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**RESULTS & DISCUSSION**

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**ASSETS TURNOVER AND PROFITABILITY OF SELECTED INDIAN AUTOMOBILE INDUSTRY****DR. N. PASUPATHI****DIRECTOR****PG & RESEARCH DEPARTMENT OF MANAGEMENT SCIENCE****PARK'S COLLEGE (AUTONOMOUS)****TIRUPUR****ABSTRACT**

*The Indian Automobile Industry has been pivotal role in the society. To increase the shareholders' value efficient assets management is required. Assets utilization and corporate profitability has a direct relationship. In present paper an attempt has made to study the impact of assets utilization on profitability of Indian automobile industry. For the purpose of study seventeen Indian automobile industries has been selected. The study indicates that utilization of industry assets is the most influencing factor on profitability of Indian automobile industry.*

**KEYWORDS**

assets turnover, automobile industry, profitability.

**INTRODUCTION**

There is a triangular relationship among the sales, profits and assets greatly affect the profitability of a business also. The relationship between the sales and profits is known as profit margin and the relationship between the sales and assets is known as assets turnover. Any change in assets turnover would affect the profitability of a business. Hence, a detailed analysis of assets turnover has been made for better study and tracing out factors responsible for changes in the profitability. Turnover ratios are concerned with how efficiently the assets of the firm are managed or utilized. These ratios indicated the rate at which different assets are turned over in the process of doing business. The greater the rate of turnover or conversion, the more efficient utilization assets, resulting in higher profitability. The turnover ratios reflect the relationship between level of the sales and the various assets and a proper balance between assets and sales shows better management of assets.

**LITERATURE SURVEY**

Over the past thirty to forty years a host of studies have been carried out, most in the United States, aimed at developing models for the prediction of farm business performance. As regards dependent variables the main focus appears to have been by university researchers working with banks to develop means of improved credit scoring or categorizing farms according to the likelihood of loan default (see Johnson and Hayes, 1973; Hardy and Weed, 1980; Novak and LaDue, 1999; and Barry and Ellinger, 1989, for example). Other studies have looked at bankruptcy (Beaver, 1968; Altman, 1968), with a few being concerned with 'financial stress' (Melichar, 1986), 'success' (kaase et al., 2003), 'health' (Griffis, 1998) and financial instability (Franks, 1996). Santarossa (2003) derived an index based on movement in long-term debt. And in some ways linked to bankruptcy as the end of the downhill journey, Escalante and Turvey (2005) and Crabtree (1984) employed a measure of percentage change in net worth and Ibendahl and Fleming (2003) used a similar, but more complex indicator. In this paper an effort has been made to empirical study of Indian automobile industry for assessing the impact of assets utilization on profitability.

**OBJECTIVES OF THE STUDY**

The present study is envisaged to assess the impact of assets utilization on profitability and to examine the combined effect of assets utilization on profitability.

**METHODOLOGY**

The present study is based on seventeen selected Indian automobile industries. The industries have been selected by using convenient sampling method. The data required for this study were collected from the annual reports of respective units for the years 2000-01 to 2014-15. For the assessing the performances of the financial data collected from the above-mentioned source have been done as per the requirements of the study. For analyzing data simple mathematical tools like ratio, percentage and various statistical tools like, mean, standard deviation, Karl Pearson co-efficient of correlation, t - test, F - test, and multivariate regression analysis has been used in the study.

**VARIABLES OF THE STUDY**

**Profitability:** The specific profit measures used in this study were average Return on Capital Employed (ROCE) over the periods of study.

**Fixed Assets Turnover Ratio (FTR):** The fixed assets turnover ratio measures the efficiency with which the firm is utilizing its investment in fixed assets. It also indicates the adequacy of sales in relation to the investment in fixed assets.

**Inventory Turnover Ratio (ITR):** Inventory turnover indicates the efficiency of the firm's inventory management. It shows rapidity of turning inventories into sales. Generally, a high turnover is indicative of good inventory management.

**Debtors Turnover Ratio (DTR):** Debtors turnover ratio is an indicator of quickness in realization of sundry debtors. It shows the number of day's credit enjoyed by sundry debtors or credit time allowed and capital blocked in debtors. The high turnover indicates that the debts are being collected more promptly. It is calculated by dividing the net sales by the debtors at the end of the year.

**THE MODEL**

The regression model used in this study is as under:

$$ROCE = b_0 + b_1FTR + b_2ITR + b_3DTR$$

Where  $b_0$ ,  $b_1$ ,  $b_2$ ,  $b_3$  are the parameters of the ROCE line to be estimated.

FTR = Fixed Assets Turnover Ratio

ITR = Inventory Turnover Ratio

DTR = Debtors Turnover Ratio

**ASSETS TURNOVER AND PROFITABILITY – CORRELATION ANALYSIS**

The co-efficient of correlation between selected ratios being to assets turnover and profitability are presented in Table 1. It is evident from the table correlation co-efficient between return on capital employed and fixed assets turnover ratio is +0.34. It indicates that there is a positive association between the profitability and fixed assets turnover ratio of the Indian automobile industry. The t-value is found to be significant at 1 per cent level. Secondly, the co-efficient of correlation between return on capital employed and inventory turnover ratio is found to be +0.64. It is also indicates positive relation between variables. The t-value is also significant at 5 per cent level. Lastly, the co-efficient of correlation between return on capital employed and debtors turnover ratio is +0.73. The t-value is insignificant. Thus the study of impact of assets turnover ratios on profitability viewed positive association. The study of relationship between the profitability and assets turnover ratios on Indian automobile industry with accepted rule that larger turnover increases the profitability.

Table 2 showed the correlation analysis between profitability and assets utilization of Indian automobile industry and t-value of the ratio. It is evident from the Table 2 that the all Indian automobile industries under study, fixed assets turnover ratio was positive association with return on capital employed. But the positive



association was statistical significant in 13 industry. So, result indicates only positive association between fixed assets turnover ratio and return on capital employed. While in inventory turnover ratio out of 17 industry 15 industries are associated positively with return on capital employed. Among 15 industries 12 industries statistically significant. While 1 out of 2 negative association industry were statistically found to be significant. In debtors turnover ratio 13 industry has apposite association with return on capital employed and 6 were statistically significant. Out of 4 negatively associated industries 2 industry were found to be significant. So, this analysis indicates that all the three variables of the study were associated with return on capital employed positively and negatively, but positive association was higher among the industries under study.

#### IMPACT OF ASSETS TURNOVER RATIOS ON PROFITABILITY - MULTIPLE REGRESSION ANALYSIS

To study the influence of assets turnover ratios on profitability, a linear multiple regression models were used. Table 3 provides the detail information of regression co-efficient, t-value, R value, R<sup>2</sup> value and F value of the independent variable and dependent variable of the study. In present study Fixed Assets Turnover Ratio (FTR), Inventory Turnover Ratio (ITR) and Debtor Turnover Ratio (DTR) have been taken as the explanatory variables and Return On Capital Employed (ROCE) has been used as the dependent variables.

The result of regression analysis indicates the relationship between dependent variables return on capital employed, and all the independent variables taken together and impact of these variables on the profitability of the Indian automobile industries. The table 3 indicates that for one unit increase in fixed assets turnover ratio, inventory turnover ratio and debtors turnover ratio the return on capital employed is increased by 1.205 unit, 0.538 unit and 0.595 units respectively. Debtors turnover ratio regression co-efficient was found to be statistically significant at 1 per cent level significant while fixed assets turnover ratio and inventory turnover ratio were found statistically insignificant. The multiple correlations co-efficient of return on capital employed on fixed assets turnover ratio, inventory turnover ratio and debtors turnover ratio is 0.810. It reveals that the profitability of Indian automobile industry was highly influence by these variables. It is also evident from the value of R<sup>2</sup> that the independent variable fixed assets turnover ratio, inventory turnover ratio and debtors turnover ratio contributed 0.657 per cent of variations in the profitability of Indian automobile industry. F value is significant at 1 per cent level of significant.

#### CONCLUSION

The results of the study indicate that fixed assets turnover ratio and profitability has shown a positive relationship. So, it indicates that high fixed assets turnover higher profitability. While the result of correlation of debtors turnover shows a highly positive association between debtors turnover ratio and return on capital employed and it is also found statistically insignificant. Inventory turnover ratio indicates a moderate degree of positive relation between variables. The partial regression co-efficient shown in the multiple regression equation of return on capital employed on fixed assets turnover ratio, inventory turnover ratio and debtors turnover ratio fitted in this study reveals that fixed assets turnover ratio, inventory turnover ratio and debtors turnover ratio made positive as well as very significant contribution towards improvement of the industry profitability. Debtors turnover ratio also statistically significant. The results of analysis of multiple determinations make it clear that 65.70 per cent of total variation in the industry profitability was accounted for by the joint variation in the efficiency of fixed assets management, inventory management and receivables management. The study indicates that utilization of industry assets is the most influencing factor on profitability of Indian automobile industry.

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#### ANNEXURE

**TABLE 1: CORRELATION ANALYSIS BETWEEN PROFITABILITY AND ASSETS UTILIZATION OF INDIAN AUTOMOBILE INDUSTRY**

Units	Fixed assets turnover	Inventory turnover	Debtors turnover	Return on capital employed
Ashok Leyland Ltd	2.21	5.86	6.18	14.63
Tata Motors Ltd	2.47	9.13	16.05	19.19
Bajaj Tempo Ltd	1.82	4.59	33.29	14.87
Eicher Motors Ltd	4.53	11.83	11.19	22.08
Swaraj Mazda Ltd	10.42	6.08	7.42	30.25
Hindustan Motors Ltd	2.07	6.04	7.38	6.21
Mahindra & Mahindra Ltd	3.14	8.72	11.63	19.04
Maruti Udyog Ltd	3.39	14.05	30.39	28.32
Bajaj Auto Ltd	2.24	18.75	27.01	28.02
LML Ltd	1.92	5.31	22.95	11.39
Maharastra Scooter Ltd	9.30	22.42	18.54	13.52
TVS Motor Company Ltd	3.60	14.52	33.99	37.62
Kinetic Motors Ltd	4.46	6.88	13.52	12.77
Hero Honda Motors Ltd	5.55	21.83	54.86	58.68
Kinetic Engineering Ltd	1.31	5.74	5.35	6.59
Majestic Auto Ltd	2.39	10.13	6.84	8.92
Scooters India Ltd	3.87	3.61	24.41	7.55
<b>Mean</b>	<b>3.81</b>	<b>10.32</b>	<b>19.47</b>	<b>19.98</b>
<b>S.D</b>	<b>2.55</b>	<b>6.02</b>	<b>13.40</b>	<b>13.51</b>
<b>(r)</b>	<b>0.34</b>	<b>0.64</b>	<b>0.73</b>	
<b>t - value</b>	<b>-5.18*</b>	<b>-3.71**</b>	<b>-0.21</b>	

Source: Computed from the Annual reports of the respective units.

\* Significance at 0.01 level; \*\* Significance at 0.05 level

TABLE 2: CORRELATION ANALYSIS BETWEEN PROFITABILITY AND ASSETS UTILIZATION OF INDIAN AUTOMOBILE INDUSTRY

Units	Correlation co-efficient between FA and ROCE	t – value of $r_1$	Correlation co-efficient between IT and ROCE	t – value of $r_2$	Correlation co-efficient between DT and ROCE	t – value of $r_3$
Ashok Leyland Ltd	0.770	-8.787*	0.924	-8.228**	0.928	-14.396*
Tata Motors Ltd	0.871	-5.702*	0.670	-3.879*	0.652	-0.958
Bajaj Tempo Ltd	0.796	-3.759*	0.543	-2.995*	0.561	3.134*
Eicher Motors Ltd	0.080	-5.065*	0.749	-3.887*	0.448	-3.402*
Swaraj Mazda Ltd	0.688	-3.785*	0.767	-4.377*	-0.485	-3.524*
Hindustan Motors Ltd	0.777	-1.937***	-0.350	-0.069	0.500	0.585
Mahindra & Mahindra Ltd	0.721	-9.908	0.347	-6.304*	0.886	-7.909*
Maruti Udyog Ltd	0.765	-4.982	0.134	-2.749**	0.472	0.430
Bajaj Auto Ltd	0.435	-9.479*	-0.405	-2.175**	-0.156	-0.290
LML Ltd	0.858	-2.744**	0.792	-1.815***	-0.526	2.029***
Maharastra Scooters Ltd	0.918	-2.594*	0.799	3.775*	0.594	1.946***
TVS Motor Company Ltd	0.553	-7.585*	0.248	-5.163*	-0.385	-0.422
Kinetic Motors Ltd	0.390	-2.503**	0.805	-1.862***	0.218	0.199
Hero Honda Motors Ltd	0.874	-8.636*	0.709	-7.796*	0.626	-0.617
Kinetic Engineering Ltd	0.912	-1.360	0.764	-0.238	0.710	-0.356
Majestic Auto Ltd	0.704	-3.364*	0.304	0.590	0.496	-1.106
Scooters India Ltd	0.017	-1.348	0.290	-1.485	0.706	3.194**

Source: Computed from the Annual reports of the respective units.

\* Significance at 0.01 level; \*\* Significance at 0.05 level; \*\*\* Significance at 0.10 level

TABLE 3: MULTIPLE CORRELATION ANALYSIS AND MULTIPLE REGRESSION ANALYSIS OF INDIAN AUTOMOBILE INDUSTRY

Variables	Partial regression co-efficient	t - value	Level of Significance
Constant	-1.738	-0.339	Not Significant
Fixed Assets Turnover Ratio (FAT)	1.205	1.272	Not Significant
Inventory Turnover Ratio (ITR)	0.538	1.135	Not Significant
Debtor Turnover Ratio (DTR)	0.595	3.008	Significant *
R = 0.810 R <sup>2</sup> = 0.657 F = 8.282*			

Source: Computed

\* Significant at 0.01 level; \*\* Significant at 0.05 level

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