International Journal of Innovative Technology and Exploring Engineering (IJITEE)
ISSN: 2278-3075 (Online), Volume-9 Issue-4, February 2020

Impact of Capital Structure on Financial Performance of Selected Multinational Companies in India

Archana Malik, Harjit Singh

Abstract: ***Hundreds of studies researching impact of capital structure on financial performance have been carried across the globe. A selected review of some of the latest ones reveal that most of them have been premised on a thin sample size. Ten such recent studies have minimum sample size of 10 organizations, minimum sample size of 237 organizations and a mean sample size of 56 organizations. The sample size choice has been largely ad-hoc not showing any relationship with the size of population. This research takes a scientific approach to study 400 multinational companies from India based on the population of around 5000 listed companies on the Bombay Stock Exchange. Due sectoral representation was given in the sample selected for the study. Here in this study the impact of capital structure on financial output of the selected companies was studied. Before the full-fledged study was carried, a pilot study was carried on the basis of 30 multinational companies. This article presents the conceptual foundations, literature review and findings from the pilot study.***

Keywords: Capital structure, Debt Equity Ratio, Financial Performance, JEL Codes: M1, M4, M41.

I. INTRODUCTION

Big technology companies such as TCS, Infosys, Wipro and HCL Technologies have in the recent past preferred taking the buyback route meeting two purposes of rewarding shareholders and utilizing free cash available, observed Sunil Shankar Matkar (2019) writing for moneycontrol.com. “28 companies announce buyback plans aggregating Rs 213 billion - While Mcleod Russel, ADF Foods, India bulls Real Estate, DCM Shriram and BSE have announced buyback through open market route, the remaining 23 companies plan to buy back their shares via tender offers” wrote Deepak Korgaonkar & Puneet Wadhwa (2018) for Business Standard. The recent few years in the Indian Corporate world has seen a significant development with reference to capital structure.

Revised Manuscript Received on February 28, 2020.
***** Correspondence Author
Archana Malik*, University Business School, Panjab University, Chandigarh, India, malikarchana61@gmail.com
Harjit Singh, Associate Professor, Amity School of Business, Amity University Uttar Pradesh, India, harjit_mfc@rediffmail.com

Companies are looking to shed off excess capital by returning it to the shareholders. This phenomenon of course is not restricted to India alone. Companies like Apple have struggled with maintaining an optimum capital structure and eventually returned excess cash to the shareholders. While this is happening on one hand, we have companies who have infused huge amount of debt into their capital structure. Some of the latest (March, 2019) largest debt numbers of non-banking/non-finance companies as per moneycontrol.com are as under – Top 36 companies (non-banking/non-financial) out of top hundred (including banking and financial) based on highest debt in Rs. crores

Table 1 Top debt Indian Companies (other than banking/finance)

Sr	Company	Debt	% of Liability
1	Reliance	157,195.00	20.26
2	Power Grid Corp	135,339.51	54.91
3	NTPC	135,200.98	46.48
4	Vodafone Idea	108,523.60	46.58
5	Bharti Airtel	83,789.90	37.63
6	IOC	83,259.91	26.37
7	SAIL	41,433.88	35.58
8	Vedanta	37,701.00	24.99
9	JSW Steel	31,885.00	30.4
10	Tata Steel	28,934.28	21.04
11	Reliance Comm	28,335.00	45.64
12	BPCL	27,209.32	23.53
13	HPCL	25,110.33	24.2
14	Videocon Ind	24,506.38	73.28
15	Adani Ports	24,356.88	51.36
16	Alok Industries	22,818.57	127.48
17	ONGC	21,593.57	7.14
18	Hindalco	19,528.98	23.96
19	MTNL	19,092.51	130.08
20	Adani Power	18,739.36	64.78
21	Jindal Steel	17,595.37	30.51
22	UltraTechCement	17,582.02	30.09
23	Tata Motors	17,537.53	28.79
24	TML-D	17,537.53	28.79
25	NHPC	17,450.63	29.27
26	Tata Power	16,981.52	44.53
27	Tata Steel BSL	16,972.31	42.87
28	TataTeleservice	12,639.43	274.63
29	SREI Infra	12,275.87	78.84
30	NLC India	11,984.51	34.56
31	Piramal Enter	11,236.02	29.56
32	PTC India Fin	10,918.33	82.76
33	Larsen	10,344.77	8.23
34	ILandFS Trans	9,917.68	51.14
35	Adani Trans	9,433.10	73.63
36	Jaiprakash Pow	8,687.40	36.24
	Total	1,293,647.98	50.6

(Source:www.moneycontrol.com)

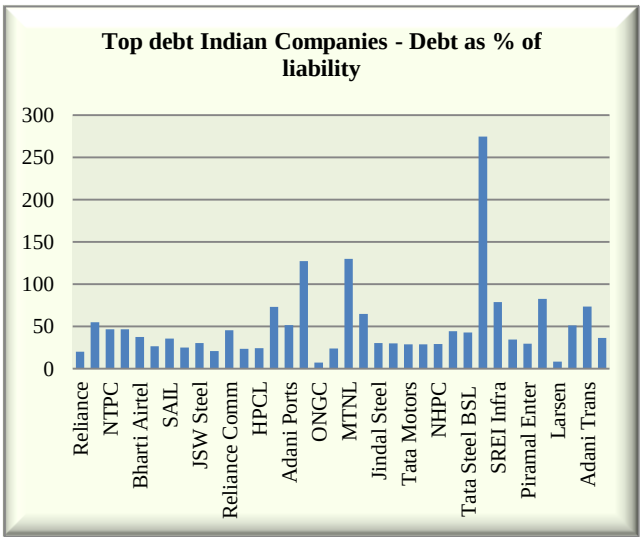


Figure 1 Top debt Indian Companies - Debt as % of liability

An interesting thing to note is the average percentage of Debt to Total Liabilities, 50.6%, which in other words means a Debt/Equity ratio of 1:1.

So we have two sets of companies in the Indian Corporate scenario – one who have a problem of excess cash and are trying to trim down the capital structure through routes like buy-back of shares. And the other who are piling on debt on their balance sheet. This makes an interesting case for a researcher to probe into the concept of capital structure of the Indian Companies.

One can understand the financial logic behind Infosys capital restructuring by way of buy-back when it returned sizable part of its capital to the shareholders. While the cost of carrying the cash was 6.32%, it was no were earning a return equal to this cost, forget ROIC of 35.84%. The FD rates are around 7% and post-tax (30%) the rate effectively becomes (7% x 70%) = 4.90% which is below the cost of capital. This clearly justified the capital restructuring by Infosys and other such companies. However, of late with a series of mega buy-backs taking place in practice, academicians are keenly revisiting this relationship. This study endeavors to assess the impact of capital structure on financial performance of selected multinational companies based in India.

II. REVIEW OF LITERATURE

Table 2 Review of some recent studies on capital structure and financial performance

SN.	Name of author and year	Title	Research Methodology used	Sample Size	Findings
1	Kavita Chavali and Shireen Rosario, 2018	Relationship between capital structure and profitability: a study of non banking finance companies in India	Correlation analysis	23	The mean value of debt equity ratio indicates that debt is 4.17 times more than the equity capital. The debt to Total Assets indicates that on an average 63% of the Total Assets in NBFCs is in debt. NBFCs are generally highly levered in India.
2	HERCIU Mihaela and OGREAN Claudia, 2017	Does capital structure influence company Profitability?	Correlation analysis	59	Company profitability increased by using an optimal structure of liability
3	Mohamed Tailab, 2014	The Effect of Capital Structure on Profitability	Multiple Regression	30	Relationship was not significant between capital structure and profitability
4	Logavathani Sivalingam and Lingesiya Kengatharan, 2018	Capital structure and financial performance: a study on commercial banks in Sri Lanka	Correlation analysis	10	ROE was negatively associated with total debt to total assets ratio
5	Khun Sokang, and Nop Ratanak, 2018	Capital Structure, Growth and Profitability: Evidence from Domestic Commercial Banks in Cambodia	Partial Least Square Method	10	Capital structure variables including debt to equity (DE), equity to loan (EL), and equity to deposit (ED) have significantly negative impact on return on assets (ROA)
6	Mahfuzah Salim and Dr.Raj Yadav, 2012	Capital Structure and Firm Performance: Evidence from Malaysian Listed Companies	Regression model	237	ROE) and earnings per share (EPS) have negative relationship with short term debt (STD)
8	Ahsan Ameen and Kiran Shahzadi, 2017	Impact of Capital Structure on Firms Profitability: Evidence from Cement Sector of Pakistan	Correlation and regression method ology	18	Debt ratio and long term debt ratio has negative and significant relationship with profitability determinants return on asset and return on equity

9	Mwangi Joseph Muchiri, Willy M Muturi and Patrick M Ngumi, 2016	Relationship between Financial Structure and Financial Performance	Multiple Regression	61	Short term debt, long term debt, retained earnings and external equity had insignificant negative relationship with return on assets
10	Md. Abdur Rouf, 2015	Capital Structure and Firm Performance of Listed Non-Financial Companies in Bangladesh	Regression analysis	106	Debt Ratio, Debt Equity Ratio and Proprietary of Equity Ratio are negatively associated with ROS and ROA

III. RESEARCH OBJECTIVES

The aim of this study is to explore the relationship between capital structure and financial performance of select Indian Multinational Companies.

Objectives:

a) To study and review the concept of capital structure and its relationship with financial performance,

b) To understand the perspective of Indian Companies about various factors impacting capital structure,

c) To assess the capital structure of selected Indian Multinational Companies in the form of Debt/Equity ratio

d) To measure performance of selected Indian Multinational Companies

e) To examine the relationship between the capital structure (D/E ratio) and financial performance

IV. RESEARCH METHOD

The study will include both primary and secondary data. Primary data will be gathered from 400 Finance Corporate Professionals from the state of Maharashtra. This data will be collected by way of a questionnaire to be responded by the Finance Corporate Professionals. The questionnaire will have 3 sections –

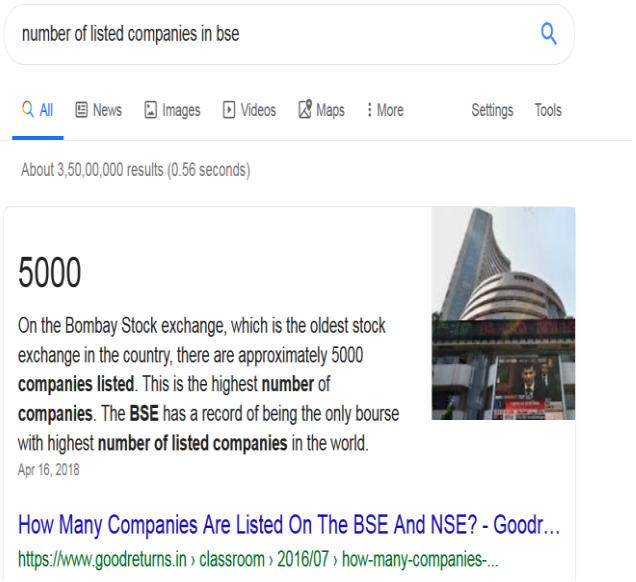
a. Profile Information
b. Perception about factors affecting capital structure
c. Relationship between capital structure and financial performance

Responses would be obtained on a 5-point Likert Agree/Disagree Scale.

The secondary data will be gathered from the yearly reports of Companies and websites like moneycontrol.com, topstocksearch.com etc. for the year ended 31st March, 2019. The secondary data would be additionally gathered from different research articles and literature on the related topic.

Population -

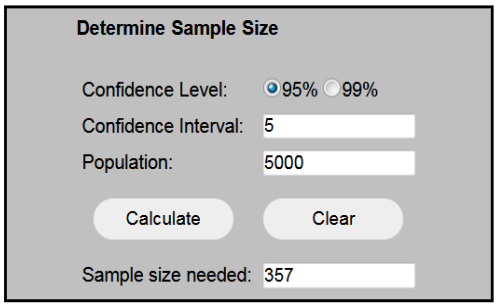
Size of Population –



Google search shows that there are around 5000 listed companies on the BSE.

Size of Sample

As per sample size calculator at 95% CL and 5% CI the sample size for a population of 5000 is as under



The sample size of 357 was rounded off to 400.

Sampling Technique: Two samples will be selected – one for collection of primary data through a questionnaire and the other for collection of secondary data. However, in either case, giving consideration to the population of companies, the sample size was fixed at 400 each.

Method of sampling was Judgment sampling, as per requirement of data the respondents are selected

The selection of the respondents for primary data would be done on the basis of judgment where the possibility of getting the responses was relatively higher.

Selection of companies for data calculation – A company that has business activities in more than one country but registered in India would be selected for building the data set of 400 companies.

Inclusion criteria for the companies –

1. Companies which are registered in India, but having operations in more than one country,
2. The spread will cover minimum 5 industrial sectors (example - Pharmaceuticals, Automobiles, FMCG, IT, Oil and Gas etc.). From each of the sector so selected a minimum 10 numbers of companies would be selected for study.
3. Company selection would be based on Market Capitalization on the BSE.

RESEARCH MODEL

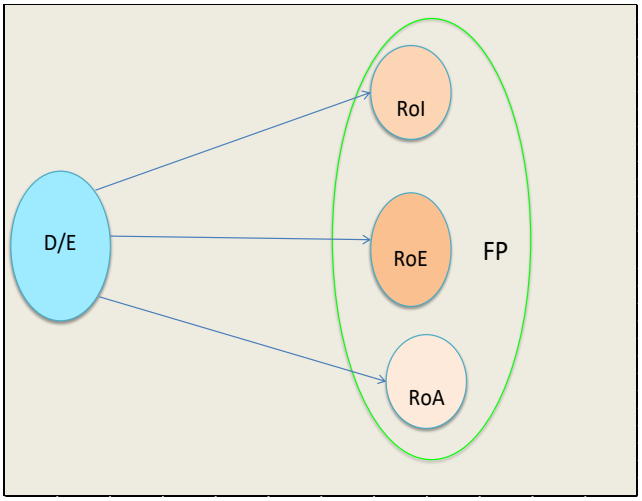


Figure 2 Research model

The model envisages financial performance (FP) as a dependent variable (DV) and the capital structure (D/E) as an independent variable. FP will be measured in terms of three metrices – RoI, RoE & RoA.

Equations

$$Y = a + b(X)$$
$$FP\ (RoI) = a + b(D/E)$$
$$FP\ (RoE) = a + b(D/E)$$
$$FP\ (RoA) = a + b(D/E)$$

Where,
FP is the dependent variable (DV) as measured by RoI, RoE and RoA
a is the y-intercept in the regression equation
b is the slope of the line and
D/E is the independent variable (IV)

PILOT STUDY

Before the full-fledged study a pilot study was carried on the basis of 30 multinational companies. These companies were chosen from the BSE Sensex as on 18th October, 2019. Variables – Debt-Equity ratio was taken to represent the capital structure and RoE% was taken to represent financial performance. While D/E was considered as the independent variable, RoE% was taken as a dependent variable.

HYPOTHESIS FOR THE PILOT STUDY

H1 – There is a association between capital structure and financial performance of any organization..

V. RESULTS

The data set was compiled as under –

Table 3 D/E ratio and RoE % of 30 BSE Sensex stocks as on 18.10.2019

Sr. No.	Company	Sector	D/E Ratio	RoE %
1	Asian Paints Ltd.	Chemicals | Paints & Varnishes	0.07	24.22
2	Axis Bank Ltd.	Financial | Banking	2.38	7.65
3	Bajaj Auto Ltd	Automobile | Two & Three Wheelers	0.01	20.97
4	Bajaj Finance Ltd.	Financial | Hire Purchase	4.52	22.62
5	Bharti Airtel Ltd.	Communication | Telecom.Services	1.76	1.89
6	HCL Technologies Ltd.	Technology | Computer Software	0.1	26.04
7	HDFC Bank Ltd.	Financial | Banking	1.03	17.05
8	Hero Motocorp Ltd.	Automobile | Two & Three Wheelers	0.02	27.16
9	Hindustan Unilever Ltd.	FMCG | Cosmetics & Toiletries	0.01	80.29
10	Housing Development Finance Corpn. Ltd.	Financial | Housing Finance	2.53	10.12
11	ICICI Bank Ltd.	Financial | Banking	1.89	5.2
12	Indusind Bank Ltd.	Financial | Banking	1.8	13.28
13	Infosys Ltd.	Technology | Computer Software	0	23.8
14	ITC Ltd.	FMCG | Tobacco Prod.	0	23.8
15	Kotak Mahindra Bank Ltd.	Financial | Banking	1.14	13.15
16	Larsen & Toubro Ltd.	Construction | Infrastructure	2.02	17.56
17	Mahindra & Mahindra Ltd.	Automobile | Cars & Multi Utility Vehicles	1.78	12.19
18	Maruti Suzuki India Ltd.	Automobile | Cars & Multi Utility Vehicles	0	16.72
19	National Thermal Power Corp. Ltd.	Energy | Electricity Generation	1.49	11.35
20	Oil & Natural Gas Corpn. Ltd.	Energy | Crude Oil & Natural Gas	0.49	14.43
21	Power Grid Corporation of India Ltd.	Energy | Electricity Distribn.	3.1	22.61
22	Reliance Industries Ltd.	Energy | Crude Oil & Natural Gas	0.74	11.68
23	State Bank of India	Financial | Banking	1.97	1.48
24	Sun Pharmaceutical Inds. Ltd.	Healthcare | Drugs & Pharma	0.25	8.05
25	Tata Consultancy Services Ltd.	Technology | Computer Software	0	36.18
26	Tata Motors Ltd.	Automobile | Commercial Vehicles	1.76	-37.19
27	Tata Steel Ltd.	Metals | Finished Steel	1.46	14.2
28	Tech Mahindra Ltd.	Technology | Computer Software	0.1	22.74
29	Vedanta Ltd.	Metals | Minerals	1.07	15.49
30	Yes Bank Ltd.	Financial | Banking	4.03	6.49

(Source:www.moneycontrol.com)

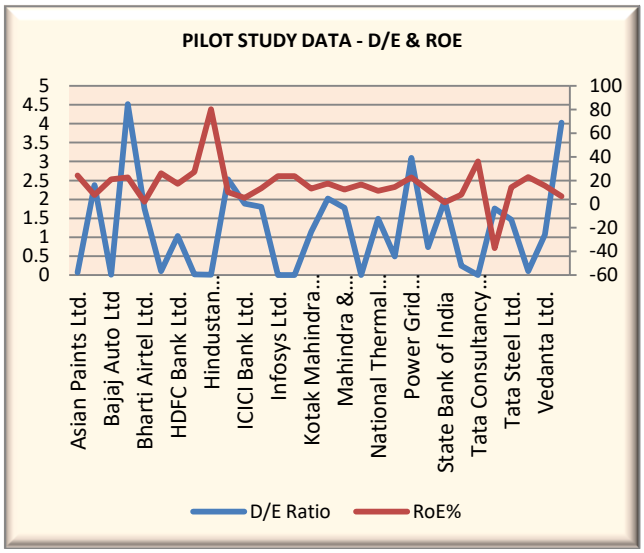


Figure 3 Pilot Study Data - D/E & ROE

The above graph presents the D/E ratio and corresponding RoE% of the 30 companies selected for the pilot study.

A correlation and regression analysis was carried and the results were as under –

Summary statistics:

Variable	Observations	Obs. with missing data	Obs. without missing data	Minimum	Maximum	Mean	Std. deviation
RoE%	30	0	30	-37.190	80.290	16.374	17.422
D/E	30	0	30	0.000	4.520	1.251	1.236

Correlation matrix:

	D/E	RoE%
D/E	**1**	-0.365
RoE%	-0.365	**1**

Regression of variable RoE%:

Goodness of fit statistics (RoE%):

Observations	30.000
Sum of weights	30.000
DF	28.000
R^2	0.133
Adjusted R^2	0.102
MSE	272.554
RMSE	16.509
MAPE	85.132
DW	2.221
Cp	2.000
AIC	170.165
SBC	172.968
PC	0.991

Analysis of variance (RoE%):

Source	DF	Sum of squares	Mean squares	F	Pr > F
Model	1	1170.995	1170.995	4.296	**0.048**
Error	28	7631.505	272.554		
Corrected Total	29	8802.500			
Computed against model Y=Mean(Y)					

Model parameters (RoE%):

Source	Value	Standard error	t	Pr > |t|	Lower bound (95%)	Upper bound (95%)
Intercept	22.805	4.326	5.272	< **0.0001**	13.944	31.665
D/E	-5.142	2.481	-2.073	**0.048**	-10.223	-0.060

Equation of the model (RoE%):

RoE% = 22.8047181905045-5.14183224187457*D/E Ratio

Where,

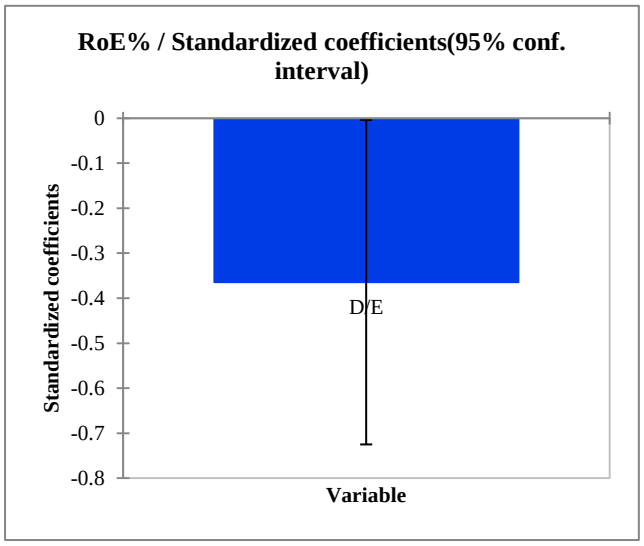
FP is the dependent variable (DV) as measured by RoE

22.80 (a) is the y-intercept in the regression equation

-5.14 (b) is the slope of the line and

D/E is the independent variable (IV)

Figure: RoE% / Standardized coefficients(95% conf. interval)



Interpretation - Given the R2, 13% of the variability of the dependent variable RoE% is explained by the explanatory variable. Given the p-value of the F statistic computed in the ANOVA table, and given the significance level of 5%, the information brought by the explanatory variables is significantly better than what a basic mean would bring.

The null hypothesis that there is no significant relationship between capital structure and financial performance stands rejected.

VI. CONCLUSION AND RECOMMENDATIONS

A negative correlation of -0.365 was found between the two variables. This means that for a higher D/E ratio, the RoE is lesser and vice versa. This correlation was found to be statistically significant. Thus the 30 BSE Sensex Companies based on their current position reflect a negative relationship between capital structure (D/E ratio) and financial performance (RoE%).

A higher D/E ratio has been taken to mean an adverse capital structure whereas a lower D/E has been taken to mean a better capital structure. A better capital structure as represented by lower D/E ratio leads to better financial performance in terms of higher RoE% whereas an adverse capital structure as represented by a higher D/E ratio leads to poor financial performance in terms of lower RoE%.

The results are in confirmation with some of the earlier studies reviewed (Ahsan Ameen and Kiran Shahzadi, 2017, Md. Abdur Rouf, 2015, Mahfuzah Salim and Dr.Raj Yadav, 2012, Khun Sokang, and Nop Ratanak, 2018).

This being a pilot study it was limited to only 30 companies.

RECOMMENDATIONS FOR FURTHER STUDY

The pilot study has given a reasonable assurance to the researcher that the methodology selected can be used effectively to test the hypothesis and achieve the objectives of this study. Other researchers can take-up similar studies for different periods or for different set of companies. Only one sector-specific studies can also be carried instead of multi-sector analysis.

REFERENCES

1. Aggarwal, R.,(1981), International differences in capital structure norms: An empirical study of large European companies. Management International Review 21 0anuary): 75-88.
2. Ahsan Ameen and Kiran Shahzadi, 2017, Impact of Capital Structure on Firms Profitability: Evidence from Cement Sector of Pakistan, Research Journal of Finance and Accounting, Vol.8, No.7, 2017
3. Bradley, M., Jarrel, G. A., and Kim, E. H., 1984, On the existence of an optimal capital structure: Theory and evidence. Journal of Finance, 39(3), 857–880
4. Carleton, W. T., and Silberman, I. H., 1977, Joint determination of rate of return and capital structure: an econometric analysis, Journal of Finance, 32, 811-21
5. Deepak Korgaonkar & Puneet Wadhwa, (2018), "28 companies announce buyback plans aggregating Rs 213 billion", accessed from https://www.business-standard.com/article/markets/28-companies-announce-buyback-plans-aggregating-rs-213-billion-118062000284_1.html
6. Ferri, M. G., and Jones, W. H., (1979), Determinant of financial structure: a new methodological approach, Journal of Finance, 34: 631-44
7. HERCIU Mihaela and OGREAN Claudia, 2017, Does capital structure influence company Profitability?, Studies in Business and Economics no. 12(3)/2017, pp 50-62
8. Kavita Chavali and Shireen Rosario, 2018, Relationship between capital structure and profitability: a study of non-banking finance companies in India, Academy of Accounting and Financial Studies Journal Volume 22, Issue 1, 2018
9. Khun Sokang, and Nop Ratanak, 2018, Capital Structure, Growth and Profitability: Evidence from Domestic Commercial Banks in Cambodia, International Journal of Management Science and Business Administration, vol. 5, issue 1, pp. 31-38, November 2018
10. Logavathani Sivalingam and Lingesiya Kengatharan, 2018, Capital structure and financial performance: a study on commercial banks in Sri Lanka, Asian Economic and Financial Review, *Vol. 8, No. 5, 586-598*
11. Long, M. and Malitz, L (1985) The investment financing nexus: some empirical evidence.Midland Corporate Finance Journal, 3, 53-59.
12. Mahfuzah Salim and Dr.Raj Yadav, 2012, Capital Structure and Firm Performance: Evidence from Malaysian Listed Companies, Procedia - Social and Behavioral Sciences 65 (2012) 156 – 166
13. Majluf, Nicholas S. and Stewart C. Myers. "Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have," Journal of Financial Economics, Vol. 13, No. 2, 1984, pp. 187-221.
14. Marsh, P., (1982), The choice between equity and debt: an empirical study, The Journal of Finance, 37, 121-44
15. Md. Abdur Rouf, 2015, Capital Structure and Firm Performance of Listed Non-Financial Companies in Bangladesh, The International Journal of Applied Economics and Finance 9 (1): 25-32, 2015
16. Modigliani, F., M. Miller, (1963), "Corporate Income Taxes and the Cost of Capital: A Correction," American Economic Review, 53, June, 433-443
17. Mohamed M. Khalifa Tailab, 2014, 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*
18. Mwangi Joseph Muchiri, Willy M Muturi and Patrick M Ngumi, 2016, Relationship between Financial Structure and Financial Performance of Firms Listed at East Africa Securities Exchanges, Journal of Emerging Issues in Economics, Finance and Banking, 2016 Vol: 5 Issue: 1
19. Myers S C, 1984, The Capital Structure Puzzle, The Journal of Finance, Volume39, Issue3, July 1984, Pages 574-592
20. Park, H. (1998), „The Effect of National Culture on the Capital Structure of Firms",International Journal of Management, Vol. 15, pp. 204–11
21. Scott, D. F., (1972), Evidence on the importance of financial structure, Financial Management, I.45-50
22. Sunil Shankar Matkar (2019), Why It Companies Are Taking Share Buyback Route Even As Earnings Are Strong, Feb 21, 2019 11:06 Am Ist | Source: Moneycontrol.Com
23. Titman, S., and Wessels, R., (1988), The determinants of capital structure choice, Journal of Finance, Vol. 43, No. 1, 1-19

Web sites – www.moneycontrol.com, www.bseindia.com, www.google.com

AUTHORS PROFILE

Archana Malik M.Com (Gold medallist), University Business School, Panjab University, Chandigarh . Presently she is a Research Scholar, Amity School of Business, Amity University Uttar Pradesh. She is the Head of Department, Delhi Public School, Vasant Kunj, New Delhi, India. She has a teaching experience of more than 27 years in both school and college. She has authored an article published in the Journal of Finance. In addition to this, she is a member of Commerce Teachers' Federation, (CTF). She had been s paper setter in the publications taken out by the above organisation. Email: malikarchana61@gmail.com

Dr. Harjit Singh, MFC (Gold Medalist), M.Phil, PhD is Associate Professor in Amity School of Business, Amity University Uttar Pradesh, India. He has authored four text books and has written several study material books for reputed universities and institutes in the area of Business and Management. Besides this, numerous case studies, research papers, chapters, book reviews are on his credit. His publications have appeared in Emerald, Inderscience, Thomas Reuters, IGI Global USA, Case Centre UK and so on. His expert area is Corporate Finance, Financial Management, Mergers and Acquisition and Corporate Restructuring. Email:hsingh12@amity.edu and harjit_mfc@rediffmail.com