INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

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     NEED/IMPORTANCE OF THE STUDY

     STATEMENT OF THE PROBLEM

     OBJECTIVES

     HYPOTHESES

     RESEARCH METHODOLOGY

     RESULTS & DISCUSSION

     FINDINGS

     RECOMMENDATIONS/SUGGESTIONS

     CONCLUSIONS

     SCOPE FOR FURTHER RESEARCH

     ACKNOWLEDGMENTS

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     APPENDIX/ANNEXURE

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BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
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CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

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WEBSITES

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

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DETERMINANTS OF CORPORATE CAPITAL STRUCTURE: WITH SPECIAL REFERENCE TO HOME APPLIANCES INDUSTRY IN INDIA

ANKUR AGRAWAL
ASST. PROFESSOR (SG)
SCHOOL OF BUSINESS STUDIES
SHARDA UNIVERSITY
GREATER NOIDA

Y. P. SINGH
PROFESSOR
SCHOOL OF BUSINESS STUDIES
SHARDA UNIVERSITY
GREATER NOIDA

ABSTRACT

The optimum capital structure has been defined as combination of both debt and equity that leads to maximum value of the firm at minimal cost of capital. The capital structure decision can influence the value of the firm through the earnings available to the share holders which maximizes the shareholders wealth, in addition to this capital structure can affect the value of the company by improving it's expected earnings. The importance of an appropriate capital structure is, thus, obvious. Main factors influencing Capital Structure have been studied in this paper to identify the extent of their effect on capital structure of a firm. The main purpose is to examine whether and how Capital Structure effect of ten financial variables take place. The impact of ten financial variables namely: size, profitability, asset structure, business risk, debt service, agency cost, bankruptcy ratio, growth, tax shield and uniqueness will be studied on capital structure represented by LEV $_{D/E}$. The study attempts to analyze the important determinants of capital structure in home appliances sector in India. The data for analysis is drawn from company's official websites for a period of 2003 to 2013; data of listed companies of home appliances sector has been taken for analysis. Data is analyzed on the basis of multiple regression models. It is concluded that size of the form, growth opportunity and uniqueness of the firm has significant relationship with capital structure of home appliances industry in India.

KEYWORDS

Capital Structure, leverage, profitability, asset structure, business risk, debt service, agency cost, bankruptcy ratio, growth and uniqueness.

1. INTRODUCTION

The optimum capital structure has been defined as a combination of both debt and equity that leads to the maximum value of the firm and where overall cost of capital is minimum. This is still one of the most debatable issue in the corporate finance research since Modigliani and Miller's (1985) irrelevance proposition. While this proposition has derived various conditions under which capital structure is irrelevance for investment, subsequent theoretical and empirical evidences have shown that a firm can influence its value and future investment by varying in capital structure. The capital structure decision can influence the value of the firm through the earning available to the share holders which maximizes the share holders' wealth. Capital structure can affect the value of company by affecting either its expected earnings or the cost of capital or both. While it is true that financing mix cannot affect the total earning of the firm as they are determined by the investment decisions, it can affect the share of earnings belonging to the ordinary shareholders. The mixing process depends upon the cost and benefits of debts and equity financing in that period. The pecking order theory of capital structure can explain why the most profitable firms tend to borrow less. Less profitable firms first issue debt because it has lower flotation and information costs compared to equity is issued only as a last resort, when the debt capacity is fully exhausted. Tax benefits of debts are a second order effect. Therefore, the debt ratio changes when there is an imbalance between internal funds and real investment opportunities and there is information asymmetry in the market (Myers and Majluf, 1984) [23]. High degree of information asymmetry increases the leverage due to the absence of informational cost in the form of debt financing. The optimal capital structure is usually involve some debt, but not cent percent debt. Generally, some firms cannot identify this optimal point precisely, but they should attempt to find an optimum range for capital structure.

2. LITERATURE REVIEW

Rao (2001) made an attempt to explain the variation of capital structure across industries in India during pre and post liberalization regime and also examine if there is any significant change in average industry level capital structure during post liberalization regime. The study is based on industry wise data of 85 industries in manufacturing sector the results shows that there has been significant decrease in leverage during post liberalization regime and there has been change in set of explanatory variables for capital structure. The most significant explanatory variables for capital structure during pre liberalization regime were the measure of profitability, risk and asset type. During post liberalization regime measure of profitability, growth and asset type were the most significant variables.

Bhaduri (2002) studied the capital structure choice in developing countries through a case study of Indian corporate sector, for the period 1989-90 to 1994-95, based on a sample of 363 firms across nine industries. The author has reported optimal capital structure choice is influenced by factors such as growth, cash flow size and product industry and characteristics.

Multiple linear regression model. The study found significant variation in debt-equity ratio in industrial sector. The cement sector showed the highest debt equity ratio. The size of the firm was not found to be significant for leverage tax shield and depreciation was found to be positive correlated between debt equity ratio and flexibility.

Bhayani (2005) examined the capital structure of Indian private corporate sectors. The investigation has been performed using panel data procedure for a sample of 504 Indian companies listed on any stock exchange from 1995 to 2003-04. the hypothesis that has been tested was that the debt –equity ratio depends upon asset structure , size ROA and debt ratio. Multivariate regression analysis was used to find out the significant factors for determinants of capital structure. He conclude that the firms that maintains large proportion of fixed assets tends to maintain a higher debt ratio then smaller firms. Further more large firms employ more debt capital with comparison to smaller firms and firms with high profitability ratio tends to use less debts then firms do not generates high profit. His findings also suggest that the firms do follow a target capital structure during the examination period, these results are consistent with theoretical backgrounds.

Madan (2007) examine the role of financing decision in the overall performance of the companies. It aims to analyze the debt equity structure of hotels and try to discover the industry benchmark and scrutinize how capital structure play a role in the overall growth of a company . this paper is based on financial data collected on leading hotel chain in India. His findings was the firms that have been moderately geared are able to generate good return on equity.

Sinha and Ghosh (2008) test the modern capital structure theories view static relationship of leverage with specific characteristics and purpose of unique singes and magnitude for the coefficient of the firm's specific determinants. Apart from this static view, the dynamic tradeoff theories propose for change in both the singes and magnitude of the coefficients. The present study examines whether the nature of determinants of capital structure decision of Indian firms is dynamic or not. The study concludes that the determinants of corporate capital structure change there sine and magnitude with resects to orders of determinants, the time periods, and the capital structure components. The study revels that the firm's size, profitability, growth rate and tangibility are the most prominent determinants of a firm's capital structure. Capital structure change is dynamic in nature and the static theoretical explanation is not a persisting behaviour.

Xu (2009) made an attempt to study the impact of marketing timing on Canadian firms' capital structure and make a comparision with US firms. The results obtained by the author showed no evidence of market timing on capital structure of Canadian firms like US firms. The effect of past issue on Canadian firms' capital structure is transitory and the speed of adjustment of Canadian firms is more than US firms.

Puwanenthiren Pratheepkanth (2011) analyzes the capital structure and its impact on Financial Performance capacity during 2005 to 2009 (05 years) financial year of Business companies in Sri Lanka. The result shows that the relationship between the capital structure and financial performance is negative in Sri Lanka. Hence Business companies mostly depend on the debt capital and therefore, they have to pay interest expenses much.

Amsaveni and Gomathi (2012) found that business risk and liquidity are negatively related to the leverage, while tangibility, growth, size, non-debt tax shields exhibit positive relationship leverage. Hence, the result is partially supportive of the pecking order and trade off theory.

Palvannan and Sekhar (2013) found that the factors such as size, growth, earning risk, Non-debt tax shields, business risk, debt service capacity and leverage are determined the capital structure of cooperative sugar mills and all these variables have significantly contributing to debt equity.

3. OBJECTIVE OF THE STUDY
1. To see the effect of growth on leverage ratio.
2. To look the influence of asset structure on leverage ratio.
3. To determine whether profitability has its impact on leverage ratio.
4. To look into the effect on debt service ratio on leverage ratio.
5. To determine whether agency cost has its effect on leverage ratio.
6. To examine whether size has its impact on leverage ratio.
7. To see whether business risk has its impact on leverage ratio.
8. To examine whether tangibility has its effect on leverage ratio.
9. To look the influence of bankruptcy on leverage ratio.
10. To examine whether non-debt tax has its impact on leverage ratio.

4. HYPOTHESIS OF THE STUDY
H0: There is no relationship between Leverage (LEV$_{D/E}$) and particular dependent variable.
H1: Leverage ratio is positively related influenced by growth.
H2: Leverage ratio is positively related influenced by asset structure.
H3: Leverage ratio is negatively related influenced by profitability.
H4: Leverage ratio is positively related influenced by debt service ratio.
H5: Leverage ratio is negatively related influenced by agency cost.
H6: Leverage ratio is positively related influenced by size.
H7: Leverage ratio is negatively related influenced by business risk.
H8: Leverage ratio is positively related influenced by tangibility.
H9: Leverage ratio is positively related influenced by bankruptcy cost.
H10: Leverage ratio is negatively related influenced by non-debt-tax.

5. RESEARCH METHODOLOGY
Multiple regression model has been applied to study the impact of various variables on dependent variables i.e., leverage ratio.

In order to test the individual regression coefficient of the regression equation t- test is applied to observe whether the independent variables has been instrumental to define the dependent variable i.e. leverage ratio. In place of actual values of dependent and independent variables, logarithmic value has been considered.

A. THE MULTIPLE REGRESSION MODEL
Pooled cross- sectioned time series regression model is used to analyzed the capital structure determinants

LEV $_{D/E}$ = α +β$_1$.Gr + β$_2$.As + β$_3$.Pr + β$_4$.Ds + β$_5$.Ac + β$_6$.Sz + β$_7$.Ri + β$_8$.Un + β$_9$. Bk + β$_{10}$.Ts+ Є

Where, LEV$_{D/E}$ =   Leverage ratio, which is linearly dependent upon
Gr = Growth
As = Asset structure
Pr = Profitability
Ds = Debt Service
Ac = Agency Cost
Sz = Size of the company
Ri = Business Risk
Un = Uniqueness
Bk = Bankruptcy
Ts = Tax- Shield

B. DEPENDENT VARIABLE
Doukas and Pantzalis (2003) defined capital structure as a long debt scaled by total debt + market value of equity. So by the following formula we can determine leverage ratio.

$$LEV_{D/E} = \frac{\text{Long term Debt}}{(\text{Long term Debt + market value of Equity})}$$

C. INDEPENDENT VARIABLES
A short discussion of each the determinant used in this paper, their relationship with capital structure, and how they can be measured will be presented below-
1) Growth (Gr): Under investment and asset substitution problems that debt is supported by assets-in-place rather than growth opportunity, Myers and Maglect (1984) .
Gr = Growth of the firm = CAGR of Total Assets
2) Asset Structure (As): The firms with less collateralizable assets (tangibility) may choose higher debt levels to stop managers from using more than the optimal level of perquisites. This agency explanation suggests a negative association between tangibility and leverage. Booth *et al.* (2001) have reported a negative relationship between tangibility and leverage for firms in Brazil, India, Pakistan, and Turkey. Some other empirical studies have also reported a negative

relationship between tangibility and leverage (Ferri and Jones, 1979; Bauer, 2004; Mazur, 2007; Karadeniz *et al.*, 2009).For the sake of measurement of tangibility / asset structure or collateral value of asset we use the ratio of fixed assets over total assets.
Asset Structure = Total Fixed Assets / Total Assets

3) Profitability (Pr): Profitability can be calculated as Profitability of the firm = EBIT / Total Assets, which is consistent with the earlier research, had been conducted for determining the capital structure determinates by Brealey and Myers, 1991, Myers and Majluf (1984) , Jensen (1986) etc.
Profitability of the firm = EBIT / Total   Assets.

4) Debt Service capacity (Ds): The measure of debt service capacity is the interest coverage ratio. This ratio shows the relationship between the committed payment and the source for that payment. A high coverage ratio means that firm can meet its interest burden even if a considerable decline in EBIT. Whereas low interest coverage ratio may result in financial embarrassment when EBIT decline. A higher ratio is desirable but too higher ratio indicates that the firm is very conservative in using debt, and that is not using credit to the best advantage of shareholders. A low ratio indicates excessive use of debt. Debt service capacity will be measure as:
Debt Service capacity = Total Interest Paid / EBIT

5) Agency Cost (Ac): Higher agency cost is expected to result in lower debt levels (Jensen, 1986; Doukas and Pantzalis, (2003). Significant agency cost arises from the conflict of interest between stock holders and bond holders. The information of agency model is that this conflict creates incentive for stock holders to take action that benefit themselves at the cost of bond holders. Myers (1977) found that the agency problem are specially serious for assets that give firm the option to undertake growth opportunity in future. The greater the firm investment in such assets the less would be that financed. The agency cost can be measured as the asset utilization ratio which is as:
Agency Cost = Annual Sale / Total assets

6) Size of the company (Sz): Rajan and Zingales (1995) argues that large firms tends to disclose more information to outside investors then the smaller ones overall , large firms with less asymmetric information problems should tend to have more equity then debt and thus , have lower leverage. However, large firms are often more diversified and have more stable cash flow. However, for the purpose of collecting the data Natural Log of Total Asset has been taken into consideration.
Size= Natural Log of Total Asset

7) Business Risk (Ri): Business risk is the risk associated with the future operations of the business. This is the risk that is inherent in the expected net operating income stream generated by the assets of the firm (Bishop, Fagg Oliver and Twite.2004) .
Business Risk =Standard Deviation of EBIT
Where, EBIT = Earnings before Interest and Taxes.

8) Uniqueness (Un): Loof (2003) summarizes the idea due to Titman (1984)[31], that the more unique a firm's asset is, the thinner the market for such assets. Accordingly the lower is the expected value recoverable by a lender in the event of bankruptcy. Hence, we may expect that uniqueness be negatively related to leverage. Following Titman and Wessels (1988), uniqueness is measured as the ratio of expenditures on research and development over sales.
Uniqueness = Expenditure on Research and development / Total sales

9) Bankruptcy Ratio (Br): Higher level of debt increases the probability of bankruptcy. There is a positive relationship between leverage and bankruptcy risk. Eitemen, Stonehill and Moffettb (2001) argued that MNC's are in a better position to support higher debt because of their better internationally diversified cash flow given them lower risk of default. However, some empirical studies came to the opposite conclusion. But for the measurement purpose it can be calculated as
Bankruptcy Ratio =Standard Deviations of first difference In PBIT/ Total interest Expenses

10) Tax Shield (Ts) *:*According to Modigliani and Miller (1958) , interest tax shields create strong incentives for firms to increase leverage. But also the size of non-debt related corporate tax shields like. Tax-deductions for depreciation and investment tax credits may affect leverage. Indeed, DeAngelo and Masulis (1980) argue that such non-debt tax shields are substitutes for the tax benefits of debt financing. Therefore, the tax advantage of leverage decreases when other tax deductions like depreciation increase. Hence, we expect that an increase in non-debt tax shields will affect leverage negatively.
Titman and Wessels (1988) use the ratio of tax credits over total assets and the ratio of depreciation over total assets as measures of non-debt tax shield. In this study, we have only data on depreciation and therefore, the ratio of depreciation over total assets will serve as a measure for non-debt tax shield
Non-debt Tax Shield = Depreciation on Fixed Assets / Total Assets

6. ANALYSIS

Descriptive analysis of dependent and all independent variable of home appliances industry has been given in table-1 The dependent variable LEV $_{D/E}$ must have a good relation with independent relation and regression analysis is feasible if the variables have normal distribution. The skewness and kurtosis are normal when the statistics is near to 0 from SPSS output and within ± 3. Skewness is a measure of normality, if the statistic is more than 0 it means the distribution lies towards right side. In terms of the above independent variables it is observed variables have near normal skewness and would be better variables for extracting LEV $_{D/E}$ which has also shown fair normality. In terms of kurtosis if the statistics is more than 0 it means the variable is clustered near the mean (peaked: leptokurtic) and the data has less spread however if it is less than 0 it means the distribution is too much spread and scattered (too flat: platykurtic). The output reveals that all independent variables have a normal distribution. The dependent variable LEV $_{D/E}$ has a near to normal distribution thus it is plausible to go to next step of model building through regression analysis.

The model summary (Table-2) explains that the variation in dependent variable: Debt equity ratio of home appliances industry is being explained by the independent variables fully. The linearity is prime requisite in a regression model and the correlation statistic of 0.872 (R=.872) reveals that the variables are correlated. The variation of dependent variables is explained by Coefficient of determination and it is 76 percent (R square=.760) here, which in the model denotes that 76 % of the observed variability in LEV $_{D/E}$ can be explained by differences in the independent variable remaining 24 % variance in LEV $_{D/E}$ is attributed to other variable. Adjusted R square takes actual sample size under consideration and is also near to 74 percent. The standard error is less than one thus signifying the variation is less in the data. In order to check the interdependence between residuals of variables Durbin-Watson test is applied. The value varies   between 0-4, 0 indicating positive relation and 4 indicating negative relation, 2.241 indicates nearly neutral relation between residuals. The above analysis reveals that Debt-Equity ratio (LEV $_{D/E}$) can be predicted on the basis on the independent variables taken in the model for home appliances industry.

Table-3, the ANOVA table shows how well variation in dependent variable; DE ratio in this case is accounted for by the predicted model. The significance .034 being less than .05 (5%) indicates that null hypothesis of no relationship between dependent and independent variables is rejected and thus the dependent variable LEV $_{D/E}$ has relationship with the independent ratios taken in the predicted model. The next table provides input on the type and degree of relationship between the dependent and independent variables.

However, it is possible that the selected explanatory variables may be correlated with each other, so the chosen variables may actually measure the effects of several different variables. To address this problem the study tests for the multicollinearity is conducted. The presence of multicollinearity makes the estimation and hypothesis testing about individual coefficients in regression not possible (Gujarati, 2003).

The variance Inflation Factor (VIF) is a commonly used for assessing multicollinearity problems. It shows the degree to which each independent variable is explained by other independent variable. As a rule of thumb, a VIF greater than 10 indicates the presence of harmful collinearity (Gujarati, 2003).

According to the review of established works in financial literature VIF less than 10 is acceptable and is regarded as showing less chance of multicollinearity. The sample data shows no multicolinearity as the VIF is well within 10. The reciprocal of VIF is taken to be tolerance and it has come to be less than .1 again establishing the same fact.

The final table (Table-5) of coefficients enables us to understand that at 10% level of significance the relation between the LEV $_{D/E}$ and size , growth and uniqueness are significant and the relation between LEV $_{D/E}$ and other ratios namely profitability, asset structure, business risk, debt service, agency cost,

bankruptcy, tax shield are only due to chance. Thus out of ten independent variables taken only three have proven to be statistically important determining the LEV $_{D/E}$ ratio of a home appliances company.

LEV D/E= 1.1+.22Sz+.01Gr-2.3Un

7. FINDINGS

The variable *size* has a positive and significant impact on the LEV$_{D/E}$. This finding is consistent with the implications of the trade-off theory suggesting that larger firms should operate at high debt levels due to their ability to diversify the risk and to take the benefit of tax shields on interest payments. There are several theoretical reasons why firm size is related to the capital structure. Smaller firms may find it relatively more costly to resolve informational asymmetries with lenders and financiers, which discourages the use of outside financing (Chung, 1993; Grinblatt and Titman, 1998) and should increase the preference of smaller firms for equity relative to debt (Rajan and Zingales, 1995). However, this problem may be mitigated with the use of short term debt (Titman and Wessels, 1988). Relative bankruptcy costs and probability of bankruptcy (larger firms are more diversified and fail less often) are an inverse function of firm size (Warner, 1977; Ang et al. , 1982; Pettit and Singer, 1985; Titman and Wessels, 1988).

Positive but insignificant relationship found between *Profitability* and LEV$_{D/E,}$ the relationship supports Trade-off theory, which states that there is a positive relationship between profitability and leverage. This finding is also consistent with the same findings by Bhat, Ramesh (1980), Mohan Sahoo and Omkarnath (2005), Bhattacharjee (2010), And Mohan Raj (2011). Positive relationship between profitability and leverage indicates that more profitable firms in textile industry in India uses higher amount of debt.

Theoretically, the expected relationship between the debt ratio and *asset structure* is positive. However, based on the results of this study, the relationship is negative. Some empirical studies for developing countries, i.e. Booth et al. (2001), Bauer (2004), Mazur (2007) and Karadeniz et al. (2009), have shown a negative relationship,. However, this finding is consistent with the implications of the agency theory suggesting that the tendency of managers to consume more than the optimal level of perquisites may produce an inverse relationship between collateralizable assets and the debt levels (Titman and Wessels, 1988). The pecking order theory also predicts a negative relationship between tangibility and short-term debt ratio (Karadeniz et al., 2009).

Our result showed that *risk* has negative effect on LEV $_{D/E}$. The negative result supported both the trade-off theory that the more volatile cash flows the higher the probability of default and the pecking order theory that issuing equity is more costly for firms with high volatile cash flows. Pandey (2001) found that there was a negative relation of earnings volatility with book and market value long-term debt ratio, which was consistent with the trade-off theory.

The empirical result show that *agency cost* has a negative and non-significant relationship with LEV$_{D/E}$ Our result is well supported by reasoning that companies which manufacture durable products requiring long-term service contracts find that the consumer demand for their product diminishes when they take on greater debt, as consumers face a greater risk that the company shall not be able to service the sales. This applies to workers too as they will not prefer to work in a firm where, in the event of bankruptcy, their skills are not of any use elsewhere. Firms using highly specialised labour therefore have to avoid the possibility of bankruptcy by keeping debt at low levels. Titman (1984) accordingly stated that firms with unique assets have necessarily to carry less debt, due to agency costs. Therefore agency costs can come into play in different ways and restrict the issue of equity/ debt, depending on the situation. Capital structure is therefore influenced by these costs.

The statistically non-significant negative relation between LEV $_{D/E,}$ and *bankruptcy* ratio, is consistent with the result of Chowdhury (2004) who also obtained a negative relationship between the two. The findings about bankruptcy risk of this study confirm the prediction of agency cost theory, trade-off theory and pecking order theory. Implication of this finding is that high bankruptcy risk arising from expected future financial distress cost and legal cost de-motivates use of fixed contractual obligation, i.e. debt by home appliances companies. Hence, a negative relation is observed in this empirical study.

Applying pecking order arguments, growth firms place a greater demand on the internally generated funds of the firm. Consequentially, firms with relatively high growth will tend to issue securities less subject to information asymmetries. This should lead firms with relatively higher growth to having more leverage, which is consistent with our statistical result that shows positive and significant relationship between *growth* and LEV $_{D/E.}$ Our results were consistent with what Sogorb-Mira and Lopez-Gracia (2003) said that there was a positive relation between growth and short-term leverage, long-term leverage, and total leverage. Sogorb-Mira and López-Gracia (2003) tested leverage predictions of the trade-off and pecking order models.

According to the result, non-debt *tax shield* has negative but non-significant correlation with LEV $_{D/E}$. Since we expect that an increase in non-debt tax shields will affect leverage negatively, we may argue that this result indicates that non-debt tax shields are substitutes for the tax benefits of long-term debt financing to depreciation; when firms are engaged in tax shelter schemes, the mainly consider long-term debt. On the other hand, short-term debt may be used to more or less indirectly finance investments in long-lasting assets. This finding is also consistent with the following researchers; Titman and Wessels (1988), Harris and Raviv (1991), Kakani (1999), Inder Sekhar Yadav et al (2010), and Palvannan and Sekhar (2013).

We have more or less positive and negative statistically significant result between uniqueness and LEV $_{D/E,}$ LEV $_{LTD/TA}$, which is either by chance or uniqueness really plays a significant role in home appliances industry which is contrary to the pre established theories as Loof (2003), using Swedish data and same measure for uniqueness as in this study (ratio of research and development over sales), finds that *uniqueness* is not a significant factor that may affect leverage.

8. CONCLUSION

This study attempted to explore the determinants of capital structure of listed home appliances companies in India during the period of 2003 through 2013. This study has used the debt ratio, that is a measure of leverage (LEV $_{D/E}$), as an explained variable, while Size, profitability, asset structure, business risk, debt service, agency cost, bankruptcy growth, tax shield and uniqueness as the explanatory variables. According to the empirical analysis results size and growth opportunities have positive relationship with LEV $_{D/E.}$ whereas uniqueness has negative impact on long term debt ratio of home appliances industry in India. This result is partially supported by the Perking order and trade-off theories in financial management literature.

In conclusion, the evidence suggests that size of the firm, growth opportunity and uniqueness of the firm in terms of expenses on research and development are the contributing factors in determining the capital structure of the home appliances industry in India.

The study has wide scope and it can be applied to any and every sector to understand the behavior of leverage when there is change in any of the financial ratios. The managers need to understand the relation between various ratios clearly before making important decisions pertaining to leverage of the firm.

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ANNEXURE

TABLE-1: DESCRIPTIVE STATISTICS OF HOME APPLIANCES INDUSTRY

	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
Size	1.76951	7.00106	4.97264	1.59988	.490	-.912
Profitability	-.51116	.558271	.52061	.23839	-1.211	1.785
Assets Structure	.4459	.90911	.61381	.99216	-1.557	.802
Business Risk	.40269	3.65500	5.26058	1.8605	1.088	1.472
Debt Service	.4057	.68907	.49538	.36164	-3.472	.929
Agency Cost	. 3705	. 6750	.50390	.39418	.688	-.569
Bankruptcy Ratio	. 2794	.45220	. 3733	.4496	.329	1.762
Growth	1.6985	8.2649	4.5639	2.0531	.293	1.266
Tax Shield	.033600	.4078	.20461	.11534	1.280	1.282
Uniqueness	. 03808	.1519	.050091	.03340	.196	-1.155
LEV $_{D/E}$	1.29	4.03	1.9100	1.49103	1.405	.877

TABLE-2: MODEL SUMMERY TABLE FOR MULTIPLE REGRESSION

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.872ª	.760	.741	5.14678	2.241

a. Predictors: (Constant), Uniqueness , Business Risk, Bankruptcy Ratio, Debt Service, Tax Shield, Profitability, Agency Cost, Assets Structure, Size, Growth
b. Dependent Variable: LEV $_{D/E}$

TABLE-3: ANOVA TABLE FOR REGRESSION OF LEV$_{D/E}$

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	50.362	10	5.036	.190	.034ª
	Residual	132.447	5	26.489		
	Total	182.809	15			

TABLE-4: EXPLANATION OF REGRESSION MODEL WITH SIGNIFICANCE VALUE

	(Constant)	Size	Profitability	Assets Structure	Business Risk	Debt Service	Agency cost	Bankruptcy	Growth	Tax Shield	Uniqueness
LEV $_{D/E}$	1.119	0.215	3.474	-2.099	-0.032	0.957	-0.671	-0.081	0.007	-0.364	-2.472
Sig. value (10%)	0.649	0.046*	0.809	0.597	0.813	0.593	0.752	0.545	0.049*	0.759	0.026*

* significant at10 % level of significance

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