

A Study on Relative Valuation with Reference IPO Valuation in Dairy Industry

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Abstract:-While undertaking the valuation of any company there are three broad approaches to valuation namely Asset approach, Income approach and Market approach, for relative valuations. Peers taken should be as close as possible to the company being valued. It is preferred that the peer companies should have a similar Business model, Accounting practices, Growth pattern Return on capital invested Financial and operational risk. Accordingly three peer companies were selected for the study. The objective was to know the valuation process for the prospective company in case of initial public offering. The financial data for three years was collected from secondary source and was subjected relative valuation techniques to know the approximate price for offering shares to the public. The present work contributes to emerging market literature on equity valuation

conducted when a company is looking to sell all or a portion of its operations or looking to merge with or acquire another company. The valuation of a business is the process of determining the current worth of a business, using objective measures, and evaluating all aspects of the business. A business valuation might include an analysis of the company's management, its capital structure, its future earnings prospects or the market value of its assets. The tools used for valuation can vary among valuers, businesses and industries. Common approaches to business valuation include review of financial statements, discounting cash flow models and similar company comparisons.

I. INTRODUCTION

“Value lies in the eyes of the beholder” The objective of this phrase is to explore the realm of valuation in its entirety. Value maximization is the central theme in financial management. Owners of corporate securities will hold management responsible if they fail to enhance the value. Managers in the present scenario must understand what determines value and how it should be appraised. The goal of such appraisal is to estimate fair market value of the company.

Knowing what business is worth and what determines its value is prerequisite for intelligent decision making. John Maynard Keynes said, "There is nothing so dangerous as the pursuit of a rational investment policy in an irrational world." Corporate valuations form the basis of corporate finance activity including capital raising, M&A and also to meet regulatory / accounting requirements or for voluntary purpose. Justifying the value of businesses has grown more complex and challenging as it's been accepted that valuation is not an exact science and depends upon a number of factors like purpose, stage, financials, industry, management and promoters strengths etc

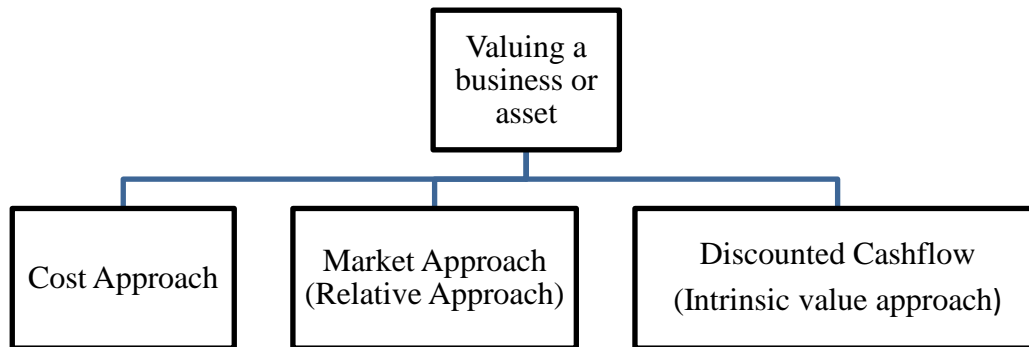
Business valuation is the process of determining the economic value of a business or company. Business valuation can be used to determine the fair value of a business for a variety of reasons, including sale value, establishing partner ownership and even divorce proceedings. Owners will often turn to professional business valuers for an objective estimate of the value of the business. Business valuation is typically

II. DEFINITION AND CONCEPT

Relative valuation uses the valuation ratios of comparable publicly traded companies and applies that ratio to the company being valued subject to necessary adjustments. The valuation ratio typically expresses the valuation as a function of a measure of financial performance or book value multiples (e.g. Revenue, EBITDA, EBIT, earnings per share or book value). This technique hinges upon the efficient market theory which indicates that the price of exchanged securities in the market reflects all readily available information, as well as the supply and demand effects of educated and rational buyers and sellers. In other words, the market is continuously evaluating each company and expressing that valuation in bids and offers for its stock.

A relative valuation model is a business valuation method that compares a company's value to that of its competitors or industry peers to assess the firm's financial worth. Relative valuation models are an alternative to absolute value models, which try to determine a company's intrinsic worth based on its estimated future free cash flows discounted to their present value, without any reference to another company or industry average. Like absolute value models, investors may use relative valuation models when determining whether a company's stock is a good buy. When valuing a company as a going concern there are three main valuation methods used by industry practitioners when valuing a business or asset, there are three broad categories that each contain their own methods. These are the most common methods of valuation used in investment banking, equity research, private equity,

corporate development, mergers & acquisitions (M&A), leveraged buyouts (LBO) and most areas of finance.



The Cost Approach looks at what it cost to build something and this method is not frequently used by finance professionals to value a company as a going concern. cost approach, which is not as commonly used in corporate finance, looks at what it actually cost or would cost to re-build the business. This approach ignores any value creation or cash flow generation and only look at things through the lens of “cost = value”.

The Market Approach is a form of relative valuation and frequently used in industry. It includes Comparable Analysis Precedent Transactions. relative valuation method in which you compare the current value of a business to other similar businesses by looking at trading multiples like P/E, EV/EBITDA, or other ratios. Multiples of EBITDA are the most common valuation method. Finally, the discounted cash flow (DCF) approach is a form of intrinsic valuation and is the most detailed and thorough approach to valuation modeling. Discounted Cash Flow (DCF) analysis is an intrinsic value approach where an analyst forecasts the business’ unlevered free cash flow into the future and discount it back to today at the firm’s Weighted Average Cost of Capital (WACC). A DCF model allows the analyst to forecast value based on different scenarios, and even perform a sensitivity analysis. The relative valuation ideal is a business valuation technique, which relates a company’s value to that of its contestants and to find out the company’s commercial value. It is the worldwide that in which achieve the value of the firm by in view of the pricing of the comparable companies on the basis of general multiple variables such as cash flow, book-value, earnings or sales. The approaches are of two type’s i.e.

Enterprise value and Equity value

1. *Enterprise multiple approach:* Enterprise value, which is mentioned to as the worth of the private firm that is mainly a alteration of market capitalization and which is driven by simply increasing a company’s number of shares, those

exceptional by the present price of its share stock. Evidently, the company’s price is deeply subjective by its stockholders emotion and a market situation which is in turn will be driven by a company’s market cap value at end. Enterprise value multiples are:

- a) EV-EBIT
- b) EV-BOOK VALUE
- c) EV-SALES

2. *Equity value Approach:* The important function of the equity valuation is to approximation of a worth for a company and its collateral or security. A statement of any important value method is that the value of collateral or security is focused by important of the firm’s primary business at the closing of the day. Here is 3 major equity valuating model the discounted cash flow (DCF), and The Cost, and the similar approaches. The comparing ideal is The Relative Valuation Approach. Equity value multiples are:

- a) P/E
- b) P/BV
- c) P/S

P/E Price-to-Earnings Multiple: Evaluation a company, which its current share value related to it, is per share earnings. It is distinct as follows.

$$P/E \text{ multiple} = \frac{\text{Market price per share's}}{\text{Earning per share}}$$

Where:

The numerator of this multiple is existing market price per share and the denominator of this is earnings per share (EPS) P.Y. It might be said as P. current market price per share & E1 is the estimated earnings per share for that year. Contributing factor of the P/E multiple;

$$P_0/E_1 = \frac{(1-b)}{r-ROE*b}$$

Where:

(1-b) is a dividend payout ratio, r is the cost of equity's, ROE is the return on equities, and b is the plough back ratio:

Price-to-Book-value Multiple: Exploited as a comparison to market value of the stock to its book value. It is defines as follows:

$$P/BV = \frac{\text{Shareholders fund - preference capital}}{\text{Number of outstanding equity shares}}$$

From the time when, this multiple requisite is to determine the book value per equity share then, the preference capital is deducted. Mathematically can be equated as follows:

$$P/B = \frac{ROE(1+g)(1-b)}{r-g}$$

Where:

ROE is the return on equity, Then g is the growth rate, (1-b) is the dividend payout multiple and r is the rate of return that's essential by equity investors.

Explanations for using P/B Multiple:

- For the reason that the book value is a stock figure, it is commonly positive, when the EPS is negative.
- BV is comparatively more stable than EPS

Price-to-sales Multiple: The P/S Multiple has received a lot of attention as a valuation tool.

Valuation ratio that's used as a evaluation between company's stock price and its revenue. This multiple indicates the values located on each rupee on a company's revenue. And is stated as follows

$$P/S = \frac{NPM(1+g)(1-b)}{r-g}$$

Where:

NPM stands net profit margin, and where g stands the growth, then (1-b) is the dividend payout multiple and r stands the rate of return.

Explanations for P/S Multiple:

- As Compared to EPS & Book value, sales are usually less agreeable to the operation.
- Lesser the ratio the improved the worthiness for analysts.

Companion Variable & Adapted Multiple:

Calculations for P/E multiple, P/B multiple and P/S multiple. Distinct as below:

- The P/E to Growth, denoted as PEG: $\frac{P/E}{g}$
- The P/BV to ROE, denoted as value ratio: $\frac{P/BV}{ROE}$
- The P/S to NPM, denoted as PSM: $\frac{P/S}{NPM}$

Among these Improved Multiples, PEG is greatest satisfactory multiple as the PEG <1 recommends that stock is undervalued; PEG>1 then stock is overvalued

Advantages of using relative multiples

- Valuation is about judgment, and multiples provide a framework for making value judgments. When used properly, multiples are robust tools that can provide useful information about how similar assets are placed in the market.
- Their very simplicity and ease of calculation makes multiples an appealing and user-friendly method of assessing value.
- Multiples focus on the key statistics that other investors use. Since investors in aggregate move markets, the most commonly used statistics and multiples will have the most impact. These factors, and the existence of wide-ranging comparables, help explain the enduring use of multiples by investors despite the rise of other methods. Most valuations in stock markets are done through this method.

III. LITERATURE SURVEY

Boatsman and Baskin (1981) tested the valuation accuracy of P/E multiples based on comparable firms from the same industry. The study was concluded as valuation errors are minimised when comparable firms are chosen based on similar historical earnings growth when compared firms been randomly chosen. **Kumar and Hundal 1986** developed a regression model to know the influencing factor in valuation, the variables used were DPS, EPS, net sales per share, book value per share, net worth, retention ratio, leverage ratio and growth in total assets on market price of shares. The analysis concluded that dividend per share and leverage as important factors that affect valuation. **Kaplan and Ruback (1995)** studied the valuation properties of DCF approach and EBDIT multiple approach for highly leveraged transactions. They conclude that the accuracy level for a simple EBITDA (earnings before interest, tax, depreciation and amortization) is very similar to DCF valuations approach. **Penman 1997** combined two multiples into one, the weights used in this study vary in a nonlinear way over the amount of earnings relative to book value and systematically so over time. The study estimated that weights are robust over time and can be used to predict prices when they are applied for out of sample data. **Tasker (1998)** compares across-industry patterns in the

selection of comparable firms in acquisition transactions. She finds the systematic use of industry-specific multiples, which is consistent with different multiples being more appropriate in different industries. **Hotchkiss and Mooradian 1998** used relative valuation multiples for valuation of bankrupt companies. The degree of discounting factor of bankrupt companies was compared with the acquisition prices by using the multiples of EV/sales and of EV/assets. The study was concluded that bankrupt companies were acquired at discounts of 40 - 70 percent. **Baker and Ruback 1999** studied different ways to compute industry multiples and compared the relative performance of multiples based on EBITDA, EBIT (or earnings before interest and taxes) and sales. They prove that valuation errors are proportional and industry multiples, computed by harmonic mean, are close to minimum-variance estimates based on Monte Carlo simulations. **Beatty, Riffe, and Thompson 1999** studied the multiples such as earnings, book value, dividends, and total assets in combination and showcase the advantages harmonic mean and price-scaled regressions. They conclude the study by justifying that the better performance is achieved by using appropriate weights from harmonic mean and coefficients from price-scaled regressions on earnings and book value. **Kim and Ritter 1999** used several measures for IPO valuations. The multiples used were P/E, P/BV, P/Sales, EV/sales, and EV/EBITDA. It was found that all these multiples yield positively biased estimates but that EBITDA multiple results in the most precise valuation. They also showed that valuations improve when forecasted earnings are used as estimate than historical earnings. **Pablo Fernandez 2002** concluded that there exists a wide deviation in multiples and common multiples of comparable firms help in understanding the difference in evaluation procedure. **Liu, Nissim, and Thomas 2002** studied the performance of value drivers to estimate the stock price. The study analyzed the performance of value drivers across industry and over time by using alternative approaches to computing multiples. They found that forward earnings performance improves over time horizon. Based on historical data drivers sales do not perform well when compared to earnings and book value, cash flow measures, defined in various forms, perform poorly; and using enterprise value is better than equity value. **Gill 2003** found that different industries have range of acceptable level of P/E ratios and that they should be considered as an average or mean value of P/E not just the last recorded P/E. The study was concluded that P/E ratio along with the EPS growth rate could produce the more useful price earnings to growth (PEG) ratio, which is a sound indicator of a company's potential value **Yoo 2006** studied several multiples and developed a comprehensive approach to improve the valuation accuracy. **Dhankar and Kumar 2007** Studied a portfolios based on P/E of stock and found that stock markets do not show consistency w.r.t return of the stock and their corresponding P/E ratios that challenges the efficient market hypothesis theory. **Irina, Alexander and Ivan 2007** studied the cross-border valuations of comparable

companies (peers) for emerging markets and developed market by using market multiples, the use of market multiples. The study concluded that using peers from developed markets over estimated equity value in emerging markets, due to factors like political and economic risk, low corporate governance and thus requires an adequate discount factor. **Huang, Tsai and Chen 2007** decomposed P/E ratios into a fundamental component and a residual component, which provide a better measure to judge of investor reaction. They conclude that unique factors of the firm and macroeconomic factors determine P/E multiples and specifically the dividend pay-out ratio and firm size have direct influence on the P/E ratio. **Nel 2010** compared the approaches of academicians and investment bankers with respect to equity Valuations and concluded that both the entities favoured Price to earnings ratio approach and agree on the suitability of earnings and sales as value drivers. **Sanjay Sehgal and Asheesh Pandey 2010** studied the alternative price multiples for equity valuation in India by considering 145 large companies from 13 sectors over a time frame of 17 years. Price was forecasted by regressing the historical prices on different value drivers, two forecast evaluation criteria, root mean squared error and Theil's inequality coefficient were also used. It was found that price-to-earnings provide the best price forecast compared to, price-to-book value, price to cash flow and price to sales. **Nissim 2013** conducted a study of valuation of insurance companies and concluded that book value multiple is better fit over earnings multiples. The accuracy can be improved if book value multiple is adjusted with RoE. **Bhargava 2014** concluded that market beta, growth estimates and DPS are the key influencing parameters of valuation. **Vandana Gupta 2018**, evaluated four valuation multiples models across steel, banking and automobile sectors The valuation multiples identified for this study are: price to earnings (P/E), price to book value (P/BV), price to sales (P/S) and enterprise value to earnings before interest, depreciation, tax and amortization (EV/EBIDTA). Multiple regression was techniques was used such that valuation multiple was considered as dependent variable and the value drivers as independent variables. Findings show that revenue and EBIDTA margins are valuable indicators of valuations and that book value is more important than earnings. The empirical findings reveal that least prediction errors are observed in P/S and EV/EBIDTA for the automobile sector, EV/EBIDTA for the steel sector and P/BV for the banking sector

IV. OBJECTIVES AND METHODOLOGY

The study is intended to know the valuation process for the prospective company in case of initial public offering by the concerned company with reference to relative valuation. A key benefit of relative valuation analysis is that the methodology is based on the current market stock price. The current stock price is generally viewed as one of the best valuation metrics because markets are considered somewhat

efficient. The three peer companies for the study have been taken from the Bombay Stock Exchange companies. We have selected the three peer companies from the dairy sector namely Dairy 2, Dairy 3 and Dairy 4 for performing our analysis: The multiples used for the above mentioned are:

- Price to Book Value Ratio.
- Price to Sales Ratio.
- Price to Earnings Ratio.
- Enterprise Value to EBITDA Ratio.

The study is based on secondary data i.e. Annual report of the company for 2015-17 for Dairy 1 dairy. The data was computed as Return of equity was computed for three years using Earnings before Interest and Tax and capital employed, Earning per shares was computed using profit after tax and outstanding number of shares, growth was estimated using the sales data for past three years. Cost of equity was computed by EPS and dividend per shares data with other relevant parameters. Equity value Multiple was computed using P/E, P/BV and P/S.

V. DATA ANALYSIS

Table No 5.1 Return on Equity of Dairy 1 dairy and three Peer companies

Year	Dairy 1	Dairy 2	Dairy 3	Dairy 4
2015	0.11	0.45	1.18	0.35
2016	0.56	0.45	1.04	0.4
2017	0.21	0.45	1.04	0.4
Mean	0.29	0.45	1.09	0.38
SD	0.236	0.000	0.081	0.029

Table No 5.2 Earnings per Share of Dairy 1 & three Peer companies Peer

Year	Dairy 1	Dairy 2	Dairy 3	Dairy 4
2015	0.5	2.68	3.87	2.04
2016	3.6	19.95	3.4	1.9
2017	1.5	22.71	0.76	3.8
Mean	1.87	15.11	2.68	2.58
SD	1.582	10.856	1.676	1.059

Table No 5.3 Growth (g) of Dairy 1 & Three Comparable co's

Dairy 1	Year	Sales (Rs. Crs).	Growth	1+g
Growth	2015	207.71	0.29	1.29
	2016	240.76	0.15	1.15
	2017	270.33	0.12	1.12
Dairy 2	Year	Sales	Growth	1+g
Growth	2015	406.51	0.11	1.11
	2016	445.53	0.09	1.09
	2017	470.87	0.05	1.05
Dairy 3	Year	Sales	Growth	1+g
Growth	2015	251.36	0.16	1.16
	2016	189.42	-0.33	0.67
	2017	210.43	0.10	1.10

Dairy 4	Year	Sales	Growth	1+g
Growth	2015	372.49	-0.16	0.84
	2016	373.01	0.001	1.001
	2017	389.32	0.040	1.040

Table No 5.4 Cost of Equity (r) of Dairy 1 & Three Peer co's

Year	Dairy 1	Dairy 2	Dairy 3	Dairy 4
2015	0.02	0.13	0.62	0.14
2016	0.14	1	0.55	0.13
2017	0.06	1.14	0.12	0.27
Mean	0.07	0.76	0.43	0.18
SD	0.061	0.547	0.271	0.078

Table No 5.5 Net Profit Margins (NPM) of Dairy 1 & Three Peer co's

Year	Dairy 1	Dairy 2	Dairy 3	Dairy 4
2015	0.002	0.005	0.03	0.003
2016	0.012	0.03	0.04	0.002
2017	0.004	0.03	0.01	0.004
Mean	0.01	0.02	0.03	0.00
SD	0.005	0.014	0.015	0.001

Table No 5.6 Equity Value Multiple of Dairy1 for Three Year & its Avg.

EVM	2017	2016	2015	AVG
P/E	-1.60	4.086	34.692	12.393
(1-b)	0.6	0.6	0.6	
b	0.4	0.4	0.4	
ROE	0.21	0.56	0.11	
DPS	0.58	1.42	0.18	
FV	10	10	10	
r	0.06	0.14	0.02	
P/BV	4.919	1.477	-0.415	1.994
r	0.15	0.41	0.09	
(1-b)	0.6	0.6	0.6	
ROE	0.21	0.56	0.11	
g	0.12	0.15	0.29	
1+g	1.12	1.15	1.29	
r-g	0.03	0.26	-0.20	-0.361
P/S	-0.049	-1.029	-0.0049	
NPM	0.004	0.012	0.002	
1+g	1.12	1.15	1.29	
(1-b)	0.6	0.6	0.6	
r-g	-0.06	-0.01	-0.28	

Table No 5.7 Equity Value Multiples of DAIRY 2, Dairy 3 and Dairy 4 for Three Years

Company's	EVM	2017	2016	2015	AVERAGE
Dairy 2	P/E(NSE)	42.93	32.13	100.24	58.43
Dairy 3	P/E(NSE)	105.7	21.23	19.21	48.71
Dairy 4	P/E(NSE)	na	na	na	na
Dairy 2	P/E(BSE)	42.83	32	92.24	55.69
Dairy 3	P/E(BSE)	101.4	21.28	20.33	47.67
Dairy 4	P/E(BSE)	62.96	82.18	75.5	73.55
Dairy 2	P/B	1.78	2.01	10.36	4.72
Dairy 3	P/B	8.94	0.64	2.38	3.99
Dairy 4	P/B	1.35	2.12	0.68	1.38
Dairy 2	P/S	0.02	0.02	0.11	0.05
Dairy 3	P/S	0.31	0.02	0.07	0.13
Dairy 4	P/S	0.02	0.01	0.01	0.01

Table No 5.8 Valuation multiples for peer company's a NSE & BSE

	Dairy 2	Dairy 3	Dairy 4	AVG(NSE)
NSE	58.43	48.72	-	
P/E	1.11	3.78	-	2.45
P/S	0.13	0.22	-	0.18
P/BV	0.45	0.90	-	0.68
				AVG(BSE)
BSE	55.69	47.67	73.55	
P/E	1.06	3.70	3.65	2.81
P/S	0.13	0.22	0.19	0.18
P/BV	0.43	0.88	0.70	0.67

Table No 5.9 Equity Capitalization & price per share for Dairy 1 at NSE & BSE

NSE					
EARNING BASIS		SALES BASIS		BOOK VALUE BASIS	
AVG P/E	2.45	AVG P/S	0.18	AVG P/BV	0.68
E- Dairy 1	14908795.67	SALES - Dairy 1	2388491177	BV- Dairy 1	296538388.67
P/E- Dairy 1	36503693.06	P/S- Dairy 1	426279760.17	P/BV - Dairy 1	201057882.72
Equity capitalisation	221280445.32				
NSE Price per share	276.26				
BSE					
AVG P/E	2.81	AVG P/S	0.18	AVG P/BV	0.67
E- Dairy 1	14908795.67	SALES- Dairy 1	2388491177	BV- Dairy 1	296538388.67
P/E- Dairy 1	41830958.27	P/S- Dairy 1	430209069.42	P/BV- Dairy 1	199555103.61
Equity capitalisation	223865043.77				
BSE Price per share	279.48				

VI. FINDINGS

1. In 2016-17 the ROE for **Dairy 1** decreased by 0.62% with a mean ROE of 0.29 and standard deviation of 0.23. ROE for Dairy 2 has increased by 0.09%. For Dairy 3 ROE has decreased by 0.7, with mean of 1.09 and standard deviation 0.08. And ROE for Dairy 4 has increased by 0.05 with a mean of 0.38 and standard deviation of 0.029.
2. For 2016-17 the EPS for **Dairy 2 & Dairy 4** has increased by 0.12% & -3.4%. **Dairy 3** and **Dairy 1** EPS has decreased by 0.7% & 1.4% reasons being reduction in profitability. The mean EPS of **Dairy 1** is 1.87 and standard deviation of 1.57. Dairy 2 has mean EPS of 15.11 and SD of 10.87, for Dairy 3 the mean EPS was 2.68 with SD of 1.68 of 1.09 and that for Dairy 4 the mean is 2.58 and SD 1.059.
3. The growths for Dairy 1 & Dairy 2 are positive. For Dairy 3 & Dairy 4 has negative growth rate. Because decrease in sales. Compared to the Dairy 1 & Dairy 2.
4. The cost of equity for Dairy 4, Dairy 2 & Dairy 1 is comparably greatest. Whereas cost of equity for Dairy 3 is decrease from 2015-17, with respective means of 0.07, 0.76, 0.43 and 0.18 with respective SD of 0.061, 0.547, 0.271 and 0.078, for Dairy 1, Dairy 2, Dairy 3, Dairy 4.
5. Net Profit Margin for Dairy 4 & Dairy 1 have increased comparable to that of Dairy 3 & Dairy 2 from the year 2015-17 due to fluctuations in sales earnings & merchandise cost, with respective means of 0.01, 0.02 and 0.03 with respective SD of 0.005, 0.014, 0.015 and 0.001, for Dairy 1, Dairy 2, Dairy 3, Dairy 4
6. Equity Value multiple of Dairy 1 where P/E highest value is 34.69 & lowest value is -1.60. Thus average ranges to 12.39. P/BV highest value 4.91 & lowest limits at -0.415. Thus average value is 1.9. P/S average value is -0.36.
7. The valuation multiples of comparable companies using the prices determined i.e. Dairy 2 is 58.43 & Dairy 3 is 48.71 on NSE Similarly prices on BSE for Dairy 2 is 55.68, Dairy 3 is 47.67, Dairy 4 is 73.55. Using the comparable value such as sales, EBITDA, book value the EVM for each of the peer companies is calculated and brought to an average value on both the exchanges.
8. Dairy 1 equity capitalization value was projected at 22,12,80,445.3(NSE) & 22, 38,65,043.7(BSE).

VII. SUMMARY AND CONCLUDING REMARKS

The technique of Relative valuation is most suited method for equity analysis as a result, is highly popular among practitioners. P/E, price to book value, price to cash flow and price to sales are the four key multiples that form part of the

relative valuation toolkit. In the study undertaken it was found that dairy 1 can proceed for listing their company on either of the stock exchanges. Price determined for valuation on the respective exchanges was estimated at 276.26 on NSE & 279.48 on BSE. Good track record of financial performance in subsequent years may get a better price rate on stock exchange for 276 and 279. The results contribute literature in the field of equity valuation in determining the estimated price at which Initial Public offering can be made.

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