Relationship between Capital Structure and Financial Performance of Textile Sector Companies

Muzaffar Asad[1], Mr. Khizar Iftikhar[2] and Ammar Yasir Jafary[3]

Abstract

This study tests the relationship between capital structure and financial performance of the companies in the textile sector. In this study, correlation matrix and linear regression equation are used by ordinary least squares (OLS) to investigate the impact of capital structure and financial performance. Data has been collected from textile sector companies of the time frame 2011-2015 through respective annual reports and State Bank of Pakistan database. Debt to equity (DE) and debt to total funds (DTF) is used to represent the capital structure and return on capital employed (ROCE) shows the profitability of companies. Findings of the study show that DE positively influences ROCE of the companies. Furthermore, DTF also has a positive impact on ROCE. The relationship between capital structure and financial performance is significantly positive. Companies must undertake the optimal level of debt and equity ratio in their capital structure. This study is significant for the new and old textile companies operating under PSX to make optimal capital structure decision and to raise profitability.

JEL classification: B23; E22; M41

Keywords: Capital Structure, Financial Performance, Regression Analysis, Pakistan Stock Exchange

[1] Assistant Professor, School of Accounting and Finance, Faculty of Management Studies, University of Central Punjab, Khayaban-e-Jinnah, Johar Town, Lahore 54000, Pakistan, Email: muzaffar.asad@ucp.edu.pk

[2] Research Associate, School of Accounting and Finance, Faculty of Management Studies, University of Central Punjab, Khayaban-e-Jinnah, Johar Town, Lahore 54000, Pakistan, Email: khizar.iftikhar@ucp.edu.pk

[3] M.phil Scholar, School of Accounting and Finance, Faculty of Management Studies, University of Central Punjab, Khayaban-e-Jinnah, Johar Town, Lahore 54000, Pakistan, Email: khizar.iftikhar@ucp.edu.pk"

1. Introduction

Textile sector is the largest manufacturing sector of Pakistan. It contributes 8.5% to GDP and 57% of total exports and it employs more than 45% of the total workers in Pakistan (MTP 2012). Nevertheless, textile sector was going through toughest decades owing to the energy crisis and double digit inflation (Ahmed 2014). The timeframe of 2011-2015 adversely hit the performance of textile sector by virtue of devastated performance in exports and more than 30 textile companies were delisted from PSX due to less capital (PSX 2016). "Pakistan is no longer in the race of big share in the international textile business. Around one-quarter of the total established capacity in the textile industry has shut down and exports are equal to the closed capacity on account dependency of the economy on borrowing money from IMF instead of promoting exports for economic growth (Jamal and Nasir 2015). Hence, this study is conducted to check the impact of excessive borrowings on the financial performance of textile sector companies.

"The financial structure is a proportion of finance invested in a business through different sources (Brigham and Houston 2015). Capital structure is a part of the structure that refers to the different long-term origins of financing. Capital structure is made up of equity and debt which is considered as a permanent investment through net worth, long-term debt and preferred stock (Damodaran and Aswath 2012). These all securities comprise of company's financing of assets. Every component of capital structure has unique cost to the organization. In case of companies, it is financed from numerous sources. In case of sole-proprietorship, capital employed entirely contributed by owner. Above all, capital refers to the combination of funds contributed by shareholders and investors (Trisha 2016). Measurement of capital structure is mainly done by ratio analysis, there are two main ratios debt to equity and debt to total funds represent capital structure of a company, (Asad 2012)

There are several factors such as sales growth, employee's performance, cash on hand, tangibility, business risk and cooperate governance affecting the financial performance of the company (Safarova and Yana 2010). Besides capital structure, exports, R&D expenditures, leverage, and liquidity affect company competitiveness proxied by company's financial performance (Akben-Selcuk and Elif 2016). However, amongst all the factors that are associated with performance, financial performance is mainly affected because of capital structure (Brigham and Houston 2015). This shows the importance of capital structure in achieving high financial performance.

As per Modigliani and Miller approach, increase in debt creates financial leverage and results in high financial performance (Miller

1958). On the other hand, according to Sher (2016), an increase of debt in capital structure causes a decrease in profitability (ROA, ROE, NP, and ROCE). Therefore, it is right to say that capital structure of the company plays a pivotal role in the financial performance. Profitability of companies mainly depends on the capital structure invested and amount of debt financed through external resources. Thus, this study is being conducted to find the impact of two most important ratios of capital structure that are debt to equity and debt to total funds, over the financial performance of textile sector companies represented by return on capital employed".

The study is mainly significant for investors, creditors, managers, shareholders, debenture holders of Pakistan textile sector, at the time of taking a financial decision in the determination of capital structure that how many portions of the debt is significant for profitability.

2. Review of literature

The literature review conducted shows relevant information through past studies where researchers made their contributions to highlighting the combination of a capital structure affecting the financial performance of the company. "Vatavu in his study showed higher performance when the contribution of debt in the capital structure is low. Data has been taken of Bucharest Stock Exchange. Capital combination directly effects on the company profitability (ROA) and (ROE). The positive relationship has been computed through cross sectional regressions but missing data such as the long-term debts disturbing significance of results and shows variations in ROE (Vătavu 2015). Likewise, an American study of New York Stock Exchange consists 272 American companies. Empirical review with regression and correlation tool, reveals the positive relationship of STD/TA with profitability, LTD/TA with profitability and TD/TA with profitability (Amarjit, Nahum and Neil 2013). Similarly, In the light of Pakistani companies, the study contains 63 listed companies of KSE, analyzing the effect of capital structure (DTA, EQA, LDA) on profitability (ROA, ROE, ROS). Pooled regression model shows the direction of the relationship. All variables reveal positive impact between capital structure and profitability except DTA and EQA linked to ROS. Hence the computations prove that there is a significant relationship between profitability and capital structure with respect to variables. (Javed, Younas and Imran 2014)

Contrarily, the study, with the help of Lara & Mesquita (2003) showed the relationship between financial structure and profitability. It is the study of Automobile sector of Karachi Stock Exchange and by using regression analysis and correlation test, it has been concluded negative relationship. Increase in capital structure causes a decrease in

profitability (ROA, ROE, NP & ROCE) of the company (Muhammad, Sadiq and Fateh 2016). Likewise, Khalid Ashraf Chishti with other authors has been concluded the significant relation of debt to equity and profitability, debt to assets and interest coverage. Findings have been computed through regression analysis and correlation matrix that showed the significant negative impact of debt to equity on profitability and significant positive impact on debt to assets on interest coverage. Profitability comprises of net profit, gross profit, operating profit and return on capital employed (Chishti, Ali and Sangmi 2013). Similarly, the study of Ethiopia took various variables affecting the profitability of banking sector. Panel data and fixed estimation model of E-views shows a total debt to assets statically negative relation with profitability, deposit to assets and loan to deposit reveals statically positive relation with profitability. Hence banks are high levered thus the financial structure is pivotal to ascertain their performance (Hailu and Aragaw 2015). In addition, the study of the manufacturing sector of Sri Lanka reveals the significance of capital decision making as it is interrelating with other financial decisions. The structure comprises D/E, D/A, IC and their impacts on GPR, NPR, ROI, and ROCE. Panel data through regression equation computes positive impact on GPR, NPR and negative impact on ROI, ROCE. Hence capital structure highly influences profitability except for ROCE and ROI (Nimalathasan and Brabete 2012). Equivalently, another study of Ghana Stock Exchange takes ROE and its relation with financial structure. Thus, regression analysis revealed the significant negative relationship between capital structure and ROE. In Ghana, short-term debt proportion in total debt financing is 85% (Abor and Yindenaba 2005). Furthermore, in the study of Jordan, data taken from Amman Stock Exchange of the industrial sector, contained a sample of 39 companies. Panel data analysis in correlation and multiple regression tools reveal significant negative relation in profitability and debt. Findings show that Jordanian companies highly depend on the equity portion of total capital employed (Shubita and alsawalhah 2012). Correspondingly, Kyiv School of Economics reveals a study of 16.5 thousand Ukrainian companies that leverage and profitability have negative relationship as it is not reliable with free-cash flows or trade-off theories of financial structure. Thus the validity of the study is in the support of pecking-order theory (Iavorskyi and Mykhailo 2013). In the same way, the study of Kenya Stock Exchange reveals the inverse impact of the capital structure of profitability. Findings show that higher the debt ratio results in less return on equity and recommend to diminish debt ratio by adding more equity in capital structure (Siro and Oginda 2011).

By combining both effects of capital structure a study at Ghana supported a relationship between capital structure and profitability of the company. Data collected from Ghanaian listed companies and through regression analysis, it has been investigated the significant positive relation between short-term debts and profitability and the

significant negative relationship between long-term debts and company's profitability which is contrary to study Abor 2005. However, the average ratio of short-term debt to capital is 52% while long-term debt to capital is 11% (Addae, Nyarko-Baasi and Hughes 2013). Likewise, the study held in Turkey, to compute trade-off between by using equity and debt in the financial decision of investment. Results have been conducted by taking 235 companies including sample t-test, regression analysis, and correlation analysis. Findings showed positive relation between debt to total assets and profitability and negative relation between leverage and profitability. It also emphasized on other factors affecting such as GDP, growth, and size of the company. (Erdogan and Seda 2015). Similarly, another study analyzed relationship of financial structure and profitability by selecting eight trading companies of Bombay Stock Exchange. Multiple regression analysis showed significant negative relationship is between equity and short term debt and the significant positive relationship is between long term debt and equity. So these findings concluded that long term debt and equity finance enhances the financial performance of the company (Taqi, Ajmal and Pervez 2016). Furthermore, the study of Portugal and Spain interchange the relation of capital structure and profitability. This study finding the drawbacks of Eurozone crisis occurs in the capital structure of the companies and their influence on company's performance. Correlation results reveal the highly positive relation between leverage and ROE and a negative relation between leverage and ROA. So the further results show no change in financial decisions in the period of Eurozone Debt Crisis (Kumari 2015). The study of Cement and Automobile sector of PSX shows a significant relationship between financial structure and financial performance. Housman test selected correlation and regression model and computes CDR and LTDTA has a negative impact while FDR, FCR, SG, FAR has a positive impact on ROA (Ali, et al. 2016).

Debt to equity (DE): The debt to equity ratio comprises and indicates the portion of company's assets that are financed through debt (Scatizzi 2010). Debt to Total Funds (DTF) ratio shows the part of total debt on capital structure. The capital structure comprises both shareholder equity and debt. The high result shows high risk whereas less value may or may not shows low risk in the view of current liabilities (Scatizzi 2010). Financial performance of the company can be measured by various means. However, this study measuring financial performance through one of the profitability ratios.

Return on Capital Employed (ROCE): It measures efficiency and profitability of the company through its employed capital. In this ratio earnings before interest and tax divided by total capital employed which is computed by subtracting current liabilities from total assets. Some companies also use Return on Average Capital Employed (ROACE) which means they update their capital structure when a

change occurs in shareholder's equity or debt. ROCE must be higher than the cost of capital of the company otherwise it cannot meet its obligations and cannot increase the value of the company (Asset 2009).

Capital Structure Theory- Modigliani and Miller Approach; Miller, (1958) revealed that company can finance its assets either by equity or debt. The combination of debt and equity shows the capital structure of the company. According to MM approach, there is no any impact of capital structure on the value of the company. Whether company is high levered or low levered, it has no any influence on the value of company

Pecking Order Theory: Stewart C. Myers, (1984) stated that management of the company knows more about the company's value than investors. Model of this theory explains several aspects whether the company is totally relying on its internal funds or prefer debt to equity when financing is required".

Trade-off Theory: Alan Kraus, (1973) showed a balance between tax saving benefits, agency costs and dead-weight cost of bankruptcy. They stated that company must finance partially with equity and partially with debt because the use of debt gives tax benefits to the companies. But, more increase in debt cause bankruptcy. So company should play between danger limits of debt/equity ratio

On the basis of the arguments raised in the literature and in an attempt to support the arguments raised in three theories (Miller, 1958, Alan Kraus, 1973 & Stewart C. Myers, 1984), following framework has been drawn.

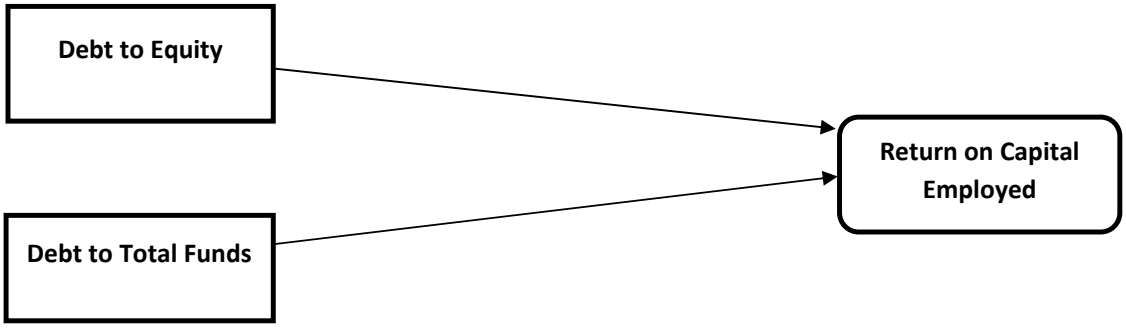

Figure 1: Research framework

Above figure showing the influence of debt to equity and debt to total funds on return on capital employed. It shows the relationship between variables but further analysis and findings state its significance

3. Methodology

It is a causal study and statistical tools have been applied to textile sector companies. 60 companies were selected through simple random sampling technique out of 155 of Pakistan Stock Exchange. Data has been collected from consolidated financial statements of companies and financial statement analysis of listed textile companies by State Bank of Pakistan. The data type is cross-sectional. Debt to equity and debt to total funds taken as independent variables representing capital structure whereas return on capital employed considered as a dependent variable representing financial performance.

Capital Structure Ratios		
DE	Debt to Equity	Total Debt / Shareholders Equity
DTF	Debt to Total Funds	Total Debt / Total Assets – Current Liabilities
Financial Ratio		
ROCE	Return on Capital Employed	Earnings before Interest and Tax / Total Assets – Current Liabilities

Table 4.1 Operationalization of variables

DE and DTF are selected as the capital structure of the company to analyze with two perspectives. ROCE is taken to measure the financial performance of the company. DE states debt and equity ratio more than 1 reveals high levered and less than 1 reveals more internal funds. DTF refers to debt to total funds, the proportion of total debt in total capital employed. More than 50 or .5 shows debt excess and less than .5 shows equity access. ROCE is a return on capital employed. It is also written as operating profit divided by total funds or total capital employed that shows the percentage of earnings on the capital structure or how much is company getting from the total investment.

4. Analysis

4.1.Model of Regression Estimates

Following model is used to find correlation and regression model

$$ROCE=\alpha+\beta_1 DE+\mu$$

$$ROCE=\alpha+\beta_1 DTF+\mu$$

Where ROCE = return on capital employed

DE = debt to equity

DTF = debt to total funds

The linear regression equation is carried out on panel data. In this equation, "ROCE" is dependent variable representing profitability, "α" is constant which means if there is no change in independent variables than "% α" change occurs in ROCE. "β_1 and β_2" refers coefficients of independent variables and also shows volatility by %change in dependent variable owing to one unit change in independent variable. Betas also show type or nature of the relationship between dependent and independent variables. "DE" is first independent variable and "DTF" is second independent variable and "μ" refers to error term or variations between actual and estimated values of ROCE.

4.2.Descriptive statistics

In *Table 5.1.* Summary of descriptive statistics consists average, maximum and minimum values of data along with their variations from the mean and standard deviation of measurement of risk." Mean values help to cover up the high number of observations in one value and standard deviation show deviation of the values from their mean. So normality of data illustrates from descriptive studies of the paper. ROCE has to mean of 5.78 and maximum 444 shows the high deviation in different values. It can be affected by extreme value so standard deviation is 39.9 which is highest among all. DE and DTF have same maximum value but different means that shows independent fluctuations in the variables". The standard deviation of two variables is almost same that predict the same type of relationship with ROCE.

	N	Minimum	Maximum	Mean	Std. Deviation
DE	184	-9.456	30.210	2.57207	4.778795
DTF	182	-12.760	30.210	1.17384	4.682281
ROCE	184	-136.951	444.122	5.748843	39.928580
Valid N (listwise)	182				

Table 5.1: Descriptive statistics

4.3. Regression result

Table 5.2 shows the computations of regression analysis. "R" shows the coefficient of correlation that shows the significance of the relationship which is .426 that shows 42.6% reliability among relationship. But the "R^2" refers to the main measuring of the result. It is the coefficient of determination and its value of .177 or 17.7% shows the significant positive relationship between DE and ROCE. Analysis computed that increase in DE cause increase in ROCE. The standard error of estimates 36.23 shows deviations from the regression line.

Durbin-Watson test is 2.153 shows the significance of the results.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.426	.181	.177	36.232710	2.153

Table 5.2: Regression result (DE and ROCE)

Table 5.3 shows the computations of regression analysis. "R" shows the coefficient of correlation that shows the significance of the relationship which is .442 that shows 44.2% reliability among relationship. But the "R^2" refers to the main measuring of the result. It is the coefficient of determination and its value of .190 or 19.0% shows the significant positive relationship between DTF and ROCE. Analysis computed that increase in DTF cause increase in ROCE. The standard error of estimates 36.09 shows deviations from the regression line.

Durbin-Watson test is 2.109 shows the significance of the results.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.442	.195	.190	36.093064	2.109

Table 5.3: Regression result (DTF and ROCE)

4.4. Correlation matrix

Table 5.4 shows the correlation between variables. ROCE and DE are highly correlated and independent variations occur in between DTF and DE. Above table does not show a correlation between DTF

and ROCE. The main use of correlation matrix is to find out the assess of an explanatory variable on the dependent variable and also a dependency of one explanatory variable on another. If there is perfect correlation found between explanatory variables, then model power becomes low and statistical implications of coefficients diminishes.

	Return on Capital Employed	Debt to Equity Ratio	Debt to Total Funds Ratio
Return on Capital Employed	1		
Debt to Equity Ratio	.426	1	
Debt to Total Funds Ratio	.442	.654	1

Table 5.4: Correlation matrix

5. Conclusions and Recommendations

From above research, it can be concluded that the relationship between Capital Structure and Company's Financial Performance is positive. "Capital structure is being represented by debt to equity and debt to total funds ratio whereas financial performance represented by profitability and thus use return on capital employed. Above analysis show the significant positive relationship among debt to equity and return on capital employed and also shows the significant positive impact of debt to total funds on return on capital employed. Change in capital structure affects the profitability and company must take great care of leverage that high levered may affect profitability. Hence this study proves that capital structure of the company must contain a combination of debt and equity and assist *Modigliani and Miller Approach of Capital Theory.*

In this study, data has been collected from textile sector companies listed in Pakistan Stock Exchange and analysis applied to the figures taken from State Bank of Pakistan financial statement analysis and from consolidated financial statements of respective companies. Future studies can be done to find an impact of capital structure on financial performance by taking other profitability ratios such as ROE, ROI, NP, GP. There are some other sectors of Pakistan that face problems of high leverage and profitability.

By taking findings of this study in consideration, researchers must identify the optimal capital structure and make the proportion of debt to equity on the optimal point where the market value of the company is optimum. Companies must have an efficient and effective

credit policy that improves the performance level of growth and sales, credit policy should contain upper and lower limits of taking credit or debt to reduce finance cost". Top management must decide the amount of debt taken and annual interest paid. Finance must be optimal to reduce tax burden but should not cross the limit that it hams profitability of the company.

References

Abor, and Joshua Yindenaba. 2005. "The effect of capital structure o profitability: An empirical analysis of listed firms in Ghana." The Journal of Risk Finance.

Addae, Albert Amponsah, Michael Nyarko-Baasi, and Daniel Hughes. 2013. "The Effects of Capital Structure on Profitability of Listed Firms in Ghana." European Journal of Business and Management 5 (31).

Ahmed, Aliya. 2014. "Growth Trends of Pakistan Textile Sector." A Brief Report on Textile Industry Trend.

Akben-Selcuk, and Elif. 2016. "Factors Affecting Firm Competitiveness: Evidence from an Emerging Market." Internation Journal of Financial Studies.

Alan Kraus, Robert H. Litzenberger. 1973. "A STATE-PREFERENCE MODEL OF OPTIMAL FINANCIAL LEVERAGE." The Journal of FInance 28 (4): 911–922. doi:10.1111/j.1540-6261.1973.tb01415.x.

Ali, Adnan, Amir Ullah, Pir Qasim Shah, Naveed Shehzad, and Wasiq Nawab. 2016. "Impact of Capital Structure on Profitability: A Comparative Study of Cement and Automobile Sector of Pakistan." Journal of Management Studies 119-130.

Amarjit, Gill, BIger Nahum, and Mathur and Neil. 2013. "The Effect of Capital Structure and Profitability: Evidence from the United States." Questia.

Asad, Muzaffar. 2012. "Working Capital Management and Corporate Performance of Textile Sector in Pakistan." Paradigms: A Research Journal of Commerce, Economics and Social Sciences (University of Central Punjab) 6 (1): 100-114. http://paradigms.ucp.edu.pk/rcc/vol6/paradigms-foc-ucp-12-0024.pdf.

Asset, Mirae. 2009. "team of the week." Mirae Asset. www.miraeassetmf.co.in/uploads/TermofWeek/ROCE.pdf.

Brigham, Eugene F., and Joel F. Houston. 2015. Fundamentals of Financial Management. Vol. 11. Thomson, Southwest. http://202.74.245.22:8080/xmlui/bitstream/handle/123456789/78/Fundamentals%20of%20Financial%20ManagementX.pdf?sequence=1.

Chishti, Khalid Ashraf, Khursheed Ali, and Mouh-i-Din Sangmi. 2013. "Impact of Capital Structure on Profitability of listed companies (Evidence from India)." The USV Annals of Economics and Public Administration 13 (1): 9.

Damodaran, and Aswath. 2012. "Corporate Finance: Capital Structure and Financing Decisions."

Erdogan, and Seda. 2015. "The Effect of Capital Structure on Profitability: An Empirical Analysis." In Developing Sustainable Value in Economics, Finance, and Marketing, by IGI Global, 17.

Hailu, and Aragaw. 2015. "The impact of capital structure on profitability of Commercial Banks in Ethiopia." Addis Ababa University College of Business and Economics Accounting & Finance Department 74.

Iavorskyi, and Mykhailo. 2013. "The impact of Capital Structure on Firm's performance: Evidence from Ukraine." Kyiv School of Economics 41.

Jamal, and Nasir. 2015. "Crisis deepens in the textile sector." DAWN - Economic & Business. https://www.dawn.com/news/1182613.

Javed, Tariq, Waqar Younas, and Muhammad Imran. 2014. "Impact of Capital Structure on Firm Performance: Evidence from Pakistani Firms." International Journal of Academic Research in Economics and Management Sciences 3 (5). doi:10.6007/IJAREMS/v3-i5/1141.

Kumari, Deepika. 2015. "The Effect of Capital Structure on Profitability: Evidences from Portugal and Spain." U.Porto.

Miller, Franco Modigliani and Merton H. 1958. "The Cost of Capital, Corporation Finance and the Theory of Investment." The American economic Review 2848 (3): 261-297.

MTP. 2012. The government of Pakistan Ministry of Textile industry.

Muhammad, Sher, Nauman Sadiq, and Fateh. 2016. "Impact of Capital Structure on the Profitability of Firm's Evidence from Automobilesector of Pakistan." Global Journal of Management and Business Research: C Finance.

Nimalathasan, Balasundaram, and Valeriu Brabete. 2012. "Capital Structure and its Impact on Profitability: A Study of Listed Manufacturing Companies in Sri Lanka." Revista Tinerilor Economisti (The Young Economists Journal).

PSX. 2016. "Delisted companies." https://dps.psx.com.pk/webpages/delistedcmp.php.

Safarova, and Yana. 2010. "Factors That Determine Firm Performance of New Zealand Listed Companies." Auckland University of Technology in partial fulfillment of the requirements for the degree of Master of Business.

Scatizzi, Cara. 2010. "Analyzing Debt Ratios." Fundamental Focus. https://www.aaii.com/computerizedinvesting/article/fundamental-focus-analyzing-debt-ratios.pdf.

Shubita, Mohammad Fawzi, and Jaafer Maroof alsawalhah. 2012. "The Relationship between Capital Structure and Profitability." International Journal of Business and Social Science 3 (16).

SIRO, and ROBERT OGINDA. 2011. "Effect of Capital Structure on Financial Performance of Firms."

Stewart C. Myers, Nicholas S. Majiuf. 1984. "CORPORATE FINANCING AND INVESTMENT DECISIONS WHEN FIRMS HAVE INFORMATION INVESTORS DO NOT HAVE." NBER WORKING PAPER SERIES.

Taqi, Mohd, Mohd Ajmal, and Asif Pervez. 2016. "Impact of Capital Structure on Profitability of selected trading companies of India." Arabian Journal of Business and Management Review (Oman Chapter) 6 (3).

Trisha. 2016. "Capital Structure: Concept, Definition and Importance." Your Article Library. http://www.yourarticlelibrary.com/financial-management/capital-structure/capital-structure-concept-definition-and-importance/44063/.

Vătavu, Sorana. 2015. "The impact of capital structure on financial performance in Romanian listed companies ." Procedia Economics and Finance 1314-1322.