

Evidence on the Existence of Inter-industry Differences in Capital Structure of Leading Indian Companies

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Abstract: The objective of this paper is to provide additional evidence on the inter industry differences in the Capital Structure of leading Indian companies in terms of market capitalization. Comparisons in the capital structure of 15 industrial groups namely Pharmaceutical, Non-Metallic Mineral Products, Power, Electric Equipment, Automotive, Chemical, Construction, Information Technology, Food-Beverages-Tobacco-Alcohol, Consumer Goods, Textile, Service, Metal, Retail/Wholesale and Others identified from 333 companies are made using three gearing ratios i.e. Total Debt to Net Worth ratio (TDNW), Long Term Debt to Net Worth ratio (LTDNW), Short Term Debt to Net Worth ratio (STDNW). One way ANOVA and Post hoc tests are employed for statistical analysis. Construction and Textile industries have a higher level of debt in their capital structure. However, Information Technology and Service industries are identified as least levered ones. Overall, the finding indicates IT and Service industry to be significantly different from other industry groups in case of all the debt ratios.

Keywords- Capital Structure, Industry, India.

INTRODUCTION

The issue of capital structure has remained a mainstream concept in the world of corporate finance. Capital Structure is a mix of equity, debt and hybrid securities which are used to finance the assets of a firm. This decision is vital for the firms for the achievement of the objective of shareholders wealth maximisation and also for the very survival of the firms. Several theories have been proposed since seminal work by Modigliani and Miller in 1958 know the ground reality of Capital Structure. Kraus and Litzenberger (1973) suggested a trade off between the tax advantage of debt and bankruptcy cost of debt. Myers and Majluf (1984) gave Pecking Order Theory, which suggests that firm's prefer to finance first from retained earnings, then debt and lastly from equity. Many empirical studies are carried out at international and national level to have a greater insight into firm's capital structure practices. Mackay and Philips (2003) argued that firms in same industry suffer from same risks and are exposed to similar technology; therefore they may tend to follow industry's capital structure. Studies undertaken by international authors such as Abzari et al. (2012), Boquist and Moore (1984), Bradley et al. (1984), Bowen et al. (1982), Scott et al. (1975)

and Schwartz and Aronson (1967) identified significant differences in the debt structure of various industries. Many studies by Indian authors such as Ilyas and Raju (2017), Panigrahi (2012), Paliwal and Ruchi (2010), Das and Roy (2007), Devi (1992), Balkrishan (1982) also suggested significant differences in the capital structure of Indian industries. However, few studies by Belkaoui (1975) and Remmers et al. (1974) demonstrated insignificant differences in the Capital structure of the concerns. So a reanalysis of Capital structure of leading Indian companies is made for better comprehension of capital structure practices of the Indian concerns in the recent decade i.e. from 2008-09 to 2017-18. This decade is quite eventful with respect to India. As many Indian corporate sector witnessed 2008 US crisis effects. Also, later on new companies act introduced in the year 2013, Demonetization of Indian currency in 2016 and subsequently new indirect tax regime in the form of Goods and Services Tax in 2017 has influenced the credit flow to the corporations in one and another way. Given a more financial competitive environment, a re-enquiry of the capital structure practices adopted by Indian companies is made. By choosing 15 industry groups namely Pharmaceutical, Non-Metallic Mineral Products, Power, Electric Equipment, Automotive, Chemical, Construction, Information Technology, Food-Beverages-Tobacco-Alcohol, Consumer Goods, Textile, Service, Metal, Retail/Wholesale and Others classified using National Industry Classification, 2008; three ratios of capital structure such as Total Debt to Net Worth ratio (TDNW), Long Term Debt to Net Worth ratio (LTDNW), Short Term Debt to Net Worth ratio (STDNW) have been studied.

For better apprehension, the study has been segregated into sections. Section I briefly review the existing literature. Data and research methodology is presently in Section II along with research hypothesis. Empirical results and findings are presented in Section III and at last Section IV concludes the paper.

SECTION I REVIEW OF LITERATURE

The studies which have been reviewed from the literature are given in Table 1 below:

Table 1: Empirical studies related to pattern of capital structure

Authors (Year)	Sample/ Year	Country	Measures of Capital structure	Statistical Tools Used	Findings
Schwartz and Aronson (1967)	3 sample of 8 firms from each of the 4 industries for two time periods i.e. 1928 and 1961 were taken	US	Common Equity/ Total financing	Mean, F-test	No significant difference in the intra- industry capital structure was observed. However, significant differences were seen in the inter industry capital structure of the firms.
Remmers et al. (1974)	258 in 1966 319 in 1970 328 in 1971. Companies were classified into 9 industries	US	Total debt/ Total Asset(Book Value)	Descriptive Statistics and ANOVA	No significant differences were investigated in the capital structure of industries taken in sample.

Belkaoui (1975)	155 Companies/ 1968-1973	Canada	Debt/Equity (Book Value)	Average, ANOVA	No significant differences were observed in Capital structure of industries taken in sample.
Scott (1975)	159 Companies/12 Industries/1967-1972	US	Common Equity/ Total assets(BV)	One way ANOVA and Kruskal Wallis test	Significant differences were seen in the capital structure across various industries.
Bowen et al. (1982)	90 firms/9 industries/1951 to 1969.	US	Common Equity/ Total assets, Long term debt+ Short term debt/Total assets	One way ANOVA,	Significant differences exist between the capital structures of various industries.
Bal Krishan (1982)	81companies/ 3 industries/ 1971-80	India	Long term debt/Equity	Ratio analysis, ANOVA	Long term debt to equity ratio was significantly different at both 1% and 5% level of significance across industries. However, in case of second measure of capital structure employed, no significant differences were found at both 1% and 5% level of significance across industries.
Bradley et al.(1984)	851 Firms/25 Industries/ 1962-1981	US	Average Long term debt(Book Value)/Average Long term debt+ Market value of Equity	ANOVA	Significant differences in the mean leverage ratio of firms across industry were found.
Boquist and Moore (1984)	112 Firms/7 industries/3 time periods i.e. 1963,1966, 1969 were taken	US	Total debt/Total asset, Total equity/ Total asset and Interest bearing debt/ Total asset	ANOVA	Total debt varied significantly across industry groupings. However, interest bearing debt did not vary across industry.
Devi and Yesodha (1992)	87 Companies/10 Industries/ 1981-1990	India	Debt equity ratio	Descriptive statistics, ANOVA	Significant differences in the debt structure of various industries were observed during the period of the study.
Ramulu (1993)	194 PSU/12 industries/ 1978-1989	India	Debt equity ratio	Descriptive statistics, Ratio analysis, ANOVA	Drugs, instruments, electronics and food industries had low leverage while paper, textile mill products, steel, airlines and cement industries had consistently high leverage. Moreover, regulated industries like telephone, electric and gas utilities are among the most highly levered firms.
Mackay and Philips(2001)	1051 firms/ 44 Industries/ 1977-1990	US	Total debt/ Total assets (Book Value)	ANOVA	Industry effect was found to be less important than the firm effects in understanding the variations in the firm financial structure.

Goveas (2004)	3 industries/ 1993-2002	India	Debt- equity ratio Debt to asset ratio	Descriptive and Ratio analysis	Debt financed more than 70 percent of the total assets in the steel industry. However, debt financed more than 50 percent of the total assets in the pharmaceutical industry which is slightly lower than in the steel industry.
Rastogi (2006)	601 Companies/ 14 industries/ 1992-2003	India	Total debt/ total asset, total borrowings/ total asset, long term debt/ total borrowings and short term debt/ total borrowings	ANOVA and Descriptive Statistics	Industry and size were found to have significant bearing on the composition of debt in financing the assets during the study period with respect to all ratios. However, age was not seen as a significant determinant of financial structure of the companies.
Das and Roy (2007)	12 industries/ 1980-99	India	Total debt/total asset	One way ANOVA	Significant differences were investigated in the capital structure across industrial classes also across various firm sizes.
Abor (2007)	150 SMEs/ 8 industries/ 1998-2003	Ghana	Short term debt ratio, Long term debt ratio, Total debt ratio	Descriptive statistics, ANOVA	Significant differences across various industries with regard to capital structure were seen.
Omran and Pointon (2009)	122 Firms/4 Industries/ 1999s	Egypt	Long-term debt and current liabilities/equity	Anova, Kruskal wallis test, Cochran C-test and Bartlett test	Significant differences were analysed in the capital structure of the four industrial groups taken in the study.
Paliwal and Ruchi (2010)	824 Companies/ 10 industries/1998-2008	India	Debt/ Total asset and Debt/ Total Equity	ANOVA	Significant differences in the capital structure of firms under different industries were observed
Ambadkar and Rupali (2010)	140 FDI companies/11 industries/1991-2008	India	Short term debt ratio and Long term debt ratio	Descriptive statistics, ratio analysis, Method of least squares	Significant linear or quadratic trends were revealed industry-wise debt ratios of FDI companies.
Nimalathasan and Brabete (2011)	20 Companies/ 4 industries/ 2003-2007	Sri Lanka	long term debt divided by total permanent capital and long term debt divided by equity	ANOVA	Significant differences were revealed in the capital structures among sampled industries except beverage, food and tobacco industry.
Abzari et al. (2012)	67 firms/ 8 industries/ 2001-2009	Iran	Total debt/ total assets	One way ANOVA	Significant differences exist in the capital structure across various industry groups in case of Iranian firms.
Panigrahi (2012)	300 companies/ 20 Industries/ 1999-2006	India	Debt/ Total Capital	Ratio analysis	Capital structure of firms were found to be significantly different across industry classes
Pinkova and Riederova (2013)	250 Manufacturing Enterprises/ 5 Industries/ 2008-2012	Czech	Long term debt to Total Assets, Short term debt to Total Assets, Total debt/	ANOVA	No significant differences in short term leverage in observed industrial groups were revealed. However, significant differences were

			Total assets		observed in the long term and total leverage of observed industry groups.
Manjule (2014)	151 firms/13 Industries/2007-2012	India	Debt/ Equity	ANOVA, Ratio Analysis, t-test, Descriptive Statistics	Significant inter and intra-sectoral differences in capital structure of Indian industries were analyzed.
Singh (2014)	133 BSE listed companies/8 industries/ 2002-2011	India	Total Debt/total assets Debt/equity	Ratio analysis	Findings revealed that all the industries included in study have been using debt up to the level of 75% of their total assets.
Baby et al.(2016)	132 companies/20 industries/2015	India	Debt/ Equity	Weighted averages	Average debt equity of small cap companies was more than the large and mid cap companies. Further debt equity ratio of software industry was lowest and of banking industry was highest.
Ilyas and Raju (2017)	20 Companies/4 Industries/ 2007-2016	India	Debt equity ratio=Long term debt/ Net Worth	Ratio analysis, mean, percentiles and ANOVA	Significant differences were observed in the capital structure of industries taken in the study. However, the results from post hoc analysis showed that the capital structure of Automobile and Pharmaceutical industries did not show a significant variation. Also, no significant differences were observed in the capital structure of automobile and telecom sectors.

NEED AND OBJECTIVE OF THE STUDY

The issue of capital structure has received tremendous focus in India especially during the post liberalization period i.e. 1990 onwards as evident from the studies like Devi (1992), Ramulu (1993), Goveas (2004), Rastogi et al. (2006), Das & Roy (2007), Paliwal & Ruchi (2010) and Ambadkar (2010). But as for today, these studies belong to comparatively an older time period, which does not have much relevance in the current business environment. Capital structure has been analyzed in the recent decade as well by Manjule (2014), Singh (2014), Rastogi & Narwal (2014), Baby et al. (2016) and Ilyas & Raju (2017). Manjule (2014) has undertaken a study to investigate the intra and inter structural differences in debt structure of various industrial sectors in India, but the study is restricted to just five years. Infact, for better comprehension longer time period is advisable. Even the time period taken in the study is quite eventful. Launch of Companies act, 2013, Demonetization of currency, and thereafter GST has impacted the credit availability to the corporate in one and another way, therefore influenced the capital structure of the companies. In the light of these changes, it is imperative to reanalyze the

capital structure decisions of the corporate sector in India in the current times. Hence, the objectives of the article are:

1. To understand the nature of capital structure of the Indian industries
2. To investigate whether significant differences exist in the inter industry capital structure

DATABASE AND METHODOLOGY

Sample: A total of 500 companies taken from Business Today (Dec, 2017) represent the universe of the study. These companies are the leading companies of India in terms of market capitalization. Following filters have been applied in order to arrive at the sample:

1. Companies from financial sector, that is, banking and insurance, have not been taken. The reason being that these companies have their acts and laws different from other private companies.
2. Companies belonging to government sector have also been excluded.
3. Only companies that existed during the time period of study i.e. 2008-2009 to 2017-2018 have been taken.
4. Companies whose data for all the years is not available from all the sources have been eliminated.

Thus, as a result of these filters, an effective sample of 333 companies has been obtained and studied.

Time Period: The study covers a total time span of 10 years from 2009 to 2018.

Data Source: Data related to debt and equity used for calculating all the measures has been taken from ACE Equity database. It is the database of more than 38000 Indian companies. It contains historical financials and share price data of over 15 Years.

Measures of Capital structure: Three measures of capital structure are used in this study. These are

1. Total debt to Net Worth ratio (TDNW)
2. Long term debt to Net Worth ratio (LTDNW)
3. Short term debt to Net Worth ratio (STDNW)

RESULTS AND ANALYSIS

The nature and industry wise pattern of capital structure has been studied over a period of ten years from 2008-09 to 2017-18. Table 1 report the mean debt of 15 industries estimated using three different gearing ratios. The mean industry leverage ratios are

further ranked in ascending order to highlight the disparity in this variable across industries.

It is evident in Table 1 that the mean industry Total Debt to Net Worth ratio ranges from a low of 41.11% to a high of 195%. Average total debt used by Indian industries is 122.65%. It describes the lender's contribution for each rupee of owner's contribution. As observed from the above Table, this ratio is highest in case of Construction industry at 195%, succeeded by Textile industry having 184.7% TDNW at 2nd rank. Electric Equipment industry is using 148% TDNW standing at 3rd rank. Metal industry is having 141.55% TDNW at 4th rank and followed by this, Consumer Goods industry is placed at 5th rank with 138.29% TDNW.

Identifying the least-levered industries, Table 1 shows that IT industry is employing lowest total debt and is placed at the 15th position with 41.11% TDNW. Preceded by IT industry, Service industry with 74.38% TDNW is having 14th rank. Pharmaceutical industry is using 92% TDNW occupying 13th rank. Automotive industry is using 100% TDNW standing at 12th rank. Food-Beverages-Tobacco-Alcohol industry is having 109% TDNW at 11th rank.

Companies in Power sector with 134% TDNW, Non- Metallic Mineral Products industry with TDNW equal to 130%, Retail/ Wholesale industry with 123% TDNW, Others industry with TDNW equal to 118% and Chemical industry with TDNW equal to 112% are using average total debt in their capital structure occupying middle ranks between 6 to 10.

With respect to long term debt preference of industries, Table 1 shows the mean industry Long Term Debt to Net Worth (LTDNW) ratio of various industrial sector ranges between 10.65% to 95% average being 47.6%. This ratio signifies and calculates the contribution made by long term lenders for each rupee of owner's contribution. As observed from the above table, Textile industry is at the topmost position with 95% LTDNW; followed by Power industry with 85% LTDNW ranked at 2nd position. Industries in Others category have LTDNW equal to 59% with 3rd position. Non-Metallic Mineral Products industry is using 53% LTDNW with 4th rank and followed by this, Metal industry is placed at 5th position with 48.39% LTDNW.

Table: 1 Industry mean and ranking of Capital Structure

Sr no	Industry Group	Industry Sector	TDNW ratio (Industry mean %)	Rank	LTDNW ratio (Industry mean %)	Rank	STDNW ratio (Industry mean %)	Rank
1	Construction		195	1	42	9	153	1
		Engineering-Construction	278		44		234	
		Construction-Real Estate	66.15		39.67		105.82	
2	Textile		184.34		94.64		89.7	

		Textile	189	2	100	1	89	5
		Textile-Weaving	171		86		85	
		Textile-Spinning	285		176		109	
		Manufacture of garments	185		95		90	
3	Electric Equipment		148	3	31	14	117	2
		Manufacture of Electric Equipment	275		46		229	
		Batteries	43		15		28	
		Cables	109		38		71	
		Engineering-Industrial Equipment	95		38		57	
		Machinery	75		13		62	
		Compressors/Pumps	34		7		27	
		Diesel Engines	47		9		38	
		Automobiles-Tractors	77		15		62	
		Bearings	39		10		29	
4	Metal		141.55	4	48.39	5	93.16	3
		Metal- Non Ferrous	51		24		27	
		Steel & Iron products	202		75		127	
		Castings/Forgings	98		44		54	
		Manufacture of steam generators	186		24		162	
		Manufacture of Metal Frameworks	132		27		105	
5	Consumer Goods		138.29	5	47.8	6	90.49	4
		Household and Personal properties	67		28		69	
		Consumer Durables-Domestic Appliances	142		50		92	
		Air Conditioners	217		27		190	
		Plastic products	136		50		86	
		Rubber products	200		82		118	
6	Power		134	6	85	2	49	13
		Electric Power generation	156		101		55	
		Industrial gases & fuel	64		33		31	
7	Non-Metallic Mineral Products		130	7	53	4	77	7
		Manufacture of Cement	110		65		45	
		Ceramics/Marble/Granite/Sanitaryware	157		67		90	
		Abrasives	43		14		29	
		Refractories	51		24		25	
		Glass	62		37		25	
		Graphite	42		14		28	
		Diamond and Jewellery	315		24		291	
8	Retail/Wholesale		122.81	8	43.81	8	79	6
		Retailing	107		52		55	
		Wholesale	142		34		108	

9	Others		118	9	59	3	59	11
		Manufacture of paper & paper products	204		106		98	
		Wood & Wood products	217		112		105	
		Agriculture	113		52		61	
		Miscellaneous	.6		0		.6	
		Conglomerate	40		31		9	
10	Chemicals		111.35	10	44.35	7	67	9
		Chemicals	109		49		60	
		Paints	59		8		51	
		Pesticides and Agrochemicals	111		43		68	
		Fertilizers	146		55		91	
		Dyes and Pigments	186		88		98	
		Petrochemicals & Refineries	88		57		31	
		Lubricants	93		2		91	
11	Food-Beverages-Tobacco-Alcohol		109	11	38	12	71	8
		Consumer Food	133		50		83	
		Sugar	140		48		92	
		Tea/Coffee	51		25		26	
		Solvent Extraction	75		33		42	
		Breweries and Distilleries	182		47		135	
		Cigarettes/Tobacco	56		6		50	
12	Automotive		100	12	37	13	63	10
		Automobiles-Trucks/LCV	153		59		94	
		Auto Ancillary	95		39		56	
		Automobile-Passenger Cars	57		18		39	
		Automobile-Two and three wheelers	88		25		63	
13	Pharmaceutical		92	13	40	10	52	12
		Pharmaceutical and drugs	89		41		48	
		Miscellaneous	202		14		188	
14	Service		74.38	14	39.38	11	35	14
		Hospitals and Healthcare services	41		23		18	
		Hotels, Resort and Restaurants	99		58		41	
		Mass Media	69		41		27	
		Printing and Publishing	64		33		32	
		Travel and Logistics	80		47		33	
		Telecommunication	81		44		37	
		Miscellaneous	100		21		79	
15	Information Technology		41.11	15	10.65	15	30.46	15
		BPO/ITes	58		26		32	
		Operation of Websites	86		14		72	
		IT-Software	35		7.5		27.5	

	Average debt of 15 industries		122.65		47.6		75.05	
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As far as least debt dependent industries are concerned, it is observed from Table 1 that IT industry is at the last position even with respect to LTDNW at 15th rank with LTDNW ratio equal to 10.65%. Preceded by IT industry, Electric Equipment industry with LTDNW ratio equal to 31% is positioned at 14th rank. Further, Automotive industry is placed at 13th rank with LTDNW equal to 37%. Food-Beverages-Tobacco-Alcohol industry is using 38% LTDNW with 12th rank and Service industry with LTDNW equal to 39.38% is at 11th rank. Companies in Consumer Goods industry with LTDNW 47.8%, Chemical industry with 44.35% LTDNW, Retail and Wholesale industry with LTDNW equal to 43.81%, Construction industry with 42% LTDNW and Pharmaceutical industry with 40% LTDNW are employing average debt in their capital structure occupying middle positions.

As far as Short Term Debt to Net Worth ratio is concerned, it is depicted in Table 1 that it ranges between 30.46% to 153% making an average usage of 75.05%. Construction industry is employing highest Short term Debt with 153% STDNW ratio, followed by Electric Equipment industry, which is having 117% STDNW positioned at 2nd rank. Metal industry is using 93.16% STDNW at 3rd rank. Consumer Goods industry is employing 90.49% STDNW and is positioned at 4th rank. Textile industry with STDNW equal to 89.7% is at 5th position.

IT industry is again least dependent on short term debt with STDNW equal to 30.46%, preceded by Service industry, having 35% STDNW at rank 14th. Power industry is positioned at 13th rank with 49% STDNW. Pharmaceutical industry is using STDNW equal to 52% and is placed at 12th rank. Others industry with 59% STDNW is positioned at 11th rank.

Table: 2 Summarized View of Capital Structure in Indian Industries

Particulars/Ratios	TDNW	LTDNW	STDNW
Range of debt	41.11%-195%	10.65%-95%	30.46%-153%
Top Ranked Levered Industries (Debt %)			
1	Construction (195%)	Textile (95%)	Construction (153%)
2	Textile (184.7%)	Power (85%)	Electric Equipment (117%)
3	Electric Equipment (148%)	Others (59%)	Metal (93.16%)
4	Metal (141.55%)	Non- Metallic Mineral products (53%)	Consumer Goods (90.49%)
5	Consumer Goods (138.29%)	Metal (48.39%)	Textile (89.7%)
Average debt of Top 5 industries	161.5%	68.07%	108.67%
Bottom Ranked Levered Industries (Debt %)			
15	Information Technology	Information	Information

	(41.11%)	Technology (10.65%)	Technology (30.46%)
14	Service (74.38%)	Electric Equipment (31%)	Service (35%)
13	Pharmaceutical (92%)	Automotive (37%)	Power (49%)
12	Automotive (100%)	Food-Beverages-Tobacco-Alcohol (38%)	Pharmaceutical (52%)
11	Food-Beverages-Tobacco-Alcohol (109%)	Service (39.38%)	Others (59%)
Average debt of Bottom five industries	83.298%	31.206%	45.092%

Retail/Wholesale industry with STDNW equal to 79%, Non- Metallic Mineral Products industry with STDNW equal to 77%, Food- Beverages-Tobacco-Alcohol industry with 71% STDNW, Chemicals industry with 67% STDNW and Automotive industry with 63% are employing moderate short term debt in their capital structure occupying middle ranks.

In order to have a summarized view of capital structure practices adopted by largest Indian private companies, a bird's eye view on the basis of all the three measures of capital structure is presented in Table 2 below. Table 2 also shows the average of TDNW, LTDNW and STDNW of top five and bottom five industries on the basis of Debt to Net Worth ratios.

As clearly depicted in Table 2, Construction industry, Textile industry, Electric Equipment industry, Metal industry and Consumer Goods industry are most levered as against Information Technology industry, Service industry, Pharmaceutical industry, Automotive industry and Food- Beverages- Tobacco- Alcohol industry, which do not show any preference for using debt. It is also seen that all five top ranked industries as per TDNW ratio are also on top with respect to STDNW ratio thus assertively suggesting preference of levered companies towards short term debt financing. The range of debt suggests that in Indian companies total debt is taken to the extent of even 195% followed by short term debt to the extent of 153% and lastly long term debt at 95%. The lower range follows the sequence as 10.65%, 30.46%, and 41.11% respectively for LTDNW, STDNW and TDNW. Thus, once again it is highlighted that short term debt is used in greater proportion than long term debt (LTDNW) in case of Indian industries as long term debt has lowest 'high range' as well as lowest 'low range'. Specifically, the analysis of industries highlight that Construction, Electric Equipment and Consumer Goods industry have more preference for short term debt rather than long term debt. Metal industry is using both long term and short term debt but it prefers more use of short term debt (93.16%) over long term debt (48.39%). Power and Others industries such as Paper, Wood and Conglomerate are more long term debt oriented. Textile industry is almost equally employing both long term (95%) as well as short term debt (90%). Average debt usage of

top five industries also show that STDNW is 108.67% as compared to LTDNW at only 68.07% out of total debt usage of 161.5%. In case of five bottom ranked industries, it is seen that IT and Service industry evidently prefers other sources of finance over debt; though Food-Beverages-Tobacco-Alcohol and Pharmaceutical industry show relatively more preference for short term debt as against long term debt. Average LTDNW at 31.206% is less than average STDNW at 45.092%. Thus, it is inferred from the above findings that Indian companies prefer to use short term debt to long term debt. Even in case of least debt dependent industries, there is a preference of short term debt over long term debt.

Indian industries use high proportion of current liabilities in their debt portfolios. Majority of the current liabilities like trade payables, outstanding expenses, and tax payable are interest free sources of finance. Running business on credit is in vogue among industries in India. As per AS-2 that is 'Valuation of Inventories' no interest is charged on credit purchases from suppliers. So, interest free credit is available to companies for almost a year. Also, bank overdraft is preferred over term loan despite higher interest rates on overdrafts as these do not require pledging of assets as a collateral security. Indian banks also prefer to lend for a shorter period of time keeping in mind volatility in interest rates and risks involved in long term funding (Patnaik and Shah, 2004). Rising Non-Performing Assets (NPAs) in India has limited the capacity of Indian banks to lend for a longer duration of time (Bawa et al. 2019).

Researchers have also observed that industries which are more capital intensive in nature use more total debt. Balkrishan (1982) endorses that the industries which depend more on tangible assets for their operations need more funds and generally debt component is higher in case of such industries. Static trade off theory by Kraus and Litzenberger (1973) also asserts a positive association between the tangibility and long term debt levels of corporate. Pinkova and Riederova (2013) too state that the firms with more fixed assets can support a higher level of debt especially long term in their financial structure. Also, these industries possess more collaterals. Thus, debt financing from banks and financial institutions is relatively easy for them, as in Power and Others industries such as Paper, Wood and Conglomerate in our results. Abor (2007) too highlights that industry effect is associated with an expected linkage between the presence of tangible assets and the level of debt. Last, but not the least, prudent management practices also advocate that since these industries have followed stable revenues and have no bankruptcy threat, usage of higher proportion of long term debt is justifiable in case of these industries. But to pinpoint, as revealed in our results, industries such as Construction, Electric Equipment and Metal, that are highly capital intensive in nature are using borrowed funds to a large extent but, anxiously, short term debt is preferred source of finance over long term debt in case of these industries. High cost of borrowing long term loans seems to shift their dependence on short term borrowings (Kakanda et al. 2016). Our results commensurate with the findings of empirical studies such as Yam (1998), Rastogi et al. (2006), Omron

and Pointon (2009) and Manjule (2014) with respect to Construction industry findings as Das and Roy (2007) coincide with our results with respect to Metal industry. Our results support the findings of Ramulu (1993) and Rastogi et al. (2006) with specific reference to Power industry of India. Textile industry in India is both capital intensive as well as labor intensive. In our results, this industry is almost equally relying on both long term as well as short term debt. Similarly, Consumer Goods industry uses more short term debt. This industry generates turnover in cash sufficient to meet the debt raised within a short period (Voulgaris et al., 2004). It escapes the interest burden on long term borrowings. Cash increases the size of current assets in the Balance Sheet and Asset maturity principle endorses that firms with more current assets depend more on short term debt. The findings with respect to Consumer Goods industry support this principle.

As far as least debt dependent industries are concerned, IT and Service industry are not much debt oriented. Even, Pharmaceutical industry prefers other sources of finance over debt. IT industry has strong internal fund generating capacity and is rich in cash (Manjule, 2014). Studies conducted by Abor (2007), Manjule (2014), Singh (2014) and Baby et al. (2016) too found IT industry as least debt dependent industry. Service industry lacks assets which can be used as collateral (Abor, 2007, Riding et al., 1994 and Hisrich, 1989). Therefore, it does not depend much on bank loans for financing its operations. The same is endorsed in the findings of Smart et al. (2004). In case of Pharmaceutical and Automobile industries new inventions and technological innovations are taking place every day. This may lead to enhanced business risk. Therefore, these industries use very little debt in their capital structure. If required, they prefer to use short term debt over long term debt. Lesser dependence on debt in case of Pharmaceutical industry has been reported in a number of research studies as Bradley et al., (1984); Ramulu, (1993); Abor, (2007); Manjule, (2014) and Ilyas and Raju, (2017). Further, the findings related to Automotive industry are in conformity with the results reported by Ilyas & Raju (2017). These are contrary to the findings by Rastogi & Narwal (2014). Food-Beverages-Tobacco-Alcohol industry is also not relying much on total debt. It seems to prefer equity and retained earnings as a source of finance over debt. Higher cash generation and lesser capital requirement in this industry seem to be reasons behind lesser debt dependence (Goveas, 2004). The low preference of debt may also be attributed to shorter payback period for this industry (Rastogi et al., 2006). Belkaoui (1975) endorses our findings with respect to lesser usage of debt in case of this industry.

Overall, when average debt usage by all of the 15 industries is considered, it is seen that, Indian industries employ 122.65% total debt, 47.6% long term debt and 75.05% short term debt. On the whole, Indian industries are abiding by the Modified Pecking Order Theory proposed by Myers and Majluf (1984) which propagates the preference for cheaper source of finance i.e. debt over equity. Prudence also demands that companies should prefer a cheaper source of finance as against the exorbitant one.

But minute scrutiny of the Capital Structure of Indian Industries suggests a significantly higher proportion of short term debt as against the use of long term debt. Some prominent authors like IM Pandey (2015), Chandra (2017), Shah (2010) specifically highlights that Capital Structure focuses on long term claims rather than short term claims. Short term claims are neither used for financing capital expenditure nor used for satisfying long term business commitments. Hence, Capital Structure primarily focuses on long term debt rather than current liabilities. Capital Structure guides with respect to long term solvency decisions of companies, as for short term solvency, liquidity ratios are more important rather than analysis of Capital Structure or debt-equity mix. Keeping the same into consideration, Indian industries seem to be at a disadvantage as the proportion of long term debt is quite less relative to short term debt. To be specific, short term borrowings are used in place of long term sources of finance in India.

Short term debt is temporary in nature. It is repayable within one year and comparatively less in quantum. Long term debt comes with a greater risk. It increases the perceived cost of bankruptcy/financial distress, as its use increases the weighted average cost of capital beyond the optimum level generating greater likelihood of company's default in its financial obligations. Perhaps in order to avoid financial devastation Indian industries are making lesser use of long term debt. Also, Indian managers are by nature risk averse (Singh, 2014). A vulnerable source of finance as long term debt is less preferred by them. Their apprehension of risk exposure supersedes even the lure for benefits of trading on equity, which can be generated by incorporating long term debt in their Capital Structure. Shareholders in India too seem to perceive debt as a burden. They are discouraged to invest in high debt oriented industries as they feel that major portion of their earnings may get battered by interest payments, leaving peanuts for them: the residual party in the priority list of paying back. Also, the extent of development of financial markets and the institutional environment of India is quite responsible for lesser use of long term debt. Expansion of equity is more prominent in India than bond market (Chauhan, 2017 and Goveas, 2004). Last but not the least, financial institutions especially Indian banks also seem reluctant in advancing long term loans to industries in India because of high interest rate volatility and the credit risk involved (Chavan and Gambacorta, 2016). Still, it is recommended to Indian industries that in order to have a long and steady going Capital Structure, there should be a balanced proportion of long term debt and equity in it as short term debt is simply an arrangement to meet working capital needs rather than long term obligations. Use of cheaper source of finance i.e. long term debt would definitely lead to shareholder's wealth maximization and also improvement in allied financial parameters such as market capitalization and earning per share.

Since our results suggests that the debt content varies amongst industries, so in order to test if there is statistically significant differences in the Capital Structure, Welch ANOVA has been applied at 5% level of significance over a period of ten years i.e. 2008-09 to

2017-18 as the condition of Homogeneity of Variance is not satisfied for One way ANOVA to be applied. The results of Welch ANOVA are shown in table below:

Table 3: Results of Welch- ANOVA

Robust Tests of Equality of Means (TDNW, LTDNW, STDNW)

Welch	Statistic	df1	df2	Sig.
TDNW	10.004	14	93.350	.000
LTDNW	7.379	14	93.491	.000
STDNW	7.234	14	94.087	.000

From Table 3, it is confirmed that statistically there is a difference among industries with respect to Capital structure at 5% level of significance. Nature of industries thus, definitely affects the capital structure, so in order to determine minutely as to which particular industry varies from other industries, Games- Howell Post- Hoc test has been applied in case of all three measures of capital structure. The results are shown in Table 4 below:

Table 6: Results of Games- Howell Post-Hoc of TDNW (Significant differences only)

Capital Structure measures	(I) Industry	(J) Industry	Mean Difference (I-J)	Sig.
TDNW	Information Technology	Non- Metallic Mineral Products	-.88888*	.000
		Automotive	-.58013*	.014
		Chemicals	-.70707*	.000
		Consumer Goods	-.96900*	.000
		Construction	-.96900*	.000
		Textile	-1.42743*	.002
		Service	-.33401*	.014
	Service	Consumer Goods	-.63499*	.005
		Textile	-1.09342*	.019
Electric Equipment	Textile	-.63994*	.046	
LTDNW	Information Technology	Non- Metallic Mineral Products	-.42017*	.000
		Chemicals	-.33703*	.000
		Construction	-.31310*	.000
		Food-Beverages-Tobacco-Alcohol	-.27600*	.039
		Consumer Goods	-.37151*	.000
		Textile	-.83986*	.006
		Service	-.29262*	.000
STDNW	Information Technology	Automotive	-.32208*	.012
		Chemicals	-.36739*	.000
		Consumer Goods	-.60023*	.000
		Textile	-.59241*	.000
	Service	Chemicals	-.32435*	.003
		Consumer Goods	-.55719*	.001
		Textile	-.54937*	.009

*The mean difference is significant at 0.05 level

Table 4 reveals that during the period of study, when TDNW is used as a measure of capital structure, out of 15 industries, 7 industries have significant differences with one another at 5% level of significance. The results indicate that Consumer goods industry is making more use of total debt than IT and Service industry. Also Non-Metallic Mineral Products industry, Automotive industry, Chemicals industry and Service industry are making more use of debt than IT industry. Consumer Goods and Textile industry is making more use of total debt than Service industry.

In case of LTDNW ratio, out of 15 industrial groups, 9 industries are significantly different from each other. As observed, textile industry is using more long term debt as compared to Electric Equipment industry. Whereas Information Technology industry is employing lesser long term debt as compared to Non- Metallic Mineral Products industry, Chemicals, Construction, Food-Beverages-Tobacco-Alcohol industry, Consumer Goods industry and Service industry.

Table 4 also highlights that out of 15 industries taken in this study, only 6 industries are statistically different from each other with respect to Short term debt to Net Worth ratio. Chemicals, Consumer goods and Textile industries are using more short term debt as compared to IT and Service industry. IT industry is also employing lesser short term debt as compared to automotive industry. Our results support majority of studies such as Bowen et al. (1982), Bradley et al. (1984), Rastogi et al. (2006), Abor (2007), Das and Roy (2007), Abzari et al. (2012) and Rastogi and Narwal (2014) who also suggested that the Capital Structure is industry specific, as different industries follow different debt equity level in their Capital Structure.

CONCLUSION

This study examined the capital structure of various industries. The study also investigated the differences in the debt structure of various industries. Capital intensive industry such as construction, textile, and metal are highly debt oriented. On the other extreme, IT and service industries are seen to prefer other sources of finance over debt. Power and others industries such as paper, wood and conglomerate are using more of long term debt. The findings also highlight the greater dependence on short term debt as against the long term debt. Even short term borrowings are used in place of long term sources of finance in India. The findings of the study broadly support that there is a variation in the inter-industry capital structure. The and thus commensurate with the results of some prior empirical studies such as Bowen et al. (1982), Bradley et al. (1984), Rastogi et al. (2006), Abor (2007), Das and Roy (2007), Abzari et al. (2012) and Rastogi and Narwal (2014).

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