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"PROFITABILITY PERFORMANCE EVALUATION OF BAJAJ AUTO LTD & HERO MOTOCORP BY USING DUPONT MODEL"

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ABSTRACT :
*This study is related to calculate and compare the profitability performance evaluation of Bajaj Auto Ltd. and Hero motocorp by using DuPont Model. It is technique assessing a companies return on equity splitting in to three parts that is Profit margin (Profit /sales), Total Assets Turn over (sales / Assets) and equity multiplier (Assets/ Equity).This study was conducted on Auto mobile company listed in NSE and period of Study was 2014 to 2018.In this paper secondary data is use. Public Annual financial statement is use for Data collection. DuPont Analysis is very important tools for making operation monetary performance. DuPont Analysis depends on analysis of Return on Equity (ROE) and Return on Investment (ROI).Operating Monetary performance is sign of the earning power of the firm. Assets Turn over (Operation Income*Total Assets) And Profit Margin(EBIT*Operating Income) are under return on investment. The Automobile companies are significant at there level. ROE and ROI help to measure the profitability of firm.*

KEYWORDS : *DuPont Analysis, Financial Performance, ROE, ROI.*

INTRODUCTION

The Top Automobile industry in the world includes Indian Automobiles industry In 1991 Indian market grew delicensing . After this the production contributes about opening up 100 % FDI through automobile companies enhancing the industry and contributes 75% to the countries goes domestic product (GDP) which led to annual production of 23.96 million vehicles in FY 2015-16. Finally product $ 14.5 billion worth automobile were exported in 2024.

DuPont model was created in 19th century for analyzing risk factor. DuPont model is not very common but talking about language of business is stays valuables

In mid 1900s DuPont display was created to evaluation the efficiency of business in 1918 the first DuPont techniques for budgetary proportion investigation was produced by F. Donaldson Brown, a scientific bond among the benefit & profit for Resources (ROA). To measures the financial performance of the companies there are different ratios. Like performance ratio, liquidity ratios , profitability ratios and leverage profit, after word by earlier studies the measurement of financial performance and profitability was determined by DuPont Analysis.

Four years later in 1918, F. Donaldson Brawn was given an opportunity by the E.I. DuPont corporation of wilmingiondelwareto labor in to treasury department.F. Donaldson Brown upholded thework of solving the overall budget of a company to which DuPont has just bought 23% of the stock. In General motors, F.Donaldson Brown identify a mathematical cross over that suistained within the two basically computer based ratios, which were net profit margin and total assets Turnover and ROA.

The net profit margin and total Assets turnover produced a product equal to ROA which was signified the original DuPont model, ROA (Net income/sales)*(sales/total assets) = (Net income/ total assets).

LITERATURE REVIEW

Brigham & Houston (2001): The customised model was a great device to ill. Demonstrate the interconnectedness of a firm's balance sheet and its income statement and to expand strategies for developing the firm's Return On Equity. The DuPont is used to get fast snapshot view of the total performance of a firm in three areas of ratio Analysis.

De Wet & Du Toit(2007): Return on eqity: A Popular, but Flawed Measure of Corporate Financial Performance- This powerful tool helped to calculate the ROE by taking the profit after tax and preference dividends of a year and dividing it to the value of equity at the start of year. The issued common share capital plus the share premium and research were write by Average equity.

Pratt & amp; (2008): The customized Dupont model has become variant identified in the financial analysis literature Because it was found Dupont was industry specific it contained multiplicative parts that provides more useful valuation than economy wide pants, signifining than company specific ratio have increased validity.

Prendergast (2006): It demonstrated example of using DuPont Analysis in each business and room setting. The creator illustrats however a change DuPont approachto quantitative relation analysis will be accustomed drill all the way down to verity reason behind money performance issues in a small bargain business.

Sundararajan,et al(2002): The main purpose of this to major various rates of return. The creation consent with the opinion of relaying too heavily on a few indicators of bank profit may be ambiguous. ROI, ROE and interest margin to gross income remain the important majors, which should be ideally analysis the operating ratio.

OBJECTIVES OF THE STUDY

1. To analyze profitability performance of Bajaj Auto Ltd. & Hero Motocrop by using DuPont method.
2. To examine the ROI and ROE of Bajaj Auto Ltd. & Hero Motocrop for last 5 years.
3. To compare the ROI and ROE of Bajaj Auto Ltd. & Hero Motocrop for last 5 years

RESEARCH METHODOLOGY

RESEARCH DESIGN:

I have used **Analytical Research** type for this research. For that I have collected the information which is already available and analyzed it for strong and depth study. It helps for understanding of this topic.

SAMPLING METHOD:

I have used purposive sampling method for this study. Purposive sampling deals with judgments in which I have judge the information and found out the possible outcome.

SELECTION OF SAMPLE:

Top Indian two wheeler companies have been selected for the study on the basis of following criteria.

Company Name	Market Capitalization	Market Shares	Sales
Bajaj Auto Ltd.	90,225 crore	18%	3,34,348 Unit
Hero Motocorp	72,707.95 crore	39%	6,29,597 Unit

SAMPLE SIZE: Top 2 Automobile Companies in India (Bajaj Auto Ltd & Hero Motocorp)

DATA COLLECTION

- Secondary Data

Instruments used for data collection-

1. Annual Reports of Bajaj Auto Ltd & Hero Motocorp
2. Websites- https://www.moneycontrol.com/

PERIOD OF STUDY:

Researcher has undertaken 5 years financial data of selected Companies i.e. 2014-2018 for the study.

STATISTICAL TOOLS AND TECHNIQUES TO BE USED

I have used statistical tools and techniques such as ROE and ROI. These tools and techniques are useful for determining the profitability of the firms.

Formula:

ROE= Profit Margin (Profit/Sales) * Total Assets Turnover (Sales/Assets) * Equity Multiplier(Assets/Equity)
ROI= Asset Turnover * Profit Margin (EBIT/Operating Income)

DATA ANALYSIS AND INTERPRETATION

Bajaj Auto Ltd.

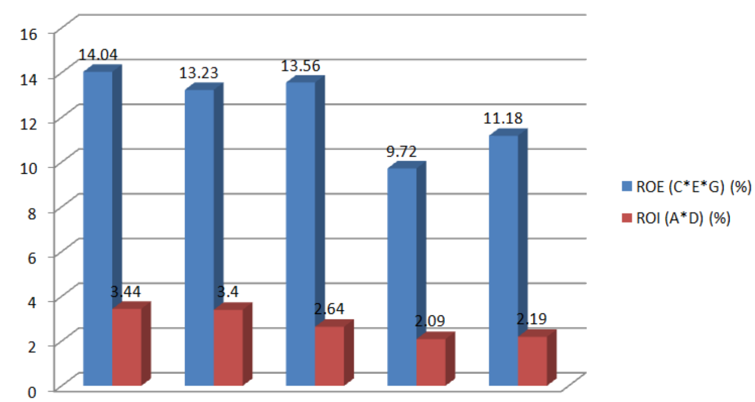


Figure 01: Bajaj Auto Ltd.- ROE & ROI

Table No. 01: Return on Equity

Year	PAT (A) Rs in crores	NS (B) Rs in crores	PM (A/B) C%	TA (D) Rs in crores	TAT (B/D)= E	EQ (F) Rs in crores	EM (D/F)= G	ROE (C*E*G) (%)
2018	4068.1	25164.92	16.165	19224.63	1.308	289.37	66.44	14.04
2017	3827.56	21766.68	17.58	17154.03	1.27	289.37	59.28	13.23
2016	3929.67	22586.52	17.4	13266.55	1.7	289.37	45.85	13.56
2015	2813.74	21612.01	13.02	10803.92	2	289.37	37.34	9.72
2014	3243.32	20149.51	16.1	9665.76	2.08	289.37	33.4	11.18
Mean	3576.478	22255.928	16.053	14022.978	1.6716	289.37	48.462	12.346

Interpretation

The profit margin averaged 16.05%, minimum value of the profit margin was 13.02 in the year 2015 and maximum was 17.58 in the year 2017.The Net profit margin ratio has increasing trend from 2014 and Profit after tax is also increasing. But, in the year 2015 profit margin was (13.2%) declined due to increasing operating expenses and hence it resulted into lower operating profit.

Total Assets Turnover averaged 1.67 times, maximum was 2.08 in the year 2014 and minimum 1.30 in 2018. The table shows that the Total Asset Turnover ratio decreasing year by year. It means management of the organization is not using its assets effectively to produce the sales.

Equity Multiplier is a ratio used to analyze a company's debt and equity financing strategy. The Equity Multiplier ratio averaged 48.46, minimum was 33.40 in the year 2014 and maximum ratio was 66.44 in the year 2018. It indicates that, more assets were funded by the debt rather than equity. Therefore, ROE has increased because financial leverage also has increased in 2018 as compare to 2014.

Table No. 02- Return on Investment

Year	AT	EBIT	OI	PM	ROI
	(A)	(B)	©	(B/C) = D	(A*D)
		Rs in crores	Rs in crores		(%)
2018	2.85	5769.89	4783.43	1.21	3.44
2017	2.83	5323.99	4422.35	1.2	3.4
2016	2.28	5547.51	4781.94	1.16	2.64
2015	2.11	4091.28	4116.55	0.99	2.09
2014	1.96	4632.54	4105.74	1.13	2.19
Mean	2.236	5073.042	4442.002	1.138	2.548

Interpretation

The ROI of the Bajaj Auto Ltd averaged 2.75, maximum was 3.44in 2018 and minimum was 2.09 in the year 2015. It is cleared. It is cleared that ROI has significantly increasing every year since 2014. It means, the investments are gaining comparably favorable to its cost.

Hero Motocorp

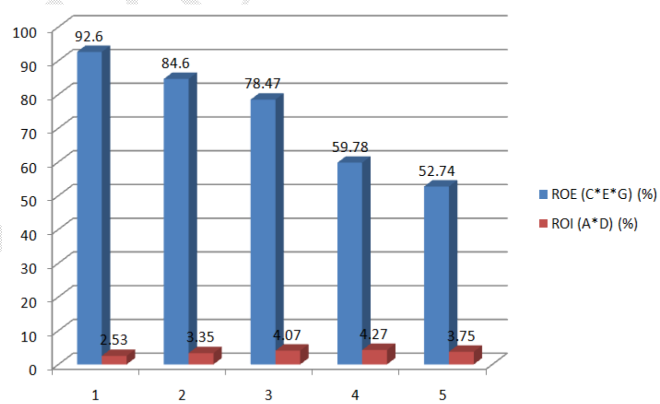


Figure No. 02: Hero Motocorp- ROE & ROI

Table No. 03 – Return On Equity

Year	PAT	NS	PM	TA	TAT	EQ	EM	ROE
	(A)	(B)	(A/B)	(D)	(B/D)= E	(F)	(D/F)= G	(C*E*G)
	Rs in crores	Rs in crores	C%	Rs in crores		Rs in crores		(%)
2018	3697.36	32230.49	11.47	11768.88	2.74	39.94	294.66	92.6
2017	3377.12	28500.46	11.85	10111.29	2.82	39.94	253.16	84.6
2016	3132.37	28599.3	10.95	7339.35	3.9	39.94	183.76	78.47
2015	2385.64	27585.3	8.65	6541.33	4.22	39.94	163.78	59.78
2014	2109.08	25275.47	8.34	5599.87	4.51	39.94	140.21	52.74
Mean	2940.314	28438.204	10.252	8272.144	3.638	39.94	207.114	73.638

Interpretation

Above Table indicates that, the profit margin averaged 10.25%, the minimum was 8.34 in 2014 and maximum was 11.85 in the year 2017. Profit margine ratio has shows there is significant increased in profit margin.

Total Assets Turnover averaged 3.63 times, minimum is 2.74 in 2018 and maximum is 4.51 in 2014. It suggest that the efficiency of total assets is decreasing from 2015. it means management of the company not using its assets to drive the sales.

Financial Leverage of the company significantly increased, It indicates that more assets were funded by the equity rather than debt. It means that company uses more than 100% debt to finance its assets

Table No. 04 – Return on Investment

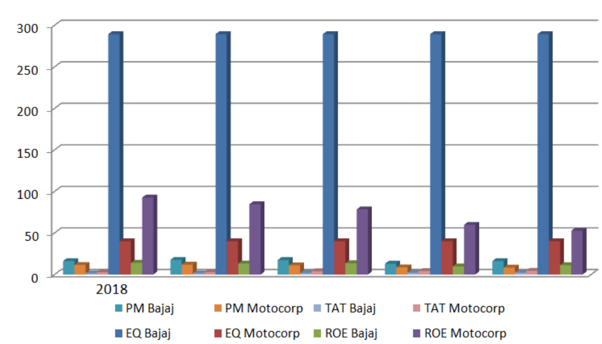
Year	AT	EBIT	OI	PM	ROI
	(A)	(B)	©	(B/C) = D	(A*D)
		Rs in crores	Rs in crores		(%)
2018	2.56	5245.7	5280.19	0.99	2.53
2017	3.35	4650.43	4634.81	1	3.35
2016	4.12	4396.73	4447.01	0.99	4.07
2015	4.54	3339.91	3542.18	0.94	4.27
2014	4.63	2879.07	3540.06	0.81	3.75

Interpretation

The ROI of Hero Motocorp averaged 3.59, the highest in the year 2015 i.e. 4.27 & lowest in 2018 i.e. 2.53. It is clared that ROI has significantly increased every year since 2014. It is because of the profit margin and operating income has also significantly increased.

Comparision of Bajaj Auto Ltd and Hero Motocorp

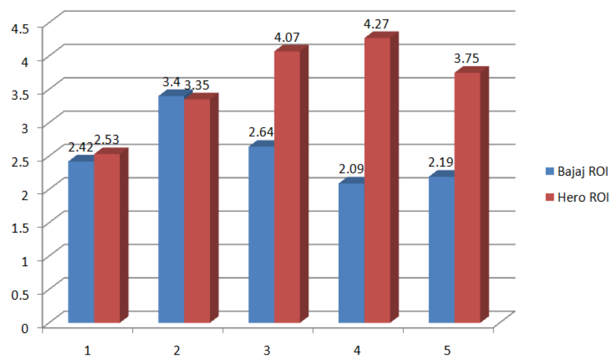
ROE:



Interpretation

From the above figure No.03 it has been observed that, the ROE of the Bajaj Auto Ltd. is much higher than the Hero Motocrop But, Bajaj Auto is more financially leveraged than Hero Motocorp. Its better to have low multiplier ratio and Bajaj Auto having low equity multiplier and lower multiplier ratios are always considered more conservative and more fevorable than higher ratios because companies with lower ratios are less dependent on debt financing and don't have high debt servicing cost.

ROI



Interpretation

From the above figure no. 04 it has been observed that, ROI of Hero Motocorp is much higher than Bajaj auto ltd. but in the year 2017 the ROI of Hero Motocorp has declined due to low assets turnover.

FINDING OF THE STUDY

Bajaj Auto Ltd.

1. Operating expenses of Bajaj Auto Ltd. Were increased in 2016 and hence it resulted into lower operating profit in the same year.
2. Total Turnover ratio of the Bajaj Auto Ltd. decreasing year by year. It indicates that, the management of Bajaj Auto Ltd. are not using its assets to produce the sales.
3. More assets of the Bajaj Auto Ltd. were funded by the debt rather than equity. Therefore, ROE has increased because financial leverage also has increased in 2018 as compare to 2014.
4. The investments of the Bajaj Auto Ltd. are gaining comparably favorable to its cost

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Hero Motocorp

1. Profit margin of the Hero Motocorp has been significantly increased because Profit after Tax has also been increased throughout the years.
2. The efficiency of total assets of Hero Motocorp is decreasing from 2016. it means management of the company not using its assets to drive the sales.
3. Financial Leverage of Hero Motocorp significantly It means that company uses more than 100% debt to finance its assets.
4. The ROI of Hero Motocorp has significantly increased every year since 2014. But, as compared to Bajaj Auto Ltd. the ROI of Hero motocrop is high.

Comparision

1. The ROE of the Hero Motocorp is much higher than the Bajaj Auto Ltd. But, Bajaj Auto is more financially leveraged than Hero Motocorp.

2. ROI of Hero Motocorp is much higher than Bajaj auto ltd. but in the year 2017 the ROI of Hero Motocorp has declined because, decreased in Assets Turnover.

CONCLUSION OF THE STUDY

In short, ROE & ROI are the basic parameters of DuPont model, which help to measure the profitability of the Bajaj Auto Ltd. and Hero Motocorp. At the end, it is concluded the Du Pont analysis made by calculating ROE & ROI for top two Indian Auto-Mobile Companies (Bajaj Auto Ltd. And Hero Motocorp) and result portrays that Bajaj Auto Ltd. have better profitability performance rather than its competitor Hero Motocorp.

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