



Impact of Profitability on Capital Structure: An Analytical Study

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ABSTRACT

Capital structure is the combination of debt and equity that finance the organization's strategic plan. The main purpose of this study is to assess the impact of profitability on capital structure in respect of the firm based in India as well as in China. To attain the decision, different theories of capital structure are considered. This article provides a short review of literatures based on the previous published journal. The analysis was taken on 40 literatures out of which 21 taken from Indian articles and the rest 19s are from Chinese articles. The result of the study reveals that 65% of the article shows the inverse relationship, 20% of the article shows the positive relationship and 15% of the article shows no relationship between capital structure and profitability. This study also provides an empirical picture of 3 Chinese iron and steel company and 4 Indian steel companies. Empirical study takes two profitability parameters i.e. return on investment and return on equity. This study also shows that out of 7 companies most of the companies support an inverse relationship between capital structure and firm's profitability.

Keywords - : Capital Structure, Strategic plan, Firm value, Profitability, Return on investment and return on Equity

1. INTRODUCTION

We know this is the era of globalization. So, every company wants to take changeable policy to beat competitors. So from the investors as well as the owner point of view it is essential to know the financial performance of a company in detail. Financial part is the main part of the company. If the company's financial position is below standard then the company's reputation decreases and as a result the investors, owner, outsiders and government also lose their respective benefits.

Capital structure is the combination of debt and equity that finance the organization's strategic plan. According to Myers (2001) there is no specific theory to choose the debt-equity mix, but few conditional useful theories are used for explaining the capital structure choices. Capital structure refers mainly to the permanent sources of the firms financing. The financing decision mainly involves two choices. First are the dividend choices- the distribution of retained earnings to be paid out as dividends. The second is a choice of capital structure, the portion of external finance to be borrowed and the proportion to be raised from the new equity. The effective management of capital structure ensures the future growth and financial performance.

There are number of factors which affect the capital structure. Capital structure shows the maximization of the firm's market value. So the conflicting matter between the capital structure and value of a firm are present. The research on determinants of capital structure has provided a wide range of factors that combines the effects of trade off theory, pecking order theory and free cash flow theory. The traditionalist believes that capital structure affects the firm value but Modigliani and Miller (M-M) argue that capital structure decision is irrelevant under the following assumptions of perfect market and no taxes. Modigliani and Miller reverse their position when they consider corporate taxes.

1.1.Theories of Capital Structure

1.1.A. Modigliani & Miller Theory

Modigliani and Miller (1958) are the first introducers who introduce the notable theory of optimum capital structure. This theory mainly specifies the financing decisions of the firms and investors. This theory says

that leverage has no effect on the firm's value. The assumptions of this theory are perfect and frictionless markets, no taxation, no transaction cost, no risk and firm and investor borrow the same interest rate i.e. all access to the same information. Modigliani and Miller produce two propositions –the first firm value is irrelevance in capital structure and another proposition is dividend policy. The first proposition says that there is no optimal leverage ratio and second proposition implies that there is no optimal payout ratio. Financial leverage cannot affect to the operating income but shareholder's return (EPS and ROE) is affected by financial leverage. Shuetrim, Lowe and Marling (1998) have seen the flaws of first proposition and says that the cash flow are distributed among the debt holders, shareholders and government. The capital structure of the firm maximizes the firm's value and that time minimizes the portion of cash flows.

1.1.B. Pecking order theory

Pecking order theory of capital structure proposed by Donaldson (1961) and modified by Myers and Majluf (1984). Pecking order theory explains the hierarchy of financing decisions. The first preference is internal financing instead of external financing because internal fund is cheaper than external funds. The external funds maintain certain order: debt, convertible, preferred stock and common stock. The series of external funds motivate the financial manager to control the firm, reduce the agency cost. The Myers and Majluf model shows that the manager follow pecking order model. Pecking order theory considers the market to book ratio to measure the investment opportunity. Pecking order theory explains why the external financing comes from debt. This theory also explains why large profitable firm borrow less fund. This theory has two assumption first information asymmetry and then manager's interest to the existing shareholders. Pecking order theory is also able to explain the negative relationship between profitability and debt-equity within an industry.

1.1.C. Trade off theory

Trade off theory is the oldest theory of capital structure. This theory mainly deals with tax saving from debt, agent cost, bankruptcy and financial distress cost. Trade off theory choose a target capital structure that maximizes the firm's value and minimizes the costs (Sheikh and Wang, 2010). Bankruptcy cost are two types-direct cost (cost of insolvency) and indirect costs (employees,

shareholders, managers, customers and suppliers). Capital structure moves towards the target leverage ratio. Again target leverage ratio varies firm to firm. According to profitability, trade off theory suggests that more profitable firms always prefer high debt ratio. As well as the companies which have high financial distress, prefer less debt in their capital structure.

1.1.D. Agency Costs Theory

This theory explains that firm's capital structure determined by agency costs. It has three parts such as shareholders, debt holders and management. Conflict within the three parts is called agency problem. Jensen and Meckling (1976) has defined the two types of conflicts-

- i) Shareholder –Manager Conflicts: it mainly arises from the separation of ownership and control. Jense (1986) says that shareholders want to maximize the firm's value but managers prefer to increase the firm size to get the benefit of control.
- ii) Shareholder –Bondholder conflicts: Debt holders are the fixed interest bearing securities. Conflicts between the two arise when the risk is present. Shareholder's gain is more when the existing debt holder's value decreases. Convertible debt and debt with warrant are the way to resolve this conflicts (Jensen and Meckling, 1976).

1.1.E. Free Cash Flow Theory

The amount of excess cash is called free cash flow. It comes from when a company repay of its expenses including investment. Free cash flow may be distributed to the shareholders when the firm's goal is to maximize the shareholders wealth. Jensen (1986) says that free cash flow should be paid to the investors to avoid poor use of funds by managers. Some investors utilize free cash flow instead of net income to measure the company's financial stability.

2. Objectives: The main objective of my study is to compare the capital structure analysis of India and china with respect to profitability.

3. Methodology: I have no utilized such technique to analysis the capital structure with respect to profitability. It mainly deals with the respective author's literature review. I have used some ratios for my empirical study although.

4. Analysis of previous studies:

4.1.A. Indian Literature Review: Capital structure decisions are the crucial part of financing of every firm. It's mainly deal with cost of capital, earnings, dividend payout ratio and profitability. After the Modigliani and Miller study about the capital structure a new debatable matter is opened and market has divided into two phase's perfect capital market and imperfect capital market. To analysis my literature article I have select the study period into two stages mainly 1 year to 5 years and 6 years to 10 or more years. It is seen that when the author study the 5 years period gap it is found that there is a positive relationship between capital structure and profitability [Bhushan and Mohinder (2016), Goyal (2013)] and also a negative relationship was found [Ali (2011), Rakesh (2013), Al-Najjar (2011), Banerjee and de (2014)]. From my literature survey it is found that when the study period is more than 6 years maximum empirical research shows that capital structure has negative impact on profitability [Ramachandran and Candasamy(2011), Mukherjee and Mahakud (2010), Chadha and Sharma (2015), Joshi (2010), Shergil and Sarkaria (1999), Varun Dawar (2014), and Purohit and Khanna(2012)]. But some study show that capital structure has positive impact on profitability [Halder and Rao(2011), Khasnobis and Bhanduri (2002), Panda and Panigrahi (2010) and few literature presented there is no impact on profitability Venugopal and Reddy (2016) and Dhankar and Boora(1992). Again I have analyzed my literature survey before 1991 and after 1991. From my survey it is found that there is a negative relationship between capital structure and profitability [Shergil and Sarkaria (1999)]. Although before the recession period i.e. 2006 the survey literature say that capital structure has an impact on profitability [Joshi (2010), Banerjee and de (2014) and Ramachandran and Candasamy(2011)] but after recession stage capital structure has a balance impact on profitability that means some study say positive [Ali (2011), Rakesh (2013) and some are not positive [Bhushan and Mohinder (2016), Goyal (2013)].

4.1.B. Discussion on Capital structure (conclusion)

Out of 21 Indian articles, 50%of articles support the inverse relationship between capital structure and profitability, 25% article support the positive relationship between capital structure and profitability. Few articles support the no relationship.

This result mainly based on the manufacturing companies data.

Again I have selected four Indian steel companies for the period of 2012 to 2016. To measure the capital structure I have chosen debt –equity ratio and also to measure the profitability ROI and ROE has been selected. From my empirical study it is generally clear that there is an inverse relationship present between debt-equity and profitability parameter i.e. ROI and ROE.

4.2. A. China Literature review

From the china literature survey it is noted that when the china firms study period is 5 years or less it is found that maximum literature article show the negative impact on profitability [Zhang, Jia, Fu and Feng(2014), Tong and Green (2005), Vortelinos, Lakshmi and Ya, Liu, Ren and Zhuang (2009) and Yang and Ma (2012)] and few show the positive impact on profitability [Wei and Jiaying (2011)]. again when the study period is more than 6 years, most of the literature survey presents that there is a negative impact on profitability [Wen Liu, Zhengwei (2013), Huang and Song, Acedo-Ramirez, Ayala-calvo and Rodriguez-oses (2013), Zhang and Yu (2016) and Nagel and Sauvagerd (2013)] and positive impact on profitability [Ruan ,Cullen, Ma and Xiang(2014)]. before recession period it has seen that most of my literature survey present a negative impact on profitability [Zhengwei (2013), Wen Liu, Acedo-Ramirez, Ayala-calvo and Rodriguez-oses (2013) , Liu, Ren and Zhuang (2009) Yang and Ma (2012)] and positive impact show the very few article [, Ruan ,Cullen, Ma and Xiang(2014) and Wei and Jiaying (2011)]. Again after recession period my maximum literature survey expresses the negative impact on profitability [Chen, Jiang and Lin (2013), Vortelinos, Lakshmi and Ya and Zhang and Yu (2016)]

4.2. B. Discussion on Capital structure (conclusion)

From the Chinese literature survey it is clear that most of the Chinese articles show that capital structure basically depends on varieties of determinants. But profitability is another important determinant. Out of 20 literature survey all most articles support the inverse relationship between capital structure and profitability. Maximum China article's study period is post liberalization.

Again I have also selected three china steel companies for the period of 2011 to 2015. To measure the capital

structure I have chosen debt –equity ratio and also to measure the profitability ROI and ROE has been selected. From my empirical study it is generally clear that there is a negative relationship present between debt-equity and ROI & ROE.

4.3. Comparative analysis

Most of the Chinese articles support the inverse relationship between capital structure and profitability, whereas 50% of Indian survey article support the negative relationship. Both countries authors utilize some statistical technique. My empirical study also supports this.

5. Conclusion:

From the above discussion it is clear that two Asian countries companies prefer long term debt when their expectation of profitability is not high. Surveying the literature it is also seen that every firm utilizes more debt in capital structure till the maximum profitability. They do not use extra debt when the profitability decreases from the maximum profitability. At this situation, debt-equity is called optimum. So increasing of long term debt does not provide high profitability all time. Though two countries are different in nature i.e. developed and developing country but their capital structure phenomenon apply the same principle to determining the relationship between capital structure and profitability.

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Comparative Table on empirical study

CHINA COMPANY

Company	YEAR	T.A	LTD	Shareholders fund	Return	D/E	ROI=NP/N A	ROE=PAT/N W
Baoshan Iron	2015	234,123,146,953.29	9,111,026,384.68	122,146,424,921.34	714,070,175.31	0.07459102	0.003049977	0.005846018
	2014	174,882,835,753.58	1,560,345,000.00	109,106,208,338.97	5,792,349,060.90	0.01430116	0.033121313	0.053089088
	2013	171,657,037,532.57	4,702,446,502.87	120,065,930,841.81	5,818,471,202.97	0.03916554	0.033895908	0.048460635
	2012	214,357,301,000.24	2,731,689,992.42	117,341,757,991.76	10,386,372,522.05	0.02327978	0.048453552	0.088513865
	2011	231,099,745,829.88	7,325,679,720.00	113,469,996,300.27	7,361,961,636.41	0.0645605	0.031856203	0.064880249
Angang steel	2015	88,596	961	43681	-4600	0.02200041	-0.05192108	-0.10530894
	2014	91,291	1371	48196	924	0.02844634	0.01012148	0.019171715
	2013	92,865	3044	47090	755	0.06464217	0.008130081	0.016033128
	2012	101,237	8364	48229	-4380	0.17342263	-0.04326481	-0.09081673
	2011	102988	13135	52305	-2332	0.25112322	-0.02264341	-0.04458465
Maanshan steel	2015	62,454,465,955	6655171584	20741602860	-5104484381	0.32086101	-0.24609884	-0.24609884
	2014	68,511,174,810	6339132454	25889397987	264047515	0.24485438	0.01019906	0.01019906
	2013	71,821,618,000	6059444300	25699035438	207935078	0.23578489	0.008091163	0.008091163
	2012	76,011,164,039	9914180000	25512056572	-3800523426	0.38860764	-0.1489697	-0.1489697
	2011	81,224,642,090	12906772000	28932749717	189496923	0.44609559	0.006549565	0.006549565

INDIAN COMPANY

Company	YEAR	T.A	LTD	Shareholders fund	Return	D/E	ROI=NP/NA	ROE=PAT/NW
Bajaj steel	2016	2420968634	383847891	645023417	(28827142)	0.5950914	-0.01190728	-0.04469162
	2015	2345021058	330419670	674689545	(10053477)	0.48973587	-0.00428716	-0.01490089
	2014	2225988651	335568644	698930018	105382487	0.48011766	0.04734188	0.150776879
	2013	1917973986	16153496	605568455	37615169	0.02667493	0.019611929	0.06211547
	2012	1640866331	28844267	575123578	71513695	0.05015316	0.043582889	0.124344919
Tata Steel's	2016	163250.01	68354.09	28478.85	(3179.00)	2.4001703	-0.0194732	-0.1116267
	2015	158945.53	65675.20	31349.41	(3955.41)	2.09494214	-0.02488532	-0.12617175
	2014	171644.45	52366.41	40531.96	3663.97	1.29197823	0.021346277	0.09039706
	2013	146906.42	46857.62	34172.4	(7362.39)	1.37121244	-0.05011619	-0.21544843
	2012	146852.09	45238.24	42616.22	4948.52	1.06152634	0.033697307	0.116118229
JSW STEEL	2016	82456.07	35468.64	1877.65	(501.45)	18.8899103	-0.00608142	-0.26706255
	2015	85919.16	33676.63	23054.08	1719.70	1.4607666	0.020015326	0.074594172
	2014	77639.89	26702.62	21938.34	387.97	1.21716684	0.004997045	0.017684565
	2013	57727.98	17393.16	17343.73	1154.09	1.002850021	0.019991865	0.066542203
	2012	54238.42	12889.12	16749.57	1493.20	0.76951946	0.0275303	0.089148557
Bhushan steel Ltd	2016	5411812.84	3229884.23	465816.15	(291139.19)	6.93381762	-0.05379698	-0.62500879
	2015	5295181.66	3092772.22	788613.57	(125709.82)	3.92178418	-0.02374042	-0.15940611
	2014	5111010.10	2556610.17	916158.43	5829.56	2.79057648	0.001140589	0.006363048
	2013	4353988.27	2166421.28	922633.94	90433.77	2.34808323	0.020770329	0.098016956
	2012	3372418.19	1552878.02	757272.58	101285.96	2.05061963	0.03003363	0.133750994