THE IMPACT OF CAPITAL STRUCTURE ON FIRM PERFORMANCE – EMPIRICAL EVIDENCE FROM LISTED FOOD AND BEVERAGE COMPANIES IN VIETNAM

Yen Thi Hai Dang ✉

Department of Finance, Faculty of Accounting and Business Management,
Vietnam National University of Agriculture, Hanoi, Vietnam
haiyendang88@gmail.com

Nhung Thi Hong Bui

Department of Finance, Faculty of Accounting and Business Management,
Vietnam National University of Agriculture, Hanoi, Vietnam

Anh Thi Hoang Dao

Department of Finance, Faculty of Accounting and Business Management,
Vietnam National University of Agriculture, Hanoi, Vietnam

Huong Thi Nguyen

Department of Finance, Faculty of Accounting and Business Management,
Vietnam National University of Agriculture, Hanoi, Vietnam

Abstract

The study investigates relationship between capital structure and firm performance focusing on the group of Food and Beverage Companies in Vietnam. The dependent variables defined as ROA (return on asset), ROE (return on equity) and EPS (earning per share), which refer to firm performance. Whereas, independent variables are DA (debt ratio), STA (short term debt ratio), and LTA (long term debt ratio), and they stand for capital structure of a firm. By using the unbalanced panel data of 605-observationfrom 61 listed companies in this industry, some relevant analyses have been showed. Following that, financial leverage has a strong impact on firm performance, to be more details, debt ratios can significantly and positively affect ROE,

EPS but negatively affect ROA. The research uses different approaches such as pooled OLS, FEM and REM to explore this relationship.

Keywords: Capital structure; firm performance; food and beverage industry; Vietnam

INTRODUCTION

An optimal capital structure is a crucial financing choice of firm managers due to their aims to maximize the value of the firm. Capital structure is a mixture of a firm's debt and equity (Brounen et al. 2006). Using debt or financial leverage is a common tool for most business to increase profit on equity and asset. According to (Jensen, 1976), a firm can benefit from debt because of the tax shield and the separation of agency cost. However, it has been argued that the more debt used, the higher cost of capital and bankruptcy cost the firm bears (Harris, M., 1991). Another reference of capital structure is a relation of financial funds of a firm for is operation. Furthermore, structure of capital is one of the key element for the firm's growth because stockholders is exact the real and important stakeholders in the firm as they can possess an enormous influences the firm in making decision process (Pirzada, 2015). Leverage, which refers to the proportion of a firm capital level, can come from either loans of banks or bonds (Ghosh, 2017).The two first authors who looked at this field are Modigliani and Miller, and they initially showed a no-relation between the structure of money funds in a firm with its profitability based on assumption of some perfect elements occurring (Nimalthasan, 2013). After that, a number of researches are related to examine how capital structure affects financial firm performance. As a consequence, the results include negative, positive and non-effects of financing structure and firm performance. This study is conducted to explore how the mixture of debt and equity affects the firm performance in listed Food and beverage companies in Vietnam.

Research objectives

(1) To consider the theories and current empirical studies of capital structure

(2) To analyze the impact of capital structure on corporate performance of listed food and beverage companies in Vietnam

(3) To make recommendations for firm in finding an optimal capital structure

LITERATURE REVIEW

Capital structure

In general, capital structure refers to two kinds of capitals containing equity capital and debt capital. Each of them has both advantages and disadvantage for a company. Equity is considered as an amount of money invested for the firm by shareholders or owners. Regarding equity capital, the equity component is contributed capital and retained earnings. While the contributed capital is the initial investment of owners for the firms, the retained earnings are profits or growth fund. Turing to debt capital, it is amount of money borrowed by a firm, debt can be short – term period or long term period (Mr. Philip R. Lane, 2000). A number of scholars have studied about capital structure with the purpose of seeking an optimal capital structure. They believe that there is at least a point where debt – equity ratio can bring firm a greatest value. In other words, it is the level of debt leading to maximize profits and minimize cost of capital (Nimalthasan, 2013). Following Jensen and Meckling (1976), the authors published that companies which have less amount of liabilities tend to face with less risks than others. As a result, the higher debt may lead a less effective performance for a firm. It was explained by the conflicts causing from shareholders and lenders. They have differences expectations of risks as well as return rate. In simple words, owners expect a high profitability and face with high risk, while creditors aim to gain lower profit but lower risk.

Empirical Evidence

A number of studies have taken to investigate the impact of capital structure on firm performance. Nevertheless, there is no definite answer of the positive or negative relationship between financial leverage and the corporate value. As found in, Muhfuzah Salim et al. (2012) published a paper relating to the field of capital structure and firm performance. They collected 237 company observations to build up a set of data with the time series is from 1995 to 2011. Profitability is measured by ROA (return on asset), ROE (return on equity), while Capital structure is debt ratio. They stated that debts could affect negatively to financial performances considered by ROA (return on assets) and ROE (return on Equity).Thus, when firms tend to borrow more money, they will have to cope with more problems on decreased financial performances. In contrast, Rami Reitun et al. (2007)studied about how financial leverage have effects on firm performance by using a data of 167 firms in Jordan, the financial statements gathered from 1989 to 2003. As a result, a positive relationship between debts and firm performance was found in this examination and one interest point from the paper is that agency appearance may influence positively to level of debt. So that if a firm tries to seek funds outside the firm by debts, it is likely to achieve a better performance, because cost of debt capital is

cheaper than cost of equity capital. According to (Rajeswararao Chaganti, Fariborz Damanpour, 1991), the data was formed by collected statistics of 40 manufacturing companies within 3 years. The findings show that the stockholdings of outside institutional size have a strong impact on capital structure. Another evidence showing results of relationship between capital structure and firm performance is the paper worked by Nimalthasan et al. (2013), the authors used the data of 25 companies in Sri Lanca with financial statements from 2008 to 2012 to reveal that debt equity ratio has significant impacts on ROA (return on asset), ROE (return on equity), and Net Profit (Nimalthasan, 2013). As found in (Soumadi, 2012), it examines how debts have impacts on financial performance, the research used the multiple regression with OLS estimation to show that when the firm increases debt, it leads a reduction of firm performance with employing data of 76 companies from 2001 to 2006.

METHODOLOGY

Sample

The research sampled all food and beverage corporations that have been listed on Vietnam stock exchanges over a period from 2000 to 2017. Due to a young stock market, the number of listed companies is limited at 61 companies. The classification of food and beverage industry used in this study is based on North American Industry Classification System (NAICS). In total, 605 observations were included in the unbalance panel data. The research employed panel data to gain benefit from a larger number of samples and degree of freedom, through enhance the estimators' efficiency.

Variable

There are many indicators to represent the financial performance of a company. As mentioned by (Al-Matari et al., 2014), firm performance can be evaluated by the accounting criteria such as ROA, ROE, PM, ROI, EPS, etc. This study assessed the return on equity (ROE), return on asset (ROA) and earning per share (EPS) as dependent variables, which inline with (Vătavu, 2015) and (Zeitun and Tian, 2007). Measures for capital structure were total debt to total asset (debt ratio - DA), short-term debt to total asset (STA) and long-term debt to total asset (LTA), which based on the research of (Abor, 2005; Gill and Biger, 2011; and Zeitun and Tian, 2007).This study used two control variables, including liquidity and cash flow ratio.Liquidity was considered as an indicator for the company performance because the company is supposed to have better operation, prompt payment, and take the advantage of investment opportunities (Cho, 1998; Phuong et al., 2017). In addition, some authors believed that cash flow could affect the efficiency of business. With high cash flow, the company couldimplement more projects

without using external capital at high cost (Chang et al., 2007). In contrast, (Chung et al., 2005; Jensen 1976) argued that the firm easily has mistaken decision in new investment and increases agency problem with high cash flow.

Table 1. Description of variables used in the analysis

Variable	Type of variable	Description
ROA	Dependent	Return on asset, equal Net Income/Total asset
ROE	Dependent	Return on equity, equal Net Income/Equity
EPS	Dependent	Earnings per share of the coperation
DA	Independent	Debt ratio, equal Total Debt/Total asset
STA	Independent	Short term debt ratio, equal Short term debt/Total asset
LTA	Independent	Long term debt ratio, equal Long term debt/Total asset
LIQC	Control	Liquidity, equal Cash and cash equivalent/Total asset
CFA	Control	Cashflow ratio, equal Net Income + Depreciation/Total asset

Data analysis

There are different ways to explore the relationship between capital structure and corporate performance in a panel data. The pool OLS, fixed effect (FE) and random effect (RE) estimation are regular methods applied in this case.

The liner model is: $y_{it} = \alpha + x_{i,t}*\beta + \mu_{it}$ where y_{it} is the dependent variable of company i at time t; $x_{i,t}$ is the explanatory variables, β is the parameter associated with $x_{i,t}$; μ_{it} is disturbance term.

The pooled OLS is unbiased and consistent if the error term is independent with the explanatory variables $x_{i,t}$ and unobserved heterogeneity is absent. However, if the company specific effects exist, the regression with fixed effect (FE) and random effect (RE) are better.

Model Specification

To test the impact of capital structure on firm performance, this study used the model as follow:

Firm performance = $\alpha + \beta_1 *$ Capital Structure + $\beta_2 *$Liquidity + $\beta_3 *$ Cash flow + μ_{it}

The specific models are:

- Performance 1: (1) ROE = $\alpha + \beta_1 *DA + \beta_2 *LIQC + \beta_3 *$ CFA + μ_{it}

(2) ROE = $\alpha + \beta_1 *STA + \beta_2*LTA + \beta_3 *LIQC + \beta_4 *$ CFA + μ_{it}

- Performance 2: (1) ROA = $\alpha + \beta_1 *DA + \beta_2 *LIQC + \beta_3 *$ CFA + μ_{it}

(2) ROA = $\alpha + \beta_1 *STA + \beta_2 *LTA + \beta_3 *LIQC + \beta_4 *$ CFA + μ_{it}

- Performance 3: (1) EPS = $\alpha + \beta_1 *DA + \beta_2 *LIQC + \beta_3 *$ CFA + μ_{it}

(2) EPS = $\alpha + \beta_1 *STA + \beta_2 *LTA + \beta_3 *LIQC + \beta_4 *$ CFA + μ_{it}

ANALYSIS AND FINDINGS

Data descriptive statistics

Table 2 presents the descriptive statistics of dependent and independent variables. In general, total debt ratio (DA) accounts for 45.6%, followed by the short-term debt ratio (STA) with 39.9%, meaning companies in food and beverage industry use high level of debt. However, the financial leverage is lower in compare with the average of all industries in Vietnam Stock Exchange, which account for 51.92% and 41.09%, respectively (Phuong et al., 2017). The ratio of long-term debt (DTA) is on average of 8.7%, which shows that the capital structure of Viet Nam food and beverage firms is mainly based on short-term debt.

The organization performance indicators are indicated in ROA, ROE with the average of 8.6% and 14.5% return on asset and equity, respectively. These ratios are also higher than that of all industries in Vietnam, which is 6.3% and 10.3%, respectively (Phuong et al.,2017). It supports that the food and beverage industry in Vietnam is expected to be one of the most potential and profitable industries in compare with others. The EPS is around 4300 VND but widely disperses.

Table 2. Descriptive statistics of variables

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	605	0.0863	0.0933	-0.6455	0.7833
ROE	605	0.1450	0.2539	-3.6740	1.7525
EPS	605	4298.024	9635.651	-10332	112500
DA	605	0.4560	0.2072	0.0007	0.9669
STA	605	0.3990	0.1958	0.0007	0.9486
LTA	605	0.0570	0.0869	0.0000	0.5415
LIQC	605	0.1228	0.1332	0.0001	0.6965
CFA	605	0.1211	0.1296	-0.6312	1.5558

Correlation matrix

Table 3. The correlated relationship between variables

	ROA	ROE	EPS	DA	STA	LTA	LIQC	CFA
ROA	1							
ROE	0.7134***	1						
EPS	0.2973***	0.2538***	1					
DA	-0.4158***	-0.1407***	-0.0388	1				
STA	-0.3567***	-0.1249***	-0.0012	0.9085***	1			
LTA	-0.1878***	-0.0541	-0.0899**	0.3377***	-0.0865**	1		
LIQC	0.342***	0.2222***	0.1247***	-0.2793***	-0.2136***	-0.1849***	1	
CFA	0.7688***	0.5477***	0.2643***	-0.3489***	-0.2939***	-0.1699***	0.2607***	1

*** , ** *correlation is significant at the 0.01 and 0.05 level (2-tailed), respectively*

Table 3 shows the correlated relationship between all the variables. It can be seen that there is a significant and negative relationship between most of capital structure and firm performance indicators, include DA, STA and ROA, ROE. LTA and EPS havea significant correlation but no significant relationship with other variables. Variable DA and STA have high correlation (around 0.91), however in the regression, these variables are separately performed to avoid multicollinearity issue. Moreover, the correlation of control variables with dependent variables are high, and the correlation between other explanatory variables are lower than 0.4, suggested that these variables are suitable in the model.

Pool OLS results

Table 4. Impact of capital structure on firm performance - Pool OLS

605 observations		Dependent variable					
		ROE		ROA		EPS	
Independent variable							
	DA	0.097**		-0.0638***		3579.76*	
		(0.032)		(0.000)		(0.072)	
Capital structure	STA		0.084*		-0.0637***		4462.14**
			(0.075)		(0.000)		(0.031)
	LTA		0.1879*		-0.0643**		-2609.686
			(0.068)		(0.021)		(0.564)
Liquidity	LIQC	0.1928***	0.199***	0.0863***	0.0863***	5447.14*	5038.89*
		(0.005)	(0.004)	(0.000)	(0.000)	(0.069)	(0.094)
Cashflow	CFA	1.0752***	1.0782***	0.4949	0.4948***	20181.99***	19980.7***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant		-0.0531*	-0.0542*	0.0448***	0.0448***	-449.079	-372.803
		(0.061)	(0.056)	(0.000)	(0.000)	(0.718)	(0.764)
R-squared		0.3120	0.3131	0.6293	0.6293	0.0782	0.0817
Adj R-square		0.3085	0.3085	0.6275	0.6268	0.0736	0.0756
F-test		90.83	68.36	340.09	254.65	16.99	13.35
Prob>F		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 4 presents the regression results of capital structure and firm performance variables. As shown in the table, capital structure positively affects company return on equity (ROE). In details, the coefficients of DA, STA, and LTA have positive and significant at 5% and 1% with β = 0.097, 0.084, and 0.1879, respectively. In other words, an increase of 1% in capital structure will lead to an increase of approximately 9.7%, 8.4% and 18.9% in ROE.

Table 4 also displays that capital structure influence negatively return on asset (ROA) and significant at confident level of 99% and 95%. It can be concluded that a 1% increase in DA, STA, LTA will cause around 6.4% decrease in ROA.

Additionally, DA and STA variables positively and significantly affect EPS of the company, which presented outcome β = 3579.76; sig = 0.07 and β = 4462.14; sig = 0.31, respectively.

The two control variables LIQC and CFA also have positive and significant impacts on the firm performance at all indicators.

Last but not least, F test of all regressions are significant at 1%; and adjusted R^2 are around 0.31, 0.63 and 0.075 at ROE, ROA and EPS regression, suggesting the models' fitness and explanation of 31%, 63% and 7.5% the change in firm performance in term of ROE, ROA and EPS respectively.

Table 5. Test for Multicollinearity

Variable	VIF	1/VIF	VIF	1/VIF
DA	1.19	0.84		
STA			1.15	0.87
LTA			1.08	0.92
LIQC	1.12	0.89	1.18	0.85
CFA	1.18	0.85	1.13	0.88
Mean VIF	**1.16**		**1.14**	

Table 5 illustrates the test for multicollinearity with all the VIF coefficients are lower than 2 and tolerance coefficients are larger than 0.5.

Fixed effect and Random effect results

The F-test of OLS regression reveals the fitness of model, however pooled OLS is hardly to control for unobserved firm specific affects, therefore this research adopts the FE and RE regression beside OLS to control for the influence of unobserved individual. The F-test u_i=0 in FE and the B &Pagan test in RE help to determine each of them is better than OLS or not. The Hausman test is conducted to choose between fixed effect and random affect.

According to table 6, the Hausman test in all regressions have P-value >5%, meaning the results are not statistically significant (H0 difference in coefficients not systematic). In this case, the random effects regression is more relevant. Furthermore, all the B& Pagan tests are significant at 1%, showing that RE is better than pooled OLS. Therefore, the random effect regression was applied to explore the impact of capital structure on firm performance.

Table 6. Impact of capital structure on firm performance - Fixed effect and Random effect regression

605 observations		Dependent variable: ROE				Dependent variable: ROA				Dependent variable: EPS			
		FE	RE	FE	RE	FE	RE	FE	RE	FE	RE	FE	RE
Independent variable													
Capital structure	DA	0.1264*	0.0993**			-0.0841***	-0.0711***			4506.84	3761.24*		
		(0.085)	(0.045)			(0.000)	(0.000)			(0.150)	(0.097)		
	STA			0.1149	0.0859*			-0.0896***	-0.0730***			6353.35*	4894.38**
				(0.141)	(0.098)			(0.000)	(0.000)			(0.057)	(0.040)
	LTA			0.1807	0.1853*			-0.058	-0.0608*			-4223.35	-3031.19
				(0.218)	(0.093)			(0.120)	(0.054)			(0.499)	(0.541)
Liquidity	LIQC	0.2032**	0.1978***	0.2035**	0.2024***	0.0810***	0.0866***	0.0812***	0.0869***	-2371.67	2937.69	-2421.29	2542.11
		(0.031)	(0.007)	(0.031)	(0.006)	(0.001)	(0.000)	(0.001)	(0.000)	(0.556)	(0.373)	(0.547)	(0.442)
Cashflow	CFA	1.0828***	1.0707***	1.085***	1.0741***	0.465***	0.4732***	0.4660***	0.4736***	19123.97***	19948.97***	18758.62***	19657.68***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Constant		-0.0687*	-0.0546*	-0.0675*	-0.0553*	0.0583***	0.0495***	0.0589***	0.0495***	217.88	-253.00	28.7740	-212.84
		(0.082)	(0.073)	(0.088)	(0.070)	(0.000)	(0.000)	(0.000)	(0.000)	(0.897)	(0.855)	(0.986)	(0.878)
R-squared (within)		0.2629	0.2627	0.2632	0.2630	0.5329	0.5324	0.5334	0.5327	0.0564	0.0533	0.0610	0.0577
F-test (overall)		64.32		48.21		205.72		154.36		10.79		8.77	
Prob>F		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	
Wald test			251.64		252.04		788.50		785.98		42.70		45.00
Prob>Chi2			0.0000		0.0000		0.0000		0.0000		0.0000		0.0000
F-test that all u_i=0		1.54		1.52		2.88		2.88		2.13		2.14	
Prob>F		0.0076		0.0090		0.0000		0.0000		0.0000		0.0000	
B&Pagan test			5.63		5.44		48.90		48.88		35.34		34.76
Prob>Chi2			0.0088		0.0098		0.0000		0.0000		0.0000		0.0000
Hausman test		0.41		0.44		3.29		3.89		5.29		5.47	
Prob>Chi2		0.9376		0.9795		0.3488		0.4214		0.1521		0.2421	
Wald test for heteroskedascity		2.9e+06		2.0e+06		43301.35		44330.05		6.5e+07		1.3e+07	
Prob>Chi2		0.0000		0.0000		0.0000		0.0000		0.0000		0.0000	
Wooldridge test		0.187		0.185		9.099		9.031		76.899		78.061	
		0.6669		0.6683		0.0037		0.0039		0.0000		0.0000	

RE regression results illustrate positive and significant affects of DA, STA, LTA on ROE, with coefficients approximately equal 0.099, 0.086, and 0.185. Besides, capital structure has negative and significant impact on ROA. A 1% increase in DA, STA, LTA will lead to 7.11%, 7.3%, 6.08% decrease in ROA. Both DA and STA can influence positively EPS with **β** = 3761.24, sig =0.1 and **β** = 4894.38, sig =0.05.

The results from table 5 and table 6 also reveal that there are no differences in the positive or negative sign of the coefficients between pool OLS and RE model but there are slightly different in the amount. While the RE can control for unobserved individual influence, the Wooldridge test was carried out to check autocorrelation. Table 6 implies that there is no autocorrelation in the regression of ROE, but there is appearance of autocorrelation in regression of ROA and EPS. However, this study used the Wooldridge test as additional reference only because it is commonly believed that autocorrelation problem can be omit in short panel data (Phuong et al., 2017).

CONCLUSION AND DISCUSSION

The study has presented the significant relationship between capital structure and corporate performance of food and beverage companies in Vietnam Stock Exchange. It is proposed that debt ratios can positively affect ROE, EPS but negatively affect ROA. Along with the average of all industries in Vietnam, listed companies in Food and Beverage industry in Vietnam has used a high level of debt, especially short-term debt. The results suggested that firms with high level of total debt; short-term debt and long-term debt are likely to experience better firm performance measured by ROE, but poorer performance measured by ROA. In addition, corporation with high total debt ratio and short-term debt ratio are likely to gain more EPS. When a firm finances more 1% of total debt, its return on equity increases 9.7% while return on asset decreases 6.38%. If the firm employs 1% higher in short term debt structure, ROE will raise 8.4% while ROA will be 6.37% lower. If the firm elevates 1% of long-term debt, ROE will go up 18.79% but ROA will go down 6.43%.

To control for unobserved individual effects, the research adopted fixed effect and random effect estimator. Result illustrated that random effect model is more suitable than the pool OLS and fixed effect.

Therefore, some recommendations are proposed for these companies. Firstly, each firm should consider one optimal structure. Take into consideration that with more debt, the firm can increase return on equity but reduce return on asset, which implies that debt has been used ineffectively. The best capital structure can fulfill the essential of lowest cost of capital a long

with decrease the insolvency cost. Secondly, the firm should take advantages of tax shield by choosing the optimal capital structure, which balance between the firm's debt and equity. For further study, it is necessary to enlarge sample data to get better understanding of optimal capital structure of the food and beverage industry. Therefore, beside Vietnam Stock Exchange, companies traded on OTC market should be taken into account in the research. Moreover, future research should consider firm performance measured by market indicators besides accounting ones.

REFERENCES

Abor, Joshua. 2005. "The Effect of Capital Structure on Profitability: An Empirical Analysis of Listed Firms in Ghana." Journal of Risk Finance 6(5):438–45.

Al-Matari, Ebrahim Mohammed, Abdullah Kaid Al-Swidi, and Faudziah Hanim Bt Fadzil. 2014. "The Measurements of Firm Performance's Dimensions." Asian Journal of Finance & Accounting 6(1):24.

Brounen, D., de Jong, A., Koedijk, K. 2006. "Capital Structure Policies in Europe: Survey Evidence." J. Bank. Finance 30(5):1409–1442.

Chang, Shao Chi, Sheng Syan Chen, Ailing Hsing, and Chia Wei Huang. 2007. "Investment Opportunities, Free Cash Flow, and Stock Valuation Effects of Secured Debt Offerings." Review of Quantitative Finance and Accounting 28(2):123–45.

Cho, Myeong-Hyeon. 1998. "ECONOMICS Ownership Structure, Investment, and the Corporate Value: An Empirical Analysis." Journal of Financial Economics 47:103–21.

Chung, Richard, Michael Firth, and Jeong Bon Kim. 2005. "FCF Agency Costs, Earnings Management, and Investor Monitoring." Corporate Ownership and Control 2(4):51–61.

Gill, Amarjit and Nahum Biger. 2011. "The Effect of Capital Structure on Profitability : Evidence from the United States." International Journal of Management 28(4):1–3.

Harris, M., A. Raviv. 1991. "The Theory of Capital Structure." Journal of Finance 46:297–355.

Jensen, M. &. .. 1976. "Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure." Journal of Financial Economics pp.305-60.

Nimalthasan. (2013). Capital structure and its impact o firm performance: A case study on Sri Lankan Listed manufacturing companies. Research Merit Journals, 37-44.

Phuong, Thi, Vy Le, Thi Bich, and Nguyet Phan. 2017. "Research in International Business and Finance Capital Structure and Firm Performance : Empirical Evidence from a Small Transition Country." Research in International Business and Finance 42(July):710–26.

Pirzada, K. (2015). Firm Performance, Institutional Ownership and Capital Structure: A case of Malaysia. Procedia - Social and Behaviour Science.

Rajeswararao Chaganti, Fariborz Damanpour. (1991). Institutional Ownership, Capital Structure, and firm performance. Strategic Management Journal.

Soumadi, M. M. (2012). Capital structure and corporate performance empirical study on the public Jordanian shareholdings firms listed in the Amman stock market. European Scientific Journal .

Vătavu, Sorana. 2015. "The Impact of Capital Structure on Financial Performance in Romanian Listed Companies." Procedia Economics and Finance 32(15):1314–22.

Zeitun, R. and G. G. Tian. 2007. "Capital Structure and Corporate Performance: Evidence from Jordan." 1(4).