

Determinants of Capital Structure in India: A Study of Computer and Steel Industries

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Abstract:

The present paper examines the factors influencing capital structure of the companies belonging to two industries namely computer and steel that are listed at Mumbai Stock Exchange Ltd. The secondary data has been used to achieve the objective of this study. The data period ranges from 1999 to 2019 (i.e. 21 years). The chosen period covers a complete business cycle i.e. both recessionary and booming phases of the industries. Here, the researcher has tested the null hypothesis: that there is no significant relationship between the financial leverage and various independent variables. The statistics like coefficient of determination (R^2), ANOVA (F), Durbin Watson, and regression coefficients resulting from the application of Multiple Regression model were applied for the analysis of data. The results indicated that cost of debt and cost of equity are found having negative values of regression coefficients and the same are significant at 2% and 1% level respectively in case of computer. The relationship between liquidity and leverage is negative (-0.199), but statistically significant. It means that the leverage of the firm is affected by liquidity of the firm. In case of steel industry two variables namely size of the firm and operating leverage are having positive and significant regression coefficients indicating a positive relationship with the leverage ratio whereas cost of debt, cost of equity, and DPR are found having negative and insignificant coefficients during the years 2009 and 2019.

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INTRODUCTION

The main objective of any business owner or operator is to generate maximum profit. There are several forms of business ownership like sole proprietorship, partnership, joint-stock company and a cooperative society. In order to generate a profit, a financial input is most important. This financial input is termed as capital in business. In economics, capital or capital goods refers to factors of production used to create goods or services that are not themselves significantly consumed in the production process. Capital goods may be acquired with money or financial capital. In finance and accounting, capital generally refers to finance or

money that is used to start/maintain/expand a business. Financial capital is an obligation of a firm and it's shown in the liability side of balance sheet. It may be in the form of capital assets that are traded in financial markets. Its market value is not based on the historical accumulation of money invested but on the perception by the market of its expected revenues and of the risk entailed. In financial terms capital can refer to money used by entrepreneurs and businesses to buy what they need to make their products or provide their services to that sector of the economy based on its operation, i.e. retail, corporate, investment banking, etc. Financial capital might be provided by lenders (and investors) to business to purchase real capital equipment for

producing goods/services to earn profit. Real capital comprises physical goods that assist in the production of other goods and services. The financial capital can be obtained through various short-term, medium-term and long-term sources. The long term sources generally include share capital, debenture capital, venture capital, mortgage, retained profit, etc. Financial capital can also be obtained through medium term sources such as term loans, leasing, etc. and through short term sources like bank overdraft, trade credit, factoring, etc. Capital contributed by the owner or entrepreneur of a business, and obtained by means of retained earnings, is known as own capital or equity. The capital which is provided by owners of business can be in the form of: Preference shares/hybrid source of finance/Ordinary preference shares/Cumulative preference shares/Participating preference shares; Ordinary shares; Bonus shares; and Founder's shares. The other source of financial capital is borrowing from another person or institution, and this must usually be paid back with interest. This capital which the business borrows from institutions or people includes debentures and loans. Thus, the sources of financing generally comprise some combination of debt and equity. Financing a project through debt, results in a liability that must be serviced and hence there are cash flow implications regardless of the project's success. Equity financing is less risky in the sense of cash flow commitments, but results in a dilution of ownership and earnings. Deciding which source of capital should be tapped so that the entrepreneur gets a fair return, is a type of financial decision and a part of financial management. It is a very important component of corporate finance. *Capital structure* refers to the combination of debt and equity capital which a firm uses to finance its long-term operations. Capital in this context refers to the permanent or long-term financing arrangements of the firm. Corporate finance is an area of finance dealing with the financial decisions that corporations make and the tools and analysis used to make these decisions. For achieving the goals of financial management tasks of

raising finance and investment must be taken appropriately which requires a proper mixing of debt and equity capital. The ratio between debt and equity is named leverage. It has to be optimized as high leverage can bring a higher profit but create solvency risk. Management must therefore identify the "optimal mix" of financing – the capital structure that results in maximum value. The optimum capital structure has been expressed by Ezra Solomon in the following words: "Optimum leverage is that mix of debt and equity which will maximize the value of a company, i.e., the aggregate value of the claims and ownership interests represented on the credit side of the balance sheet." Capital structure policy involves a choice between risk and expected return. The optimal capital structure strikes a balance between these risks and returns and thus examines the price of the stock. The pattern of capital structure of a firm has to be planned in such a way that the owner's interest is maximized.

Review of Literature

The review of literature in regard to determinants of capital structure is as given below:

Scott (1977) and Moore (1986) argue that along with ample non debt tax shield firms should also have considerable fixed assets, which they can use as mortgage to secure debt. It is also argued that unsecured loan is riskier than secured loan. So, one can envisage a positive relationship between non-debt tax shield and leverage. Past empirical studies also show mixed results about the relationship of non-debt tax shield and leverage. DeAngelo, Harry and Masulis, M S (1988) argued that even if bankruptcy, agency and related costs are ignored, introduction of non-debt tax shields is enough for a firm to have an optimal capital structure. And even if these costs are taken into account, an optimal capital structure exists, irrespective of availability of non-debt tax shields. Smith and Watts, (1992) found that firms with high growth options and high cash flow volatility have incentives to reduce debt in their capital structure over the range of progressivity This

tax effect suggests a negative association between growth opportunities and debt. According to signaling theory high growth firms face greater information asymmetry and therefore are expected to have higher debt levels to signal higher quality. This signaling model predicts a positive association between growth opportunities and debt. According to agency theory firms with more growth opportunities are less likely to issue debt for two reasons. First, the underinvestment problem suggests that firms generally issue only risky debt that can be supported by assets-in-place. Galai, D., and Masulis R. (2002) present the argument that stockholders of levered firms are prone to overinvest that gives rise to the classical conflict between shareholders and bondholders. But if the debt is secured against the fixed assets, the firm is restricted to use the borrowed funds for the same project for which it has borrowed. By this fact, creditors get an improved guarantee of repayment, and thus the chances of recovery are higher. Since this does not happen without collateralization of the fixed assets, the proportion of debt increases with the availability of more fixed assets in the balance sheet of the firm. Hence, the trade-off theory predicts a positive relationship between the tangibility and leverage in any firm. In contrast, the agency cost model predicts a negative relationship of tangibility with leverage in any firm. Grossman, S., and Hart O. (2002) suggested that Tax and tax rate have important implications for business decisions and hence literature considers tax as one of the major determinants of capital structure. They use the absolute amount of the tax which the company pays in the particular financial year as a measure of tax.

Dimitrios L. Papadopoulos et al. (2007) investigate the present status and determinants of capital structure of firms listed in Athens Stock exchange. The analysis is based the data covering the period from 1995-2002. The study finds that determinants of capital structure is subjected to minor changes through years; differences between capital structure practices of retail firms and that of industrial firms

are minor; and profitability's the main determinant of capital structure. Kapoor Sujata, Kanwal Anil (2008) attempt to identify the various factors that influence the capital structure decisions of IT firms in India. The multiple regression analysis is used for the analysis of pooled data for seven years i.e. 2000 to 2006. The study suggests that debt equity ratio payout ratio is positively related to profits, cash flows and it has inverse relationship with the sales growth and market to book value ratio. Husam-Aldin Nizar Al-Malkawai (2008) analyses the factors influencing corporate capital structure decisions of publicly quoted companies in Jordan. The analysis is based on 15-year unbalanced panel data covering the period between 1989 and 2003. The study finds that the factors affecting capital structure include size, profitability, and age. The findings support for the agency costs hypothesis and are broadly consistent with the pecking order hypothesis. Titman, S., and Wessel R. (2009) argue in their paper about the negative relationship between size and probability of bankruptcy. Accordingly, trade-off theory predicts an inverse relation between size and bankruptcy and hence positive relationship between size and leverage. On the other hand if we take size as a proxy for information asymmetry then large firms tend to disclose more information about their plans as they are closely watched by the capital market analysts. So the information asymmetry between the insiders and investors in the capital market is less for large firm. Accordingly, the pecking-order theory predicts a negative relationship between size and leverage. Gupta Amitabh and Banga Charu (2010) bring out the determinants of corporate capital structure using factor analysis and the multiple regressions. Results of factor analysis indicate that leverage, liquidity, profitability, growth and ownership structure are the major factors. According to the regression analysis on these factors shows leverage and liquidity to be the determinants of the capital structure for Indian companies. Majumdar, R (2010) tested the determinants of debt maturity structure decisions and suggests that leverage is the important determinants of debt maturity choice. He

finds no evidence to conclude about the impact of effective tax rate on debt maturity. Abdul Rehman (2012) examines the factors affecting debt equity ratio of the companies listed at Karachi Stock Exchange (KSE) of Pakistan. One year of data i.e. 2009 is referred for the analysis by using regression analysis. The study found the positive relation of debt to total assets, profitability, current ratio with debt equity while cost of debt and capital intensity were found to be significant determinants of debt equity ratio in Pakistan. Mehta Anupam (2012) investigates the determinants of capital structure for all firms in the areas of real estate, energy sector, construction sector, telecommunications sector, health care and industrial sectors for the period of 2005-2009. Two step analyses were done to analyze the effect of capital structure policy. At first stage correlation analysis and then backward multiple linear regression analysis was carried out at second stage. Profitability, Risk, Liquidity, Size and Leverage of the firm are the determinants of capital structure policy. Size and the profitability were considered as the most important determinants of capital structure policy.

Ebenezer Agyemang Badu (2013) examines the factors influencing capital structure of listed financial institutions in Ghana using fixed and random effects. Panel data (regression analysis) covering 2005-2009 from the selected companies is used for the study. The results shows statistically significant and positive relationship between Age and liquidity but saw statistically insignificant relationship between profitability, collateral and dividend payout. Boamah Kofi Baah, Richard Tawiah (2014) examines the determinants of capital structure and also its effect on value of firm for companies listed on the Ghana Stock Exchange. The reference period covers from 2006 to 2011. The ordinary least square (OLS) regression model is used in this study. The Price Volatility, Profit After-Tax, Earning per Share, Size, and Growth in Assets, Return on Equity, and Liquidity as explanatory

variables and the Debt equity as the dependent variable uses these factors for the study. The study reveals that cost on equity, profit after tax and size of the company are the main determinants of capital structure of companies listed on the GSE. Profit After-Tax happens to be most important variable that is considered by most sectors in paying their dividend also. Thus, the available literature on the subject under consideration provides a conclusion that empirical research work in this area has lagged behind the theoretical work, particularly in developing countries. Further, there is hardly any study on the influence of capital structure in Pharmaceutical and Chemical industries in India. Also the time period under reference of the above mentioned studies is relatively short. The present study is aimed to conduct a study which is free from the above mentioned limitations.

Scope and Research Methodology of the Study

The scope of the study is limited to two industrial sectors of Indian economy which includes- Steel and Computer. These sectors are chosen keeping into account the prominent role these sectors play in the economy as India is the world's third-largest producer of crude steel (up from eighth in 2003) and become the second-largest producer by 2016. The steel sector in India contributes nearly two per cent of the country's Gross Domestic Product (GDP) and employs over 600,000 people. The per capita consumption of total finished steel in the country has risen from 51 Kg in 2009-10 to about 61.9 Kg in 2015-16. Similarly, the Computer industry plays an important role in country's economic development. The IT sector in India is generating 2.5 million direct employments. India is now one of the biggest IT capitals of the modern world and all the major players in the world IT sector are present in the country. Exports dominate the industry and constitute about 77% of the total industry revenue. However, the domestic market is also significant with a robust revenue growth. The industry's share of total Indian exports (merchandise plus services) increased from less than 4% in FY1998 to about

25% in FY2014. The secondary data has been used to achieve the objective of this study. The data period ranges from 1999 to 2019 (i.e. 21 years) for the sample industries. The chosen period covers a complete business cycle i.e. both recessionary and booming phases of the industries. A sample of 120 companies (60 units from each of the two industries) listed at BSE was selected using simple random sampling technique for this study. The analysis regarding determinants of capital structure has been carried out by dividing the above mentioned period into two sub-groups: (i) between 1999 and 2008 (before sub-prime crisis of US); and (ii) between 2009 and 2019 (after sub-prime crisis). Here, the researcher has tested the null hypothesis: that there is no significant relationship between the financial leverage and various independent variables. 'Debt to equity ratio' is taken as a measure of financial leverage i.e. a dependent variable. The independent variable taken for the regression analysis are- DPR (dividend payout ratio), COD (cost of debt), SIZELOG10 (log of size of firm), DSC (debt service capacity), LIQUIDITY (current ratio), COE (cost of equity), NDTs (non-debt tax shield),

Operating leverage), Profitability and ASSETTANG (asset tangibility).

To begin with, step-wise correlation analysis was made so as to understand the problem of multi-collinearity in the data series. No problem of multi-collinearity was detected during the process. After this multiple regression analysis was carried out. The statistics like coefficient of determination (R^2), ANOVA (F), Durbin Watson, and regression coefficients resulting from the application of Multiple Regression model are presented in various tables.

Results of the Study

Table-1 presents various statistics such as R , R^2 , F-value and DW resulting from the regression analysis in case of Steel industry during the period 1999-2008. The value of R^2 is 0.176 which means 17.6 percent of the variation in the debt-equity ratio is caused by the various factors in the model. Durbin Watson test which is applied to check the presence of autocorrelation obtains the value 2.115. It means that data used does not show the problem of autocorrelation. This allows us to carry further analysis based on regression coefficients.

Table-1: Model Summary & ANOVA in case of Steel Industry (1999-2008)

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig
.461	.212	0.174	0.442	2.113	6.261	0.000

Table-2 shows the regression coefficients, t values and level of significance obtained by various independent variables for the pre crisis period (1999-2008). It is evident from the table that only two factors out of the eleven have significant value of regression coefficient. These factors are: asset

tangibility and liquidity position. Asset tangibility exerts positive influence whereas liquidity exerts negative influence on the leverage. The regression coefficients of other factors are not significant and hence these factors do not put significant impact on leverage.

Table-2: Regression Coefficients of finally selected model in case of Steel Industry (1999-2008)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.079	2.132		.037	.971
PROFITABILITY	.089	.485	.026	.184	.855
GROWTH	.004	.007	.072	.561	.577
ASSETTANG	1.023	1.060	.140	2.966	0.001
SIZELOG10	.311	.633	.060	.492	.625
COD	-.002	.027	-.011	-.081	.936
COE	-.007	.005	-.192	-1.486	.142
LIQUIDITY	-.213	.074	-.357	-2.868	.006
DSC	.008	.183	.005	.041	.967
OPERATINGLEV	-.012	.150	-.011	-.080	.937
NDTS	6.326	11.590	.077	.546	.587
DPR	.272	.676	.050	.402	.689

Let us now analyze the factors affecting leverage during 2009-2019. Table 3 exhibits the Model summary and ANOVA statistics resulting from the regression analyses in case of Steel industry during the post-crisis phase. The value of R^2 is seen of moderate size 0.452. It means 45.2 percent variation in the debt-equity ratio is caused by the model. It is obvious from the model that F-value is significant

at .01 level of significance. It means explanatory variables play an important role in determining capital structure. Durbin Watson test obtains the value 1.893 which means that data used does not show the problem of autocorrelation as it is close to two. This allows us to carry further analysis based on regression coefficients.

Table-3 Summary & ANOVA of finally selected Regression model in case of Steel Industry (2009-2019)

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.

.673	.452	.337	1.732	1.893	3.906	.000

Table-4 shows the results of regression analysis run to identify the determinants of capital structure during the post crisis period (2009-2019) in case of Steel Industry. It is clear from the table that the regression coefficient for the relationship between profitability of the firm and leverage is negative (-0.104). The hypothesis that profitability does not influence debt-equity

ratio is accepted because beta coefficient is not found significant at 1%. Similarly the relationship

between growth of the firm and the leverage is positive and insignificant. However,

size of the firm and operating leverage are having positive and significant regression coefficients indicating a positive relationship with the leverage ratio whereas cost of debt, cost of equity, and DPR are found having negative and insignificant coefficients. The regression coefficients concerning liquidity factor is found negative and significant at 5% level because $P < 0.05$.

Table-4 Regression Coefficients of finally selected model in case of Steel Industry (2009-2019)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-8.242	2.411		-3.419	.001
PROFITABILITY	-.610	.673	-.104	-.906	.369
GROWTH	.001	.006	.011	.099	.921
ASSETTANG	1.088	.713	.167	2.825	.024
SIZELOG10	3.620	.728	.562	4.970	.000
COD	-.002	.020	-.011	-.088	.931
COE	-.023	.028	-.093	-.806	.424
LIQUIDITY	-.250	.152	-.206	-2.638	.017
DSC	-.250	.208	-.156	-1.205	.234
OPERATINGLEV	.412	.139	.384	2.970	.005
NDTS	.028	.062	.058	.455	.651
DPR	-.490	.988	-.058	-.497	.622

Table-5 presents Model summary, F-Value and DW statistics resulting from the finally selected regression model in case of Steel industry for the overall period (1999-2019). The value of R^2 is 0.290. It means 29 percent of the variation in the debt-equity ratio is explained by the model. The above is supported by ANOVA model which indicates that F-value is significant at 0.01 level of

significance. It means the explanatory variables play an important role in determining capital structure. Durbin Watson test value is 1.896 which means that data used do not show the problem of autocorrelation. The above analysis allows us to carry further analysis based on regression coefficients.

Table-5 Model Summary & ANOVA in case of Steel Industry (1999-2019)

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
.538	.290	.227	1.645	1.896	4.600	.000

Table-6 shows the values of regression coefficients related to the Steel industry for the overall period of the study from 1999-2019. It is clear from the table that the values of regression coefficients of five variables namely asset tangibility, size, liquidity, COD and operating leverage are significant at 5

percent level. While there is negative relationship of liquidity and COD with the other three variables namely asset tangibility, size of the firm and operating leverage have positive coefficients meaning thereby these have positive influence on debt-equity ratio.

Table-6 Regression Coefficients of finally selected model in case of Steel Industry (1999-2019)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-3.491	1.493		-2.338	.021
PROFITABILITY	-.249	.385	-.053	-.646	.519
GROWTH	-.001	.005	-.010	-.118	.906
ASSETTANG	1.239	.553	.177	2.242	.027
SIZE	1.909	.463	.336	4.125	.000
COD	-.619	.015	-.190	-2.279	.025
COE	-.008	.005	-.133	-1.679	.096

LIQUIDITY	-.166	.068	-.191	-2.437	.016
DSC	-.119	.127	-.075	-.943	.347
OPERATINGLEV	.213	.080	.211	2.683	.008
NDTS	.036	.048	.063	.744	.459
DPR	-.150	.564	-.021	-.265	.791

Table-7 shows the Model summary and ANOVA with reference to the Computer industry during the pre crisis phase from 1999-2008. The value of R^2 is found small (i.e 0.238). This indicates that 23.81 percent variation in the debt-equity ratio is explained by the model. It is also supported by F-value which is significant at 0.01 level of significance. It means

explanatory variables play an important role in determining capital structure. Durbin Watson test which is applied to check the problem of autocorrelation. This test obtains a value 2.148 which means that data used do not show the problem of autocorrelation. This allows us to carry further analyses based on regression coefficients.

Table-7: Summary & ANOVA of finally selected model in case of Computer Industry (1999-2008)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.488 ^a	0.238	0.229	31.3319089	2.148	3.862	.000 ^a

Table-8 shows regression coefficients in case of Computer industry for the data during the period (1999-2008). It indicates that in Phase I, the variables namely growth, size, cost of equity and non-debt tax shield have positive values of regression coefficients. Moreover these values are significant at 0.01

level. Hence, these factors exert significant influence on leverage. The table further shows that profitability, asset tangibility, cost of debt, and liquidity are having positive values of regression coefficients but they are statistically insignificant. So, we can conclude that growth, size, NDTS and cost of equity are the important factors in the model.

Table-8 : Regression Coefficients of finally selected model in case of Computer Industry (1999-2008)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	62.375	23.895		2.610	.009
	PROFITABILITY	3.386	4.856	.033	.697	.486
	GROWTH	.236	.074	.142	3.191	.002
	ASSETTANG	13.783	9.351	.067	1.474	.141

	SIZELOG	30.587	8.400	.164	3.641	.000
	COD	.324	.247	.061	1.313	.190
	COE	.398	.185	.101	2.159	.031
	LIQUIDITY	.119	1.526	.004	.078	.938
	DSC	-.109	2.053	-.002	-.053	.958
	OPERATINGLEV	-.746	.473	-.074	-1.578	.115
	NDTS	6.218	1.529	.193	4.068	.000
	DPR	-6.153	10.983	-.026	-.560	.576

a. Dependent variable: debt-equityratio

Table-9 presents the regression Model summary and ANOVA related to the Computer industry during the post crisis phase from 2009-2019. The value of R² is 0.204. It means 20 percent variation in the debt-equity ratio is caused by the model. F-value is also found significant at .01 level of significance. It

means explanatory variables play an important role in determining capital structure. Durbin Watson test obtains the value 2.103 which means the data used do not show the problem of autocorrelation. Hence, we can proceed for further analysis based on above mentioned results.

Table-9: Model Summary & ANOVA in case of Computer Industry (2009-2019)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.452 ^a	.204	0.182	54.2019942	2.103	3.409	.000 ^a

Table-10 depicts the values of regression coefficients of independent variables during the phase-II (2009-2019). It is clear from the table that similar to the results of pre-crisis period, the values of regression coefficients of four variables namely

growth, size, cost of equity and non-debt tax shield are significant at 5 percent level because ($P < 0.05$). However there is negative relationship between operating leverage and debt-equity ratio. The rest of the factors in the model turns insignificant.

Table -10 Regression Coefficients of finally selected regression model in case of Computer Industry(2009-2019)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	61.061	26.949		2.266	.024
	PROFITABILITY	5.015	5.571	.046	.900	.368

	GROWTH	.280	.082	.163	3.430	.001
	ASSETTANG	17.977	11.073	.079	1.623	.105
	SIZELOG	31.484	9.542	.159	3.300	.001
	COD	.244	.268	.045	.911	.363
	COE	.539	.218	.121	2.472	.014
	LIQUIDITY	.271	1.565	.008	.173	.863
	DSC	-.621	2.255	-.013	-.275	.783
	OPERATINGLEV	-.503	.373	-.066	-1.348	.178
	NDTS	4.348	1.375	.160	3.162	.002
	DPR	-4.957	11.785	-.020	-.421	.674

Table-11 shows the model summary and ANOVA(F) values for the overall period (1999-2019) in case of Computer industry. The value of R^2 is 0.213 which means 21.3 percent variation in the debt-equity ratio is explained by the model. It is obvious from the

model that F-value is significant at .01 level of significance. It means explanatory variables play an important role in determining capital structure. Durbin Watson test obtains the value 2.098 which means that data used do not show the problem of autocorrelation.

Table-11: Summary & ANOVA of finally selected model in case of Computer Industry (1999-2019)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
1	.461 ^a	0.2125	0.19	52.4094481	2.098	7.187	.000

Table-12 shows the regression coefficients resulting from the finally selected capital structure model for the overall period (i.e. 1999-2019) in case of Computer Industry. Table-12 shows the results of regression model which was applied to identify the influence of selected independent variables on capital structure for the overall period from (1999-2019). We may see from this table that the regression coefficient for the relation between profitability of the firm and leverage is positive and significant at 5% level of significance. Similarly, regression coefficient related to the growth of the firm, size and NDTS are found positive (0.152) and significant. It means increase in these variables lead to increase in

leverage and vice-versa. The coefficients for the relationship between liquidity and leverage is positive but statistically insignificant. It reveals that there are no changes in the leverage of the firm as liquidity of the firm changes. The regression coefficient of operating leverage is negative and insignificant (-.067). Thus the results yielded by multivariate regression model, with debt-equity ratio as dependent variable, has brought clearly that various independent variables under the model exert moderate level of influence on debt-equity ratio. Profitability, growth, NDTS, cost of equity, size and asset tangibility have turned out to be the

significant factors in determining debt-equity ratio in case of Computer industry.

Table-12:Regression Coefficients of finally selected model in case ofComputer Industry (1999-2019)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	62.098	17.705		3.507	.000
	PROFITABILITY	4.134	3.640	0.139	2.936	0.040
	GROWTH	.257	.055	.152	4.718	.000
	ASSETTANG	15.559	7.113	.072	2.188	.029
	SIZE	31.142	6.243	.162	4.989	.000
	COD	.274	.180	.051	1.526	.127
	COE	.456	.139	.110	3.270	.001
	LIQUIDITY	.225	1.084	.007	.207	.836
	DSC	-.278	1.501	-.006	-.185	.853
	OPERATINGLEV	-.570	.286	-.067	-1.890	.057
	NDTS	5.075	1.000	.175	5.073	.000
	DPR	-5.255	7.976	-.022	-.659	.510

a. Dependent Variable: DEBTEQUITYRATIO

Conclusion:

This study has shown clearly that the proportion of debt capital in the capital structure of Indian Corporate sector has declined considerably over the recent 21 years. The above may be attributed to the numerous reforms in the stock market in India. The reforms process has eased the process of raising fresh equity capital as well promoting the use of retained earnings for tapping the new opportunities created by the liberalization process. The shift against the debt capital may also be attributed to higher cost of borrowing as well as new and innovative ways of financing assets in the liberalized Indian Economy. We have seen that despite decline

in debt-equity ratio, debt has been a significant source of financing for companies in India. The Indian corporate must shift gradually to Equity capital to some more extent as debt capital involves higher degree of financial risk. There is significant difference in financing pattern of the companies during pre-crisis period (1999-2008) and after the crisis (2009-2019). The industry-wise analysis of the determinants of D/E ratio performed with the help of multivariate analysis, thus, provides that the decision makers need to consider large amount of factors while deciding capital structure. Among them, cost of borrowing, size of the firm, DSC and liquidity are more important factors than others. The above conclusion holds well irrespective of the type of

industry and time period concerned. As the cost of borrowing is found having negative relationship with the D/E ratio, we may conclude that when there is increase in the borrowing cost, financial decision makers rely less on them and more on the equity markets. Similarly when the firms are able to afford more collateral for finance, they prefer borrowing since in this way they can negotiate strongly with the financial institutions and can try to reduce the borrowing costs.

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