LEVERAGES ON PROFITABILITY AND VALUE OF AN ORGANIZATION - WITH SPECIAL REFERENCE TO KOMUL, KOLAR

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Abstract: This paper mainly discusses on the relationship between financial leverage and profitability or the value, operating leverage and profitability and combined leverage and profitability of KOMUL KOLAR which is having a huge turnover over a period of years. The purpose of this paper is also to understand the decisions made by KOMUL KOLAR with regards to its leverage management. This paper also analyses on the impact of these decisions on the shareholders earnings and the earnings before interest and taxes. Correlation is used for analyzing the data and tests the objectives of the present study. The study has been made for a duration of 5 years from the financial year 2014 to 2018.
The study is purely confined to KOMUL KOLAR, Bangalore. This paper starts with industry and the company profile.

Key Words: Financial leverage, Profitability, Combined Leverage, Operating Leverage, Cost of Equity, Value of an organization, Value of debt, Value of equity.

Introduction:

In India, the dairy industry is a major industry. It is the largest consumer of dairy products in the world, consuming nearly 100% of its own production of milk. The country is the largest producer of milk in the world, representing more than 13 percent of total milk production in the world. Dairying was seen as one of the activities aimed at alleviating poverty and unemployment.

Industry Profile:

- •The function of AMUL dairy cooperatives began in Karnataka from 1974 to 1975.
- •Karnataka Cooperative Milk Producers ' Federation Ltd (KMF) is the Karnataka Apex Body for the Co - agents of Dairy Farmers.
- •Throughout the state, KMF has 13 Milk Unions that obtain milk from the Primary Dairy Cooperative Societies (DCS) and suitable milk from purchasers in various Karnataka towns / cities / rural markets.
- •Farming is India's backbone. Dairy is largely associated with the agricultural industry. Nearly 70 percent of people in India depend on farming.
- •In 1946, in Gujurat, the villagers AMUL (Anand milk union limited) began to bring up economic stability.
- •This led to the establishment of the National Dairy Development Board in 1965 and thus in 1970 he decided to bring a "white revolution" throughout the country, initially selecting 10 states excluding Karnataka for this purpose.

Evolution of Karnataka Milk Federation:

In 1984, the Karnataka Milk Federation (KMF) was established by federating the state's 13milk union and thus forming the state-level apex organization. It represents the organization of dairy farmers as a co-operating apex of the state of Karnataka and implements dairy development activities to achieve the following goals:

- •Building a village - level institution for the management of dairy activities in cooperative sectors.
- •To ensure the supply of milk inputs, processing facilities and know - how dissemination.
- •To provide the milk produced by the farmers with an assured and remunerated market.
- •Facilitate rural development through the provision of village - level self - employment opportunities, the prevention of urban migration, the introduction of cash economy and steady income opportunities
- •Provide urban consumers with quality milk.

About KOMUL:

In 1975 dairy development activity in the district was initiated under IDA assistance as apart of KOLAR Milk union limited (KOMUL). Subsequently the district was bifurcated for the operational area of KOMUL to form a separate Milk union with effect from 01-04-1987.
The population of all out steers in the Milk - shed zone is around 4, 36,654, which includes 1, 60,000 milk cattle
The KOMUL has daily milk preparation plant at Kolar with a limit of 2.38 liters and chilling focus at Chintamani, Sadly, and Gowribidnur with a separate limit of 1.0 LLPD each. Since 1994, KOMUL has started to promote fluid milk in polythene sachets throughout Kolar and parts of the city of Bangalore. The NDDB mnemonic image was received by the association in April 2002 to showcase the fluid milk.

Leverages:

Leverage refers to a technique of raising the profit or increasing the profits through proper capital structure and by reducing debt burden. It is an important force in financial management to increasing the profitability rate by reducing the cost.

Types of Leverages:

Three types of leverages are available

1. Operating Leverage.
2. Financial Leverage.
3. Combined Leverage.

Formula to calculate Operating Leverage:

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT}}$$

Formula to calculate DOL:

$$\text{DOL} = \frac{\%\text{ Change in EBIT}}{\%\text{ Change in sales}}$$

Formula to calculate Financial Leverage:

$$\text{Financial Leverage} = \frac{\text{EBIT}}{\text{EBT}}$$

Formula to calculate DFL:

$$\text{DFL} = \frac{\%\text{ Change in EPS}}{\%\text{ change in EBIT}}$$

Formula for Calculating Combined Leverage:

Combined Leverage = Operating Leverage * Financial Leverage

Degree of Combined Leverage:

It is calculated by multiplying the DOL and the DFL and it is calculated by the formula

$$\text{DCL} = \text{DOL} \times \text{DFL}$$

$$\text{DCL} = \frac{\%\text{ Change in EPS}}{\%\text{ Change in Sales}}$$

Literature Review:

1. D. Vijaya Lakshmi and PadmajaManoharam:

In this report on "determinants of leverage "stated a study on country's Metal Sector identified and analyzed the determinants of Indian metal sector. The panel data method was used to analyze the report.

2. Jensen:

Publishes his paper in 1986 says that the leveraging of a firm increases the profitability of the firms which shows the positive relationship between leverage and profitability. This study also says the increase in the EPS hence the study reveals the significant increase in the liquidity position of the firm.

3. Kushbakth Tayyaba:

In his paper published a research paper on "Leverage". The study shows the relationship between leverage and the EPS of the oil sector. This also analyzes how operating costs and fixed financial charges affect the earning capacity. For the analysis of the hypothesis, this study used the descriptive analysis, correlation and estimation equation.

4. Bindiya Soni and Jigna Trivedi :

In February 2014, the researchers by name Bindiya Soni and Jigna Trivedi conducted the study on the leverage analysis and profitability for the targeted paint companies in India, which sees both FL and OL on the profitability of the selected companies in India. For the research purpose the top five listed companies were taken based on the market capitalization.this study states the impact of DOL and DFL on EPS by using the correlation analysis. The conclusion states that financial leverage is not having much effective relationship on profitability but whereas the operating leverage has the effecting bonding on the profitability with having few exceptions.

Objectives of the Study:

- ❖To understand the impact of leverage on the profitability of an organization
- ❖To understand the impact of leverage of the coast of capital of an organization
- ❖To understand the impact of leverage on the value of the firm.
- ❖To understand the relationship between level of leverage, cost of capital, profitability and value of the firm

Research Methodology:

The study is Quantitative and Descriptive research design method. The study is basically dependent on Secondary data. The required secondary data was collected by means of Books of accounts, and other print material provided by KOMUL. Along with that, National and International E-journals, Research articles, books and reports published by RBI, NABARD, and Newspapers etc.

Research design:

The study required multiple method to be adopted which have both direct and indirect advantages in the collection of data. The first such method and the second one being direct approach method, where in lot of information could be gathered by interacting with persons working in organization, such as purchase manager, stores managers, finance manager, production personnel, etc....

Statistical tools used for the study:

The statistical tool used for the study

Formula to calculate correlation

$$r = \frac{n\Sigma XY-(\Sigma X)(\Sigma Y)}{\sqrt{(n\Sigma x^{\wedge}-(\Sigma x^{\wedge})-(n\Sigma y^{\wedge}-(\Sigma y)^{\wedge}}}$$

Objective: 1

To understand the impact of leverage on the profitability of an organization

H0: Inclusion of debt in the capital structure has no impact on the profitability of an organization

H1: Inclusion of debt in the capital structure has an impact on the profitability of an organization.

Objective: 2

To understand the impact of leverage of the cost of capital of an organization

H0: Inclusion of debt in the capital structure has no impact on the cost of capital of an organization

H1: Inclusion of debt in the capital structure has an impact on the cost of capital of an organization

Objective: 3

To understand the impact of leverage on the value of the firm.

H0: Inclusion of debt in the capital structure has no the value of the firm.

H1: Inclusion of debt in the capital structure has an impact on the value of the firm

Objective: 4

To understand the relationship between level of leverage, cost of capital, profitability and value of the firm

H0: There is no significant relationship between level of leverage, cost of capital, profitability and value of the firm.

H1: There is a significant relationship between level of leverage, cost of capital, profitability and value of the firm.

Data analysis and Interpretation:

Particulars (Crores)	2017- 18	2016-17	2015-16	2014-15	2013-14
SALES	1374.65	1282.45	1097.18	1049.56	1035.67
VARIABEL COST	(205.21)	(193.44)	(175.51)	(175.96)	(16.35)
CONTRIBUTION	1169.44	1089.01	921.67	873.60	87.22
FIXED COST	(57.99)	(54.24)	(56.30)	(50.86)	(49.54)
EBIT	1111.45	1034.77	865.37	822.74	37.68
INTEREST	(1.01)	(0.45)	(1.49)	(1.39)	(16.66)
EBT	1110.44	1034.32	863.88	821.35	21.02
TAX	(11.60)	(13.63)	(6.31)	(10.68)	(8.28)
EAT	1098.85	1020.69	857.57	810.67	2.77
EPS	0.2	47.08	49.2	56.7	59.8

Operating Leverage:

Particulars	2017- 18	2016-17	2015-16	2014-15	2013-14
Operating Leverage	1.05	1.05	1.07	1.06	2.31

Financial Leverage:

Particulars	2017- 18	2016-17	2015-16	2014-15	2013-14
Financial Leverage	1	1	1	1	1.05

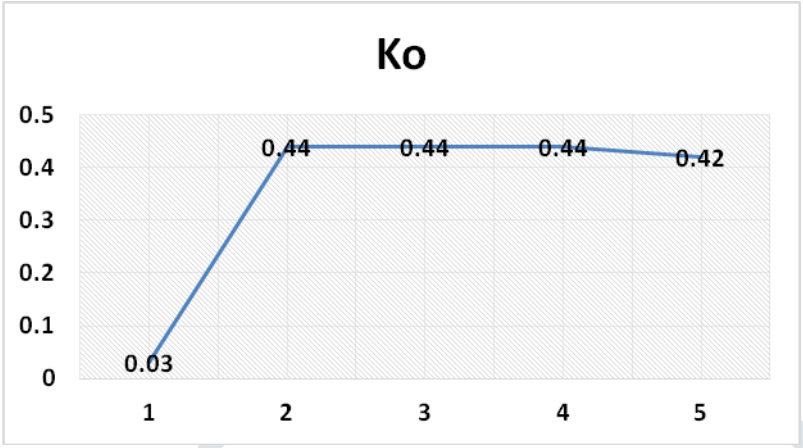
Combined Leverage:

Particulars	2017- 18	2016-17	2015-16	2014-15	2013-14
Combined Leverage	1.052	1.05	1.065	1.062	1.109

Particulars	2013- 14	2014-15	2015-16	2016-17	2017-18
EBIT	37.68	822.74	865.37	1034.77	1111.45
(Interest)	16.66	1.39	1.49	0.45	1.01
NET INCOME	21.02	821.35	863.88	1034.32	1110.44
S=Net income / Ke	2.102	82.135	86.388	103.432	111.044
Value of equity shares(S)	1035.67	1049.56	1097.18	1282.45	1374.65
Debt(B)	5.7	4.8	16.5	58.6	139.4
Value of the firm (V= S+B)	1041.37	1054.36	1113.68	1341.05	1514.05

Cost of capital (Ko = EBIT/variables)	37.68	822.74	865.37	1034.77	1111.45
	1079.05	1877.1	1979.05	2375.82	2625.5
Ko	0.03	0.44	0.44	0.44	0.42

Chart showing the value of Ko:



Hypothesis Testing:

Objective-1= to understand the impact of leverage on the profitability of an organization

Hypothesis:

HO: Inclusion of debt in the capital structure has no impact on the profitability of an organization

H1: Inclusion of debt in the capital structure has an impact on the profitability of an organization.

Assume: Debt value as X (depended value) and profitability (EBIT) as Y (independents):

Year / Debt Value	X	X^	Y	Y^	XY
2013-14	5.7	32	37.68	1420	215
2014-15	4.8	23	822.74	676901	3949
2015-16	16.5	272	865.37	748865	14279
2016-17	58.6	3434	1034.77	1070749	60638
2017-18	139.4	19432	1111.45	1235321	154936
TOTAL	225	23194.1	3872.01	3733256	234016.2

Formula to calculate correlation

$$r = \frac{n\sum XY-(\sum X)(\sum Y)}{\sqrt{(n\sum x^{-}-(\sum x)^{-}-(n\sum y^{-}-(\sum y)^{}}}$$

$$r = \frac{5(234016.2)-(225)(3872)}{(5(23194-(225)^{} - (5(3733256)-(3872)^{}}$$

$$r = \frac{1170080-871200}{5(23194-50625)-5(3733256-14992384)}$$

r = 0.0005

Decision rule: The calculated values of correlation gives a positive result indicating positive correlation that is > 0 so the null hypothesis is proved.

Conclusion: Inclusion of debt in the capital structure has no impact on the profitability of an organization

Objective-2 : To understand the impact of leverage of the coast of capital of an organization.

Hypothesis:
H0: Inclusion of debt in the capital structure has no impact on the cost of capital of an organization.
H1: Inclusion of debt in the capital structure has an impact on the cost of capital of an organization.
Assume: Debt value as X (dependent value) and cost of capital (Ke) as Y (independent)

Year / Debt Value	X	X^	Y	Y^	XY
2013-14	5.7	32	2	4	12
2014-15	4.8	23	82	6746	394
2015-16	16.5	272	86	7463	1425
2016-17	58.6	3434	103	10698	6061
2017-18	139.4	19432	11	122	1540
TOTAL	225	23194	285	25034	9432

$$r = \frac{n\sum XY-(\sum X)(\sum Y)}{\sqrt{(n\sum x^{-}-(\sum x)^{-}-(n\sum y^{-}-(\sum y)^{}}}$$

$$r = \frac{5(9432)-(225)(285)}{(5(23194)-(225)^{-}-(5(25034)-(285)^{}}$$

$$r = -0.890$$

Decision rule: The calculated values of correlation gives a negative result indicating negative correlation (<1).
Conclusion: Inclusion of debt in the capital structure has an impact on the cost of capital of an organization.
Objective-3: to understand the impact of leverage on the value of the firm.
Hypothesis :
H0: Inclusion of debt in the capital structure has no the value of the firm.
H1: Inclusion of debt in the capital structure has an impact on the value of the firm
Assuming = Debt value as X (dependent value) and value of the firm (v) as Y (Independent)

Year / Debt Value	X	X^	Y	Y^	XY
2013-14	5.7	32	1041	1084451	5936
2014-15	4.8	23	1054	1111675	5061
2015-16	16.5	272	1114	1240283	18376
2016-17	58.6	3434	1341	1798415	78586
2017-18	139.4	19432	1514	2292347	211059
TOTAL	225	23194	6065	7527172	319017

$$r = \frac{n\sum XY-(\sum X)(\sum Y)}{\sqrt{(n\sum x^{-}-(\sum x)^{-}-(n\sum y^{-}-(\sum y)^{}}}$$

$$r = \frac{5(319017)-(225)(6065)}{5(23194)-(225)^{-}5(7527172)-(6065)^{}}$$

$$r = -0541$$

Decision rule: The calculated values of correlation (<1) gives a negative value which disproves null hypothesis (Ho).
Conclusion: Inclusion of debt in the capital structure has an impact on the value of the firm

OBJECTIVE-4 : To understand the relationship between level of leverage, cost of capital, profitability and value of the firm
Hypothesis :
H0: There is no significant relationship between level of leverage, cost of capital, profitability and value of the firm.
H1: There is a significant relationship between level of leverage, cost of capital, profitability and value of the firm.

Assuming = Cost of Capital as X (Dependent) and value of the firm as Y (Independent)

Year / Ko Value ↓ →	X	X^	Y	Y^	XY
2013-14	3	9	1514	2292196	4542
2014-15	44	1936	1341	1798281	59004
2015-16	44	1936	1114	1240996	49016
2016-17	44	1936	1054	1110916	46376
2017-18	42	1764	1041	1083681	43722
TOTAL	177	7581	6064	7526070	202660

Correlation analysis:

$$r = \frac{n\sum XY-(\sum X)(\sum Y)}{\sqrt{(n\sum x^{-}-(\sum x)^{-}-(n\sum y^{-}-(\sum y)^{}}}$$

$$r = \frac{5(202660)-(177)(6064)}{5(7581)-(177)^{}\ (5(7526070)-(6064)^{}}$$

r= - 0.894

Decision rule: The calculated value of correlation gives a negative result indicating negative correlation that is < 1.Hence null hypothesis is disproved.

Conclusion: There is a significant relationship between level of leverage, cost of capital, profitability and value of the firm. Leverages means the investment made to acquire the asset to the firm. There are 3 types of leverages they are the FL, OL and CL correspondingly. The study conducted by me states that there is a significant impact of leverages on profitability of the firm. The main objective of the study will be to know the profitability of the firm it is proved by using correlation analysis. I conclude by saying that the use of leverages will be having a positive impact on the profitability position of the KOMUL KOLAR.

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