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CAPITAL STRUCTURE, COST OF CAPITAL AND FIRM'S MARKET VALUE IN HERO MOTO CORP.LTD.

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Abstract

The present study diagnoses the capital structure and its impact on cost of capital and value of the firm of Hero Moto Corp. Ltd. The study used the secondary data as input from 2005-06 to 2019-20. The results reveal that firm is focusing major top priority to retained earnings (93.81%) in its capital structure. It proves that firm is generating profit follow policy of retention rather than distribution of profits. The rising trend of weighted average cost of capital cannot be appreciated, which it should be checked to extent possible. The value of the firm is showing rising index and trend values over the period of the study. The study follows the traditional model. The study may be helpful to the companies in planning, the right mixed of debt-equity, and make change in capital mix so as to enhance the firm's value.

Keywords: Capital mix; cost of capital; and firm's market value.

Introduction

The survival and growth of corporate firms could be built only on a sound financial base. The structure of capital and its cost has a pivotal place in the field of finance. While, the cost of capital affects the structure of the capital which in turn effects the prices in the stock market. Financial decision for the corporate firms have become complex in the changing business paradigm. Raising of funds become the important and critical aims of the fund's managers is to decide a judicious mix of debt and equity which is best suited to both as well as shareholders and the lender/creditors. It is resulted of some decisions like best lower cost of capital, generate tax shield through debt financing, reducing the conflict between funds managers and shareholders and so forth. All these decisions help to design the corporate financial pattern and maximize the firm's market value. The main question before the fund's manager is to choose a structure of capital in order to maximize firm's market value. In case, too much or beyond a certain limit use of debt can trigger financial distress and increase the agency as well as marginal borrowing cost. On the other hand, too little debt can cause an opportunity cost in regards of higher cost of capital and lost tax shelter. The optimum structure of capital is the dream of any financial organization and that is why financial manager try to determine an appropriate capital mix, because wrong decisions have negative consequences like financial distress, bankruptcy, or even liquidation (Najjar & Petrov, 2011). As results, finance managers are not merely in position to raise funds. The finance managers of any firm also participate in making the financing, investing and dividend decisions of a firm. Generally, firm has the power to decide the capital mix for their organizations.

Literature Review

The review of empirical studies reveals the analysis carried out in the past and findings and conclusions of the researchers. A review of theories will give knowledge about the basis on which such studies are carried out. The structure of capital and its cost and firm's value is an eminent issue in decision making, which have attracted both academicians and practitioners. A number of theories are given by various researchers to report the association between pattern of financing and its cost and market value of firm.

Durand (1952) introduced two approaches of capital structure, one approach is called net income method, states that with the use of leverage in the structure of capital, weighted average cost of capital will decline, and market value of the firm will increase. The alternative approach, which is called the net operating income approach, states that values of the firm remains unaltered and the weighted average cost of capital remains constants with the use of leverage.

Solomon (1963) introduced traditional approach of capital structure, argued that once, cost of capital will decline up to certain point or accepted level, the value of the firm increases; once, the leverage level exceeds the accepted level, the cost of capital will increase, as the probability to default in interest and principal payment increases, and value of firm also decreases. It focuses the position of fairly close approximation.

Modigliani and Miller (1958) came out the modern approach of the capital structure, which supported the net operating income approach of Durand and rejected the traditional approach. They stated that cost of capital remains invariant to any change in capital mix due to arbitrage process. Letter, in 1963, they accepted that by incorporating corporate tax, capital mix decision influenced firm's value.

The pecking order theory of capital structure was developed by Myers and Majluf (1984), and was originally introduced by Donaldson in 1961. The theory reveals that the financial manager of the firm choose the sources of funds according to the following preferences i.e. retained earnings or internal funds, debt capital and equity capital. The company should issue debt, and it issue equity capital in the last instance, when the retained earnings are not available.

Jensen and Meckling (1976) given the agency cost theory of capital structure. It is the cost that must be paid to an agent. Managers are the agents of the shareholders in the company. It arises due to conflicts between managers and shareholders. Expectation of shareholders from the management is to handle the firm in such a way that it enhances their wealth, but the management wants to operate the company in such type of way that it maximizes their personal power and wealth. This theory suggests that an increase in the level of leverage in capital mix increases the manager's share in equity, and mitigates the loss of conflict between manager's and the share holders.

Confirming this practical difficulty, Myers (2001) and Fama and French (2002) pointed out that there is no theory that explains general capital structure decision methods which could be made in practice.

Objectives of the Study

1. To analyze the capital structure pattern of the firm.
2. To assess the cost of capital in the use of funds of the firm.
3. To ascertain the value of the firm.
4. To study the affect of debt equity ratio on cost of capital and firm's value.
5. To verify the capital mix models on the findings of the research in study.

Scope of the Study

The present study is restricted to Hero Moto Corp. Ltd. The study is an attempt to examine the capital structure and their impact on cost of capital, and firm's value. Period of the study is 15 years.

Methodology

The secondary data have been taken as input to achieve the objective of the study. The data procured from annual reports, www.moneycontorl.com and journals. To analyze the capital structure pattern, first the balance sheet data was reviewed and was organized in a specific manner, that is, share capital, reserve and surplus and debts capital. The proportion of share capital, reserve and surplus and debts capital in total long term funds has been determined by ratios and percentage. The growing and declining direction of cost of capital has been estimated by the trend analysis, Method of least square used to calculate the trend. The firm's market value has been observed with use of index value and trend values. To examine the impact of debt equity ratio on cost of capital, and firm's market value have been assessed by correlation (r), co –efficient of determination (r^2) and 't' test. The debt equity ratio is considered as independent variable representing the capital structure. The cost of debt (Kd), cost of equity (Ke), weighted average cost of capital (Ko), and value of the firm considered as dependent variables. To judge the variation in the variables mean and co –efficient of variation (C.V.) has been applied in the study.

Analysis and Results

The analyzed data has been presented in different tables hereunder to reflect upon the objectives identified.

Capital Structure Analysis

Table No.1: Composition of Long-term Funds in Hero Moto Corp. Ltd.

(Rs. in crores)

Year	Equity	%	Reserve & Surplus	%	Debt	%	Total	%
2005-06	39.94	1.82	1969.39	89.71	186	8.47	2195.33	100
2006-07	39.94	1.52	2430.12	92.22	165	6.26	2635.06	100
2007-08	39.94	1.28	2946.30	94.49	132	4.23	3118.24	100
2008-09	39.94	1.03	3760.81	96.96	78	2.01	3878.75	100
2009-10	39.94	1.13	3425.08	97.00	66	1.87	3531.02	100
2010-11	39.94	0.90	2916.12	65.57	1491	33.53	4447.06	100
2011-12	39.94	0.76	4249.89	80.42	995	18.82	5284.83	100
2012-13	39.94	0.75	4966.30	93.93	281	5.32	5287.24	100
2013-14	39.94	0.71	5559.93	99.29	-	-	5599.87	100
2014-15	39.94	0.61	6501.39	99.39	-	-	6541.33	100
2015-16	39.94	0.50	7904.81	99.50	-	-	7944.75	100
2016-17	39.94	0.39	10071.35	99.61	-	-	10111.29	100
2017-18	39.94	0.34	11728.94	99.66	-	-	11768.88	100
2018-19	39.95	0.31	12817.17	99.69	-	-	12857.12	100
2019-20	39.95	0.28	14096.45	99.72	-	-	14136.64	100
Mean		0.82		93.81	5.37			
C.V.		0.30		0.12	1.52			

Source: Compiled from Annual Reports of Hero Moto Corp. Ltd.

Table no. 1 highlights the composition analysis of long-term funds in HMC Ltd. over the fifteen years of the study. The debt capital reported to 5.37 percent in its capital mix. The c.v. value 1.52 shows tremendous fluctuation. A major share i.e. 93.81 percent hold from reserve and surplus with low C.V. value. 0.12. The equity share capital contributed just 0.82 percent with c.v. value 0.30 to total long-term funds of the company. It may be concluded that the firm follows the conservative approach to financing and depending heavily on internal sources of funds rather than external sources. Even in internal sources i.e. reserve and surplus have been majored sources of funds in the firm. It reflects that firm is generating profits follow policy of retention rather than distribution of profits. The firm maintains high proportion of reserve and surplus in its capital structure. The firms can improve profits by taking the advantage of trading on equity.

Cost of Capital

The specific cost of each source of funds and weighted average cost of capital (WACC) defined as:

WACC=Proportion of Equity x Cost of Equity + Proportion of Debt x Cost of Debt. Cost of Equity (Ke) has been calculated with the help of Capital Asset Pricing Model.

$Ke=R_f+\beta(R_m-R_f)$

R_f =Risk free rate of return.

R_m=Market rate of return.

β =Sensitivity of the share price in relation to the market index.

Cost of Debt (Kd)=Interest (1-tax rate) /Debt.

Table No 2: Cost of Capital in Hero Moto Corp. Ltd.

Year	Cost of Debt (% post tax)	Trend	Cost of Equity (%)	Trend	Weighted average cost of capital (%)	Trend
2005-06	1.0	1.42	17.32	13.89	17.1	13.71
2006-07	0.6	1.31	15.65	14.24	15.5	14.07
2007-08	0.9	1.20	13.83	14.59	13.7	14.43
2008-09	1.6	1.09	12.85	14.94	12.8	14.79
2009-10	1.9	0.98	13.80	15.29	13.8	15.15
2010-11	1.4	0.87	14.39	15.64	14.1	15.51
2011-12	1.2	0.76	15.16	15.99	14.7	15.87
2012-13	1.2	0.65	15.22	16.34	15.0	16.23
2013-14	-	0.54	16.36	16.69	16.3	16.59
2014-15	-	0.43	16.48	17.04	16.5	16.95
2015-16	-	0.32	18.8	17.39	18.8	17.31
2016-17	-	0.21	18.8	17.74	18.8	17.67
2017-18	-	0.10	18.8	18.09	18.8	18.03
2018-19	-	-.01	18.8	18.44	18.8	18.39
2019-20	-	-.12	18.8	18.79	18.8	18.75
Mean	0.65		16.34		16.23	
c.v.	1.03		0.14		0.13	

Source: Compiled from Annual Reports of Hero Moto Corp. Ltd.

Table No.2 exhibits that cost of capital in HMC Ltd. over the periods of fifteen years study. The firm paid a mean cost of debt post tax (0.65 percent) with C.V. value 1.03. The C.V. value 1.03 proves tremendous variation in cost of debt. The downward trend noticed with 0.11 annual growth rate. The mean cost of equity of the firm is seen to be 16.34 percent with mild fluctuation. An upward trend has been seen with 0.35 annual growth rate. The weighted average cost of capital is accounted on an average 16.23 percent with co-efficient of variation at 0.13. An increasing trend with annual growth rate i.e. 0.36 has been seen in the study periods. It can be inferred that rising trend cannot be considered happy situation which should be bring down and need to be controlled in future years.

Value of the Firm

Market value of Enterprise (EV) =Market Capitalization + Debt –Financial Assets

Table No 3: Growth of Firm's Market Value in Hero Moto Corp. Ltd

(Rs.in crores)

Year	Enterprise Value	Index	Trend
2005-06	15746	100.00	10583.4
2006-07	11909	75.63	14268.2
2007-08	11303	71.78	17953.0
2008-09	17880	113.55	21637.8
2009-10	33060	209.96	25322.6
2010-11	28030	178.01	29007.4
2011-12	37995	241.30	32692.2
2012-13	27268	173.17	36377.0
2013-14	41219	261.77	40061.8
2014-15	49400	313.73	43746.6
2015-16	54425	345.64	47431.4
2016-17	64244	408.00	51116.2
2017-18	70662	448.76	54801.0
2018-19	50905	323.29	58485.8
2019-20	31602	200.69	62170.6
Mean	36376.5		
c.v.	0.49		

Source: Compiled from Annual Reports of Hero Moto Corp. Ltd.

Table No.3 reveals that the firm's market value over the period of fifteen years study. Firm's value has been subjected to ups and downs till 2012-13 after which an increasing index has been noticed till 2017-18 i.e. 4.48 times. The C.V. value 0.49 proves moderate variation in the growth of value of firm. It can be concluded that the firm has been seen an upward trend. This is certainly positive signal for the firm.

Impact of Structure of Capital on its Cost, and Firm's Value

The relationship of capital mix, structure of cost, and firm's value have been tested using the co-efficient of correlation (r).

Table No.4: Capital Structure, Cost of Capital and Value of the firm in Hero Moto Corp. Ltd.

Year	Debt/ Equity	Trend	Cost of Debt (% post Tax)	Trend	Cost of Equity (%)	Trend	Weighted Average Cost of Capital (%)	Trend	Enterprise Value (Rs.In Crores)	Trend
2005-06	0.085	.110	1.0	1.42	17.32	13.89	17.1	13.71	15746	10583.4
2006-07	0.063	.102	0.6	1.31	15.65	14.24	15.5	14.07	11909	14268.2
2007-08	0.042	.094	0.9	1.20	13.83	14.59	13.7	14.43	11303	17953.0
2008-09	0.020	.086	1.6	1.09	12.85	14.94	12.8	14.79	17880	21637.8
2009-10	0.019	.078	1.9	0.98	13.80	15.29	13.8	15.15	33060	25322.6
2010-11	0.335	.070	1.4	0.87	14.39	15.64	14.1	15.51	28030	29007.4
2011-12	0.188	.062	1.2	0.76	15.16	15.99	14.7	15.87	37995	32692.2
2012-13	0.053	.054	1.2	0.65	15.22	16.34	15.0	16.23	27268	39377.0
2013-14	-	.046	-	0.54	16.36	16.69	16.3	16.59	41219	40061.8
2014-15	-	.038	-	0.43	16.48	17.04	16.5	16.95	49400	43746.6
2015-16	-	.030		0.32	18.80	17.39	18.8	17.31	54425	47431.4
2016-17	-	.022		0.21	18.80	17.74	18.8	17.67	64244	51116.2
2017-18	-	.014		0.10	18.80	18.09	18.8	18.03	70662	54801.0
2018-19	-	.006		-.01	18.80	18.44	18.8	18.39	50905	58485.8
2019-20	-	-.002		-.12	18.80	18.79	18.8	18.75	31602	62170.6
Mean	.054		0.65		16.34		16.23		36376.5	
c.v.	1.66		1.03		0.14		0.13		0.49	
r			0.51		-0.42		-0.45		-.32	
‘t’ value			2.13		1.66		1.82		1.22	

Source: Compiled from Annual Reports of Hero Moto Corp. Ltd.

Table no. 4 describes the impact of debt –equity ratio on kd, ke, WACC and firm’s value and also ‘t’ value of correlation co-efficient. The debt-equity ratio has been positively impacted (i.e., 0.51) with Kd post tax. The ‘t’ test value (2.13) found to be insignificant. It responses that with increase in the debt equity ratio, cost of debt (Kd) rises and this is what MM says. The debt equity ratio have been impacted negatively (i.e. -0.42) with Ke. The test ‘t’ value reported to be insignificant. It indicates the response that with rise in the debt – equity ratio, cost of equity (Ke) may decline. This is contrary to the traditionalist’s views and also MM. The debt –equity ratio has been negatively correlated with WACC (Ko). The ‘t’ test value is also insignificant. This gives the response that WACC (Ko) declines with increase in the debt –equity ratio. This follows to traditional view. Debt –equity ratio have been negatively correlated with firm’s value. The ‘t’ test found to be insignificant. This proves that firm’s value increase with the decline in debt equity ratio. This reflects contrary to NI view and agrees to traditional approach.

Coefficient of Determination Analysis

Table No 5: Coefficient of Determination in Hero Moto Corp. Ltd.

Independent Variable	**Dependent Variable**	**r**	**r^2**
X_1	X_2	0.51	.26
X_1	X_3	0.42	.18
X_1	X_4	0.45	.20
X_1	X_5	0.32	.10

X_1 = Debt Equity Ratio
X_2= Cost of Debt (post tax)
X_3= Cost of Equity
X_4= Weighted Average Cost of Capital
X_5= Value of the firm

Table No.5 highlights the fourth group of variables in HMC Ltd. In the first group, (X_2) cost of debt post tax as dependent variable and debt equity ratio (X_1) as independent variable, ascertained that 26 percent variation in cost of debt post tax is accounted by variation in debt equity ratio and remaining 74 per cent due to other factors. In 2nd group, (X_3) cost of equity as dependent variable and debt equity ratio (X_1) as independent variable, found that the coefficient of determination (r^2) is .18, which proves that 18 percent variation in cost of equity is due to change in debt equity ratio and remaining 82 percent due to other factors. In group 3rd, weighted average cost of capital (X_4) as dependent variable and debt equity ratio as (X_1) independent variable, coefficient of determination (r^2) found to be .20, which witnesses that 20 percent variation in weighted average cost of capital is due to change in debt equity ratio and remaining 80 percent due to other factors. In 4th group, (X_5) as dependent variable and (X_1) as independent variable, coefficient of determination (r^2) reported to be .10 which reports that 10 percent change in firm's value is due to variation in debt equity and remaining due to other factors.

Concluding Remarks

In HMC Ltd., the proportion of debt capital is 5.37 percent, reserve and surplus 93.81 percent and equity share capital 0.82 percent with C.V. values 1.52, 0.12 and 0.30 respectively. It proves that firm is generating profit follow policy of retention rather than distribution of profits. The firm can improve profits by taking the advantage of trading on equity. The mean value of cost of debt post tax (0.65 percent), cost of equity (16.34 percent) and weighted average cost of capital (16.23 percent) recorded with C.V. values 1.23, .14 and 0.13 respectively. Weighted average cost of capital have been performed upward trend. It means that rising trend cannot be considered happy situation, which it should be bring down. The value of the firm has risen i.e. 4.48 times with C.V. value .49. The firm is reflecting rising index and trend values in study. It is certainly positive signal for the firm. The relationship of capital mix with cost of capital, and firm's market value supports the traditional view. In brief it can be said that debt equity ratio brings about change in cost of debt post tax 26 percent, change in cost of equity 18 percent, change in weighted average of cost of capital 20 percent, and change in firm's value 10 percent. The present study suggested that it helps the fund's manager to judge the capital mix. This study may provide a base to make change in the capital mix so as to enhance the value of the firm.

Research Implication, Limitations of the study and scope for further research

The influence of capital structure will serve as input variable in financial decisions. The firm follows the conservative approach of financing and depending heavily on internal sources of funds so that financial risk of the firm was low. However, the company did not enjoy the advantage of capital gearing funds raised through debt is relatively cheaper than equity financing as the interest is deductible from the taxable income. The present study suggests that firm should use more debt funds to finance their business activities as debt has lower cost than equity. This study is based on one company. The present study discussed the impact of capital mix on cost of capital, and firm's market value of Hero Moto Corp. Ltd. Only and the result of this study cannot be generalized for other companies. However, further studies can examine the determinants of capital structure and impact on profitability of companies.

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