearity is not a serious issue in the estimation.

As can be seen from Table 3, firm size has a significant positive impact on firm value across industries; thus, the alternative hypothesis *H1.2* can be accepted. However, capital structure and other factors have both insignificant and significant impact on firm value. This means that the alternative hypotheses *H1.1, H1.3, H1.4, H1.5, H1.6,* and *H1.7* can be accepted and rejected under different circumstances. These findings are consistent with previous empirical studies of Cheng and

Tzeng (2011, 2014), Gill and Obradovich (2012), Rizqia and Sumiati (2013), Hasbi (2015), Al-Sleha (2020), and particularly with Singh and Bansal (2016), Aggarwal and Padhan (2017) and Dang et al. (2019) using enterprise value as firm value measurement.

On the one hand, capital structure has a significant positive effect on firm value in the food and beverage industry, which follows the proposition of Modgliani and Miller (1963) and signaling theory by Ross (1977). On the other hand, there is a significant negative relationship between capital structure and firm value in wholesale trade, construction, and real estate industry. These results follow the pecking-order theory by Myers (1977), Myers (1984), and Myers and Maljuf (1984). Besides, it is worth noting that trade-off theory can also explain both significant positive and negative effect of firm leverage on enterprise value: the average debt ratio of the F&B industry is approximately 47.73% compared to 54.86% in the wholesale trade industry, 65.54% in the construc-

Table 3. Empirical results using GMM

Variables	Coefficients				
	All industries (excluding the financial sector)	Wholesale trade industry	Food and beverage industry	Construction industry	Real estate industry
EV(−1)	0.400960***	0.275495***	0.491143***	0.507995***	0.605541***
LEV	−397.4093	−154.6918**	16251.87***	−843.9995***	−1202.335***
SIZE	609.4070***	369.6975***	1886.209***	583.5000***	575.7077***
ROA	205.3406***	365.9832**	37769.31***	70.45963	−578.1850
GROW	−7.236595	20.40364***	−677.6794***	351.4388***	130.4173
TANG	231.2954**	140.4882	7762.122***	1274.037***	−299.6847**
CR	−4.713218	−51.69390***	33.22979	−6.365106***	−133.1746***
INFL	210.6694	−1248.387***	−36389.25***	215.9315	914.3344
J-stats. prob.	0.032113	0.508077	0.113427	0.136279	0.177843

Note: *** *p*-value < 1%; ** 1% < *p*-value < 5%; * 5% < *p*-value < 10%.

tion industry and 53.28% in real estate industry based on the data gathered for this research. These results imply that listed F&B firms might not have reached their optimal capital structure, while the others went beyond their target ones. Although firm leverage has no significant impact on firm value considering all industries together, the propositions of Modgliani and Miller (1958) do not seem to justify this relationship as the assumptions of the irrelevancy theory are not suitable for real-world situations.

The significant positive influence of firm size on enterprise value advocates both financial distress costs (Gordon, 1970) and agency costs (Jensen & Meckling, 1976) as the benefits of large firms can reduce these expenses and in turn lower the cost of capital, increase the value of the firm.

The significant positive impact of firm profitability on enterprise value also advocates the financial distress theory but only in the wholesale and F&B industry; however, the connection is insignificant in the construction and real estate industry. This could be due to a large amount of interest expense from high financial leverage decreasing the quality of earnings generation; thus,, the returns on assets using EBIT do not have substantial impact firm value in the construction and real estate industry.

Firm growth has a significant positive effect on firm value in the wholesale trade industry, while the factor has a significant negative influence on firm value in the F&B industry. This means that the agency theory does not always hold, and a decrease in agency costs due to the effective expansion or shrinkage could reduce the cost of capital, in turn, increase the value of the firm.

The significant positive link between firm tangibility and firm value also supports the agency theory in the F&B and construction industry and all industries together, because information asymmetry in borrowing can be reduced by having a large amount of fixed assets. However, firm tangibility has a significant negative influence on firm value in the real estate industry. Since a high proportion of fixed assets can raise the fixed costs, an increase in operating leverage can increase the business risks and lower the enterprise value.

The statistical results on the relationship between firm liquidity and firm value are inconsistent with the financial distress theory: the relationship is insignificant considering all industries and F&B industry, but significant negative in wholesale trade, construction, and real estate industry. Even though a high current ratio implies a better guarantee for short-term financial obligations, it could be ineffective if the ratio contains excessive cash, which should be used for investments or too many illiquid assets such as inventories.

The inflation rate has an insignificant impact on enterprise value considering all industries and the construction and real estate industry but has a significant negative impact on wholesale trade and the F&B industry. In addition to the reduction in cash flows and the rise in the cost of capital as negative effects of inflation, it is worth reminding that CPI changes are based on the changes in prices the essential goods and services. Because of this reason, inflation might have a more significant impact on firm value in wholesale trade, as well as food and beverage than other selected industries, including construction and real estate.

When all industries are combined, it might be more difficult to identify a significant relationship between independent and dependent variables, owing to the fact the several business characteristics of each industry are not identical to one another. Additionally, the economic conditions among regions and nations can also be different from each other: while the US and China are considered the leaders of worldwide economic growth for a long time, several other Asian economies mentioned are still on the rise in recent years such as Vietnam, India, Indonesia, Jordan, etc. Moreover, enterprise value consists of not just book value but also market value. Changes in stock prices do not always comply with a particular set of rules because the financial market has not reached its highest level of efficiency and the behavior of investors is not rational all the time. Therefore, the impact of capital structure and other control factors on firm value can still be found insignificant and inconsistent with theories and practices across industries and countries.

CONCLUSION

The study examines the effect of capital structure and other factors on the firm value of 435 listed companies and listed firms of four selected industries on two Vietnamese stock exchanges from 2012 to 2019. The results from data analysis show that the relationship between firm leverage and firm value is significant, and the same conclusions can be drawn from other factors. It is emphasized that the impacts can be both positive and negative among industries, except for firm size that is significantly positive in all cases. Most of the effects are consistent with past theoretical and empirical research, but some of them are inconsistent and different among groups of firms.

The study shows the impact of capital structure and other factors on firm value considering all industries and several prominent ones using the GMM method. Besides, the research demonstrates the distinctions in the results among industries and explain these results under the light of both past theoretical research and business characteristics of various industries, which is often failed to notice by both empirical findings on both Vietnamese and non-Vietnamese firms.

AUTHOR CONTRIBUTIONS

Conceptualization: Thi Van Trang Do.
Data curation: Thi Van Trang Do.
Formal analysis: Tien Dat Dang.
Funding acquisition: Thi Van Trang Do.
Investigation: Tien Dat Dang, Thi Van Trang Do.
Methodology: Thi Van Trang Do.
Project administration: Thi Van Trang Do.
Software: Tien Dat Dang.
Supervision: Tien Dat Dang.
Validation: Tien Dat Dang.
Writing – original draft: Tien Dat Dang.
Writing – review & editing: Thi Van Trang Do.

REFERENCES

1. Aggarwal, D., & Padhan, P. C. (2017). Impact of Capital Structure on Firm Value: Evidence from Indian Hospitality Industry. *Theoretical Economics Letters, 7,* 982-1000. Retrieved from https://www.researchgate.net/publication/317814091_Impact_of_Capital_Structure_on_Firm_Value_Evidence_from_Indian_Hospitality_Industry

2. Al-Sleha, Z. A. F. (2020). Impact of Financial Leverage, Size and Assets Structure on Firm Value: Evidence from Industrial Sector, Jordan. *International Business Research, 13*(1), 109-120. Retrieved from https://www.researchgate.net/publication/337873322_Impact_of_Financial_Leverage_Size_and_Assets_Structure_on_Firm_Value_Evidence_from_Industrial_Sector_Jordan

3. Altman, E. I. (1968). Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *The Journal of Finance, 23*(4), 589-609. Retrieved from https://www.jstor.org/stable/2978933?seq=1

4. Arnold, G. (2013). *Corporate Financial Management* (5th ed.). London: Pearson Education Limited.

5. Baker, M., & Wurgler, J. (2002). Market Timing and Capital Structure. *The Journal of Finance, 57*(1), 1-32. Retrieved from http://people.stern.nyu.edu/jwurgler/papers/capstruct.pdf

6. Bradley, M., Jarrell, G. A., & Kim, E. H. (1984). On the Existence of an Optimal Capital Structure: Theory and Evidence. *The Journal of Finance, 39*(3), 857-878. Retrieved from https://www.jstor.org/stable/2327950?seq=1

7. Cheng, M.-C., & Tzeng, Z.-C. (2011). The Effect of Leverage on Firm Value and How The Firm Financial Quality Influence on This Effect. *World Journal of Management, 3*(2), 30-53. Retrieved from https://www.researchgate.net/publication/228843342_The_Effect_of_Leverage_on_Firm_Value_and_How_The_Firm_Financial_Quality_Influence_on_This_Effect

8. Cheng, M.-C., & Tzeng, Z.-C. (2014). Effect of Leverage on Firm

Market Value and How Contextual Variables Influence this Relationship. *Review of Pacific Basin Financial Markets and Policies, 17*(1), 1-63. Retrieved from https://www.worldscientific.com/doi/abs/10.1142/S0219091514500040

9. Cheng, Y.-S., Liu, Y.-P., & Chien, C.-Y. (2010). Capital structure and firm value in China: A panel threshold regression analysis. *African Journal of Business Management, 4*(12), 2500-2507. Retrieved from https://academicjournals.org/journal/AJBM/article-full-text-pdf/B20594B27420

10. Cuong, N. T., & Canh, N. T. (2012). The Effect of Capital Structure on Firm Value for Vietnam's Seafood Processing Enterprises. *International Research Journal of Finance and Economics, 89,* 222-223. Retrieved from https://www.researchgate.net/publication/265808716_The_Effect_of_Capital_Structure_on_Firm_Value_for_Vietnam's_Seafood_Processing_Enterprises

11. Dang, H. N., Vu, V. T. T., Ngo, X. T., & Hoang, H. T. V. (2019). Study the Impact of Growth, Firm Size, Capital Structure, and Profitability on Enterprise Value: Evidence of Enterprises in Vietnam. *Journal of Corporate Accounting & Finance, 30,* 146-162. Retrieved from https://www.researchgate.net/publication/332375915_Study_the_Impact_of_Growth_Firm_Size_Capital_Structure_and_Profitability_on_Enterprise_Value_Evidence_of_Enterprises_in_Vietnam

12. DeAngelo, H., & Masulis, R. W. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics, 8*(1), 3-29. https://doi.org/10.1016/0304-405X(80)90019-7

13. Do, T. H. (2020). *Vietnam's Economy to Grow Fastest in Southeast Asia Despite COVID-19: ADB.* Retrieved from https://www.vietnam-briefing.com/news/vietnams-economy-grow-fastest-southeastasia-despite-covid-19.html/ (accessed on July 7, 2020).

14. Fischer, E. O., Heinkel, R., &

Zechner, J. (1989). Dynamic Capital Structure Choice: Theory and Tests. *The Journal of Finance, 44*(1), 19-40. Retrieved from https://www.jstor.org/stable/2328273?seq=1

15. Gill, A., & Obradovich, J. D. (2012). The Impact of Corporate Governance and Financial Leverage on the Value of American Firms. *International Research Journal of Finance and Economics, 91,* 1-14. Retrieved from https://digitalcommons.liberty.edu/cgi/viewcontent.cgi?article=1025&context=busi_fac_pubs

16. Gordon, M. J. (1970). Towards a Theory of Financial Distress. *The Journal of Finance, 26*(2), 347-356. Retrieved from https://www.jstor.org/stable/2326050?seq=1

17. Graham, J. R. (2000). How Big Are the Tax Benefits of Debt? *The Journal of Finance, 55*(5), 1901-1941. Retrieved from https://faculty.fuqua.duke.edu/~jgraham/HowBigFinalJF.pdf

18. GSO of Vietnam. (2020). *Socioeconomic situation in the second quarter and the first 6 beginning months of 2020.* Retrieved from https://www.gso.gov.vn/default_en.aspx?tabid=622&idmid=&ItemID=19663 (accessed on July 7, 2020).

19. Hasbi, H. (2015). Islamic Microfinance Insitution: The Capital Structure, Growth, Performance and Value of Firm in Indonesia. *Procedia – Social and Behavioral Sciences, 211,* 1073-1080. https://doi.org/10.1016/j.sbspro.2015.11.143

20. Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. *Journal of Financial Economics, 3*(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X

21. Kraus, A., & Litzenberger, R. H. (1973). A State-Preference Model of Optimal Financial Leverage. *The Journal of Finance, 28*(4), 911-922. Retrieved from https://www.jstor.org/stable/2978343?seq=1

22. Miller, M. H. (1977). Debt and Taxes. *The Journal of Finance, 32*(2), 261-275.

23. Modigliani, F., & Miller, M. H. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review, 48*(3), 261-297. Retrieved from https://www.jstor.org/stable/1812919?seq=1

24. Modigliani, F., & Miller, M. H. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *The American Economic Review, 53*(3), 433-443. Retrieved from https://www.jstor.org/stable/1809167?seq=1

25. Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics, 5*(2), 147-175. https://doi.org/10.1016/0304-405X(77)90015-0

26. Myers, S. C. (1984). The Capital Structure Puzzle. *The Journal of Finance, 34*(3), 575-592. Retrieved from https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.472.3863&rep=rep1&type=pdf

27. Myers, S. C. & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187-221. https://doi.org/10.1016/0304-405X(84)90023-0

28. Ngoc, T. (2020). *Vietnam construction sector forecast to grow over 7% over next decade: Fitch.* Retrieved from http://hanoitimes.vn/vietnam-building-construction-sector-forecast-to-grow-over-7-over-next-decade-fitch-312049.html (accessed on July 7, 2020).

29. Nguyen, H. (2020). *Vietnam's Real Estate Market: 3 Growth Drivers in 2020.* Retrieved from https://www.vietnam-briefing.com/news/vietnam-real-estate-market-3-growth-drivers-2020.html/ (accessed on June 20, 2020).

30. Nguyen, T. (2020). *Timing for EVFTA ratification could not be better for Vietnam and EU: HSBC.* Retrieved from http://hanoitimes.vn/timing-for-evfta-ratification-could-not-be-better-for-vietnam-and-eu-hsbc-313017.html (accessed on July 7, 2020).

31. Rizqia, D. A., & Sumiati, S. A. (2013). Effect of Managerial

Ownership, Financial Leverage, Profitability, Firm Size, and Investment Opportunity on Dividend Policy and Firm Value. *Research Journal of Finance and Accounting, 4*(11), 120-130. Retrieved from https://www.semanticscholar.org/paper/Effect-of-Managerial-Ownership%2C-Financial-Leverage%2C-Rizqia-Aisjah/17f0875a0ac6459e34bef901bd2cb08647860552

32. Ross, S. A. (1977). The Determination of Financial Structure: The Incentive-Signalling Approach. *The Bell Journal of Economics, 8*(1), 23-40. Retrieved from https://www.jstor.org/stable/3003485?seq=1

33. Scott, J. H. (1977). Bankruptcy, Secured Debt, and Optimal Capital Structure. *The Journal of Finance, 32*(1), 1-19. Retrieved from https://www.jstor.org/stable/2326898?seq=1

34. Singh, A. K., & Bansal, P. (2016). Impact of financial leverage on firm's performance and valuation: a panel data analysis. *Indian Journal of Accounting, 48*(2), 73-80. Retrieved from https://www.researchgate.net/publication/342570938_Impact_Of_Financial_Leverage_On_Firm's_Performance_And_Valuation_A_Panel_Data_Analysis

35. Verbeek, M. (2017). *A Guide to Modern Econometrics* (5th ed.). New Jersey: John Wiley & Sons, Inc.

36. Vo, X. V., & Ellis, C. (2017). An empirical investigation of capital structure and firm value in Vietnam. *Finance Research Letters, 22,* 90-94. https://doi.org/10.1016/j.frl.2016.10.014