The Impact of the Capital Structure on the Performance of Companies – Evidence from Albania

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Abstract In this study, we investigate the relationship between the capital structure and the profitability of the firms. We focus our study onto 53 construction companies of Albania for years 2016 – 2019, and by calculating variables to measure both capital structure and profitability, we run multiple regression analysis. We use Return on Assets and Return on Equity to measure profitability and up to five different variables to measure the capital structure. We notice that the construction companies use mainly the short-term leverage to fund their activities. The regression results show that there is no significant impact of the capital structure on the profitability of the firm, whereas we notice a significant relationship between the capital structure and the Return on Equity of these firms. More specifically, our results show that the current liabilities to total assets ratio and the current liabilities to total liabilities ratio have a negative correlation with the Return on Assets of the entities. The non-current liabilities to total assets, current liabilities to total assets and total liabilities to total equity ratios have a positive relationship with the Return on Equity of these firms, with the last ratio having the biggest impact. These findings contribute to the existing literature on the relationship between capital structure and performance and give hints to more profitable ways of financing for these companies such as relying on long-term financing or finding alternative ways in regional capital stock markets.

Keywords Capital Structure, Profitability, Financial Ratios

1. Introduction

The analysis of the financial performance of an entity is essential to assess the success of the existence of a company and to forecast the expected future activity results. There are many factors that impact the performance of an entity including internal factors such as: a sound management of the firm activities, good corporate governance tools, cost control, efficiency and effectiveness, soft factors such as corporate culture and ethics, diversity and equality, etc.; as well as external factors such as economic growth, industry innovation, technological advances, [1]. Existing theoretical and empirical evidence suggests that among many internal factors, the choice of capital structure may also be a key factor that could possibly be influencing the financial performance of entities [2, 3].

Capital structure is a dynamic equilibrium that adjusts to variations in variables that reflect the changes in an overall economic reality, a particular industry or a specific entity. It may also vary depending on the entity's strategical targets for the required profit and its forecasts [4]. The effects of the choice companies make regarding their capital structure influence not only the financing costs, but also the other indicators, such as liquidity and profitability, and hence the overall performance of the entity [5].

The purpose of this paper is to study the relationship between the capital structure decisions and the performance of companies, and we aim to give answer to the question whether the financial decisions and choices are important and make any difference in the level of

profitability of companies. The stream of research focusing on the impact of the capital structure on the profitability of the entities has reported mixed results; through this study, we want to contribute to the empirical findings in this stream of research. We analyze financial data and information that is publicly available from the reported audited financial statements of big companies that operate in the construction sector in Albania.

The rest of the paper is organized as follows. In the following section we present previous results from the literature review on the impact of capital structure on performance. The focus is to research the previous conclusions whether the capital structure has any impact on the performance of the entity or not. We find interesting mixed results, that encourage us to research this linkage with a new dataset, for a new time span and in an emerging country such as Albania where such a focused study has never been performed before. In the third section we present in detail the methodology that we have followed, how we construct our sample, the variables we have chosen to include in the study and the hypothesis and research questions. In the results section we present our main findings together with the contributions, limitations, and the recommendations for the interested parties.

2. Literature Review

Despite the many capital structure theories, and subsequent discussions on those theories [6, 7, 8, 9] the determination of the most optimal capital structure remain a challenge for most companies. The perfect and efficient capital market conditions were the primary hypothesis which led the establishment of first capital structure theories such as the famous Miller Modigliani theorem. Since the 1950s, with M&M paper, the various arguments on the most optimal structure of capital have gained considerable interest. Studies began to emerge that focused on finding an optimal ratio or equilibrium between debt and equity that would minimize the cost of capital and hence, maximize the value of companies. Durand in 1952 [10] as the very first author in this field stated that a high level of debt would make shareholders and creditors demand higher returns, due to the increased risk of bankruptcy. Later studies have focused on different research streams like the right methodology to test capital structure theories; the factors that determine the choice of a capital structure, interrelation between capital structure and liquidity, or the impact that the capital structure has on performance [11 – 15].

Particularly, studies that have focused on the impact of capital structure on the performance of the entities have introduced various interesting and sometimes mixed findings [16]. One study of 2011 [17] focused on the relationship between capital structure and the performance

and revealed that there was a significant relationship between capital structure and corporate performance without testing whether it was a positive or negative relationship between the two factors.

Other studies [18 – 22] have reported a positive relationship between capital structure and profitability. These studies focus on different countries and economic sectors; measure capital structure and profitability through varying variables (debt ratio, ROA, ROE); and employ various methodological approaches. What they have in common is that they all report that capital structure is positively correlated with profitability, implying that the more an entity is financed through debt, the more profitable it is for its shareholders.

On the other hand, many other studies have demonstrated a negative relationship between capital structure and profitability [23 – 30] implying that the higher risk associated with a higher debt level, brings lower value for the company and its shareholders. These studies also vary in terms of countries, sectors, methodology and variables that they employ. What we notice from these studies though is that regression is the main method to test the relationship between capital structure and the profitability and that capital structure is mainly measured through the total debt ratio (total liabilities to total assets), whereas the profitability is measured through either ROA – Return on Assets or ROE – Return on equity.

Having a closer look at other studies, we also notice that some authors have disaggregated the capital structure in two components, one for measuring the short-term leverage and one for measuring the long-term leverage. This disaggregation adds to the variety of results from previous literature. [31] in their paper, study the empirical relationship between the choice of financing using short-term debt, long-term debt and total debt, to the performance of the company measured through variables such as ROA, ROE and Tobin's Q. The results showed that the capital structure has significant positive correlation with the company performance, which was measured by Tobin's Q, while a negative correlation between the capital structure and ROA, while there is no significant relationship between the capital structure and ROE. Another study [32], in the same year, 2012, examined the relationship of decisions between the capital structure and the performance of 36 engineering sector companies in the Pakistani market showing that the financial leverage measured by short-term debt to total assets and total debt to total assets had a significant negative relationship with the performance of enterprises measured by total return on assets (ROA), return on equity (ROE), gross profit margin (GM) and Tobin Q.

Another study employing detailed variables that measure the capital structure [33] showed that only short-term debt and total debt demonstrated significant relationships with ROA, whereas ROE has significant

relationships with each of the debt levels. [34] examines the effects of capital structure on enterprise performance, using 257 South African enterprises during the period 1998 - 2009. The results of the paper show that financial leverage has a significant positive effect on enterprise performance, taking as a measure of financial leverage, total debt to total assets, and as a measure of performance the return on assets (ROA).

Throughout literature review, we consistently observe mixed conclusions about how the capital structures affects the performance of the company. The impact may easily depend on technicalities such as how the capital structure is measured, either through its short term, long term, or total debts, and on how you define the profitability, as either through return on investments, or some other indicators based on market data such as Tobin's Q which compares capital market value versus equity book value. These findings help us to determine different variables to include in our study.

3. Methodology

In this section we describe the hypothesis, the sample, variables, and the model used in determining the impact of the firms' capital structure on its performance.

3.1. Research Questions and Hypothesis

The approach in this paper is an inductive approach, aiming to investigate the relationship between capital structure and profitability of big companies in Albania. The focus of the study is the empirical examination of the quantitative relationship between the capital structure and the profitability where the latter is assessed through ROE and ROA ratios. We will use multiple regression model run separately for the ROE and ROA variables.

The fundamental research questions are as follows:

1. Does the capital structure affect the ROE of the firms?
2. Does the capital structure affect the ROA of the firms?
3. If there is indeed a relationship between the capital structure and the profitability, is it a positive or a negative relationship and which of the financial indicators best captures this relationship?

To answer these research questions, we focused on big companies that operate in Albania and we prepared the following two hypotheses:

Ho / a1: The capital structure does not have a significant impact on the ROA.

HA / a1: The capital structure has a significant impact on the ROA.

Ho / a2: The capital structure does not have a significant impact on the ROE.

HA / a2: The capital structure has a significant impact

on the ROE.

As we saw in the literature review section, different authors use different measures of the profitability of firms such as accounting ratios (ROA and ROE) and market indicators such as Tobin's Q. In our paper we will use only the accounting-based ratios, return on assets (ROA) and return on equity (ROE) in the absence of active stock markets for companies in Albania.

3.2. Data

The data for our study consists of primary data from companies' financial statements for the years 2016-2019. The data were downloaded and collected from the Annual Financial Statements of the companies, filed to the National Business Center of Albania. The companies in the sample belong to the construction sector only. The purpose of choosing the construction sector is done for at least two reasons: a) for the very nature of this sector and the way of financing their activity as they usually tend to rely heavily on debt financing; b) it was the only sector where we could find a reasonable amount of audited financial statements of large companies and basing our study on published financial information, it was crucial to use qualitative and reliable information.

Initially, we selected all the construction companies of Albania as listed on the website of the Association of the Construction Companies in Albania to make the model as representative as possible. There are 68 big construction companies in Albania as at the end of 2019. Nevertheless, during the process of downloading the annual reports and preparing the dataset, to have a more reliable data set we decided to remove from the sample the companies that: 1) either did not have audited financial statements; or 2) the companies that had received a qualified audit opinion. After this filtering process we were left with 51 companies in our sample (75% of the total population) each having audited financial statements for 4 years from 2016 to 2019 (by the time of the study – February 2021, financial statements of 2020 are not yet published). Therefore, we have 204 firm year observations in our final study sample.

3.3. Variables

3.3.1. Measuring Capital Structure

From the literature, it has been observed that several methods have been used to measure the structure of capital. Researchers at [1] study measured the capital structure through four different variables: Total liabilities to total assets, total debt to total assets, total debt to net assets, and total debt to equity. In another empirical study, [35] four alternative definitions of leverage were used, including both market and accounting leverage indicators: the ratio of total debt to market value of assets, the ratio of

total debt to book value of assets, ratio of long-term debt to market value of asset, and ratio of long-term debt to book value of assets.

In this paper we will use the book value of debt and not its market value, as in Albania there are no active capital markets, as well as six different ways of measuring the capital structure: the ratio of short-term debt to total assets, the ratio of long-term debt to total assets, short-term liabilities to total liabilities, total liabilities to share capital, financial liabilities to total liabilities.

The independent variables that measure the capital structure are defined as:

1. The ratio of total liabilities to total assets (TL/TA),
2. The ratio of current liabilities to total assets (CL/TA),
3. The ratio of non-current liabilities to total assets (NCL/TA),
4. The current liabilities to total liabilities (CL/TL),
5. The total liabilities to total equity (TL/TE),
6. The financial liabilities to total liabilities (FL/TL), where financial liabilities are liabilities to financial institution and that bear an explicit cost of interest.

The independent variables included in our study are some of the variables that we encountered along the literature review findings (ratios 1 through 5), and one ratio (ratio 6) that we think may have an impact on the profitability of the companies.

3.3.2. Measuring Profitability

Different studies have used different definitions for firm profitability. Authors in [1] used the EBITDA ratio to the carrying amount of assets to measure profitability whereas [36] measured profitability as the ratio of pre-tax income (EBT) to total assets. Another study [37] defined profitability as the ratio of operating income to total assets, whereas [38] used earnings before interest and taxes (EBITDA) compared to assets as an approximation for profitability, proving the negative relationship between this variable and the financial leverage of firms.

For this study, firm profitability is defined as the ratio of net profit to total assets (ROA) and the ratio of net profit to total capital (ROE), which have been used by many other researchers. As measures for profitability we will use two variables:

1. Return on Assets – ROA, the ratio between the operating profit and the total assets of the entity and,
2. Return on Equity - ROE, the ratio between the net profit and total equity of the company.

As other control variables in the study we have included the firm size and the firm age.

3.4. Model

To analyze the quantitative data, we will use the multiple regression model, to study the relationship between the profitability - dependent variable, and the capital structure – independent variables.

Econometric models to measure the two main hypotheses are expressed in the following two equations.

Equation 1: Relation between capital structure and ROA

$$Y_{ROA} = \beta_0 + \beta_1 * TL/TA + \beta_2 * CL/TA + \beta_3 * NCL/TA + \beta_4 * CL/TL + \beta_5 * TL/TE + \beta_6 * FL/TL$$

Equation 2: Relation between capital structure and ROE

$$Y_{ROE} = \alpha_0 + \alpha_1 * TL/TA + \alpha_2 * CL/TA + \alpha_3 * NCL/TA + \alpha_4 * CL/TL + \alpha_5 * TL/TE + \alpha_6 * FL/TL$$

4. Data Analysis

As described in the methodology section we have used statistical tools to regress the data of financial ratios from 51 companies for 4 accounting years, that is for 204 firm-year observations. The sample descriptive statistics are introduced in the table below:

Table 1. Descriptive statistics of the sample; n = 204 observations

Variable	Average	Min.	Max.	Median	Standard Deviation	Coefficient of variation	Standard error
ROA	0,0542	-0,0058	0,2192	0,0293	0,0629	0,0040	0,0099
ROE	0,1037	-0,4764	0,7474	0,0565	0,1879	0,0353	0,0297
CL/TA	0,4676	0,0336	1,0603	0,3997	0,3012	0,0907	0,0476
NCL/TA	0,0852	0,0000	0,6741	0,0000	0,1890	0,0357	0,0299
CL/TL	0,8355	0,0575	1,0000	0,9993	0,2975	0,0885	0,0470
TL/TE	0,3448	-61,3904	13,3521	1,0204	10,9695	120,3290	1,7344
FL/TL	0,1476	0,0000	0,8178	0,0395	0,2001	0,0400	0,0316

As we expect the average ROE for the observed companies is higher than the ROA, due to the financing choices of the companies. We also observe an interesting feature in our sample that may be due to specific characteristics of Albanian construction sector. The companies have a high average value of current liabilities to total assets ratio at the level of 47%, meaning a high reliance on short term debt which may be putting pressures unto their daily activities. On the other hand, the average value for the ratio of non-current liabilities to total assets is unusually low, again calling for special research or investigation to discover the reason behind it.

The $H_0 / a1$ and $H_A / a1$ hypotheses of the relation between capital structure on the ROA of construction firms have been tested by developing regression on the impact of selected independent variables on the dependent variable. The regression equation that represents the relationship between the capital structure and the ROA of construction firms is presented in table 2.

Table 2 shows the regression results of the capital structure impact on the profitability (ROA) of construction firms. The coefficient of determination is used to estimate the degree of conformity of the regression equation. The coefficient of determination (R-square) of our model shows that about 13.62% of the

variability of ROA is explained by the variability of the capital structure of construction firms and it shows a low value and a weak correlation between the capital structure and ROA of construction firms in Albania.

We then proceed with the results of the regression impact of the capital structure on the ROE of construction firms. The regression results are given in Table 3.

From the table 3 we see that the coefficient of determination of the model is 34.59%, which shows that about 34.59% of the variability of construction firms is explained by the variability of their capital structure, a value that shows a relatively important relationship of linking the capital structure with the ROE of firms. The F statistics is 3.59 which confirms that the capital structure has a strong impact unto the profitability of the form, as measured through the ROE.

In the regression equation of ROE and capital structure we further analyse, through the *t-test*, which of independent variables has the highest impact on ROE. For a 5% significance the critical *t* value is 1.69. The *t* values of ratios CL / TA, NCL / TA, CL / TL are respectively -0,1168, 0.4850, 0.8338, therefore these ratios are not statistically important for the model. Based on our results, the only ratio which is statistically important for the model is TL / TE, total liabilities to total equity.

Table 2. Regression equation for ROA and measures of capital structure

Variable	Coefficient	Standard Error	T value	P value
Constant	-0,0334	0,0805	-0,4153	0,6805
CL/TA	-0,0755	0,0467	-1,6149	0,1156
NCL/TA	0,0890	0,1488	0,5981	0,5537
CL/TL	0,1400	0,0962	1,4554	0,1547
TL/TE	0,0003	0,0009	0,3261	0,7463
FL/TL	-0,0122	0,0666	-0,1831	0,8558
N = 204,	R square	0.1266	Adjusted R square	-0.0018
F-statistics	0.9859			

Table 3. Regression equation for ROE and measures of capital structure

Variable	Coefficient	Standard Error	T value	P value
Constant	-0,0947	0,2081	-0,4552	0,6519
CL/TA	-0,0141	0,1209	-0,1168	0,9077
NCL/TA	0,1867	0,3849	0,4850	0,6308
CL/TL	-0,2074	0,2487	0,8338	0,4102
TL/TE	0,0095	0,0025	3,8536	0,0005
FL/TL	0,0852	0,1722	0,4947	0,6240
N = 204,	R square	0.3459	Adjusted R square	0,2498
F-statistics	3.5967			

5. Main Findings

The purpose of this study was to research the relationship between the capital structure and the profitability of the firms. We focus our study in the construction companies operating in Albania during 2016 – 2019, and by calculating variables to measure both capital structure and profitability, we run multiple regressions to understand what the Effect of Financial Leverage on the Profitability of the firms is.

From the results of the descriptive analysis, we noticed that the construction companies use mainly the short-term leverage to fund their activity. The largest share of liabilities to total assets is occupied by short-term liabilities with an average of 46.76% compared to long-term liabilities that have an average of 8.52%. This result is somewhat problematic because it brings financial problems in the settlement of short-term liabilities and lack of liquidity in the short run. Financing through short term debts has its own constraints that possibly limit the daily activities of the companies.

The regression results showed that there is no significant relationship between the capital structure and the performance as measured through ROA, while there is a significant relationship between the capital structure and the ROE of these firms. This is an expected result, because the ROE as a performance measure is usually reflective of the financing choices of the company, whereas ROA does not reflect the financing choices in the way it is calculated.

More specifically, the results showed that the current liabilities to total assets ratio and the current liabilities to total liabilities ratio have a negative correlation with the Return on Assets of construction firms in Albania. The non-current liabilities to total assets, current liabilities to total assets and the total liabilities to total equity ratios have a positive relationship with the Return on equity of these firms. The ratio with the highest impact on ROE was the total liabilities to total equity ratio.

Based on these findings we come with several recommendations. First, choice of long-term leverage, by the economic entities of the construction sector, as an external source of financing should be the preferred financing means for them. Choosing long-term sources of financing will provide them with an ease in liquidity management. Another suggestion is that the big construction companies in Albania may find alternative financing ways in regional capital markets such as Athens Stock Exchange and Montenegro Stock Exchange just to mention a few.

This study does not come without limitations such as: Lack of transparency and lack of real information in the financial statements of construction companies, which affects the results of the work and the limited sample and limited time span of the study that could be extended in further studies.

REFERENCES

- [1] Rajan R.G. Zingales, L. "What Do We Know about Capital Structure? Some Evidence from International Data." *The Journal of Finance*, 50: 1421-1460. <https://doi.org/10.1111/j.1540-6261.1995.tb05184.x>
- [2] Sutanuka Sh., Rakshit D, "Determinants of Target Capital Structure and Adjustment Speed: Evidence from India," *Universal Journal of Accounting and Finance*, Vol. 9, No. 2, pp. 160 - 169, 2021. DOI: 10.13189/ujaf.2021.090203.
- [3] Koralun-Bereznicka J, "How Does Asset Structure Correlate with Capital Structure? – Cross-Industry and Cross-Size Analysis of the EU Countries," *Universal Journal of Accounting and Finance*, Vol. 1, No. 1, pp. 19 - 28, 2013. DOI: 10.13189/ujaf.2013.010103.
- [4] Nenu E., Vintilăand G., Gherghina S., "The Impact of Capital Structure on Risk and Firm Performance: Empirical Evidence for the Bucharest Stock Exchange Listed Companies". *International Journal of Financial Studies*. 2018, 6(2), 41; <https://doi.org/10.3390/ijfs6020041>
- [5] Myšková, R., Hájek, P. "Comprehensive assessment of firm financial performance using financial ratios and linguistic analysis of annual reports" *Journal of International Studies*, 10(4), 96-108. doi:10.14254/2071-8330.2017/10-4/7
- [6] Modigliani, F., Merton H. M. "The Cost of Capital, Corporation Finance and the Theory of Investment." *The American Economic Review*, vol. 48, no. 3, 1958, pp. 261–297. JSTOR, www.jstor.org/stable/1809766. Accessed 20 March 2021.
- [7] Martinez, L.B., Scherger, V. Guercio, M.B. "SMEs capital structure: trade-off or pecking order theory: a systematic review", *Journal of Small Business and Enterprise Development*, Vol. 26 No. 1, pp. 105-132. <https://doi.org/10.1108/JSBED-12-2017-0387>
- [8] Frank, M. Z. Goyal, V. K. Shen, T, "The Pecking Order Theory of Capital Structure: Where Do We Stand?" *Oxford Research Encyclopaedia of Economics and Finance*, (February 19, 2020). <http://dx.doi.org/10.2139/ssrn.3540610>.
- [9] Chen L.J., Jung C, Chen Sh., Jung C, "How the Pecking-Order Theory Explain Capital Structure". *The Journal of International Management Studies*, (October 2020), Vol 15 Number 1.
- [10] Durand M. "Costs of Debt and Equity Funds for Business: Trends and Problems of Measurement". A chapter in *Conference on Research in Business Finance*, 1952, pp 215-262 from National Bureau of Economic Research, Inc.
- [11] Vasiliou, D., Eriotis, N. Daskalakis, N., "Testing the pecking order theory: the importance of methodology", *Qualitative Research in Financial Markets*, Vol. 1 No. 2, pp. 85-96. <https://doi.org/10.1108/17554170910975900>
- [12] Çekrezi, A. "The Determinants of Capital Structure: Evidence from Albania". *Academic Journal of Interdisciplinary Studies*, vol. 2, no. 9, pp. 370 – 375.

- [13] Yang H, Meysami M, Meisami A. "A Rising Market and Capital Structure Decisions", *Universal Journal of Accounting and Finance* 5(4): 102-108, 2017.
- [14] Jote G. G., "Determinants of Loan Repayment: The Case of Microfinance Institutions in Gedeo Zone", *SNNPRS, Ethiopia, Universal Journal of Accounting and Finance* 6(3): 108-122, 2018/
- [15] Cheng Yu H, Tsai Y, Ma B, "Information Transparency, Debt and the Cost of Equity Capital: Evidence from China", *Universal Journal of Accounting and Finance* 7(3): 67- 75, 2019.
- [16] Addae A.A, Nyarko-Baasi M, Hughes D. "The Effects of Capital Structure on Profitability of Listed Firms in Ghana". *European Journal of Business and Management*. Vol.5, No.31, 2013.
- [17] San, O. T., & Heng, T. B. "Capital Structure and Corporate Performance of Malaysian Construction Sector". *International Journal of Humanities and Social Science*, vol. 1 (2), 2011 pp. 28 - 36.
- [18] Roden, D. M., & Lewellen, W. G. "Corporate Capital Structure Decisions: Evidence from Leveraged Buyouts". *Financial Management*, vol. 24, no. 2, (1995). pp. 76 – 87.
- [19] Abor, J., "The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana", *Journal of Risk Finance*, Vol. 6 No. 5, (2005) pp. 438-445. <https://doi.org/10.1108/15265940510633505>
- [20] Herciu M, Ogrea C. "Does capital structure influence company profitability?" *Studies in business and economics* no. 12(3)/2017. DOI 10.1515/sbe-2017-0036
- [21] Iqbal, N., Ullah, H., & Abbas, A. "Impact of capital structure on profitability in the manufacturing and non-manufacturing industries of Pakistan". *International Letters of Social and Humanistic Sciences*, 59, (2015). 28-39. <https://doi.org/10.18052/www.scipress.com/ILSHS.59.28>
- [22] Tailab, M. "The Effect of Capital Structure on Profitability of Energy American Firms". *International Journal of Business and Management Invention*. Volume 3 Issue 12|| December. 2014 || PP.54-61
- [23] Nassar S. "The impact of capital structure on Financial Performance of the firms: Evidence From Borsa Istanbul". *Journal of Bussines and Financial Affairs* 5: (2016) 173.doi:10.4172/2167-0234.1000173
- [24] Fosberg, R., & Ghosh, A. "Profitability And Capital Structure Of Amex And Nyse Firms". *Journal of Business & Economics* , vol. 4, no. 11. (2006).
- [25] Shubita, M. Asawalhal, J. "The Relationship between Capital Structure and Profitability". *International Journal of Business and Social Science*. Vol. 3 No. 15; August 2012
- [26] Nasimi, A. Nasimi, R. "Effect of Capital Structure on Firms' Profitability: An Empirical Evidence from Pakistan Stock Exchange (PSX)". *Research Journal of Finance and Accounting*. Vol.9, No.11, 2018.
- [27] Shah, A., Ilyas, J. "Is Negative Profitability-Leverage Relation the only Support for the Pecking Order Theory in Case of Pakistani Firms?" *The Pakistan Development Review*, 53(1), 33-55. (2014).
- [28] Muhammad H.F., "Impact of Capital Structure on Profitability: An Empirical Analysis of Automobile Sector of Pakistan" (December 16, 2015). Available at SSRN: <http://dx.doi.org/10.2139/ssrn.3080754>
- [29] Abeywardhana D.K.Y. "Capital Structure and Profitability: An Empirical Analysis of SMEs in the UK". *Journal of Emerging Issues in Economics, Finance and Banking*. 2015 Vol: 4 Issue: 2.
- [30] Zeitun, R., Tian, G. G. "Capital structure and corporate performance: evidence from Jordan". *Australasian Accounting, Business and Finance Journal*, vol. 1, no. 4. (2007).
- [31] Salim, M., & Yadav, R. "Capital Structure and Firm Performance: Evidence from Malaysian Listed Companies". *Procedia - Social and Behavioral Sciences*, vol. 65, pp. 156 - 166. (2012).
- [32] Khan, A. G. "The relationship of capital structure decisions with firm performance: A study of the engineering sector of Pakistan". *International Journal of Accounting and Financial Reporting*, vol. 2, no. 1, pp. 2162 - 3082. (2012).
- [33] Ahmad, Z., Abdullah, N. M., Roslan, S. "Capital Structure Effect on Firms Performance: Focusing on Consumers and Industrials Sectors on Malaysian Firms". *International Review of Business Research Papers*, vol. 8, no. 5, pp. 137 - 155. (2012).
- [34] Fosu, S. "Capital structure, product market competition and firm performance: Evidence from South Africa". *The Quarterly Review of Economics and Finance*, vol. 53, Issue 2, pp. 140 - 151. (2013).
- [35] Frank, M.Z. and Goyal, V.K. "Capital Structure Decisions: Which Factors Are Reliably Important?" *Financial Management*, 38: 1-37. <https://doi.org/10.1111/j.1755-053X.2009.01026.x> (2009),
- [36] Daskalakis, N. Psillaki M. "Do country or firm factors explain capital structure? Evidence from SMEs in France and Greece". *Applied financial economics*. *Applied financial economics* Volume 18. Issue 2. Pages 87-97. (2008)
- [37] Antoniou, Antonios, "The Determinants of Capital Structure: Capital Market-Oriented versus Bank-Oriented Institutions." *The Journal of Financial and Quantitative Analysis*, vol. 43, no. 1, 2008, pp. 59–92. JSTOR, www.jstor.org/stable/27647340. Accessed 14 Jan 2021.
- [38] De Jong A, Kabir R, Nguyen Th "Capital Structure Around the World: The Roles of Firm- and Country-Specific Determinants" October 2007. *Journal of Banking & Finance* 32(9):1954-196. DOI: 10.1016/j.jbankfin.2007.12.034