THE DETERMINANTS OF CAPITAL STRUCTURE FOR VIETNAM'S SEAFOOD PROCESSING ENTERPRISES

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ABSTRACT: *The goal in this paper is to assess the determinants of capital structure for Vietnam's seafood processing enterprises (SEAs) in comparison with enterprises of other processing industries (DIFs). The result of this study was based on applying Shumi Akhtar's model (2005) [22] and Shumi Akhtar, Barry Oliver's (2005) [23] and using data of 302 enterprises, including 63 in fisheries industry, across 5 years from 2004 to 2008. Total observations were 772, including 284 and 488 for models applied to seafood processing enterprises and others respectively.*

The results show that capital structure differs between SEAs and DIFs. Accordingly, size and collateral value of assets were found to be significant determinants of capital structure for both SEAs and DIFs. For SEAs, profitability, growth, agency costs and interest expense affect the capital structure and play a crucial role. Meanwhile, bankruptcy risks and age of enterprises are essential determinants for DIFs. In relation to interaction effects, size and collateral value of assets are significant in explaining the differences in the capital structure of SEAs relative to that of DIFs. Finally, determinants of capital structure rarely varied over the sample period for both SEAs and DIFs. The findings suggest implications for Vietnam's seafood processing enterprises (SEAs) on flexible usage of financial leverage. Specifically, to increase or decrease the level of financial leverage, SEAs need to take into account size, collateral assets, profitability and growth rate of enterprises as well as recommend measures to cope with shocks in variations of bank interest rates.

Keywords: *Capital structure; SEAs.*

1. INTRODUCTION

Corporate capital structure has been remaining a debating issue in modern corporate finance. There have been a variety of researches undertaken to identify the determinants of corporate capital structure in the world since the seminal work conducted by Modigliani and Miller (1985). However, considerably less research has been conducted on this topic for enterprises operating in seafood processing industry. This paper adds to the body of knowledge on capital structure by providing important evidence on the determinants of capital structure for enterprises in seafood processing industry and enterprises in other industries in Vietnam.

The paper is divided into seven sections. The next section reviews previous studies of capital structure literature and defines the variables. The third section briefly describes

the Seafood industry of Vietnam; the fourth section provides discussions on methodology and research model; section 5 discusses data collection and method; section 6 discusses the research results, and the final section summarizes the key findings and implications.

2. CAPITAL STRUCTURE DETERMINANTS

The debate on the relevance of capital structure to firm value has progressed from academic model to practical reality since Modigliani & Miller's research (1958). At present it is commonly recognized that capital structure is relevant to firm value. The factors that determine capital structure are a combination of variables. Although these variables have been applied extensively to corporations in various countries, few studies were separately carried out to industry, for instance considering relationship between a combination of variables and capital structure for enterprises in one industry such as Seafood processing industry (SEAs).

Studying the impacts of capital structure on profitability, to measure capital structure, Joshua Abor (2005) [12] uses 3 ratios: short term debt on asset (SDA), long term debt on asset (LDA) and total debt on total asset (DA). On the other hand, researches by Brealey and Myers (1996) [3], Graham and Harvey (2001) [10] support to use value of debt, equity to identify capital structure. Additionally, Titman and Wessels (1988) [24] reported almost similar results when using value and market value of debt on equity ratio. Alternatively, when studying determinants of capital structure, Shumi Akhatar (2005) [22] and Shumi Akhtar, Barry Oliver (2005) [25] use financial leverage (LTD) to measure capital structure and it is defined as: LTD = Long term debt/ (Short term debt + Market value of equity). This measure is relevant to the research by Burgman (1996) and Chkir & Jean-Clause (2001).

In this study, the measurement of corporate capital structure through financial leverage defined as below:

$$LTD = \frac{\text{Book value of long term debt}}{\text{Book value of long term debt} + \text{Book value of equity}} \quad (1)$$

Determinants of capital structure we examine include: firm size, profitability, growth opportunity, bankruptcy risks, collateral value of assets, agency costs, interest expense, enterprise age, form of possession and type of industry. Following section will analyze interconnection between those variables relative to corporate capital structure.

2.1. Enterprise size

Enterprise size (SIZE) is considered one determinant of capital structure (Cooke 1991 [4]; Fan, Titman & Twite 2003 [7]). Previous researches show that larger scale enterprise generally has higher level of debt. This suggests a positive relationship between capital structure and corporate firm size. To measure enterprise size, there exist different perspectives. According to Cooke (2001) [4]; Fan, Titman & Twite (2003) [7]; Shumi Akhtar (2005) [22], enterprise size is defined by Ln(total asset). Further, Titman and Wessels (1988) [24]; Jouhua Abor (2005) [12] show

that enterprise size is defined by Ln(total revenue).

Alternatively, size of equity is seen as a representative factor of firm value. It is a determinant of capital structure, playing a significant role in theory, if enterprise possesses larger equity size, it will result in decreased probability of mobilizing long term debt. Consequently, enterprises will take advantage of equity to ensure payment ability rather than depending on debt. Simultaneously, when enterprises need to expand investment, large equity size will offer more favorable opportunities to access external funds than enterprises of small equity size.

On the basis of previous studies, in this study 2 criteria are applied in the model to measure enterprise size under two perspectives:

SIZE_TA = Ln(Total assets) (2)

SIZE_E = Ln(Total equity) (3)

2.2. Profitability

When examining capital structure, Myer (1984) [16] shows that if an enterprise is profitable then it is more likely that financing would be from internal sources rather than external sources. In terms of profit, enterprises tend to hold less debt, since it is easier and more cost effective to finance internally. Allen (1991) [1] provides support for Myer's (1984) [16] pecking order theory in a sample of Australian enterprises. This would suggest a negative relationship between capital structure and profitability. On the other hand, according to the Modigliani & Miller's research (1963), the enterprises having high profitability are likely to borrow the debts than the ones having the low profitability. These enterprises expect to use these debts as a tariff of income tax. Thus, the relationship between profitability and debt rate has positive relation.

According to Doukas & Pantzalis (2003)[6], variable selected to measure profitability (ROS) is defined by average value of net profit on revenue across the latest four years. Study by Joshua Abor (2005) [12] used earnings before interest and tax (EBIT) on equity to measure return on equity (ROE). Research by Walaa Wahid ElKelish (2007) [25] used earnings before interest and tax (EBIT) on total asset to measure return on asset (ROA). In this study, the ROA criteria are used to measure profitability of enterprise across years as below:

$$\text{ROA} = \frac{\text{Earnings before interest and taxes}}{\text{Total assets}} \quad (4)$$

2.3. Bankruptcy risk

Bankruptcy risk is also a determinant of capital structure. According to Kraus & Litzenberger (1973) [13], bankruptcy risks are expected to reduce debt levels. To proxy bankruptcy risk, several researchers, including Bradley, Jarrell & Kim (1984)[2] and Lee & Kwok (1988) [14], use the standard deviation of the first difference in earnings before interest and taxes (EBIT) scaled by the mean value of the enterprise's total assets. Bankruptcy risk is defined as below:

BR = Standard deviation of ROA (5)

2.4. Growth

Growth is considered a factor related to capital structure. Myers & Majluf (1984)[17];

Titman & Wessels (1988) suggest that enterprises of higher growth opportunities generally have lower debt levels. Further, according to imbalance theory related to debt policy, enterprises of higher growth rate are more likely to face higher information imbalance, hence expected to have higher debt levels (Gul, 1999) [9]. Regard to this variable, we suggest that growth might have either positive or negative relationship with capital structure.

According to Myers (1977)[18] and Wald (1999)[26], growth is defined by percentage of mean change of value of total asset across the latest 4 years. In this study, the growth of enterprise is measured by growth rate of total revenue and defined as below:

$$\textbf{GROW} = \frac{\textbf{Total revenue of previous year – Total revenue of original year}}{\textbf{Total revenue of original year}} \quad \textbf{(6)}$$

Where original years are 2004 and 2005 for SEAs and DIFs respectively.

2.5. Collateral value of asset

Collateral value of assets held by an enterprise or the tangibility of assets has considered being a determinant of capital structure (Rajan & Zingalis, 1995 [21]). Enterprises with high collateral value of assets can often borrow on relatively more favorable terms than enterprises with high intangible assets of assets without collateral value. This would suggest that there is a positive relationship between capital structure and collateral value of assets. Following Chittenden, F., Hall G. & Hutchinson, P. (1996) [5], Friend, I. & Lang, L.H. (1988) [8], collateral value of assets (CVA) is defined by value of fixed assets on value of total assets. In this study, collateral value of asset is measured and defined as below:

$$\textbf{CVA} = \frac{\textbf{Book value of fixed assets}}{\textbf{Book value of total assets}} \quad \textbf{(7)}$$

2.6. Agency costs

Agency costs (AC) is also seen as a determinant of capital structure. According to experimental study by Jensen (1986); Doukas & Pantzalis (2003); Fan, Titman & Twite (2003), higher agency costs are expected to lower debt levels. Jensen, Donald & Thomas (1992) and Mehran (1992) measure agency costs by (Total assets of year (t) – Total assets of year (t-1)) divided by Total assets of year (t). Alternatively, Myers (1977) suggests that agency costs are research and development expenses. Thus, according to Myers (1977), variable used to measure agency costs is Research and Development Expenses divided by total revenue. In this research, agency costs are measured relatively similar to that of Myers (1997) as below:

$$\textbf{AC} = \frac{\textbf{Operating costs}}{\textbf{Total revenue}} \quad \textbf{(8)}$$

2.7. Interest expense

Interest expense (INTER) is also considered a determinant of capital structure. Experimental research findings by Walaa Wahid ElKelish (2007) [25] show that there is an insignificant positive relationship between interest rate and debt on equity. Conversely, this is irrelevant to implication by Trade-off theory, accordingly the perspective

identified a strong negative relationship between interest expense and debt on equity (Marsh, 1982) [15]. This would suggest that a negative relationship exists between capital structure and interest expense.

To measure interest rate, Walaa Wahid ElKelish (2007) [25] define by interest payments divided by total debts. In this study, the interest expense is as below:

$$INTER = \frac{\text{Interest payments}}{\text{Total debts}} \quad (9)$$

2.8. Age of enterprise

Age of enterprise (AGE) is the duration calculated from the existing year relative to year of enterprise's establishment and operation. Petersen and Rajan (1994)[20] show that debt levels decrease over the age of enterprise. Conversely, several researches suggest that lower information imbalance will result in higher debt levels. Specifically, debt owners will be more likely to lend capital to enterprises that they have better understanding rather than enterprises they have little knowledge about. Those findings imply that there is likely to have a positive or negative relationship between capital structure and age of enterprise.

To measure age of enterprise, in this study, Ln (Existing year – Establishment year) is used. This measurement is found relevant to researches by Michaelas, Chittenden and Poutziouris (1999) [19], and defined as follow:

AGE = Ln (Existing year – Establishment year) (10)

2.9. Possession form

According to several research findings conducted on capital structure of Vietnam's enterprises, possession form of enterprises also has impact on capital structure. In order to measure this variable, we use dummy variable. We define EQU = 1, if they are State-owned enterprise, foreign invested enterprise and joint stock enterprise, while EQU = 0 for the remaining, namely private enterprise and limited liability enterprise.

2.10. Type of industry

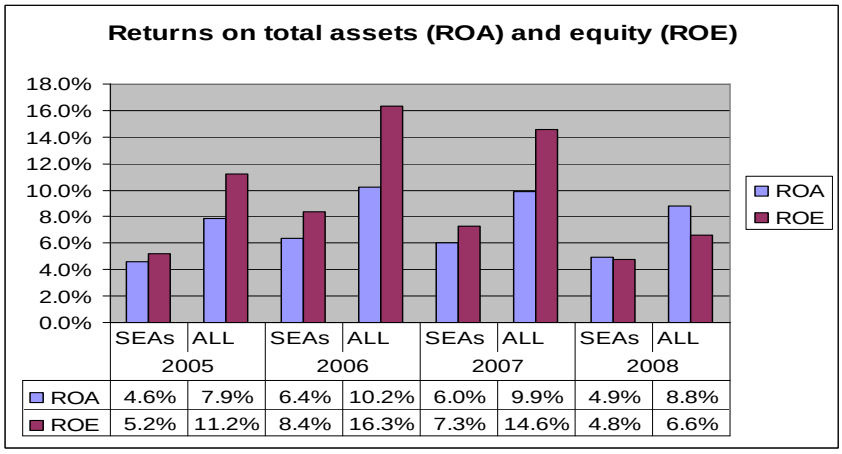
Type of industry is also one of determinants of capital structure. Myers (1984) [16] suggests that asset risk, asset type and requirement for external funds vary by industry. Similarly, enterprise debt ratios are expected to vary by industry (Harris & Raviv 1991)[11]; Michaelas, Chittenden & Poutziouris 1999 [19]). However, whether there is any difference in industry between capital structure of seafood processing enterprise and enterprises of other industries is not known.

To measure industry variable, we use a dummy variable to make a comparison between seafood processing enterprises and enterprises of other processing industries. We define D=1 if they are seafood processing enterprises and D=0 for the remaining enterprises.

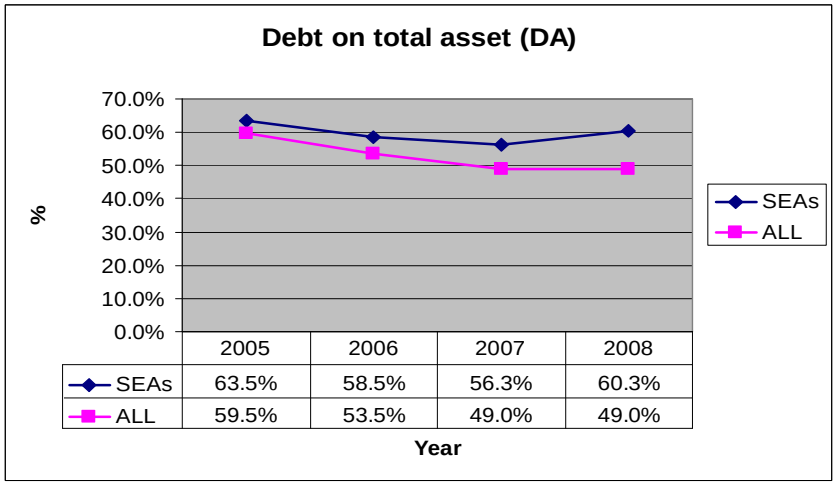
3. OVERVIEW ON FISHERIES INDUSTRY AND SEAFOOD PROCESSING ENTERPRISES IN VIETNAM

Fisheries industry plays an important role in providing food source for domestic consumption and exporting. It is considered a mainstay

industry in Vietnam's export promotion strategy, exploiting potential of agriculture mechanism transfer, creating jobs for local farmers and fishers. To meet the target of promoting the fisheries industry as a mainstay industry, capital source for industry development is essential. However, characteristics of Vietnam's seafood processing enterprises are small-scale, newly-established, semi-manual labored, backward processing technology. Further, they present low profitability, high risk due to continuous natural disasters, output markets of numerous barriers, limited capital and so on. Specifically, import markets of Vietnam's seafood products consist of EU countries, 13 Asian countries and the U.S, notably the U.S identified as a target market after the signed Vietnam-U.S trade convention, opportunities for export industries entering the this market, including the fisheries industry, have been significantly increased. Nevertheless, Vietnam is evidently not the only trade partner of the U.S, there are many competitors on seafood products in this market such as Indonesia, Canada, China etc., market share of Vietnam's seafood enterprises in the U.S remains humble. This presents a significant challenge to strategic planners of Vietnam.



	SEAs 2005	ALL 2005	SEAs 2006	ALL 2006	SEAs 2007	ALL 2007	SEAs 2008	ALL 2008
ROA	4.6%	7.9%	6.4%	10.2%	6.0%	9.9%	4.9%	8.8%
ROE	5.2%	11.2%	8.4%	16.3%	7.3%	14.6%	4.8%	6.6%



	2005	2006	2007	2008
SEAs	63.5%	58.5%	56.3%	60.3%
ALL	59.5%	53.5%	49.0%	49.0%

Returns on total assets (ROA) and equity (ROE) have remarkably declined in 2008 and show a far less rate than the processing industry. In 2007, ROA and ROE were 6% and 7.3% respectively, whilst in 2008 these ratios considerably decreased to 4.9% (ROA) and 4.8% (ROE). Consequently, fisheries industry is one of the industries of lowest returns on total assets and equity, presenting huge decrease compared to the previous year.

Debt on total asset structure in 2006 and 2007 remain almost unchanged. In 2008, however, this structure has increased, debt on assets went up from 56,3% to 60.3%. This declining percentage was due to increased debt in 2008. Interest payments are main section in debt structure. Therefore, financial costs have significantly gone up in this year, resulting in decreasing profit of the fisheries industry in 2008. In comparison with the processing industry, debt levels of the fisheries industry present a higher ratio.

The global economy has been faced with numerous difficulties without showing any recovery signal, hence resulting in severe damages to Vietnam's exporting. Given the major revenue source from exporting, the fisheries industry would become one of the most seriously affected industries in 2009. Business outcome of the enterprises in the industry is expected to get worse relative to 2008. Impacts from inflation, climbing consumption prices as well as the financial crisis stemmed from the U.S would lead to an ineffective year for the fisheries enterprises. Not only revenue and profit show declining rates but also many enterprises face serious losses. Notably, till the end of the 1st quarter 2009, GDP growth rate of the aquaculture industry remains unchanged relative to the same period of 2008. Perhaps never before have Vietnam's fisheries industry tackled with such many challenges as it is currently: difficulties of raw materials, difficulties of output market, and difficulties of trade mark protection.

4. METHODOLOGY

In this study, we apply Shumi Akhatar's model (2005) and Shumi Akhtar, Barry Oliver's (2005) to evaluate determinants of capital structure for Vietnam's seafood processing enterprises (SEAs) in comparison with enterprises of other industries (DIFs).

Shumi Akhtar (2005) examined determinants of capital structure for Australian domestic corporations (DCs) and multinational corporations (MCs). Shumi Akhtar used three separate models to analyze the determinants of capital structure for Australian domestic and multinational enterprises. Determinants of capital structure (LTD) of the domestic enterprises include: agency costs (TW), free cash flow (LP), agency costs (JM), bankruptcy costs (BC), non-debt tax shield (NDTS), profitability (PROF), size (SIZE), collateral value of assets (CVA) and industry (D). For MCs, apart from those factors there also contains other determinants, including the number of overseas enterprises (DIVER), foreign exchange risk (FX) and policy risks

(PR). Models presented by Shumi Akhtar are defined as below:

Model 1 is applicable to Australian multinational corporations (MCs):

$$LTD = \alpha + \beta_1 DIVER + \beta_2 FX + \beta_3 PR + \beta_4 TW + \beta_5 LP + \beta_6 JM + \beta_7 BC + \beta_8 NDTS + \beta_9 PROF + \beta_{10} SIZE + \beta_{11} CVA + \varepsilon_i$$

Model 2 is applicable to Australian domestic corporations (DCs):

$$LTD = \alpha + \beta_1 TW + \beta_2 LP + \beta_3 JM + \beta_4 BC + \beta_5 NDTS + \beta_6 PROF + \beta_7 SIZE + \beta_8 CVA + \varepsilon_i$$

Model 3 is an interaction model and is applicable to the combined sample of DCs and MCs:

$$LTD = \alpha + \beta_1 DIVER + \beta_2 FX + \beta_3 PR + \beta_4 TW + \beta_5 LP + \beta_6 JM + \beta_7 BC + \beta_8 NDTS + \beta_9 PROF + \beta_{10} SIZE + \beta_{11} CVA + \delta_{12}(D*TW) + \delta_{13}(D*LP) + \delta_{14}(D*JM) + \delta_{15}(D*BC) + \delta_{16}(D*NDTS) + \delta_{17}(D*PROF) + \delta_{18}(D*SIZE) + \delta_{19}(D*CVA) + \delta_{20} D + \varepsilon_i$$

As to the above models, Shumi Akhtar (2005) examines the importance of determinants of capital structure for Australian domestic and multinational corporations from 1992 to 2001. The results show that capital structure does not differ significantly between multinational and domestic corporations. For both types of corporations, growth, profitability and size are significant determinants of capital structure. Bankruptcy costs and level of geographical diversification are significant for multinationals. Surprisingly, bankruptcy costs are not significant for domestic corporations. In relation to interaction effects, bankruptcy costs and profitability are significant in explaining the difference in capital structure of multinational corporations relative to domestic corporations. In terms of the time, capital structure and determinants of capital structure varied over the sample period for both types of corporations.

Shumi Akhtar, Barry Oliver (2005) study determinants of capital structure of domestic and multinational corporations in Japan. Shumi Akhtar, Barry Oliver apply two separate models to analyze determinants of capital structure of domestic and multinational corporations in Japan. Determinants of financial leverage (LEVERAGE) for domestic corporations include: enterprise age (AGE), agency costs (AGNCY), bankruptcy costs (BCPTY), business risks (BUSRISK), collateral value of assets (CVA), free cash flow (FCF), foreign exchange risks (FX), growth (GROW), non-debt tax shield (NDTS), policy risks (POLR), profitability (PROF), size (SIZE). Models presented by Shumi Akhtar, Barry Oliver are defined as below:

Model 1 is applicable to Japanese domestic corporations (DCs) and multinational corporations (MCs):

$$LEVERAGE_{i,t} = \alpha_i + \beta_1 AGE_{i,t} + \beta_2 AGNCY_{i,t} + \beta_3 BCPTY_{i,t} + \beta_4 BUSRISK_{i,t} + \beta_5 CVA_{i,t} + \beta_6 FCF_{i,t} + \beta_7 FX_{i,t} + \beta_8 GROW_{i,t} + \beta_9 NDTS_{i,t} + \beta_{10} POLR_{i,t} + \beta_{11} PROF_{i,t} + \beta_{12} SIZE_{i,t} + \varepsilon_{i,t}$$

Model 2 is an interaction model and is applicable to the combined sample of DCs and MCs:

$$LEVERAGE_{i,t} = \alpha_i + \beta_1 AGE_{i,t} + \beta_2 AGNCY_{i,t} + \beta_3 BCPTY_{i,t} + \beta_4 BUSRISK_{i,t} +$$

$\beta_5 CVA_{i,t} + \beta_6 FCF_{i,t} + \beta_7 FX_{i,t} + \beta_8 GROW_{i,t} + \beta_9 NDTS_{i,t} + \beta_{10} POLR_{i,t} + \beta_{11} PROF_{i,t} + \beta_{12} SIZE_{i,t} + \beta_{13} MULT_i + \beta_{14}(MULT_i * AGE_{i,t}) + \beta_{15}(MULT_i * GNCY_{i,t}) + \beta_{16}(MULT_i * BCPTY_{i,t}) + \beta_{17}(MULT_i * BUSRISK_{i,t}) + \beta_{18}(MULT_i * CVA_{i,t}) + \beta_{19}(MULT_i * FCF_{i,t}) + \beta_{20}(MULT_i * FX_{i,t}) + \beta_{21}(MULT_i * GROW_{i,t}) + \beta_{22}(MULT_i * NDTS_{i,t}) + \beta_{23}(MULT_i * POLR_{i,t}) + \beta_{24}(MULT_i * PROF_{i,t}) + \beta_{25}(MULT_i * SIZE_{i,t}) + \varepsilon_{i,t}$

As to the above models, Shumi Akhtar, Barry Oliver (2005) examines the importance of determinants of capital structure for Japanese domestic and multinational corporations of above 10-year operation from 2003. The results show that determinants of capital structure for Japanese domestic corporations consist of enterprise age, agency costs, business risks, collateral value of assets, free cash flow, profitability and size of enterprise; while determinants of capital structure for Japanese multinational corporations include agency costs, bankruptcy risks, business risks, collateral value of assets, growth, non-debt tax shield, profitability and size of enterprise. In relation to interaction effects, enterprise age, business risks, free cash flow, growth, non-debt tax shield, policy risks and profitability are significant in explaining the difference in capital structure for multinational corporations relative to domestic corporations.

Basing on the above models and characteristics of Vietnam's enterprises as well as limitations in data collection, the model is used as follows:

First, we use financial leverage (LTD) to measure capital structure. Factors are included in the model: size of enterprise (2 criteria SIZE_TA and SIZE_E), profitability (ROA), growth (GROW), bankruptcy risks (BR), collateral value of assets (CVA), agency costs (AC), interest expense (INTER), enterprise age (AGE), form of possession (EQU), type of industry (D). Consequently, in comparison to the above models, we do not use variables of policy risks, business risks, foreign exchange risks, free cash flow. The exclusion of these variables in the model is the incapability to calculate criteria due to limitation in data collection Referring to tax variable, since there is no difference for Vietnam's enterprises, hence we do not include it. Further, we add variables of interest expense, form of possession to be tested because there have been remarkable changes in interest rate in Vietnam and form of possession presents a key characteristic of Vietnam's enterprises.

On this basis, three separate models are applied to analyze determinants of capital structure for Seafood processing enterprises in comparison with enterprises of other processing industries as below:

Model 1 is applicable to Vietnam's Seafood processing enterprises :

$LTD = \beta_0 + \beta_1 SIZE\_TA + \beta_2 SIZE\_E + \beta_3 ROA + \beta_4 GROW + \beta_5 BR + \beta_6 CVA + \beta_7 AC + \beta_8 INTER + \beta_9 AGE + \beta_{10} EQU + \varepsilon_i$

Model 2 is applicable to enterprises of other industries excluding EQU variable because database of this group is joint stock enterprises on stock market:

$$LTD = \beta_0 + \beta_1 SIZE\_TA + \beta_2 SIZE\_E + \beta_3 ROA + \beta_4 GROW + \beta_5 BR + \beta_6 CVA + \beta_7 AC + \beta_8 INTER + \beta_9 AGE + \varepsilon_i$$

Model 3 is an interaction model applicable to a combined sample of seafood processing enterprises and enterprises of other industries:

$$LTD = \beta_0 + \beta_1 SIZE\_TA + \beta_2 SIZE\_E + \beta_3 ROA + \beta_4 GROW + \beta_5 BR + \beta_6 CVA + \beta_7 AC + \beta_8 INTER + \beta_9 AGE + \beta_{10} EQU + \beta_{11}(D*SIZE\_TA) + \beta_{12}(D*SIZE\_E) + \beta_{13}(D*ROA) + \beta_{14}(D*GROW) + \beta_{15}(D*BR) + \beta_{16}(D*CVA) + \beta_{17}(D*AC) + \beta_{18}(D*INTER) + \beta_{19}(D*AGE) + \beta_{20} D + \varepsilon_i$$

Where, D is a dummy variable (D = 1 if it is a seafood processing enterprise, while D = 0 if it is an enterprise of other processing industry); the remaining variables were defined in previous sections; ε_i is a random error.

Interaction dummy variable is used to identify the difference between common variables in the models. For instance, D*SIZE_TA reflects real value of seafood processing enterprises whilst it is equivalent to 0 if it is an enterprise of other processing industry. The final dummy variable in model 3 aims to identify the difference in capital structure of seafood processing enterprises relative to enterprises of other processing industries in a multi-variable environment.

5. DATA

In this study, the data set includes: First, a combination of SEAs listed on two Vietnam's stock exchange markets from 2004 – 2008 and several other unlisted seafood processing enterprises; Second, DIFs are listed on two Vietnam's stock exchange markets from 2004 – 2008. For some enterprises, collected data consists of balance sheets and annual business outcome reports. Following the above sample selection process, a total of 772 samples are collected, including 284 and 488 for SEAs and DIFs respectively across a period of 5 years, equivalent to 63 and 239 for seafood processing enterprises and enterprises of other industries respectively. Sample ratios of industries are presented in the following table:

Table 1. Sample distribution by industry

	Industry	**Observations**	**Percentage %**
1	Seafood	284	36,79%
2	Processing industry	488	63,21%
	Total	772	100.00%

(Source: Enterprises listed on two stock exchange markets HoSE and HASTC+ Enterprises surveyed)

Table 2 presents descriptive statistics of SEAs and DIFs samples. Financial information was collected from balance sheets and annual business outcome reports during 2004 – 2008 period. Total observations in the model are 772 samples, including 284 and 488 for SEAs and DIFs respectively.

Table 2. Descriptive statistics of sample variables

Variable	Observations	Min	Max	Mean	Standard deviation
Financial leverage (LTD)					
• SEAs	284	0.0000	0.9362	0.1385	0.2106
• DIFs	488	0.0000	0.8999	0.1466	0.1977
• Total	772	0.0000	0.9362	0.1436	0.2025
Size by assets (SIZE_TA)					
• SEAs	284	20.35	28.61	24.4242	1.8599
• DIFs	488	23.47	29.79	26.1975	1.2640
• Total	772	20.35	29.79	25.5451	1.7353
Size by equity (SIZE_E)					
• SEAs	284	19.73	28.25	23.3155	1.8844
• DIFs	488	21.34	29.20	25.4329	1.3110
• Total	772	19.73	29.20	24.6540	1.8528
Returns on assets (ROA)					
• SEAs	284	-0.5537	0.6304	0.0500	0.1157
• DIFs	488	-0.2455	0.5913	0.1134	0.0851
• Total	772	-0.5537	0.6304	0.0901	0.1021
Growth (GROW)					
• SEAs	284	-0.9923	3.8266	0.1880	0.5296
• DIFs	488	-0.8824	7.6270	0.3350	0.7402
• Total	772	-0.9923	7.6270	0.2809	0.6738
Bankruptcy risks (BR)					
• SEAs	284	0.0023	0.3793	0.0628	0.0695
• DIFs	488	0.0003	0.1936	0.0417	0.0390
• Total	772	0.0003	0.3793	0.0495	0.0533
Collateral value of assets (CVA)					
• SEAs	284	0.0188	0.9222	0.3108	0.2081
• DIFs	488	0.0052	0.9114	0.3016	0.1824
• Total	772	0.0052	0.9222	0.3050	0.1921
Agency costs (AC)					
• SEAs	284	0.0021	2.6311	0.0959	0.1777
• DIFs	488	0.0045	0.9594	0.0937	0.0880

• Total	772	0.0021	2.6311	0.0945	0.1284
Interest expense (INTER)					
• SEAs	284	0.0000	0.1488	0.0379	0.0338
• DIFs	488	0.0000	0.1524	0.0345	0.0313
• Total	772	0.0000	0.1524	0.0358	0.0323
Age of enterprise (AGE)					
• SEAs	284	1.3863	3.0445	2.0845	0.3911
• DIFs	488	1.0986	3.8712	2.0633	0.5970
• Total	772	1.0986	3.8712	2.0711	0.5305

(Source: Result of collected data processed by SPSS)

Results of descriptive statistics in table 2 show that: Financial leverage (LTD) of SEAs (13.85%) is slightly lower than that of DIFs (14.66%). Size by average assets (SIZE-TA) of SEAs (24.42), equivalent to 180,05 billions, is smaller than that of DIFs (26,19), equivalent to 520,17 billions. Size by average equity (SIZE_E) of SEAs (26,19), equivalent to 84,54 billions VND is smaller than that of DIFs (25,43), equivalent to 262,39 billions VND. Returns on assets of SEAs (5%) also show a lower rate relative to that of DIFs (11,34%). Growth of SEAs (18,80%) is also much slower than that of DIFs (33,50%). Meanwhile, bankruptcy risks (BR) of SEAs (6,28%) presents a higher percentage in comparison to DIFs' (4,17%). Collateral values of assets show almost the same figures, namely 31,08% and 30,16% for SEAs and DIFs respectively. Similarly, agency costs (AC) for both types are SEAs (9,59%) and DIFs (9,37%). On the other hand, interest expense (INTER) of SEAs (3,79%) is higher than DIFs' (3,45%). Average age of SEAs is 8,71 years, which is lower than DIFs' (9,53 years).

Therefore, descriptive statistics of variables show that SEAs have size by assets and size by equity both smaller than those of enterprises in other processing industries. Further, SEAs present a less effective business outcome, lower growth and much higher bankruptcy risks in comparison to those of DIFs.

6. RESULTS

After testing the standard of variables in the models, the SPSS software is used to process each model separately. Multi-variable regression results of determinants of capital structure for Seafood processing enterprises and enterprises of other processing industries are shown in the following table 3.

As shown in the table of multi-variable regression results of determinants of capital structure for Seafood processing enterprises (SEAs) and enterprises of other processing industries (DIFs), it can be seen that:

For size by assets (SIZE_TA), regression coefficients of this variable are positive and statistically significant at 1% for SEAs (0.216) and DIFs (0.262), in other words this supports

a hypothesis that size by assets of enterprises is relevant to financial leverage. This result shows that larger size by assets will lead to higher financial leverage, which is relevant to experimental research findings by Cooke 1991 [4]; Fan, Titman & Twite 2003 [7]; Shumi Akhtar (2005) and Shumi Akhtar, Barry Oliver (2005). Moreover, regression coefficient of statistic significance at 1% in interaction variable (D*SIZE_TA) suggests that size by assets of SEAs has far more impacts on capital structure in comparison with DIFs'.

Table 3. Multi-variable regression results of determinants of capital structure for Seafood processing enterprises and enterprises of other processing industries

	SEAs – Model 1			DIFs – Model 2			ALLs – Model 3		
	Coeff	**t-Stat**	**Sig.**	**Coeff**	**t-Stat**	**Sig.**	**Coeff**	**t-Stat**	**Sig.**
C	**-0.679**	**-4.539**	**0.000*****	**-0.706**	**-6.150**	**0.000*****	**-0.716**	**-5.461**	**0.000*****
SIZE_TA	**0.216**	**15.329**	**0.000*****	**0.262**	**23.021**	**0.000*****	**0.262**	**20.414**	**0.000*****
SIZE_E	**-0.196**	**-13.974**	**0.000*****	**-0.243**	**-22.437**	**0.000*****	**-0.243**	**-19.896**	**0.000*****
ROA	**0.232**	**2.166**	**0.031****	0.028	0.418	0.676	0.028	0.370	0.711
GROW	**0.053**	**2.940**	**0.004*****	0.000	-0.017	0.986	0.000	-0.015	0.988
BR	-0.211	-1.316	0.189	**-0.479**	**-3.463**	**0.001*****	**-0.479**	**-3.071**	**0.002*****
CVA	**0.454**	**9.077**	**0.000*****	**0.441**	**14.675**	**0.000*****	**0.441**	**13.013**	**0.000*****
AC	**0.147**	**2.165**	**0.031****	0.010	0.163	0.870	0.010	0.145	0.885
INTER	**-0.525**	**-1.808**	**0.072***	-0.056	-0.325	0.745	-0.056	-0.289	0.773
AGE	-0.017	-0.698	0.486	**0.028**	**3.035**	**0.003*****	**0.028**	**2.691**	**0.007*****
EQU	0.009	0.401	0.688				0.009	0.470	0.638
D*SIZE_TA							**-0.046**	**-2.627**	**0.009*****
D*SIZE_E							**0.047**	**2.768**	**0.006*****
D*ROA							**0.203**	**1.712**	**0.087***
D*GROW							**0.053**	**3.054**	**0.002*****
D*BR							0.268	1.289	0.198
D*CVA							0.013	0.243	0.808
D*AC							0.137	1.513	0.131
D*INTER							-0.469	-1.496	0.135
D*AGE							**-0.045**	**-1.932**	**0.054***
D							0.037	0.198	0.843
Adjusted R^2	**0.468**			**0.655**			**0.582**		
Observations	**284**			**488**			**772**		

Where: *** *Significant at 1% ;* ** *Significant at 5%;* * *Significant at 10%*

For size by equity (SIZE_E), regression coefficients of this variable are all negative and statistically significant at 1% for SEAs (-0.196) and DIFs (-0.243), specifically it supports a hypothesis that size equity of enterprises is relevant to financial leverage. This finding implies that enterprises of larger equity will have lower financial leverage, which is relevant in theory and practice. In fact, if an enterprise is larger in size by equity, it is less likely to mobilize long term debt. Consequently, the enterprise will take advantage of equity to assure payment ability rather than depending on debt. Further, when the enterprise requires to expand its investment, large size of equity will make it more favorable to access external funds than

enterprises of smaller equity size. Moreover, regression coefficient of statistic significance at 1% of interaction variable (D*SIZE_E) shows that size by equity of SEAs has greater impacts on capital structure of SEAs than DIFs'.

For collateral value of assets (CVA), regression coefficients of this variable are all positive and statistically significant at 1% for SEAs (0.454) and DIFs (0.441), which means a support for the hypothesis that collateral value of assets of enterprise is relevant to financial leverage. This result suggests that higher collateral value of assets will result in higher leverage levels, which is relevant to experimental research findings by Chittenden, F., Hall G. & Hutchinson, P. (1996) [5], Friend, I. & Lang, L.H. (1988) [8]. Furthermore, regression coefficient of statistic significance at 1% implies that collateral value of assets in SEAs has more impacts on capital structure of SEAs than DIFs'.

For returns on assets (ROA), regression coefficient of this variable is statistically significant at 5% for SEAs (0.232), which supports a hypothesis that profitability is relevant to financial leverage. However, regression coefficient of this variable is not statistically significant for DIFs. This means that for SEAs, this variable supports a hypothesis that enterprises of higher returns on assets will have higher financial leverage. This is relevant to practice and research by Dupont's model which shows that when an enterprise are more profitable on its assets, if there is investment opportunity, the enterprise will be more likely to utilize debt since it takes advantage of positive effect of financial leverage. Moreover, regression coefficient is statistically significant at interaction variable (D*ROA), which means that returns on assets of SEAs explains a higher financial leverage level than that of DIFs.

For growth variable, regression coefficient of this variable is statistically significant at 1% for SEAs (0.053), which supports a hypothesis that growth is relevant to financial leverage. However, coefficients of this variable are not statistically significant for DIFs. This implies that for SEAs, this variable supports a hypothesis that enterprises of higher growth rate will have higher financial leverage. This is relevant to information imbalance theory related to debt policy, namely enterprises of higher growth rate will be more likely to face with information imbalance, hence expected to have higher debt levels (Gul, 1999) [9]. Moreover, regression coefficient is statistically significant in interaction variable (D*GROW), which shows that growth variable for SEAs explains higher financial leverage relative to DIFs'.

For bankruptcy risks (BR), regression coefficient of this variable is not statistically significant for SEAs, in other words it is unsupportive for a hypothesis that bankruptcy costs are relevant to financial leverage. However, regression coefficient of this variable is negative and statistically significant at 1% for DIFs (-0.479). This implies that for DIFs, this variable supports a hypothesis that enterprises of higher bankruptcy costs will

have lower financial leverage. Further, regression coefficient is not statistically significant in interaction variable (D*BR), which means that bankruptcy risks of DIFs are insignificant in explaining higher financial leverage compared to SEAs'.

For agency costs (AC), regression coefficient of this variable is statistically significant at 5% for SEAs (0.147), which supports a hypothesis that agency costs are relevant to financial leverage. However, regression coefficient of this variable is not statistically significant for DIFs. This suggests that for SEAs, this variable supports a hypothesis that enterprises of higher agency costs will have higher financial leverage. Further, regression coefficient is not statistically significant in interaction variable (D*AC), which shows that agency costs for SEAs are insignificant in explaining higher financial leverage relative to DIFs'.

For interest expense (INTER), regression coefficient of this variable is statistically significant at 10% for SEAs (-0.525), in other words this supports a hypothesis that interest expense is relevant to financial leverage. However, regression coefficient of this variable is not statistically significant for DIFs. This means that for SEAs, this variable supports a hypothesis that enterprises of higher interest expense will have lower financial leverage, which is relevant to Trade-off theory and experimental research findings by Marsh (1982) [15]. Moreover, regression coefficient is not statistically significant in interaction variable (D*INTER), which means that interest expense for SEAs is insignificant in explaining higher financial leverage relative to DIFs'.

For age of enterprise (AGE), regression coefficient of this variable is not statistically significant for SEAs, which does not support a hypothesis that age of enterprise is relevant to financial leverage. However, regression coefficient of this variable is positive and statistically significant at 1% for DIFs (0.028). This implies that for DIFs, this variable supports a hypothesis that enterprises of longer operation years will have higher financial leverage. This is relevant to information imbalance theory, which means that lower information imbalance will lead to higher debt levels. Hence, debt owners will be more likely to lend to enterprises they have better understanding rather than enterprises they have little knowledge. Moreover, regression coefficient is statistically significant at 10% in interaction variable (D*AGE), which shows that age of DIFs is significant in explaining higher financial leverage relative to SEAs'.

Finally, that regression coefficient is not statistically significant in dummy variable (EQU) and (D) means form of possession (EQU) and type of industry (D) of an enterprise has no impact on its financial leverage.

In conclusion, based on multi-linear regression analysis results identifying simultaneous determinants of capital structure for Vietnam's seafood processing enterprises during the period 2004-2008, it can be seen that:

• For Vietnam's seafood processing enterprises (SEAs), significant determinants of capital structure include: Size (SIZE_TA, SIZE_E), collateral value of assets (CVA), profitability (ROA), growth (GROW), agency costs (AC) and interest expense (INTER).

• For enterprises of other processing industries (DIFs), significant determinants of capital structure include: Size (SIZE_TA, SIZE_E), collateral value of assets (CVA), bankruptcy risks (BR) and age of enterprise (AGE).

• Two variables, namely size by assets (SIZE_TA) and collateral value of assets (CVA) both have positive effects on capital structure of all enterprises. Size by equity (SIZE_E) has negative effect on enterprise capital structure. The level of impact depends on whether an enterprise is a seafood processing enterprise or not.

• To determine whether determinants of capital structure vary across period, the annual regression analysis is conducted in tables 4,5,6.

Table 4. Multi-variable regression results for determinants of capital structure of seafood processing enterprises across years

Variable	2004		2005		2006		2007		2008	
	Coeff	**t-Stat**	**Coeff**	**t-Stat**	**Coeff**	**t-Stat**	**Coeff**	**t-Stat**	**Coeff**	**t-Stat**
C	-0.68	-1.58	**-0.93**	**-2.14*****	**-0.61**	**-1.76***	**-0.52**	**-1.67***	**-1.00**	**-3.03*****
SIZE_TA	**0.27**	**8.22*** **	**0.23**	**6.58*****	**0.25**	**8.01*****	**0.15**	**4.75*****	**0.16**	**4.48*****
SIZE_E	**-0.25**	**-7.21*** **	**-0.20**	**-5.62*****	**-0.24**	**-7.42*****	**-0.13**	**-4.51*****	**-0.12**	**-3.53*****
ROA	-0.25	-0.53	0.04	0.12	0.34	1.36	**0.43**	**2.42****	0.23	0.76
GROW			0.21	1.54	**0.11**	**1.95***	**0.06**	**2.23****	**0.04**	**1.85***
BR	-0.58	-1.21	0.02	0.04	0.04	0.13	-0.48	-1.39	-0.15	-0.42
CVA	**0.53**	**3.00*** **	**0.51**	**3.21*****	**0.58**	**5.51*****	**0.36**	**3.83*****	**0.31**	**2.86*****
AC	-0.01	-0.05	0.15	0.97	-0.07	-0.21	**0.55**	**2.00****	0.22	0.91
INTER	0.95	1.11	0.27	0.27	**-1.15**	**-1.95***	**-1.12**	**-1.76***	-0.12	-0.20
AGE	-0.02	-0.30	-0.04	-0.57	-0.06	-1.17	-0.00	-0.07	-0.01	-0.38
EQU	0.02	0.37	0.04	0.65	0.01	0.21	0.00	-0.01	-0.04	-0.88
Adjusted R^2	**0.618**		**0.423**		**0.535**		**0.308**		**0.293**	
Observations	**41**		**54**		**63**		**63**		**63**	

Where: *** *Significant at 1% ; ** Significant at 5% ; * Significant at 10%*

As shown in table 4, size (SIZE_TA, SIZE_E), collateral value of assets (CVA) are both significant at 1% from 2004 to 2008; returns on assets (ROA) and agency costs (AC) are significant only in 2007 and have no impacts on financial leverage in remaining years; growth is significant from 2006 to 2008; interest expense (INTER) is significant in 2006 and 2007. Bankruptcy risks (BR), age of enterprise (AGE), form of possession (EQU) are both insignificant across the period of 2004-2008, in other words they have no impact on financial leverage.

Table 5. Multi-variable regression results for determinants of enterprises of other processing industries across years

Variable	2005		2006		2007		2008	
	Coeff	t-Stat	Coeff	t-Stat	Coeff	t-Stat	Coeff	t-Stat
C	-0.48	-1.19	**-0.72**	**-3.55*****	**-0.77**	**-3.92**	**-0.70**	**-2.90*****
SIZE_TA	**0.33**	**8.71*****	**0.26**	**13.23*****	**0.26**	**11.82**	**0.24**	**11.31*****
SIZE_E	**-0.33**	**-8.42*****	**-0.25**	**-12.79*****	**-0.23**	**-11.26**	**-0.22**	**-10.71*****
ROA	0.41	1.45	0.19	1.31	0.02	0.20	-0.05	-0.49
GROW	0.00	0.02	0.05	1.22	-0.01	-0.80	-0.00	-0.19
BR	-0.70	-0.91	-0.40	-1.63	**-0.53**	**-2.31**	**-0.62**	**-2.28****
CVA	**0.79**	**5.79*****	**0.45**	**8.58*****	**0.42**	**8.23**	**0.39**	**6.46*****
AC	0.03	0.08	-0.01	-0.12	-0.02	-0.22	0.03	0.27
INTER	-0.67	-0.83	-0.06	-0.20	-0.11	-0.36	0.00	0.02
AGE	**0.07**	**2.29****	0.02	1.25	0.02	1.60	**0.03**	**1.76***
Adjusted R^2	**0.810**		**0.676**		**0.64**		**0.582**	
Observations	**41**		**149**		**149**		**149**	

Where: *** *Significant at 1% ; ** Significant at 5% ; * Significant at 10%*

Figures in table 5 show that size (SIZE_TA, SIZE_E), collateral value of assets (CVA) are both significant at 1% from 2005 to 2008; bankruptcy risks (BR) is significant only in 2007 and 2008; age of enterprise (AGE) is significant only in 2005 and 2008. Returns on assets (ROA), growth (GROW), agency costs (AC), interest expense (INTER) are insignificant across the period of 2005 – 2008, which implies no impact on financial leverage.

Table 6. Impact of time factor on capital structure of seafood processing enterprises and enterprises of other processing industries

	SEAs – Model 1			DIFs – Model 2		
	Coeff	t-Stat	Sig.	Coeff	t-Stat	Sig.
C	25.472	1.381	0.168	20.771	1.106	0.269
YEAR	-0.013	-1.373	0.171	-0.010	-1.098	0.273
Adjusted R^2	**0.003**			**0.000**		
Observations	**284**			**488**		

Where: *** *Significant at 1% ; ** Significant at 5% ; * Significant at 10%*

Data from tables 4,5,6 shows that capital structure and determinants of capital structure of seafood processing enterprises and enterprises of other processing industries hardly varied over the sample period. This is relevant to practice that SEAs and DIFs are both young in terms of operation duration. Specifically, average ages (AGE) are 8,71 and 9,53 years for SEAs and DIFs respectively.

Table 7 presents differences between our research findings and authors' in other countries.

Table 7. Comparing research findings with other researches

Determinants of financial leverage	Vietnam's seafood enterprises	Australian domestic enterprises	Japanese domestic enterprises
Size	+	+	+
Collateral value of assets	+	+	+
Profitability	+	–	–
Growth	+	K	K
Bankruptcy risks	K	K	K
Interest expense	–	K	K
Age of enterprise	K	K	+
Free cash flow	K	K	–
Agency costs	+	–	–
Form of possession	K	K	K
Business risks	K	K	–

Where: (K) No relationship or exclusion from model; (+) Positive relationship; (–) Negative relationship.

It can be seen from table 7 that size, collateral value of assets, profitability and agency costs are significant determinants of financial leverage in enterprises in almost every country. Profitability and agency costs in this study are positively related to financial leverage, which is opposite to Shumi Akhtar's findings (2005) in Australia and Shumi Akhtar, Barry Oliver's (2005) in Japan. However, the finding is appropriate to the Modigliani & Miller's research (1963). According to this, the enterprises having high profitability are likely to borrow the debts than the ones having the low profitability. These enterprises expect to use these debts as a tariff of income tax. Thus, the relationship between profitability and debt rate has positive relation. On the other hand, determinants of financial leverage in enterprises of different countries show remarkable differences. For example, in Japan, capital structure is affected by age of enterprise (+), business risks (–), free cash flow (–). The findings identify another determinant of interest expense which is negatively related to financial leverage.

In this research, there are several differences in values of profitability and agency costs compared to previous researches by Shumi Akhtar and Shumi Akhtar, Barry Oliver (2005). These differences are resulted from:

The measurement of criteria is different form previous researches because there is the difference in financial reports between Vietnamese enterprises and other countries'.

Vietnamese government has conducted macro-economic policies on interest rate to assist enterprises to overcome the globally economic crisis. Hence, the preferential interest policy has helped enterprises in solving financial issue.

With these policies on the interest rate, the Vietnamese enterprises' profitability is higher. If the debt is increased, the financial leverage will be more effective.

For the recent years, to face the globally economic crisis, the Vietnamese enterprises have had appropriate business approaches, so the operating costs increase. However, thanks to the preferential interest policy, the Vietnamese enterprises have made use of these debts to operate.

7. IMPLICATIONS

This study examines the importance of determinants of capital structure for Vietnam's seafood processing enterprises in comparison with enterprises of other processing industries in Vietnam during the period of 2004-2008. The results show that capital structures present insignificant differences between the two groups. Using multi-variable regression analysis identifies changes in determinants of capital structure between seafood processing enterprises and enterprises of other processing industries. For both types of enterprises, size by assets and collateral value of assets have positive relationship with financial leverage, while size by equity is negatively related to financial leverage. They are significant determinants of enterprises' capital structure. For SEAs, profitability, growth, agency costs and interest expense are important determinants of capital structure and play an essential role. For DIFs, bankruptcy risks and age of enterprises are significant determinants. In relation to interaction effects, size and collateral value of assets are significant in explaining the differences in capital structure between SEAs relative to DIFs'. Finally, determinants of capital structure rarely varied over the sample period for both SEAs and DIFs.

From the above-mentioned findings, there will be several implications for Vietnam's seafood processing enterprises in using financial leverage:

First, promoting investment on business operation or increasing asset size of enterprise; Diversifying seafood products, expanding export markets to enhance growth rate and profitability. At this point, financial leverage is expected to increase because asset size, growth and profitability are positively related to financial leverage.

Second, joint stock enterprises need to issue more stocks to increase equity for investment on new technology because the majority of fixed assets, machinery in seafood processing enterprises are old and backward. Thus, in order to satisfy strict criteria on exports standards, enterprises need to apply new technology in seafood processing. To acquire new technology, enterprises need capital, hence so as to limit possible risks, it is the most appropriate that joint stock enterprises should issue stocks to increase capital. Consequently, enterprises will decrease financial leverage since equity is negatively related to financial leverage.

Third, interest rate is an input expense and negatively related to financial leverage, hence to ensure profitable business and sustainable development, enterprises need to: Calculate and forecast sufficiently, correctly interest expense when considering and examining effectiveness and decisions on business

proposals; Actively and proactively apply tools to prevent risks caused by interest rate variation in the market; Deduct sufficient preventive resources to make enterprises sustain in the light of interest rate shocks; Regularly enhance self-control capability of finance, diversify channels of mobilizing funds, avoid heavy dependence on bank funds.

From the above findings, there will be a research on the impact of capital structure on profitability of Vietnam's seafood processing enterprises. The upcoming study is expected to offer practical implications to enhancing profitability of enterprises in order to help increase corporate value of Vietnam's seafood processing enterprises.

CÁC NHÂN TỐ ẢNH HƯỞNG ĐẾN CẤU TRÚC VỐN CỦA CÁC DOANH NGHIỆP CHẾ BIẾN THỦY SẢN VIỆT NAM

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TÓM TẮT: *Bài viết trình bày kết quả nghiên cứu thực nghiệm áp dụng mô hình của Shumi Akhtar (2005) [22] và mô hình của Shumi Akhtar, Barry Oliver (2005) [23] để đánh giá các nhân tố ảnh hưởng đến cấu trúc vốn của các doanh nghiệp ngành thủy sản Việt nam (SEAs) và so sánh với những doanh nghiệp thuộc các ngành công nghiệp chế biến khác (DIFs). Với số liệu thu thập là 302 doanh nghiệp, trong đó có 63 doanh nghiệp ngành thủy sản, chuỗi thời gian số liệu là 5 năm từ 2004 – 2008, tổng số quan sát thu thập được là 772, trong đó đối với mô hình áp dụng các doanh nghiệp chế biến Thủy sản là 284 quan sát và mô hình áp dụng các ngành khác là 488 quan sát.*

Kết quả nghiên cứu cho thấy cấu trúc vốn có sự khác biệt giữa SEAs và DIFs. Quy mô và giá trị tài sản thế chấp là những nhân tố được tìm thấy thực sự ảnh hưởng đến cấu trúc vốn ở cả SEAs và DIFs. Đối với SEAs, các nhân tố khả năng sinh lời, tăng trưởng, chi phí giao dịch và chi phí sử dụng nợ có ảnh hưởng đến cấu trúc vốn và đóng vai trò thiết yếu. Còn đối với DIFs, các nhân tố rủi ro phá sản và tuổi của doanh nghiệp đóng vai trò thiết yếu. Về quan hệ tương tác, quy mô và giá trị tài sản thế chấp đóng vai trò quan trọng trong việc giải thích sự khác biệt giữa cấu trúc vốn của các SEAs so với cấu trúc vốn của các DIFs. Cuối cùng, các nhân tố ảnh hưởng đến cấu trúc vốn ở các SEAs và DIFs ít thay đổi theo thời gian. Từ kết quả này, chúng tôi đã đưa ra các hàm ý cho các doanh chế biến thủy sản Việt nam (SEAs) trong việc sử dụng đòn bẩy tài chính một cách linh hoạt. Cụ thể là muốn nâng cao hay giảm độ lớn đòn bẩy tài chính, SEAs cần quan tâm quy mô, tài sản thế chấp, khả năng sinh lời và tốc độ tăng trưởng doanh nghiệp cũng như có những gợi ý trong việc đối phó với những cú sốc về sự thay đổi lãi suất ngân hàng.

Từ khóa: *Cấu trúc vốn; Doanh nghiệp Chế biến Thủy sản.*

REFERENCES

[1]. Allen, D.E. *The determinants of the capital structure of listed Australian companies: The financial manager's perspective*, Australian Journal of Management, vol. 16, no. 2, pp. 102–28.(1991).

[2]. Bradley, M., Jarrell, G. & Kim, E.H. *On the existence of an optimal capital structure: Theory and evidence*, Journal of Finance, vol. 39, pp. 857–78.(1984).

[3]. Brealey, R., and Myers, S., *Principles of corporate finance. Fifth edition*. U.S.A: McGraw-Hill Inc., (1996).

[4]. Cooke, T.E. 1991, 'An assessment of voluntary disclosure in the annual report of Japanese corporations', The International Journal of Accounting, Vol. 26, No. 3, pp. 174–89.

[5]. Chittenden, F., Hall G. & Hutchinson, P. 1996, 'Small firm growth, access to capital markets and financial structure: Review of issues and an empirical investigation', Small Business Economics, vol.8, no.1, pp.59–67.

[6]. Doukas, J.A. & Pantzalis, C. 2003, 'Geographic diversification and agency costs of debt of multinational firms', Journal of Corporate Finance, vol. 9, pp. 59–92.

[7]. Fan, J.P.H., Titman, S. & Twite, G. 2003, 'An international comparison of capital structure and debt maturity choices', working paper, Australian Graduate School of Management.

[8]. Friend, I. & Lang, L.H. 1988, 'An empirical test of the impact of managerial self-interest on corporate capital structure', Journal of Finance, vol. 43, pp. 271–81.

[9]. Gul, F. 'Growth opportunities, capital structure and dividend policies in Japan', Journal of Corporate Finance 5 (1999), pp. 141-168.

[10]. Graham, J. and Harvey, C. 'The theory and practice of corporate finance: evidence from the field'. Journal of Financial Economics. No.61, 2001.

[11]. Harris, M. and Raviv, A. 'The theory of capital structure', Journal of Finance 49 (1991), 297-355.

[12]. Joshua Abor. 2005, 'The effect of capital structure on profitability: an empirical analysis of listed firms in Ghama' , The Journal of Risk Finance, Vol.6 No. 5, 2005, pp. 438–445.

[13]. Kraus, A. & Litzenberger, R.H. 1973, 'A state-preference model of optimal capital structure', Journal of Finance, vol. 28, pp. 911–21.

[14]. Lee, K. & Kwok, C.Y. 1988, 'Multinational corporations vs. domestic corporations: International environmental factors and determinants of capital structure', Journal of International Business Studies, vol. 19, pp. 195–217.

[15]. Marsh P., (1982), "The Choice between Equity and Debt: An Empirical Study", Journal of Finance, Vol. 37, pp. 121-144.

[16]. Myers, S.C. 1984, 'The capital structure puzzle', Journal of Finance, vol. 39, pp. 575–92.

[17]. Myers, S.C and Majluf, N.S. 'Corporate financing and investment decisions when firms have information that investors do not have', Journal of Financial Economics 13 (1984), 187- 221.

[18]. Myers, S.C. 'Determinants of corporate borrowings', Journal of Financial Economics 13 (1977), pp.187-221.

[19]. Michaelas, N., Chittenden, F. and Poutziouris, F. 'Financial policy and capital structure choice in U.K. SMEs: Empirical evidence from company panel data', Small Business Economics 12 (1999), 113-30.

[20]. Petersen, M.A., and Rajan, R.G. 'The benefits of lending relationship: Evidence from small business data', Journal of Finance 49(1) (1994), 3-37.

[21]. Rajan, R.G. & Zingales, L. 1995, 'What do we know about capital structure? Some evidence from international data', Journal of Financial Economics, vol. 51, pp. 1421–60.

[22]. Shumi Akhtar 2005, 'The Determinants of Capital Structure for Australian Multinational and Domestic Corporations', The Australian Journal of Management, Vol. 30, No. 2, pp. 321-339.

[23]. Shumi Akhtar, Barry Oliver 2005, 'The determinants of capital structure for Japanese multinational and domestic corporations', School of Finance and Applied Statistics, Faculty of Economics and Commerce. Australian National University, Canberra, 0200, Australia

[24]. Seridan Titman and Roberto Wessels 1998, 'The Determinants of Capital Structure Choice', The Journal of Finance, Vol. 43, No.1, pp.1-19

[25]. Walaa Wahid ElKelish 'Financial structure and firm value: empirical evidence from the United Arab Emirates'. International Journal of Business Research (2007).

[26]. Wald, J.K. 'How Firm Characteristics Affect Capital Structure: An International Comparison', Journal of Financial Research 22(2) (1999), pp.161-187.

APPENDIX

Appendix 1: Descriptive statistics of variables for Vietnam's seafood processing enterprises in the period of 2004 – 2008

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LTD	284	.0000	.9362	.138518	.2106626
SIZE_TA	284	20.35	28.61	24.4242	1.85999
SIZE_E	284	19.73	28.25	23.3155	1.88447
ROA	284	-.5537	.6304	.050024	.1157643
GROW	284	-.9923	3.8266	.188097	.5296225
BR	284	.0023	.3793	.062834	.0695855
CVA	284	.0188	.9222	.310878	.2081087
AC	284	.0021	2.6311	.095958	.1777455
INTER	284	.0000	.1488	.037946	.0338732
AGE	284	1.3863	3.0445	2.084466	.3911716
EQU	284	0	1	.31	.463
Valid N (listwise)	284				

Appendix 2: Descriptive statistics of variables for enterprises of other processing industries in Vietnam during the period of 2004 – 2008

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LTD	488	.0000	.8999	.146683	.1977541
SIZE_TA	488	23.47	29.79	26.1975	1.26402
SIZE_E	488	21.34	29.20	25.4329	1.31105
ROA	488	-.2455	.5913	.113434	.0851286
GROW	488	-.8824	7.6270	.335041	.7402770
BR	488	.0003	.1936	.041761	.0390608
CVA	488	.0052	.9114	.301674	.1824373
AC	488	.0045	.9594	.093747	.0880668
INTER	488	.0000	.1524	.034586	.0313600
AGE	488	1.0986	3.8712	2.063376	.5970673
EQU	488	1	1	1.00	.000
Valid N (listwise)	488				

Appendix 3: Descriptive statistics of variables in all enterprises in Vietnam during 2004 – 2008

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LTD	772	.0000	.9362	.143679	.2025009
SIZE_TA	772	20.35	29.79	25.5451	1.73530
SIZE_E	772	19.73	29.20	24.6540	1.85289
ROA	772	-.5537	.6304	.090107	.1021409
GROW	772	-.9923	7.6270	.280984	.6738960
BR	772	.0003	.3793	.049513	.0533336
CVA	772	.0052	.9222	.305060	.1921977
AC	772	.0021	2.6311	.094561	.1284391
INTER	772	.0000	.1524	.035822	.0323262
AGE	772	1.0986	3.8712	2.071135	.5305131
EQU	772	0	1	.75	.436
Valid N (listwise)	772				

Appendix 4: Regression analysis results for Vietnam's seafood processing enterprises in Vietnam during 2004 – 2008

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	Df1	df2	Sig. F Change	
1	.698[a]	.487	.468	.1535866	.487	25.942	10	273	.000	1.015

a. Predictors: (Constant), EQU, GROW, CVA, AC, AGE, INTER, SIZE_E, BR, ROA, SIZE_TA

b. Dependent Variable: LTD

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.119	10	.612	25.942	.000[a]
	Residual	6.440	273	.024		
	Total	12.559	283			

a. Predictors: (Constant), EQU, GROW, CVA, AC, AGE, INTER, SIZE_E, BR, ROA, SIZE_TA

b. Dependent Variable: LTD

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.679	.150		-4.539	.000

	SIZE_TA	.216	.014	1.904	15.329	.000
	SIZE_E	-.196	.014	-1.750	-13.974	.000
	ROA	.232	.107	.127	2.166	.031
	GROW	.053	.018	.132	2.940	.004
	BR	-.211	.161	-.070	-1.316	.189
	CVA	.454	.050	.488	9.077	.000
	AC	.147	.068	.124	2.165	.031
	INTER	-.525	.290	-.084	-1.808	.072
	AGE	-.017	.024	-.031	-.698	.486
	EQU	.009	.024	.021	.401	.688

a. Dependent Variable: LTD

Appendix 5: Regression analysis results for enterprises of other processing industries in Vietnam during 2004 – 2008

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.813[a]	.661	.655	.1161884	.661	103.640	9	478	.000	1.142

a. Predictors: (Constant), AGE, GROW, BR, INTER, AC, SIZE_TA, CVA, ROA, SIZE_E

b. Dependent Variable: LTD

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	12.592	9	1.399	103.640	.000[a]
	Residual	6.453	478	.013		
	Total	19.045	487			

a. Predictors: (Constant), AGE, GROW, BR, INTER, AC, SIZE_TA, CVA, ROA, SIZE_E

b. Dependent Variable: LTD

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.706	.115		-6.150	.000
	SIZE_TA	.262	.011	1.674	23.021	.000
	SIZE_E	-.243	.011	-1.611	-22.437	.000

	ROA	.028	.067	.012	.418	.676
	GROW	.000	.007	.000	-.017	.986
	BR	-.479	.138	-.095	-3.463	.001
	CVA	.441	.030	.406	14.675	.000
	AC	.010	.062	.004	.163	.870
	INTER	-.056	.171	-.009	-.325	.745
	AGE	.028	.009	.084	3.035	.003

a. Dependent Variable: LTD

Appendix 6: Regression analysis results for all enterprises of Vietnam's processing industries in the period of 2004 – 2008

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.770[a]	.592	.582	.1309403	.592	57.474	19	752	.000	1.081

a. Predictors: (Constant), D_AGE, AC, CVA, GROW, INTER, AGE, BR, ROA, SIZE_TA, D_GROW, EQU, D_ROA, D_INTER, D_CVA, D_AC, D_BR, SIZE_E, D_SIZE_E, D_SIZE_TA

b. Dependent Variable: LTD

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	18.723	19	.985	57.474	.000[a]
	Residual	12.893	752	.017		
	Total	31.616	771			

a. Predictors: (Constant), D_AGE, AC, CVA, GROW, INTER, AGE, BR, ROA, SIZE_TA, D_GROW, EQU, D_ROA, D_INTER, D_CVA, D_AC, D_BR, SIZE_E, D_SIZE_E, D_SIZE_TA

b. Dependent Variable: LTD

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.697	.089		-7.849	.000
	SIZE_TA	.261	.012	2.238	21.150	.000
	SIZE_E	-.243	.012	-2.222	-19.908	.000
	ROA	.026	.075	.013	.344	.731
	GROW	-9.442E-5	.008	.000	-.012	.991
	BR	-.481	.156	-.127	-3.092	.002

	CVA	.440	.034	.418	13.036	.000
	AC	.009	.069	.006	.132	.895
	INTER	-.057	.192	-.009	-.297	.766
	AGE	.028	.010	.072	2.690	.007
	EQU	.008	.019	.017	.428	.669
	D_SIZE_TA	-.045	.016	-2.626	-2.737	.006
	D_SIZE_E	.047	.017	2.646	2.777	.006
	D_ROA	.204	.119	.075	1.721	.086
	D_GROW	.053	.017	.087	3.050	.002
	D_BR	.269	.207	.069	1.297	.195
	D_CVA	.015	.054	.015	.281	.779
	D_AC	.138	.090	.080	1.529	.127
	D_INTER	-.466	.313	-.063	-1.489	.137
	D_AGE	-.044	.023	-.224	-1.926	.054

a. Dependent Variable: LTD