



## A STUDY ON THE DETERMINANTS OF CAPITAL STRUCTURE OF SME'S MANUFACTURING SECTOR ORGANIZATIONS IN INDIA

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### ABSTRACT

Capital structure refers to the mix of debt and equity used by a firm in financing its assets. The capital structure decision is one of the most important decisions made by financial management. Since the foundational work of Modigliani and Miller (1958), a number of authors extended their capital structure irrelevancy theory. Despite some significant contributions to the general perception of the various intricacies about corporate capital structure, research produced so far did not provide yet a sound basis for establishing, in a decisive fashion, the empirical validity of the different theoretical models. It appears that (1) we are still lacking a comprehensive theory to explain how firms decide about their strategic financing; and (2) yet we cannot unambiguously specify the relation between capital structure choice and firm value. Given the economic significance of capital structure decisions, an understanding of the relative importance of firm- versus country-specific effects in determining those decisions is an extremely valuable area of research. This research is conducted with the objective to obtain the main determinants of capital structure of SME'S and to build a model to find out the level of leverage in SME'S.

Key Words: debt and equity, Modigliani and Miller, SME'S



## Introduction:

Corporate sector growth is vital to economic development. The issue of finance has been identified as an immediate reason why businesses in developing countries fail to start or to progress. It is imperative for firms in developing countries to be able to finance their activities and grow over time if they are ever to play an increasing and predominant role in providing employment as well as income in terms of profits, dividends and wages to households. Growing SME'S will also contribute to expanding the size of the directly productive sector in the economy; generating tax revenue for the government; and, all in all, facilitating poverty reduction through fiscal transfers and income from employment and firm ownership.

Singh and Hamid <sup>1</sup>(1992) and Singh<sup>2</sup> (1994) used data on the largest companies in selected developing countries. They found that firms in developing countries made significantly more use of external finance to finance their growth than is typically the case in the industrialized countries. They also found that firms in developing countries rely more on equity finance than debt finance. These findings seem surprising given that stock markets in developing countries are invariably less well developed than those in the industrial countries, especially for equities. However, in an Indian study, Cobham and Subramaniam<sup>3</sup>(1998) used a sample of larger firms and found that Indian firms use substantially lower external and equity financing. In a study of large companies in ten developing countries, Booth et al. (2001) also found that debt ratios varied substantially across developing countries, but overall were not out of line with comparable data for industrial countries. In the last decade, most countries have shifted their development strategies towards a greater reliance on private companies and on the use of organized capital markets to finance these companies. This underlines the importance of research on the functioning and financing of private companies in a wide range of institutional environments, particularly in developing countries.

Despite some significant contributions to the general perception of the various intricacies about corporate capital structure, research produced so far did not provide yet a sound basis for establishing, in a decisive fashion, the empirical validity of the different theoretical models. This study aims to find out the most important variables that influence the capital structure decisions of SME'S in India.

The study of a firm's capital structure has evolved since Modigliani and Miller's<sup>4</sup> seminal work (1958) with the consideration of the influence of the so-called market "imperfections". Thus, and keeping in mind the effect of taxes and bankruptcy costs, the Balance or "Trade-off" Theory emerges. Afterwards, adding to the analysis the information asymmetry effect on the shareholders and managers relation, as well as on the relation between the latter and their creditors, the Pecking Order Theory and the recognition of possible financial constraints surface, in addition to the usefulness of leverage in reducing information problems and

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<sup>1</sup> Singh and J. Hamid, 1992, "Corporate Financial Structures in Developing Countries," *IFCTechnical Paper*, No. 1 (Washington: International Finance Corporation).

<sup>2</sup> Singh, A., 1994, "How Do Large Corporations in Developing Countries Finance their Growth?" *Finance and the International Economy: Prize Essays in Memory of Robert Marjolin*, The Amex Bank.

<sup>3</sup> Cobham, D. and R. Subramaniam. 1998. "Corporate finance in developing countries: New evidence for India". *World Development*, 26(6): 1033-47.

<sup>4</sup> Modigliani F. and Miller M.H. (1958). "The cost of capital, corporation finance and the theory of investment". *American Economic Review*, Vol. 48(3), 261-97.



agency conflicts between shareholders and managers. Starting from these precedents, the aim of this paper is to examine the relative importance of the different theoretical contributions to the analysis of the Indian SME's capital structure and find out the different variables that determine the capital structure of these SME'S. Overall it seems that the investigation of capital structure of SME'S has been largely overlooked. On these grounds, the SME capital structure problem appears as a promising topic for empirical research to enhance our understanding of the capital structure puzzle, through the investigation of an extreme financial leverage polar-case. The study also examines the determinants of financing choices (capital structure) of Indian SME'S.

### Reviews of Literature:

**Graham Hall, Patrick Hutchinson and Nicos Michaelas<sup>5</sup> (2000)**, undertook a study titled "East and west: Differences in SME capital structure between former Soviet- Bloc and Non Soviet – Bloc European countries." to analyse of the determinants of capital structure. The results for the former Soviet-bloc SME'S show that they have lower levels of debt, both short term and long-term than the non Soviet-bloc countries. The results also show that the SB SME'S have lower profitability, higher growth rates, are younger, have higher non-debt tax shields, higher stocks and lower risk compared to non Soviet-bloc countries, all of which suggest higher levels of short-term debt and at the same time they have more fixed assets, are smaller, have fewer growth options and lower levels of net debtors which suggests lower STD. Similarly, for long-term debt, SB SME'S have lower profit, higher growth rates, more fixed assets, more stock and lower risk which are associated with high LTD but are smaller, younger and have lower levels of net debtors that are associated with lower LTD.

**Francisco Sogorb Mira<sup>6</sup> (2001)**, undertook a study titled "How SME uniqueness affects capital structure: Evidence from a 1994-1998 Spanish data panel" to obtain the main determinants of debt policy decisions in small firms. The principal aim is to test how firm characteristics affect Small and Medium Enterprise (SME) capital structure. The study concluded leverage was negatively related to alternative tax shields like depreciation and taxes. Size and asset structure are both positively correlated with firm debt level. However, regarding asset structure a positive correlation was obtained with long term debt level but negative with short term debt level. Thirdly, SME'S with more growth options seem to employ more debt, although this relationship becomes negative with short term debt. Finally, predictions of Pecking Order Theory seem to explain debt policy in SME'S relatively well, although the underlying justification of this theory in this case may resemble manager's propensity to not losing part of their control in the firm. Put another way, the financing of SME'S relies on internal resources instead of external means.

**Susana Menendez Requejo<sup>7</sup> (2002)**, conducted a study entitled "SME vs. Large enterprise leverage: Determinants and Structural Relations" to examine the importance of the different theoretical proposals that explain a firm's capital structure in relation to the existence of an optimal ratio that balances the firm's tax benefits and financial risk (Tradeoff Theory), the preference for the internal financing of firms (Financial Hierarchy Theory) and the

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<sup>5</sup> Graham Hall, Patrick Hutchinson and Nicos Michaelas<sup>52</sup> (2000), "East and west: Differences in SME capital structure between former Soviet- Bloc and Non Soviet – Bloc European countries." International Journal of the Economics of Business, Volume 7, Issue 3, 2000. p 297 – 312.

<sup>6</sup> Francisco Sogorb Mira<sup>54</sup> (2001), undertook a study titled "How SME uniqueness affects capital structure: Evidence from a 1994-1998 Spanish data panel" Small Business Economics, Vol. 25, No. 5, Dec., 2005, (pp. 447-457)

<sup>7</sup> [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=313981](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=313981)



recognition of the existence of financial constraints, besides considering their interdependence with the investment decision. The results from the Structural Equation Model reveal that both the preference for internal financing and sectorial debt ratio are determinants of capital structure in a similar proportion. Business features linked to financial constraints are also significant and have a greater incidence. The interpretation of the relation found shows the lesser possibility of SME'S, together with firms not belonging to a business group, more recently created firms and firms with a lower market share, to defer investment and leverage. These results also agree with the significantly higher leverage level observed in SME'S versus large enterprises in Spain, having also significantly higher financial costs.

**Francisco Sogorb-Mira and Francisco Sogorb-Mira<sup>8</sup> (2003)**, conducted a study titled "Pecking order Versus Trade off: An empirical approach to the small and medium enterprise capital structure" to examine the financing of small and medium sized companies (SME'S) and explore whether the main theories of firm financing can explain the capital structure of these firms. Regarding trade-off theory, the results clearly indicate the existence of an optimal or target debt level where firms partially converge – the transaction costs not being excessively high. The evidence seems to confirm that Spanish SME'S adjust their target ratio very quickly – faster than publicly listed companies. Small Spanish firms seem to find the costs of an unbalanced position higher than the costs of the process of adjustment. As a result, it is confirmed that bank financing, typical in these companies, offers more advantages than obtaining funds from the capital markets. With respect to pecking order theory, small Spanish firms do not adjust their level of debt to their financial needs.

**Cristina Aybar-Arias, Cristina Aybar-Arias, José López-Gracia<sup>9</sup> (2004)**, conducted a study titled "Capital structure and sensitivity in SME definition: a panel data investigation" with the objective to empirical examination of the pecking order theory on capital structure, in the field of Small and Medium Enterprises (SME'S). The research provides empirical evidence about the compliance of the POT approach in the field of SME'S. Results indicate that the higher the growth opportunities and the lower the cash flow, the higher the debt ratio will be. It offers strong support for the growth opportunities and cash flow hypotheses. Firms that have many growth opportunities and small cash flows clearly show more debt in their capital structure. Moreover, results do not change when different SME definitions or sample sizes are used.

**Tran Dinh Khoi Nguyen and Neelakantan Ramachandran<sup>10</sup> (2006)**, conducted a study titled "Capital Structure in Small and Medium-sized Enterprises: The Case of Vietnam" to identify the determinants influencing the capital structure of small and medium-sized enterprises (SME'S) in Vietnam. Empirical results show that SME'S employ mostly short-term liabilities to finance their operations. A firm's ownership also affects the way a SME finances its operations. Short-term liabilities account for a significant proportion of the capital structure, while long-term debts are rarely employed by SME'S in Vietnam. Most apparent is the fact that state-owned SME'S have higher debt ratios than privately-owned SME'S. Secondly, it was found that firm size and level of business risk have a significant and positive relationship with all measures of capital structure. The results also indicate that profitability does not appear to influence capital structure at any significant level. Tangibility has a negative relationship with the total debt and short-term liabilities ratios. Thirdly,

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<sup>8</sup><http://www.ivie.es/downloads/docs/wpasec/wpasec-2003-09.pdf>

<sup>9</sup>[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=549082](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=549082)

<sup>10</sup> [http://findarticles.com/p/articles/mi\\_hb020/is\\_2\\_23/ai\\_n29288602/?tag=content;coll](http://findarticles.com/p/articles/mi_hb020/is_2_23/ai_n29288602/?tag=content;coll)





determinants related to management behaviour have a strong impact on a firm's capital structure. The stronger its relationship with a bank becomes, the larger the amount of bank loans an SME can obtain to finance operations. Furthermore, once SME'S are deeply involved in networks, they have more opportunities to obtain trade credits and other financial resources.

**Joaquim J. S. Ramalho, Jacinto Vidigal da Silva<sup>11</sup> (2007)**, conducted a study titled "A two-part fractional regression model for the capital structure decisions of micro, small, medium and large firms." to investigate whether and to what extent the existing capital structure theories provide also a satisfactory account of the capital structure choice of SME'S. The study concluded that there exist positive relationships between the resort, growth, age and profitability to LTD and the explanatory variables collateral and size, which are significant for most groups. On an average, micro firms have no or low collateral, it seems that lenders use age as a substitute for collateral when deciding to finance or not the activity of micro firms. Nevertheless, the effects on leverage found for profitability (-), liquidity (-) and growth (+) that the pecking-order theory may be more suitable to describe the capital structure choices made by all size-based groups of firms. One of the most interesting results of the paper is that older micro firms are more prone to use LTD: due to the low collateral of micro firms, lenders seem to use the firm's age (i.e. reputation) as a substitute for collateral.

**Maria Psillaki and Nikolaos Daskalakis (2007)<sup>12</sup>**, undertook a study titled "Are the Determinants of Capital Structure Country or Firm Specific? Evidence from SME'S" to investigate the capital structure determinants of Greek, French, Italian and Portuguese small and medium sized enterprises (SME'S) and to compare their capital structures and consider if differences in country characteristics such as financial development and institutional features may impact on capital structure choices. The study shows that the four countries present similar financial and institutional characteristics.. There seem to be similarities in the determinants of capital structure across sample countries. Italian SME'S seem to maintain the highest leverage in their capital structure, whereas the French SME'S have the lowest debt ratio. The size is positively related to leverage. Asset structure is negatively correlated with leverage. Thus, firms that maintain a large proportion of tangible assets in their total assets tend to use less debt than those which do not. Profitability is also negatively related to leverage which is consistent with the pecking order theory that argues that firms prefer internal financing from external. The leverage and risk are negatively related. Finally, the results show that growth variable is not statistically significant for any of the four countries in our sample. It is found that firm rather than country factors explain differences in the intensity of capital structure choices.

**Joshua Abor<sup>80</sup> (2008)<sup>13</sup>**, conducted a research titled Determinants of the Capital Structure of Ghanaian Firms with the objective -compare the capital structures of publicly quoted firms, large unquoted firms, and small and medium enterprises (SME'S) in Ghana. Examine the determinants of financing choices (capital structure) of Ghanaian firms. Publicly quoted and large unquoted firms were found to have higher debt ratios than SME'S. Overall, listed and unquoted firms exhibit different financing behaviour from that of SME'S. Older SME'S are more likely to rely on long-term debt finance. Firm size was found to have a positive relationship to short-term debt ratio of SME'S and debt ratios of quoted firms, but negative

<sup>11</sup> [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=968017](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=968017)

<sup>12</sup> [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1341860](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1341860)

<sup>13</sup> [http://ideas.repec.org/p/aer/rpaper/rp\\_176.html](http://ideas.repec.org/p/aer/rpaper/rp_176.html)



with respect to long-term debt ratio in the case of unquoted firms. Both long term and short-term debts have inverse associations with profitability. Firm growth was found to have a positive association with long-term debt for the unquoted firms' sample and short-term debt ratio for SME'S. Firms with high risk profile avoid taking more financial risk by using less long-term debt. SME'S with high managerial shareholding rely less on short-term debt. Industry was found to be important in explaining the SME'S' capital structure. SME'S located outside the capital city depend less on debt finance. Limited liability companies are more likely to obtain long-term debt finance relative to sole-proprietorship businesses. The pecking order theory appears to dominate the Ghanaian capital structure story.

**Rice and Strahan<sup>14</sup> (2010)** found a measure of increase in credit supply in the USA did not bring about an increase in borrowing amongst SME'S. The explanation in their paper is that lenders restrict quantity due to asymmetric information and thus credit supply increases do not necessarily increase observed leverage.

### **Research Methodology:**

#### **Statement of the problem**

Although many studies have been conducted on the capital structure, still there is a gap of satisfactory, comprehensive and positive explanation for firms' capital structure observed behaviour. It is still not well understood why firms' financial contracts recurrently appear in certain patterns and most of the research work has been carried out in developed economies and very little is known about the capital structure of firms in developing economies. Most of the research on capital structure has focused on public, nonfinancial corporations with access to U.S. or other international capital markets. The study on the determinants of capital structure of SME'S in the developing countries like India has been overlooked and therefore a study on the determinants of the capital structure of Indian SME'S is an important research area that needs to be explored.

#### **Objectives of the study**

The present study has been undertaken with the following objectives:

- a) To obtain the main determinants of capital structure of SME'S
- b) To build a model to find out the level of leverage in SME'S.
- c) To explore the link between theory and practice of capital structure.

#### **Variables of the study**

##### **Dependent variable**

The dependent variable in the study is the debt equity ratio.

##### **Independent variable**

Independent variables used in the study are profitability, growth, collateral, size, liquidity, age, and non debt tax shields, default risk, cash operating profit and effective tax rate.

#### **Hypothesis**

Hypothesis 1: A negative relationship will exist between profitability and debt equity ratio.

Hypothesis 2: A negative relationship will exist between growth and debt equity ratio.

Hypothesis 3: A negative relationship will exist between collateral and debt equity ratio.

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<sup>14</sup> Tara Rice, Philip E. Strahan, "Does Credit Competition Affect Small-Firm Finance?" ,The Journal of Finance, Volume 65, Issue 3, pages 861-889, June 2010



- Hypothesis 4: A positive relationship will exist between size and debt equity ratio.  
 Hypothesis 5: A negative relationship will exist between liquidity and debt equity ratio.  
 Hypothesis 6: A negative relationship will exist between age and debt equity ratio.  
 Hypothesis 7: A positive relationship will exist between NDTs and debt equity ratio.  
 Hypothesis 8: A negative relationship will exist between default risk and debt equity ratio.  
 Hypothesis 9: A negative relationship will exist between cash operating profit and debt equity ratio.  
 Hypothesis 10: A positive relationship will exist between effective tax rate and debt equity ratio.

**Sampling procedure**

For data analysis the SME'S data were chosen from the CMIE Prowess database. The manufacturing sectors are chosen as the scope of the study. Totally 1634 manufacturing organizations financials for a period of 5 years (2006 – 2010) are chosen for the current study.

**Data Analysis:**

***Table 1: Descriptive Statistics***

	N	Minimum	Maximum	Mean		Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error
Debt equity ratio	1634	-34.08	867.43	1.40	0.54	21.86	38.21	0.06
Profitability	1634	-2376.35	43.07	-1.62	1.46	58.95	-40.09	0.06
Growth	1634	-0.32	4370.54	2.95	2.67	108.13	40.41	0.06
Collateral	1634	0.00	0.99	0.34	0.01	0.21	0.67	0.06
Size	1634	0.12	14427.94	41.15	10.08	407.46	29.65	0.06
Liquidity	1634	-81.92	324.19	5.33	0.32	13.01	13.44	0.06
Age	1634	1979	2010	2001	0.05	0.46	-7.55	0.06
Non debt tax shield	1634	-38.63	23.14	0.31	0.05	1.94	-3.23	0.06
Default risk	1634	-917.08	43.92	-0.33	0.56	22.83	-39.69	0.06
Cash operating profit	1634	-9.04	2.30	0.05	0.01	0.28	-22.08	0.06
Effective tax rate	1634	-47.45	12.97	0.12	0.03	1.31	-28.56	0.06

Source: Self Computation

**Interpretation:**

The descriptive statistics figures indicate that the usage of debt and equity varies widely across the companies but on an average, the SME'S uses around 1.4 times more debt as compared to equity on an average. Profitability, Growth and Size vary widely across these companies though Investment, Cash Operating Profit, Collateral, Non debt tax shield and Effective tax rate remains more or less the same. From the table it can be observed that the overall Profitability average is negative (-1.62), but the variability is also high (58.95). The Growth average is positive (2.95) but the variability is in the higher side (108.13). Collateral, Age, NDTs, COP and Effective tax rate average is positive with a less variability. The maximum variation is observed in size of the organization which is calculated by averaging of log (total assets). The default risk average turns to be negative (-.33) with a moderate



variation (22.83). Liquidity in the other hand have positive mean (5.33) and the variability also moderate (13.01).

**Table 2: Correlation Matrix**

	D/E Ratio	Prof.	Growth	Coll.	Size	Liquidity	Age	NDTS	D R	COP	T.R
D/E Ratio	1.000										
Profitability	0.003	1.000									
Growth	-0.001	0.001	1.000								
Collateral	-0.012	0.028	0.010	1.000							
Size	0.008	0.003	0.012	0.076	1.000						
Liquidity	-0.007	0.014	-0.008	-0.112	-0.012	1.000					
Age	-0.013	0.002	0.000	0.065	-0.014	-0.024	1.000				
NDTS	-0.002	0.006	-0.101	0.045	0.012	0.035	0.011	1.000			
Default risk	0.003	0.989	0.000	0.028	0.003	0.011	-0.010	0.053	1.000		
COP	-0.006	0.823	-0.006	0.035	0.008	0.010	-0.001	0.029	-0.814	1.000	
Tax Rate	0.038	0.003	-0.001	-0.042	-0.002	-0.020	0.002	-0.021	0.001	0.012	1.000

Source: Self Computation

### Interpretation:

A correlation analysis was performed to verify a possible association between and among the variables, in order to verify whether there is any linear correlation between and among the variables of interest of the study. The correlation matrix indicates that except for growth (-.014), Collateral (-.0121), NDTS (-.0018), COP (-.0057) and liquidity (-.0068) and Age (-.0132) all the other factors has positive correlation with debt equity ratio. The relationship between the independent variables has not been very significant except for the relationship between profitability and Default Risk (.9893), Profitability and COP (.8234) and COP and Default Risk (-.8144). This shows that firms with greater Profitability have high default risk; firms with greater Profitability have greater COP and firms having high COP having less default risk.

### Regression Analysis

The regression analysis is the process of constructing a mathematical model or function that can be used to predict or determine one variable by another variable. In the regression model the variable is to be predicted is called a dependent variable and the variables upon which the dependent variables are depending is called independent variable.

**Table 3: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1.000	.958 <sup>a</sup>	0.917	0.917	0.936

Source: Self Computation

### Interpretation:

R - R is the square root of R-Squared and is the correlation between the observed and predicted values of dependent variable. Here the R value is .958 which means there is a high correlation between the observed and the predicted value of the dependent variable.

R Square – This represents the proportion of variance in the dependent variable (debt-equity ratio) which can be explained by the independent variables (profitability, growth, collateral, size, liquidity, investment, non debt tax shield, default risk, cash operating profit and





effective tax rate). This is an overall measurement of the strength of the association and does not reflect the extent to which any particular independent variable is associated with the dependent variable. The value of R square is 0.917 which shows a high strength of association between dependent and independent variables.

Adjusted R Square – This is an adjustment of the R Square that penalizes the addition of extraneous predictors to the model. The value of Adjusted R Square is 0.917 which indicates that if there is an addition of extraneous predictor to the model it will not add significant predictability to the dependent variable.

Std. error of the Estimate – This is also referred as the root mean square error and it represents the standard deviation of the error term and the square root of the mean square for the residual in the ANOVA table.

**Table 4: ANOVA Table**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15764.014	10	1576.401	1800.535	.000
	Residual	1420.966	1623	0.876		
	Total	17184.98	1633			

Source: Self Computation

**Interpretation:**

F test is used to test whether the model is statistically significant. We look to the p-value of the F-test to see if the overall model is significant. With a p-value of zero to three decimal places, the model is statistically significant. The F observed value is 1800.535 and the F critical value is 1.8307 at 5% level of significance. The decision rule is to reject the null hypothesis if the observed F value is greater than the critical F value. The null hypothesis is that the population means of the treated variables are equal. Here the observed F value is greater than the critical F value. So the null hypothesis is rejected. Not all means are equal. It implies that there is a significant difference between all the independent variables.

**Table 5: Coefficients**

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.788	0.046		16.99	0
	Profitability	-0.016	0.003	-0.296	-5.574	0
	Growth	0	0	-0.004	-0.551	0.581
	Collateral	0.314	0.11	0.021	2.86	0.004
	Size	-0.00000383	0	0	-0.067	0.946
	Liquidity	-0.008	0.002	-0.032	-4.385	0
	Age	-0.455	0.322	-0.01	-1.414	0.157
	NDTS	0.002	0.013	0.001	0.145	0.885
	Default risk	-0.071	0.007	-0.497	-9.57	0
	COP	-2.277	0.147	-0.195	-15.455	0
	Effective tax rate	-0.014	0.018	-0.006	-0.805	0.421

Source: Self Computation



**Interpretation:**

The first variable (constant) represents the constant, also referred as the Y intercept, the height of the regression line when it crosses the Y axis. In other words, this is the predicted value of debt equity ratio when all other variables are 0.

From the table coefficients, the B value tells us about the relationship of each variable with the independent variable, i.e. debt equity ratio.

**Profitability:** The coefficient for profitability is -.016. So for every unit increase in profitability, a 0.016 unit decrease in debt equity is predicted, holding all other variables constant.

**Growth:** The coefficient for growth is 0. So for every unit increase in growth, no change in debt equity is predicted, holding all other variables constant.

**Collateral:** The coefficient for collateral is .314. So for every unit increase in collateral, a 0.314 unit increase in debt equity is predicted, holding all other variables constant.

**Size:** The coefficient for size is -.0000038. So for every unit increase in size, a 0.0000038 unit decrease in debt equity is predicted, holding all other variables constant.

**Liquidity:** The coefficient for liquidity is -.008. So for every unit increase in liquidity, a 0.008 unit decrease in debt equity is predicted, holding all other variables constant.

**Age:** The coefficient for investment is -0.455. So for every unit increase in investment, a 0.455 unit decrease in debt equity is predicted, holding all other variables constant.

**Non debt tax shield:** The coefficient for non debt tax shield is +.0002. So for every unit increase in non debt tax shield, a 0.0002 unit increase in debt equity is predicted, holding all other variables constant.

**Default risk:** The coefficient for default risk is -.071. So for every unit increase in default risk, a 0.071 unit decrease in debt equity is predicted, holding all other variables constant.

**Cash operating profit:** The coefficient for cash operating profit is -2.277. So for every unit increase in cash operating profit, a 2.277 unit decrease in debt equity is predicted, holding all other variables constant.

**Effective tax rate:** The coefficient for effective tax rate is -.014. So for every unit increase in effective tax rate, a 0.014 unit decrease in debt equity is predicted, holding all other variables constant.

The beta values have an associated standard error indicating to what extent these values would vary across different samples, and these standard errors are used to determine whether or not the B value differs significantly from zero. By standardizing the variables before running the regression, one should put all of the variables on the same scale, and can compare the magnitude of the coefficients to see which one has more of an effect.



So the regression equation can be written as:

$$\text{Debt equity} = .788 - .016 \text{ Profitability} + 0 \text{ Growth} + .314 \text{ Collateral} - 0.0000038 \text{ Size} - .008 \text{ Liquidity} - .455 \text{ Age} + .0002 \text{ NDTs} - .071 \text{ Default Risk} - 2.277 \text{ COP} - .014 \text{ Effective tax rate}$$

### Hypothesis Testing:

#### *Profitability:*

The regression coefficient for the effect of profitability on the usage of debt is negative. The theories are conflicting in relation to the influence of the profitability of firms on the level of leverage. According to TOT, more profitable firms should use more debts, in order to take advantage of the tax deductibility of interest. On the other hand, POT advocates that firms follow a preferential order of financing sources, and that before seeking debts, they would use resources generated internally. In this manner, the more profitable firms would tend to have fewer debts. The results of the tests demonstrated a negative and not significant relation between profitability and the leverage of firms, confirming TOT and accepting hypothesis 1 of this study (more profitable firm's exhibit lower levels of leverage). Thus according to this study SME'S in service sector in India uses more debt as their profitability decreases.

#### Growth

The Pecking Order theory suggests a positive relation between leverage and the growth level of firms. Yet the Trade-Off theory suggests the opposite. However, adopting the growth of sales as a proxy for the growth level of firms, the results of the tests demonstrated that the coefficient of liquidity is 0, which indicates that the growth of a firm do not determine its capital structure.

#### Collateral

TOT suggests a positive relation between leverage and level of collateral and the POT suggests a negative relation between the two. Counteracting hypothesis 3, which was based on POT (firms with higher levels of tangible assets exhibit lower levels of leverage), the results demonstrated a clear positive association between Collaterals (measured by the sum of fixed assets plus inventories), and debt equity ratio. Although several other studies (KREMP et al., 1999; GAUD et al., 2005, BRITO and LIMA, 2003) proved to the contrary, the same result was also obtained by Booth et al., (2001). Hence the hypothesis 3 is rejected.

Arguments from theories based on asymmetric information: - according to arguments based on asymmetric information the positive relationship may be due to the fact that the firms that own greater fixed assets can use it for mortgaging or used as security are expected to issue more debt to take advantage of this. Secured debt is less expensive than equity and unsecured debt when the managers have better information than external shareholders. Collateral reduces the consequences of adverse selection because if the borrower defaults on the loan the seller can sell the collateral.

#### Size

This variable captures the effect that small firms are subjected to higher bankruptcy risks as compared to larger firms. TOT suggests a positive relation between the size of firms and the



level of leverage. Adopting the value of log asset as a proxy for the size of firms, the results of the tests confirm the TOT and reject the hypothesis 4. This can be due to the following reasons:-

- Small firms will prefer less debt because they are more likely to face financial distress due to a higher variability of earnings.
- Small firms are excluded from the equity market because of higher asymmetries of information.
- The stock price reactions to news are greater and the buy-sell price spread is greater for small companies. The buy sell price spread can be seen as a compensation for the uninformed investor trading with the informed investor. The number of passive investors is limited due to the cost of monitoring small firms.

#### Liquidity

It has been argued that liquidity of the firm may have an influence on the choice between internal and external financing. According to the pecking order hypothesis, firms with financial slack (i.e. liquid assets such as cash and marketable securities) will prefer internal sources to finance future investments. Accordingly, firms with higher liquidity ratio are expected to have lower debt equity ratio. The results demonstrated a clear negative association between liquidity and debt equity ratio. Hence the hypothesis 5 is accepted. Thus according to this study SME'S in manufacturing sector in India have higher liquidity with less debt equity ratio.

#### Age

It has been argued that young firms are more likely to depend on debt instruments since they do not have sufficient internally funds to finance new investment. This in turn suggests negative correlation between age and leverage. On the other hand, aged firms have established a good relation with banks and form good reputation through time. Accordingly, they have better conditions and easier access to debt market than those new established. The results demonstrated a clear negative association between Age and debt equity ratio. Hence the hypothesis 6 is accepted. Thus according to this study SME'S in manufacturing sector in India have higher age with less debt equity ratio.

#### Non debt tax shields

The non debt tax shields show a significant negative relation with the debt equity ratio. Thus the null hypothesis 7 is rejected. This may be because as the tax shields increases, firms tend to use more debt capital since the interest is tax deductible and hence result in higher profitability to the firm. This result is also in confirmation with the TOT theory. Arguments from the static trade off theory: - The static trade off theory suggests that the optimal debt equity ratio is found at the intersection between marginal benefits of interest rate tax deductions and marginal expected bankruptcy costs.

#### Default Risk

It has been commonly argued in the literature that as debt involves commitment of periodic payments, firms with high variability in earnings have a greater risk not to meet their debt obligations, so increasing the probability of default. Thus, lenders will be less willing to lend or will charge a higher risk premium since they will have a greater probability of losing their money. Empirically, the analysis of prior studies shows that risk is significantly inversely correlated with debt ratios. The results demonstrated a clear negative association between default risk and debt equity ratio. Hence the hypothesis 8 is accepted.

#### Cash Operating Profit:

It has been pointed out earlier that agency theory argues that debt reduces the amount of free cash flow available to managers to undertake personally beneficial activities since it commits the firm to pay out cash (Jensen, 1986). This theory, therefore, suggests a direct relationship



between free cash flow and leverage. However, if free cash flow is representing the capacity of the firm to generate internal resources, then a negative relationship between free cash flow and debt levels is expected (pecking order theory). The results demonstrated a clear negative association between default risk and debt equity ratio. Hence the hypothesis 9 is accepted.

#### Effective Tax Rate:

The gains from borrowing increase with the rate of tax. Therefore, a positive relationship between the *effective tax rate* and Debt Equity Ratio is expected. However, the implication of tax on capital structure choice depends upon the tax policy objectives especially when the tax system is designed to favor the retention of earnings against dividend payout, or vice versa. The results demonstrated a clear negative association between effective tax rate and debt equity ratio. Hence the null hypothesis 10 is rejected.

#### Findings:

A research work's success ultimately depends on its findings. The results of the study show moderate support for the trade-off theories of capital structure. Little evidence was found in favour of the pecking order capital structure policy model.

- The descriptive statistics figures indicate that the usage of debt and equity varies widely across the companies but on an average, the SME'S uses around 1.4 times more debt as compared to equity on an average. Profitability, Growth and Size vary widely across these companies though Investment, Cash Operating Profit, Collateral, Non debt tax shield and Effective tax rate remains more or less the same. It can be further observed that the overall Profitability average is negative (-1.62), but the variability is also high (58.95). The Growth average is positive (2.95) but the variability is in the higher side (108.13). Collateral, Age, NDTs, COP and Effective tax rate average is positive with a less variability. The maximum variation is observed in size of the organization which is calculated by averaging of log (total assets). The default risk average turns to be negative (-.33) with a moderate variation (22.83). Liquidity in the other hand have positive mean (5.33) and the variability also moderate (13.01).
- A correlation analysis was performed to verify a possible association between and among the variables, in order to verify whether there is any linear correlation between and among the variables of interest of the study. The correlation matrix indicates that except for growth (-.014), Collateral (-.0121), NDTs (-.0018) , COP (-.0057) and liquidity (-.0068) and Age (-.0132) all the other factors has positive correlation with debt equity ratio. The relationship between the independent variables has not been very significant except for the relationship between profitability and Default Risk (.9893), Profitability and COP (.8234) and COP and Default Risk (-.8144). This shows that firms with greater Profitability have high default risk; firms with greater Profitability have greater COP and firms having high COP having less default risk.
- The regression coefficient for the effect of profitability on the usage of debt is negative. The results of the tests demonstrated a negative and not significant relation between profitability and the leverage of firms, confirming TOT. Thus according to this study SME'S in service sector in India uses more debt as their profitability decreases.
- Adopting the growth of sales as a proxy for the growth level of firms, the results of the tests demonstrated that the coefficient of liquidity is 0, which indicates that the growth of a firm do not determine its capital structure.
- TOT suggests a positive relation between leverage and level of collateral and the POT suggests a negative relation between the two. The results demonstrated a clear





positive association between Collaterals (measured by the sum of fixed assets plus inventories), and debt equity ratio.

- The variable size captures the effect that small firms are subjected to higher bankruptcy risks as compared to larger firms. TOT suggests a positive relation between the size of firms and the level of leverage. Adopting the value of log asset as a proxy for the size of firms, the results of the tests confirm the TOT.
- It has been argued that liquidity of the firm may have an influence on the choice between internal and external financing. According to the pecking order hypothesis, firms with financial slack (i.e. liquid assets such as cash and marketable securities) will prefer internal sources to finance future investments. Accordingly, firms with higher liquidity ratio are expected to have lower debt equity ratio. The results demonstrated a clear negative association between liquidity and debt equity ratio.
- It has been argued that young firms are more likely to depend on debt instruments since they do not have sufficient internally funds to finance new investment. This in turn suggests negative correlation between age and leverage. On the other hand, aged firms have established a good relation with banks and form good reputation through time. Accordingly, they have better conditions and easier access to debt market than those new established. The results demonstrated a clear negative association between
- The non debt tax shields show a significant negative relation with the debt equity ratio. This may be because as the tax shields increases, firms tend to use more debt capital since the interest is tax deductible and hence result in higher profitability to the firm. This result is also in confirmation with the TOT theory.
- It has been commonly argued in the literature that as debt involves commitment of periodic payments, firms with high variability in earnings have a greater risk not to meet their debt obligations, so increasing the probability of default. Thus, lenders will be less willing to lend or will charge a higher risk premium since they will have a greater probability of losing their money. Empirically, the analysis of prior studies shows that risk is significantly inversely correlated with debt ratios. The results demonstrated a clear negative association between default risk and debt equity ratio.
- It has been pointed out earlier that agency theory argues that debt reduces the amount of free cash flow available to managers to undertake personally beneficial activities since it commits the firm to pay out cash (Jensen, 1986). This theory, therefore, suggests a direct relationship between free cash flow and leverage. However, if free cash flow is representing the capacity of the firm to generate internal resources, then a negative relationship between free cash flow and debt levels is expected (pecking order theory). The results demonstrated a clear negative association between default risk and debt equity ratio.
- The gains from borrowing increase with the rate of tax. Therefore, a positive relationship between the *effective tax rate* and Debt Equity Ratio is expected. However, the implication of tax on capital structure choice depends upon the tax policy objectives especially when the tax system is designed to favor the retention of earnings against dividend payout, or vice versa. The results demonstrated a clear negative association between effective tax rate and debt equity ratio.

### **Conclusion:**

This study investigates the determinants of capital structure of SME'S manufacturing organizations. Measures of the traditional factors that are hypothesized to affect financing decisions include profitability, growth, collateral, size, liquidity, age, non debt tax shields,



default risk, cash operating profit and effective tax rate. The study shows overall evidences in support of Trade off theories of capital structure.

The study reveals a positive and significant relationship between Collateral and non debt tax shields. More profitable firms use more debts, in order to take advantage of the tax deductibility of interest. The firms that own greater fixed assets can use it for mortgaging or used as security are expected to issue more debt to take advantage of this. Secured debt is less expensive than equity and unsecured debt when the managers have better information than external shareholders.

The results of this study have delivered some insights on the capital structure of Indian SME'S. The issue of capital structure is an important strategic financing decision that firms have to make. Clearly, the Trade off Theories appears to dominate the Indian SME'S capital structure story. It is therefore important for policy to be directed at improving the information environment. Policy makers should place greater emphasis on the facilitation of equity capital since it provides a base for further borrowing, reduces businesses' sensitivity to economic cycles, and provides unquoted firms with access to syndicates of private and institutional venture capital suppliers.

It is appropriate to establish financing schemes to assist SME'S in specific industries, those owned by women and those located outside the capital. Considering that export-oriented firms and limited liability companies have easier access to finance, firms should think about entering the international markets. Since tax rates affect SME'S financing decisions to a great extent, policy makers should encourage SME'S by giving tax concessions. The forces working on firms' capital structure in other countries also work in a quite similar way in India.

### References:

- Ang, J. S., (1991) Small Business Uniqueness and the Theory of Financial Management. *The Journal of Small Business Finance*, 1, 1-13.
- Ang J., Chua J. and J. McConnell (1982), The administrative costs of corporate bankruptcy: a note, *The Journal of Finance*, Vol.37, No.1, March, pp. 219-226.
- Ang J. (1992), On the theory of finance for privately held firms, *The Journal of Small Business Finance*, vol.1, No.3, pp. 185-203.
- Aryeetey, E., A. Baah-Nuakoh, T. Duggleby, H. Hettige and W.F. Steel. 1994. Supply and Demand for Finance of Small-Scale Enterprises in Ghana. World Bank Discussion Paper No. 251. The World Bank, Washington, D.C.<sup>5</sup>
- Balakrishnan S. and I. Fox (1993) Asset Specificity, Firm Heterogeneity and Capital Structure, *Strategic Management Journal*, Vol. 14, pp. 3-16.
- Bancel F. and U. Mittoo, (2004), Cross-Country Determinants of Capital Structure Choice: A Survey of European Firms, *Financial Management*, Vol.33, No.4, (Winter) 2004, pp. 103-133.
- Bartholdy J. and C. Mateus (2005), Debt and Taxes: Evidence from Bank-Financed Small and Medium-Sized Firms, Paper Presented at the *12th Annual Conference of the Multinational Finance Society*, Athens, Greece.
- Beattie, V., A. Goodacre and S.J. Thomson (2006), 'Corporate Financing Decisions: UK Survey Evidence', *Journal of Business Finance & Accounting*, Vol. 33, No. 9&10, pp. 1402-34.
- Beck T., Demirgüç-Kunt A. and V Maksimovic, (2004a), Financial and Legal Institutions and Firm Size, *World Bank*, Mimeo.
- Beck T., Demirgüç-Kunt A. and V Maksimovic, (2004b), Financial patterns around the world: Are small firms different?, *World Bank*, Mimeo.



- Beck T., Demirgüç-Kunt A. and V Maksimovic, (2005), Financial and legal constraints to firm growth: Does firm size matter? *The Journal of Finance*, Vol.60, pp. 137-177.
- Beck T. and A. Demirguc-Kunt, (2006), Small and medium-size enterprises: Access to finance as a growth constraint, *Journal of Banking and Finance*, forthcoming.<sup>16</sup>
- Bradley, M., G. Jarrell and E. Kim (1984), On the Existence of an Optimal Capital Structure: Theory and Evidence, *The Journal of Finance*, vol. 39, pp. 857-878.
- Brander, J. and T. Lewis (1986), Oligopoly and Financial Structure: The Limited Liability Effect, *American Economic Review*, vol. 76, pp. 956-970.
- Berger, A. N. & Udell, G. F., (1990) Collateral, Loan Quality, and Bank Risk. *Journal of Monetary Economics*, 25, 21-42.
- Berger, A. N. & Udell, G. F., (1998) The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle. *Journal of Banking and Finance*, 22, 613-673.
- Berggren, B., Olofsson, C. & Silver, L., (2000) Control Aversion and the Search for External Financing in Swedish SME'S. *Small Business Economics*, 15, 233- 242.
- Black, J., De Meza, D. & Jeffrey, D., (1996) House Prices, the Supply of Collateral and the Enterprise Economy. *The Economic Journal*, 106, 60-75.
- Castanias R. (1983), Bankruptcy Risk and Optimal Capital Structure, *The Journal of Finance*, vol. 38, n°5, December, pp. 1617-1635.
- Cassar, G. & Holmes, S., (2003) Capital Structure and Financing of SME'S: Australian Evidence. *Accounting and Finance*, 43, 123-147.
- Chittenden, F., Hall, G. & Hutchinson, P., (1996) Small Firm Growth, Access to Capital Markets and Financial Structure: Review of Issues and an Empirical Investigation. *Small Business Economics*, 8, 56-67.
- Chittenden, F., Poutziouris, P., Michaelas, N. & Watt, T. (1998) The March 1998 Budget and Small Business Taxation. London, National Westminster Bank.
- Ciarán mac an Bhaird, "What Determines the Capital Structure of SME'S: Irish Evidence" *Small Business Economics*, Vol 35, Number 3357-375, DOI: 10.1007/s11187-008-9162-6<sup>8</sup>
- Cobham, D. and R. Subramaniam. 1998. "Corporate finance in developing countries: New evidence for India". *World Development*, 26(6): 1033-47.
- Commission of the European Communities (1996), Commission Recommendation of 3 April 1996 (96/280/EC) concerning the definition of small and medium-sized enterprises, *Official Journal*, NO. L 107, 30/04/1996, pp. 0004-0009.
- Cressy, R. & Olofsson, C., (1997) The Financial Conditions for Swedish SME'S: Survey and Research Agenda. *Small Business Economics*, 9, 179-194.
- Curran, J. & Blackburn, R. A. (2001) *Researching the Small Enterprise*, London, Sage.
- Daskalakis N. and M. Psillaki (2007), Do Country or Firm Factors Explain Capital Structure? Evidence from SME'S in France and Greece, *Applied Financial Economics*, forthcoming.
- DeAngelo, H., Masulis, R., 1980. "Optimal capital structure under corporate and personal taxation" *Journal of Financial Economics* 8, 3-30
- Dillman, D. (2000) *Mail and Internet Surveys*, New York, John Wiley and Sons.
- Esperanca, J. P., Gama, A. P. M. & Gulamhussen, M. A., (2003) Corporate Debt Policy of Small Firms: An Empirical (Re) Examination. *Journal of Small Business and Enterprise Development* 10, 62-80.



- European Commission Observatory of European SME'S (2002), *7th Report*, Brussels.
- European Commission Observatory of European SME'S (2003), *SME'S and access to finance*, No.2, Brussels.
- Evans, D. S. & Jovanovic, B., (1989) An Estimated Model of Entrepreneurial Choice Under Liquidity Constraints. *Journal of Political Economy*, 97, 808-827.
- Fama E. and K. French (2002), Testing Tradeoff and Pecking Order Predictions about Dividends and Debt, *Review of Financial Studies*, vol. 15, pp. 1-33.
- Frank M. and V. Goyal (2003), Testing the Pecking Order Theory of Capital Structure, *Journal of Financial Economics* 67, pp. 217-248
- Francisco Sogorb Mira<sup>54</sup> (2001), undertook a study titled "How SME uniqueness affects capital structure: Evidence from a 1994-1998 Spanish data panel" *Small Business Economics*, Vol. 25, No. 5, Dec., 2005, (pp. 447-457)
- Fu, T.-W., Ke, M.-C. & Huang, Y.-S., (2002) Capital growth, Financing Source and Profitability of Small Businesses: Evidence from Taiwan Small Enterprises. *Small Business Economics*, 18, 257-267.
- Gaud, P., M. Hoesli, and A. Bender, (2004) further evidence on debt-equity choice, *FAME*, Research Paper No. 114, May.
- Gaud P., E. Jani, M. Hoesli and A. Bender (2005), The Capital Structure of Swiss Companies: an Empirical Analysis Using Dynamic Panel Data, *European Financial Management*, Vol. 11, No. 1, 2005, 51-69
- Graham Hall, Patrick Hutchinson and Nicos Michaelas<sup>52</sup> (2000), "East and west: Differences in SME capital structure between former Soviet- Bloc and Non Soviet – Bloc European countries." *International Journal of the Economics of Business*, Volume 7, Issue 3, 2000. p 297 – 312.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. & Tatham, R. L. (2006) *Multivariate Data Analysis*, Upper Saddle River, New Jersey, Pearson Prentice Hall.
- Hall, G., Hutchinson, P. & Michaelas, N., (2004) Determinants of the Capital Structures of European SME'S. *Journal of Business Finance & Accounting*, 31, 711-728.
- Hall, G., Hutchinson, P. J. & Michaelas, N., (2000) Industry Effects on the Determinants of Unquoted SME'S' Capital Structure. *International Journal of the Economics of Business*, 7, 297-312. Hamilton, R.T. and Fox, M.A., 1998, "The financing preferences of small firm owners", *International Journal of Entrepreneurial Behaviour & Research*, 4 (3), 239-248.
- Hand, J. H., Lloyd, W. P. & Rogow, R. B., (1982) Agency Relationships in the Close Corporation. *Financial Management*, 11, 25-30.
- Harris, M. and A. Raviv (1988), Corporate Control Contests and Capital Structure, *Journal of Financial Economics*, vol. 20, pp. 55-86.
- Harris, M. and A. Raviv (1990), Capital Structure and the Informational Role of Debt, *The Journal of Finance*, vol. 45, n°2, June, pp. 321-349.
- Harris, M. and A. Raviv (1991), The Theory of Capital Structure, *The Journal of Finance*, vol. 46, pp. 297-355.
- Holmes S. and P. Kent (1991), An empirical analysis of the financial structure of small and large Australian manufacturing enterprises, *Journal of Small Business Finance*, Vol.1, No.2, pp. 141-154.
- Hirota, S., 1997. "Are corporate financing decisions different in Japan? An Empirical study on capital structure" *Unpublished working paper*.





- Hoshi, T., Kashyap, A., Scharfstein, D., 1991. "Corporate structure, liquidity, and investment: Evidence from Japanese groups" *Quarterly Journal of Economics* 106, 22-60.
- Jensen, M., 1986. "Agency costs of free cash flow, corporate finance and takeovers" *American Economic Review* 76, 323-339.
- Jensen, M., Meckling, W., 1976. "Theory of the firm: Managerial behavior, and agency costs and capital structure" *Journal of Financial Economics* 3, 305-360.
- Jordan, J., J. Lowe and P. Taylor (1998), 'Strategy and Financial Policy in UK Small Firms', *Journal of Business Finance & Accounting*, Vol. 25, pp. 1-27.
- La Porta R., Lopez-de-Silanes F., Shleifer A. and R. Vishny (1998), Law and Finance, *Journal of Political Economy* 106, pp. 1113-1155.
- Mac an Bhaird, C. and Lucey, B., Determinants of the capital structure of SME'S: A seemingly unrelated regression approach, *Institute for Small Business and Entrepreneurship 30th Conference, 07-NOV-07 – 09-NOV-07, Radisson SAS Hotel, Glasgow.*
- Mackie-Mason, J. (1990), Do Taxes Affect Corporate Financing Decisions?, *The Journal of Finance*, vol. 45, pp. 1471-1492.
- Marsh P. (1982), The choice between equity and debt: An empirical study, *The Journal of Finance*, vol. 37, pp. 121-144.
- Mason, S. P., Merton, R. C., 1985. "The role of contingent claims analysis in corporate finance" In: Altman, E. I., (Ed), *Recent Advances in Corporate Finance*, Irwin, Homewood, IL, pp.7-54.
- Myers, S. C., 1977. "Determinants of corporate borrowing" *Journal of Financial Economics* 5, 147-175.
- Modigliani F. and Miller M.H. (1958). "The cost of capital, corporation finance and the theory of investment". *American Economic Review*, Vol. 48(3), 261-97.
- Myers, S. C., 1984. "The capital structure puzzle" *Journal of Finance* 39, 575-592.
- Ozkan, A., (2001), Determinants of capital structure and adjustment to long run target: evidence from UK company panel data, *Journal of Business Finance and Accounting*, Vol. 28(1) & (2), January/March, pp. 175-199.
- Pettit R. and R. Singer (1985), Small business finance: a research agenda, *Financial Management*, Vol.14, No.3, (Autumn), pp. 47-60.
- Psillaki M. (1995), Credit rationing and small and medium sized firms: a tentative of linkage, *Revue Internationale PME*, Vol.8, No.3-4, pp. 67-90.
- Psillaki M. and G. Mondello (1996), Financing small and medium sized firms: coordination and transaction costs, *Cahiers Monnaie et Financement*, No.24, pp. 47 70.
- Rajan R. and L. Zingales, (1995), What Do We Know About Capital Structure? Some Evidence From International Data, *Journal of Finance* 50, pp. 1421-1460.
- Singh and J. Hamid, 1992, "Corporate Financial Structures in Developing Countries," *IFCTechnical Paper*, No. 1 (Washington: International Finance Corporation).
- Singh, A., 1994, "How Do Large Corporations in Developing Countries Finance their Growth?" *Finance and the International Economy: Prize Essays in Memory of Robert Marjolin*, The Amex Bank
- Scott J. (1976), A theory of optimal capital structure *The Bell Journal of Economics*, Vol.34, (Spring), pp. 33-54.
- Scott, J. (1977), Bankruptcy, Secured Debt, and Optimal Capital Structure, *The Journal of Finance*, vol. 32, March, pp. 1-19.





- Snodgrass D. and T. Biggs (1996) Industrialization and the small firm, *International Center for Economic Growth*, San Francisco.
- Sogorb-Mira F. (2005), How SME Uniqueness Affects Capital Structure: Evidence from A 1994–1998 Spanish Data Panel, *Small Business Economics*, vol.25, No.5, December, pp. 447-457.
- Tara Rice, Philip E. Strahan, “Does Credit Competition Affect Small-Firm Finance?” ,*The Journal of Finance*, Volume 65, Issue 3, pages 861–889, June 2010
- Transaction Cost Analysis, in E. Helmstädter and M. Perlman, eds., *Behavioral Norms, Technological Progress, and Economic Dynamics*, University of Michigan Press, 1996, pp. 285-298.
- Titman, Sh. (1984), The Effect of Capital Structure on a Firm’s Liquidation Decision, *Journal of Financial Economics*, vol. 13, pp. 137-151.
- Timan S. and R. Wessels, (1988), The Determinants of Capital Structure Choice, *Journal of Finance* 43, pp. 1-19.
- Torres, O. and Julien, P-A. (2005) Specificity and denaturing of small business, *International Small Business Journal*, 23(4), pp. 355-377.
- Van der Wijst, D. (1989) *Financial Structure in Small Business, Theory, Tests and Applications*, Berlin: Springer-Verlag”.
- Van der Wijst, D. and R. Thurik (1993) Determinants of Small Firm Debt Ratios: An Analysis of Retail Panel Data, *Small Business Economics*, Vol 5, pp. 55-65.
- Van Hoorn T. (1979) Strategic Planning in Small and Medium-Sized Companies, *Long Range Planning*, 12(1), pp. 84-91.
- Warner J. (1977), Bankruptcy costs: some evidence, *Journal of Finance*, Vol.32, No.2, (May), pp. 337-347.
- Watson R. and N. Wilson (2002), Small and Medium Size Enterprise Financing: A Note on Some of the Empirical Implications of a Pecking Order, *Journal of Business: Finance and Accounting*, Vol. 28(3) & (4), April/May, pp. 557–578.

**Web Sites:**

- [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=313981](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=313981)
- <http://www.ivie.es/downloads/docs/wpasec/wpasec-2003-09.pdf>
- [http://www.univ-orleans.fr/deg/GDRecomofi/Activ/psillaki\\_strasbg05.pdf](http://www.univ-orleans.fr/deg/GDRecomofi/Activ/psillaki_strasbg05.pdf)
- [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=549082](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=549082)
- [http://findarticles.com/p/articles/mi\\_hb020/is\\_2\\_23/ai\\_n29288602/?tag=content;coll](http://findarticles.com/p/articles/mi_hb020/is_2_23/ai_n29288602/?tag=content;coll)
- [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=968017](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=968017)
- [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1000293](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1000293)
- [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1341860](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1341860)
- [http://ideas.repec.org/p/aer/rpaper/rp\\_176.html](http://ideas.repec.org/p/aer/rpaper/rp_176.html)

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