EFFECT OF CAPITAL STRUCTURE ON THE PROFITABILITY OF PLASTIC AND PACKAGING COMPANIES LISTED IN VIETNAM

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ARTICLE INFO	ABSTRACT
	Purpose: The study aimed to analyse the impact of capital structure on the profitability of plastic and packaging companies listed on the Vietnam Stock Exchange - VNX (HNX, HoSE and Upcom). **Theoretical framework**: The study inherits previous studies on the relationship between capital structure and profitability to determine the capital structure that affects profitability. **Design/methodology/approach**: Using Qualitative Research (Synthetic Methods; Statistical methods, description; Inductive and interpretive methods) and quantitative research methods (linear regression methods). **Findings:** The author has identified two independent variables that represent a capital structure that strongly affects the profitability of enterprises, including: (1) Short-term debt ratio (STD); (2) Long-term debt ratio (LTL). **Research, practical and social implications**: Based on the research results, the author offers several discussions and assessments on the critical role of adjusting the optimal capital structure for plastic and packaging companies, in addition to financial solution recommendations aimed at improving profitability for companies. **Originality/value**: Through a study of 30 plastic and packaging manufacturing companies, corresponding to 360 observations in the period of 2010 – 2021.

EFEITO DA ESTRUTURA DE CAPITAL NA RENTABILIDADE DAS EMPRESAS DE PLÁSTICO E EMBALAGEM LISTADAS NO VIETNAME

RESUMO

Objetivo: O estudo visava analisar o impacto da estrutura de capital sobre a rentabilidade das empresas de plástico e embalagem listadas na Bolsa de Valores do Vietnã - VNX (HNX, HoSE e Upcom).

Estrutura teórica: O estudo herda estudos anteriores sobre a relação entre estrutura de capital e lucratividade para determinar a estrutura de capital que afeta a lucratividade.

Desenho/método/abordagem: Utilização de pesquisa qualitativa (métodos sintéticos; métodos estatísticos, descrição; métodos indutivos e interpretativos) e métodos de pesquisa quantitativa (métodos de regressão linear).

Descobertas: O autor identificou duas variáveis independentes que representam uma estrutura de capital que afeta fortemente a lucratividade das empresas, incluindo: (1) Taxa de endividamento de curto prazo (DST); (2) Taxa de endividamento de longo prazo (LTL).

Pesquisa, implicações práticas e sociais: Com base nos resultados da pesquisa, o autor oferece várias discussões e avaliações sobre o papel crítico de ajustar a estrutura de capital ideal para empresas de plástico e embalagem, além de recomendações de soluções financeiras destinadas a melhorar a lucratividade para as empresas.

Originalidade/valor: Através de um estudo de 30 empresas fabricantes de plástico e embalagens, correspondendo a 360 observações no período de 2010 - 2021.

Palavras-chave: Estrutura de Capital, Lucratividade, Eficiência Operacional, Estrutura de Capital.

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EFECTO DE LA ESTRUCTURA DEL CAPITAL EN LA RENTABILIDAD DE LAS EMPRESAS DE PLÁSTICOS Y ENVASES COTIZADAS EN VIETNAM

RESUMEN

Objetivo: El estudio tenía como objetivo analizar el efecto de la estructura de capital en la rentabilidad de las empresas de plásticos y envases que cotizan en la Bolsa de Vietnam - VNX (HNX, HoSE y Upcom).

Marco teórico: El estudio hereda estudios anteriores sobre la relación entre estructura de capital y rentabilidad para determinar la estructura de capital que afecta a la rentabilidad.

Diseño/metodología/enfoque: Utilización de métodos de investigación cualitativos (métodos sintéticos; métodos estadísticos, descripción; métodos inductivos e interpretativos) y cuantitativos (métodos de regresión lineal).

Resultados: El autor ha identificado dos variables independientes que representan una estructura de capital que afecta en gran medida a la rentabilidad de las empresas, a saber: (1) ratio de endeudamiento a corto plazo (STD); (2) ratio de endeudamiento a largo plazo (LTL).

Investigación e implicaciones prácticas y sociales: Basándose en los resultados de la investigación, el autor ofrece varias discusiones y evaluaciones sobre el papel crítico de ajustar la estructura óptima de capital para las empresas de plástico y envases, además de recomendaciones de soluciones financieras destinadas a mejorar la rentabilidad de las empresas.

Originalidad/valor: A través de un estudio de 30 empresas fabricantes de plásticos y envases, correspondientes a 360 observaciones en el periodo 2010 - 2021.

Palabras clave: Estructura de Capital, Rentabilidad, Eficiencia Operativa, Estructura de Capital.

INTRODUCTION

The portion of each capital source in the enterprise's overall capital source, or the mixture of debt and equity, that is used for enterprise activities, is referred to as capital structure. Most significant financial choices for every business is the choice of the capital structure. Under certain circumstances, a fair capital structure represents a harmonic blend of various sources of funding, lowering the cost of borrowing and removing risky situations. In order for the company to carry out its plans, a reasonable capital structure must strike a balance between risk and profit.

There is no standard capital structure for all businesses because the capital structure of each and evrything depends on a variety features, including the macroeconomic climate of every country, the industry in which the business works, and the unique features of every business. In essence, the capital structure is the part of each and every capital component in the total capital of the business. Short-term debts, such as commercial credit, employee salary debt, and state tax debt, have low capital costs, little change, and are typically used to finance short-term assets. As a basis for long-period investment decisions, managers must take this into account. At that point, the determination of the ratio of long-term debt to the enterprise's total capital becomes the capital structure issue (or equity). In order to help business managers make wise selections, the learning of capital structure is a topic that continuously interests scientists at various stages of their careers.

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In Vietnam, plastic manufacturing companies are mainly small and medium-sized enterprises (accounting for over 90% of the more than 2,000 plastic manufacturing companies); these companies are often not interested in investing in modern machinery and technology. In addition, small and medium-sized companies often face difficulties accessing loans due to collateral limitations and high-interest costs... Few companies with large production scales have the advantage of mobilising capital from credit institutions, thereby acting as a basis for intensive investment and having products that meet consumers' increasing needs and tastes. Therefore, plastic manufacturing enterprises need to optimise the existing capital structure to improve financial capacity to meet production and business needs in the context of limited capital mobilisation.

LITERATURE REVIEW AND PREVIOUS RESEARCH STUDIES

Numerous studies have been conducted on the effect of capital structure (capital structure) on the profitability of businesses; these studies have led to the development of theories and research works like the Noi Net Operating Profit Theory, the Average Cost of Capital and Difficult Enterprise Value Despite Maintaining Any Level of Financial Leverage, and Hypothetical Absence of Corporate Income Tax, i.e. Without the Effect of Capital Structure (Bairavi). Franco Modigliani and Merton Miller's M&M theory of capital structure demonstrates that the influence of capital structure on a company's value and average capital cost in the presence and nonappearance of corporate income tax is different (Miller, 1998). The notion of capital gains order is another name for the theory of market classification order. Meyers and Majluf were the first to investigate this notion (1984). The company's consideration of selecting from three key sources determines the capital structure: internal capital sources (mostly reinvestment profits), debt (primarily borrowing and bond issuance), and stock issuance (Myers & Majluf, 1984). Examining the Influence of Capital Structure on the Profitability of Listed Companies is the goal of Abor's 2005 study, Decisions on Capital Structure as Crucial to Any Business Entity, Ghana's Listed Companies Study Sample for the Period 1998-2002.

The results show a significant positive relationship between the ratio of short-term liabilities to total assets and ROE (Abor, 2005). However, an inverse association was found between the percentage of long-term debt to total assets and ROE.

Regarding the relationship between total debt and rate of return, the results show a significantly favourable relationship between the ratio of total debt to total assets and the rate of return on equity. Gill et al. (2011), Decisions on capital structures are important because of

the need to maximise the enterprise's profitability and because of the impact of such a decision on the ability of the enterprise to cope with the competitive environment. Over a sample of 272 corporations in the U.S., the Authors study the effect of capital structure on profitability by looking at the impact of capital structure on companies' profitability. The findings indicate a positive link between total debt and total assets and profitability, total debt with actual support, and total debt versus total assets and profitability (Gill, Biger, & Mathur, 2011). According to Shubita et al. (2012), a company's capital structure refers to the mix of debt and equity that it uses to conduct business. 39 firms listed on the Amman Stock Exchange between 2004 and 2009 were the subject of a study by the authors to determine how capital structure impacted profitability (Shubita &Alsawalhah, 2012). Profitability depends more on equity due to the large negative relationship between debt and profitability. Velnampy and others (2012), The choice and application of capital are essential components of a company's financial strategy. In order to examine the connection between capital structure and profitability over the course of eight years, from 2002 to 2009, the group used data from ten banks in Sri Lanka.

The analysis's findings indicate that capital structure and profitability are negatively correlated, with the exception of the relationship between debt to equity and return on equity (Velnampy &Niresh, 2012). Tailab (2014) examined the relationship between capital structure and financial performance using a sample of 30 U.S. corporations from 2005 to 2013. The variables were ROA and ROE, capital structure, STD, LTL, total debt, debt-to-equity ratio, and size of the company. The findings demonstrated that overall debt had a sizable detrimental effect on ROE and ROA. Additionally, the ROE of American businesses was only noticeably negatively impacted by the volume of sales. A short debt has a favourable impact on ROE concurrently.

Slight negative or positive relationships have been detected among LTL, debt-to-equity, and total asset size and profitability (Tailab, 2014). Yapa (2015), A study of non-financial small and medium-sized enterprises in the U.K. between 1998 and 2008, looked at the relationship of capital structure and corporate profitability. Profitability is inversely correlated with capital structure, positively correlated with company size, and negatively correlated with the ratio of long-term debt to total assets (Yapa Abeywardhana, 2015). Singh (2019) employed a research sample of 50 companies that were listed on the National Stock Exchange of India between 2008 and 2017 to examine the impact of capital structure on a company's profitability. The indicators of total debt and equity for ROA and ROE profitability show that the capital structure has a beneficial impact on the profitability of the company (Singh &Bagga, 2019).

PROPOSED MODEL AND METHODOLOGY

* *Quantitative research objectives.* The effect of capital structure on the profitability of plastic and packaging companies listed in Vietnam was investigated using a linear regression model based on panel data Pooled OLS, FEM, and REM.

* *Method.* In order to choose the best model from a group of three models, the study uses software named STATA 14 to analyse the selection of the regression model as well as to confirm and evaluation of the array data regression models fixed impact regression (FEM, Covariance Model, Within Estimation, Individual False Variable Model, Least Squares Dummy Variable Model- Fem), random impact regression (REM, Random Intercept, Partial Pooling Model-Rem Defects in the selected model are still tested for, and any that are found are corrected.

* *Research data.* The information applied by the author is subordinate data, taken from the page (Vietstock. vn), from the yearly report of plastic and packaging manufacturing companies and the General Statistics Office (Gso.gov.vn). The data set includes financial statements of 30 plastic and packaging manufacturing companies under the Vietnam Stock Exchange (on HNX, HoSE, Upcom), corresponding to 360 observations in the period 2010 – 2021, the study will eliminate recently recognized, or consolidated businesses that mark financial data not similar and corporations do not disclose enough information needed in research. Bollen (1989) states that the formula n=5*2i is used to determine the sample size when analysing a model with a linear structure (i is the detected variable in the model). The method n=50 + 8q is used to determine sample sizes for multiple linear regression analysis, according to Tabachnick and Fidell (2007). (q is the quantity of independent variables in the model).

- *Data cleaning*: Before conducting data analysis, the author performs additional calibrates of the parameters of the variables to ensure that the data processing results honestly reflect the research object.

* *Selection of variables in the model.*

Variable options ROE and ROA represent profitability for listed plastics and packaging companies. Statistics of variables in the model, names and symbolisation of variables, and formulas for calculation:

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No.	Variable	formula
Independent variables		
1	Debt-to-total capital ratio(D.R.)	Total Liabilities/Total Capital
2	Debt-to-equity ratio(DE)	Liabilities/Equity
3	Proportion of short-term debt (STD)	Short-term debt/Total capital
4	Long-term debt ratio (LTL)	Long-Term Debt/Total Resources
Control variables		
5	Scale of securities company (LnTTS)	Logarithm total assets
6	Equity Size (LnSIZE)	Total equity logarithm

(Source: author synthesised on theoretical grounds)

The author considers four models:

$$ROE = \alpha_1*DR + \alpha_2*STD + \alpha_3*LTL + \alpha_4*LnTTS \ (*)$$

$$ROE = \alpha_5*DE + \alpha_6*STD + \alpha_7*LTL + \alpha_8*LnSIZE \ (**)$$

$$ROA = \alpha_{01}*DR + \alpha_{02}*STD + \alpha_{03}*LTL + \alpha_{04}*LnTTS \ (***)$$

$$ROA = \alpha_{05}*DE + \alpha_{06}*STD + \alpha_{07}*LTL + \alpha_{08}* LnSIZE (****)$$

Inside:

α_0: Blocking factor

α_1, α_2, α_3, α_4, α_5, α_6, α_7, α_8, α_{01}, α_{02}, α_{03}, α_{04}, α_{05}, α_{06}, α_{07}, α_{08}: are the slope coefficients of independent variables

Hypotheses:

H01: Debt-to-total capital (D.R.) ratio is correlated in the same direction to the profitability of listed plastics and packaging companies (ROE/ROA)

H02: Debt-to-equity (D.E.) ratio is correlated in the same direction to the profitability of listed plastics and packaging companies (ROE/ROA)

H03: The ratio of short-term debt (STD) is positively correlated to the profitability of listed plastics and packaging companies (ROE/ROA)

H04: The ratio of long-term debt (LTL) is positively correlated to the profitability of listed plastics and packaging companies (ROE/ROA)

RESULTS AND DISCUSSION

Research sample

The author performs statistics, describes the variables in the regression model, the results are as follows (Table 1).

Table 1. Statistical results of variables in models (*); (**); (***); (****)

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	360	.0449482	.1282605	-1.693.255	.2803001
ROE	360	.0759309	.5450281	-8.773.625	1.642.931
LnTTS	360	2.682.865	1.330.575	2.440.852	3.027.293
LnSize	360	2.612.475	1.255.367	2.262.217	2.941.322
DR	360	.4190508	.278678	1.00e-09	2.071.332
DE	360	127.217	264.073	-266.425	3.612.935
STD	360	.3894647	.217528	.055976	1.991.357
LTL	360	.0803485	.1038375	0	.5062107

(Source: author synthesised on theoretical grounds)

Table 1 shows that the average ROA and ROE ratios are 0.0449482 and 0.0759309, respectively, compared with the common ground, this ratio is low. Besides that, It is simple to comprehend that the majority of variables have STD Deviation/Mean values less than 1, the volatility data is weak, and the analyzed statistical data from the low differential sample have low standard deviation (Fig.1).

Figure 1. Sample data dispersion
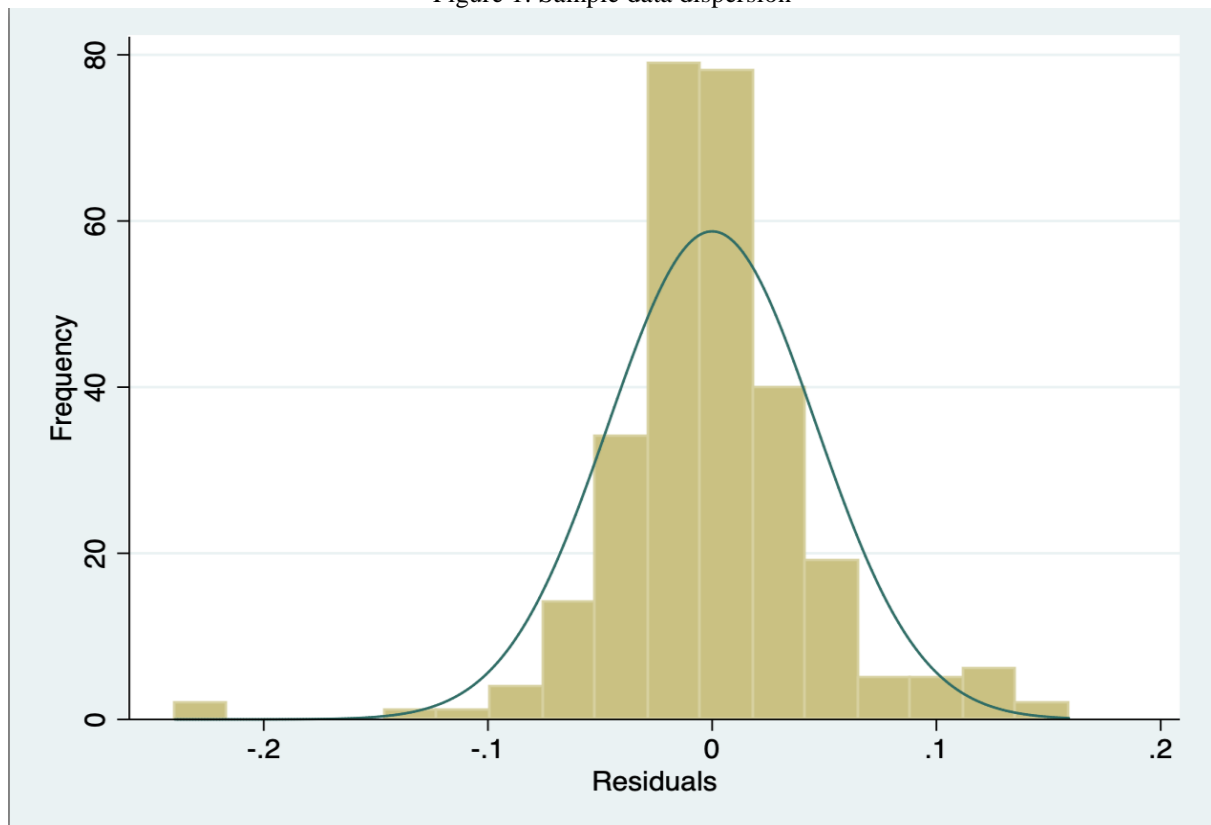
(Source: Statistical author on STATA 14 software)

Regression model validation

      * *Multi-line testing.* The analyzes used the variance inflation factor (VIF) to examine multicollinearity. The study model has a multicollinearity sign if the VIF coefficient does not exceed 10.

Table 2. Multicollinearity test results in the model

. vif			. vif			. vif			. vif		
Variable	VIF	1/VIF	Variable	VIF	1/VIF	Variable	VIF	1/VIF	Variable	VIF	1/VIF
DR	2.55	0.391837	LnSIZE	1.25	0.798950	DR	1.56	0.640474	DR	1.15	0.869815
STD	2.16	0.462912	STD	1.22	0.817230	LnTTS	1.56	0.640474	LnSIZE	1.15	0.869815
LnTTS	1.69	0.590435	LTL	1.03	0.974908						
LTL	1.35	0.741853									
Mean VIF	1.94		Mean VIF	1.17		Mean VIF	1.56		Mean VIF	1.15	
Model variables (*)			Model variables (**)			Model variables (***)			Model variables (****)		

(Source: STATA 14 software)

      Rotation-related variables added into models have properties that are intrinsically connected. In order to avoid multicollinearity, the author runs regression in separate sessions. The author, however, conducts a Multicollinearity test using independent variables when included in the model at the same time to take into account the remaining independent variables that are multicollinear with one another. Table 2 observation reveals that all of the model's variables' VIFs have values lower than 10. This may indicate that the study's regression model lacks multicollinearity phenomena or independent variables that have no bearing on the model's interpretation of the data.

      * Regression results of models

      The author performed multivariate regression model (*) with the following results

Table 3A. Model regression results

```
. reg ROE STD LTL LnTTS

      Source |       SS           df       MS            Number of obs   =       293
-------------+----------------------------------         F(3, 289)       =      1.47
       Model |  1.30722772         3   .435742573        Prob > F        =    0.2217
    Residual |   85.433012       289   .295615958        R-squared       =    0.0151
-------------+----------------------------------         Adj R-squared   =    0.0048
       Total |  86.7402397       292   .297055615        Root MSE        =   .54371

-------------+----------------------------------------------------------------------
         ROE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------------
         STD |   .0912862    .153787     0.59   0.553    -.2113983    .3939707
         LTL |  -.695213    .3336316    -2.08   0.038    -1.351869   -.0385571
       LnTTS |   .0209174   .0255864     0.82   0.414    -.0294419    .0712766
       _cons |  -.4649471   .6738567    -0.69   0.491    -1.791236     .861342
-------------+----------------------------------------------------------------------
```

(Source: Regression Study on STATA 14 Software)

Regression with model (**) is given as

Table 3B. Model regression results

```
. reg ROE STD LTL LnSize

      Source |       SS           df       MS            Number of obs   =       290
-------------+----------------------------------         F(3, 286)       =      6.73
       Model |  5.48664037         3   1.82888012        Prob > F        =    0.0002
    Residual |   77.709205       286   .271710507        R-squared       =    0.0659
-------------+----------------------------------         Adj R-squared   =    0.0562
       Total |  83.1958454       289   .287874898        Root MSE        =   .52126

-------------+----------------------------------------------------------------------
         ROE |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------------
         STD |  -.243916    .1761337    -1.38   0.167    -.5905988    .1027668
         LTL |  -.8357395   .3220374    -2.60   0.010    -1.469604   -.2018755
      LnSize |   .0846325   .0247738     3.42   0.001     .0358705    .1333946
       _cons |  -1.98785    .6505958    -3.06   0.002    -3.268413   -.7072865
-------------+----------------------------------------------------------------------
```

(Source: Regression Study on STATA 14 Software)

The model (***) is as follows

Table 3C. Model regression results (***)

```
. reg ROA STD LTL LnTTS

      Source |       SS           df       MS            Number of obs   =       293
-------------+----------------------------------         F(3, 289)       =     64.37
       Model |  1.92404159         3   .641347196        Prob > F        =    0.0000
    Residual |  2.87957906       289   .009963941        R-squared       =    0.4005
-------------+----------------------------------         Adj R-squared   =    0.3943
       Total |  4.80362065       292   .016450756        Root MSE        =   .09982

-------------+----------------------------------------------------------------------
         ROA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------------
         STD |  -.3599728   .0282339   -12.75   0.000     -.415543   -.3044026
         LTL |  -.1521376   .0612518    -2.48   0.014    -.2726938   -.0315814
       LnTTS |   .0160693   .0046974     3.42   0.001     .0068238    .0253148
       _cons |  -.2337489   .1237141    -1.89   0.060    -.4772438     .009746
-------------+----------------------------------------------------------------------
```

(Source: Regression Study on STATA 14 Software)

And finally author regression model (****) results as follows:

Table 3D. Model regression results

```
. reg ROA STD LTL LnSize

    Source |       SS           df       MS            Number of obs   =       290
-----------+----------------------------------         F(3, 286)       =     24.52
     Model | .225263565          3    .075087855        Prob > F        =    0.0000
  Residual | .875729083        286     .00306199        R-squared       =    0.2046
-----------+----------------------------------         Adj R-squared   =    0.1963
     Total | 1.10099265        289    .003809663        Root MSE        =    .05534

------------------------------------------------------------------------------
       ROA |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-----------+------------------------------------------------------------------
       STD | -.0985536   .0186978    -5.27   0.000    -.1353564   -.0617508
       LTL | -.1742895   .0341865    -5.10   0.000    -.2415786   -.1070004
    LnSize |  .0071932   .0026299     2.74   0.007     .0020168    .0123697
     _cons | -.0824071   .0690653    -1.19   0.234    -.2183479    .0535336
------------------------------------------------------------------------------
```

(Source: Regression Study on STATA 14 Software)

Tables 3A, 3B, 3C, 3D shows Model regression results:

ROE = -0.695213*LTL

ROE = - 0.8357395*LTL + 0.0846325*LnSize

ROA = -0.3599728* STD – 0.1521376*LTL +0.160693* LnTTS

ROA = -0.985536 *STD – 0.01742895* LTL

The regression result, consisting of 2 independent variables (and two control variables) representing the capital structure that affects the profitability of plastic and packaging companies in Vietnam, including: (1) the Short-term debt ratio (STD); (2) The ratio of long-term debt (LTL) and both variables have a negative impact on profitability. Meanwhile, control variables show a similar impact on the profitability of businesses:

CONCLUSION

Based on the findings of the study, the author makes a number of suggestions for financial solutions aimed at modifying the capital structure to increase profitability for plastic and packaging companies listed in Vietnam. These suggestions include raising owner-contributed capital, issuing shares (using desired shares for cards), or growing the size of retained profits (retaining 100% of profits or enforcing a dividend surplus policy). Moreover, firms must minimise the usage of leverage by reducing the percentage of borrowed capital (including both short- and long-term debt). However, the limitation of the study is that it focuses on analyzing the capital structure of listed Plastic and Packaging manufacturing companies, which are large companies in the industry with relatively stable capital structures.

Meanwhile, the number of unlisted enterprises, small enterprises account for a relatively large proportion, which have not been included in the study.

REFERENCES

Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The journal of risk finance*.

Bairavi, S. A REVIEW OF THE CAPITAL STRUCTURE THEORIES. *SHANLAX INTERNATIONAL JOURNAL OF MANAGEMENT*, 52.

Gill, A., Biger, N., & Mathur, N. (2011). The effect of capital structure on profitability: Evidence from the United States. *International journal of management, 28*(4), 3.

Miller, M. H. (1998). The M&M propositions 40 years later. *European financial management, 4*(2), 113-120.

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.

Shubita, M. F., & Alsawalhah, J. M. (2012). The relationship between capital structure and profitability. *International Journal of Business and Social Science, 3*(16).

Singh, N. P., & Bagga, M. (2019). The effect of capital structure on profitability: An empirical panel data study. *Jindal Journal of Business Research, 8*(1), 65-77.

Tailab, M. (2014). The effect of capital structure on profitability of American energy firms. *International Journal of Business and Management Invention, 3*(12).

Velnampy, T. d., & Niresh, J. A. (2012). The relationship between capital structure and profitability.

Yapa Abeywardhana, D. (2015). Capital structure and profitability: An empirical analysis of SMEs in the U.K. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB), 4*(2), 1661-1675.

Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana. *The journal of risk finance*.

Bairavi, S. A REVIEW OF THE CAPITAL STRUCTURE THEORIES. *SHANLAX INTERNATIONAL JOURNAL OF MANAGEMENT*, 52.

Gill, A., Biger, N., & Mathur, N. (2011). The effect of capital structure on profitability: Evidence from the United States. *International journal of management, 28*(4), 3.

Miller, M. H. (1998). The M&M propositions 40 years later. *European financial management, 4*(2), 113-120.

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.

Shubita, M. F., & Alsawalhah, J. M. (2012). The relationship between capital structure and profitability. *International Journal of Business and Social Science, 3*(16).

Singh, N. P., & Bagga, M. (2019). The effect of capital structure on profitability: An empirical panel data study. *Jindal Journal of Business Research, 8*(1), 65-77.

Tailab, M. (2014). The effect of capital structure on profitability of American energy firms. *International Journal of Business and Management Invention, 3*(12).

Velnampy, T. d., & Niresh, J. A. (2012). The relationship between capital structure and profitability.

Yapa Abeywardhana, D. (2015). Capital structure and profitability: An empirical analysis of SMEs in the U.K. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB), 4*(2), 1661-1675.

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APPENDIX

APPENDIX: PLASTIC AND PACKAGING MANUFACTURING COMPANIES LISTED ON THE VIETNAM STOCK EXCHANGE (VNX)

No.	Stock code	Company Name	Website
1	AAA	An Phat Bioplastics JSC	https://anphatbioplastics.com
2	Old	Tan Binh Culture JSC	https://alta.com.vn
3	APH	An Phat Holdings Jsc.	https://anphatholdings.com
4	BBH	Hoang Thach Packaging Joint Stock Company	https://baobihoangthach.vn
5	BMP	Binh Minh Plastic Joint Stock Company	https://www.binhminhplastic.com.vn
6	Day	Dong A Plastic Group JSC	https://www.dag.com.vn
7	DNP	Dong Nai Plastic Joint Stock Company	https://nhuadongnai.vn
8	DPC	Da Nang Plastic Joint Stock Company	http://www.danaplast.vn
9	DTT	Do Thanh Industrial Joint Stock Company	http://www.dothanhtech.com/index.php
10	HCD	HCD Manufacturing and Trading Investment Joint Stock Company	http://hcdgroup.com.vn
11	HNP	Hanel Plastic Foam JSC	https://hanelplastics.com.vn
12	NHP	NHP Import and Export Manufacturing Joint Stock Company	www.nhpvietnam.com
13	NNG	Ngoc Nghia Industry - Service - Trading Joint Stock Company	https://nnc.vn/vi/
14	NSG	Saigon Plastic Joint Stock Company	http://www.saigonplastic.com.vn
15	NTP	Tien Phong Youth Plastic Jsc.	https://nhuatienphong.vn
16	PBP	Vietnam Petroleum Packaging Joint Stock Company	https://pbp.vn
17	PBT	Oil and Gas Housing and Trading Joint Stock Company	https://www.pvbuilding.com.vn
18	PMP	Phu My Protein Packaging Jsc.	https://dpmp.vn
19	RDP	Rang Dong Holding JSC	https://rangdongholding.com.vn
20	SFN	Saigon Mesh Textile Joint Stock Company	http://www.sfn.vn
21	SPA	Saigon Packaging Joint Stock Company	https://sapaco.com.vn
22	SPP	Saigon Plastic Packaging Joint Stock Company	https://sapaco.com.vn
23	TDP	Thuan Duc JSC	https://thuanducjsc.vn
24	TKA	Tan Khanh An Packaging Joint Stock Company	http://tankhanhan.com
25	TPC	Tan Dai Hung Plastic Joint Stock Company	http://tandaihungplastic.com/vi/
26	TPP	Tan Phu Vietnam Joint Stock Company	https://tanphuvietnam.vn
27	TTP	Tan Tien Plastic Packaging Joint Stock Company	https://www.tapack.com
28	VKP	Tan Hoa Plastic Joint Stock Company	www.tanhoaplastic.com
29	VNP	Vietnam Plastics JSC	http://www.vinaplast.com.vn
30	VTZ	Viet Thanh Plastic Manufacturing and Trading Joint Stock Company	https://vithacoplastic.com

(Source: Author of website Hnx.vn. and Hsx.vn)