

## **A Profitability Study of Automobile Sector – An Application of Operating Profit Ratio for Listed Companies of India**

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**ABSTRACT:** This research is carried out to examine the financial structure in terms of profit. Ten leading automobile companies are examined for their performance on bases of operating profit of the firms.

**Objective:** To evaluate financial performance analysis of selected automobile companies in India in terms of different ratios. It assumed that there is no significant difference in profitability and efficiency ratio of the selected automobile companies during the period the study.

**Time Taken for Study:** Normally it is not possible for the researcher to study the financial performance of automobile companies in India for longer period because there is constrain of the time, money and efforts. So the present study is done for seven years of period because of convenience for proper data collection and analysis for the period of seven years for the study. The present study is made for a period of seven accounting years from 2013-2014 to 2019-20.

**Parameters of the Study:** Profitability Ratios – Operating Profit Ratio

**Tools Used for Study:** Descriptive Statistics and Analysis of Variance

**Key Words:** Financial Ratios, ANOVA

### **1. INTRODUCTION**

In Indian economy, the Indian automobile industry has arisen as a 'dawn area'. India is arising as one of the world's quickest developing traveler vehicle markets and second biggest bike maker. India is the biggest base to trade minimal vehicles to Europe. On the auto material, half and half and electronic vehicles are new turns of events and India is one of key business sectors for them. Worldwide and Indian producer are centering their endeavors to foster

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imaginative items, advances and store network. Automobile industry, the matter of creating and selling self-fueled vehicles, including traveler vehicles, trucks, ranch hardware and other business vehicles. By permitting buyers to drive significant distances for work, shopping and diversion, the vehicle business has empowered the improvement of a broad street framework, made conceivable the development of rural areas and retail outlets around significant urban communities, and assumed a vital part in the development of the auxiliary ventures like the oil and travel organizations.

The word 'Automobile' comes through the French Automobile from the old Greek word (auto's, 'self') and Latin versatile ('Movable') implies a vehicle that moves itself, as opposed to being pulled or moved by an isolated creature or another vehicle. By definition, an auto or vehicle is a wheeled vehicle that conveys its own engine and transport travelers, as we probably are aware the car was not created in a solitary day or by single creator.

For the majority of the historical backdrop of car, a vehicle was relied upon to do minimal more than make a trip from spot to somewhere else with a few level of unwavering quality and economy. Vehicles were relied upon to go minimal quicker, ride all the more serenely and keep going to the point of making the speculation beneficial on account of streets and innovation improved and more individuals started to utilize them. Any new vehicle could do these things well by mid 1930s, and even as innovation progressed throughout the following 40 years, what the world expected of a vehicle remained fundamentally something similar. There was sped up, comfort and dependability consistently, yet for more than 60 to 70 years, a vehicle was relied upon to do just move individuals and their stuff. After than Government engaged in auto plan. State government began requiring specific things, for example, security glass, electric light and excess choke return springs on the grounds that the innovation became useful. Government Motor Vehicle Safety Standard was made in 1966 in US. The mission of the auto started changing because of Environment Protection Agency in 1973. Vehicles were in the long run expected to safeguard inhabitants in crash, hold all unburned fuel fumes, convert the result of ignition into less unsafe gases and report their breakdown rather than simply conveying individuals and their stuff rapidly, serenely and dependably. Society of auto Engineers set many sorts of securities and execution necessities which the vehicle organizations should meet these prerequisites. The actually a for buyer auto has additionally gone light a long time past solid, conservative transportation as though new specialized plan guidelines weren't sufficient. The 'auto style' alluded to a scope of monetary

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vehicles at one range and extravagance vehicles at different, has now incorporate a many various sorts of autos.

The present car architects and designing aren't anything not exactly legends. They should make a vehicle that meets more wellbeing and discharges guidelines and ridiculously inventive market requests which were undreamed of an age prior. Continuously they need to sort out some way to deliver these kind of machines at a particular expense on the grounds that the selling cost is essentially set before the plan work isn't yet started. Presently a day, auto organizations have significant piece on the lookout. An organization record, Ford sold 7.2 million vehicles worldwide in 1999. Passage additionally record for the total compensation \$ 7.2 billion and EPS \$5.86 while the complete expense diminished by \$1 billion. General Motors recorded procuring \$8.53 per share in 1999 which was twofold the \$4.32 per share acquired in 1998. Its incomes bounced 14%, working expense decreased by \$3.7 billion and its net revenue multiplied to 3.2%. Daimler Chrysler announced a total compensation of \$5.8 billion out of 1998, a 19% increase north of 1998. Overall deals were up and working benefit has expanded 28%. In 1993 absolute automobile industry creation arrived at 42 trillion yet which was 13.4% of the complete for all makers. The absolute number of people utilized straightforwardly and in a roundabout way is 7.2 million. Nissan Motor Co. Ltd. is building a \$930 million vehicle fabricating plant in Canton that will cover 2.6 million square feet and produce around 25,000 units every year.

A regular pickup truck, a standard game utility vehicle and a recently planned minivan will be created at this office. This creation has expressed to start in mid-2003. At first the plant will utilize around 3,300 specialists. All through twentieth century, the vehicle reconfirmed and refreshed its status as a victory of designing through persistent improvement and uneasy use of new innovation. The vehicle business is frequently viewed as the fundamental motor of modern development of the twentieth century. Its impacts on metropolitan life and the climate are obvious all over. The business is a complex and steadily changing process for assembling, sub-project worker and unions. The change from make creation to large scale manufacturing, proclaimed a blast of assembling limit which has had an unavoidable impact of human action in this century. New mechanical improvement like the utilization of energy components as a power source will without a doubt keep the vehicle on the main edge of innovation in the 21st century. Automakers should offer highlights, for example, various air

packs, driver data framework, solace controls, etc. to stay serious. Union of worldwide vehicle industry is pushing ahead at the amazing speed.

## 2. OPERATING PROFIT RATIO

Working advantage extent is a usefulness or execution extent that reflects the degree of advantage an association produces from its exercises going before deducting costs and interest charges. Not entirely settled by detaching the functioning advantage by hard and fast pay and conveying as an estimation for benchmarking one association against relative associations inside a comparable industry and show the necessity for extra assessment why a particular association is beating or falling behind its partners. Working net income is one of the key efficiency extents that monetary supporters and analysts used while surveying an association. It is considered a nice pointer of how capably an association supervises costs since it reveals the proportion of pay returned to an association at whatever point it takes care of essentially the aggregate of its fixed and variable costs expect for appraisals and interest. The functioning net income teaches the two business people and monetary benefactors how successfully an association can change over a pay into an advantage following addressing all of the expenses expected to keep up with the business.

### CONSTRUCTION

Operating Profit Ratio

$$= \frac{\text{Sales} - (\text{Cost of Goods Sold} + \text{Sales, General and Admin Expense})}{\text{Sales}}$$

### APPLICATION TO DATA

Table 2.1 is presenting the particulars of operating profit ratio for selected automobile companies under study for the financial year 2013-14 to 2019-20.

	Maruti Suzuki Ltd.	Tata Motors	M & M Ltd.	Ashok Leyland	Bajaj Auto	Atul Auto	TVS Motor	Force Motor	Hero Moto Corp	Eicher Motor Ltd.
2013-14	8.99	-0.09	11.42	3.11	23.49	9.88	4.4	3.55	11.46	21.41
2014-15	10.44	-7.22	11.28	3.51	19.32	11.97	4.55	5.56	12.21	26.49
2015-16	11.74	2.72	10.07	5.37	23.66	13.69	5.68	7.34	14.46	28.61
2016-17	14.4	-2.48	11.18	6.96	23.52	12.09	5.69	6.89	15.12	28.81
2017-18	15.52	0.54	12.42	9.51	23.04	12.37	6.11	5.85	15.97	28.92

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2018-19	14.09	5.44	11.86	8.83	22.68	12.52	5.82	5.73	14.92	32.28
2019-20	11.38	5.27	6.92	2.7	22.61	10.69	5.34	2.52	15.94	27.09
<b>Avg.</b>	12.37	0.60	10.74	5.71	22.62	11.89	5.37	5.35	14.30	27.66
<b>SD</b>	2.36	4.49	1.83	2.78	1.51	1.25	0.65	1.73	1.78	3.31
<b>CV</b>	19.12	751.56	17.03	48.74	6.69	10.53	12.17	32.40	12.44	11.98

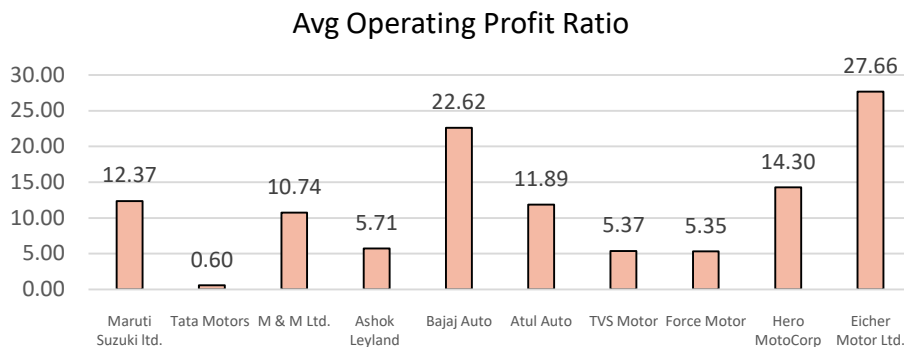


Figure 2.1 Average Operating Profit Ratio of Firms

Each of the ten auto organizations under study are inspected with working benefit apportionments. Table 1.1 appearance the determined benefits of working benefit proportion (OPR). The auto ventures were analyzed on individual bases to think about the monetary sculptures or returns of the organizations.

It is seen from table 1.1 that on a normal for a long time (2013-14 to 2019-20) Eicher Motor Ltd drove every one of the organizations. A normal OPR of firm is found 27.66%, the firm stands first. It shows the organizations has dealt with its COGS and net deals. Bajaj Auto remained on second position. The OPR of firm is figured 22.62% for quite a long time normal. By and large, the worth of OPR over 15% addresses second place of the firm. The said two firms have esteem over 15%, consequently the organizations are driving any remaining firms. Goodbye engines have least worth of OPR for quite a long time. It shows that the firm need to deal with its items, deals and overall revenues. The point by point conversation for every year is introduced to close the outcomes and suggestions.

During monetary year 2013-14, Maruti Suzuki Ltd was registered with 8.99% OPR which was expanded by 1.45% and came to 10.44% in the year 2014-15. The firm has expanded in OPR. It shows progress in COGS and net deals of the firm. Goodbye Motors has negative worth of OPR during monetary year 2013-14. Negative the worth of OPR shows disappointment of firm in overseeing working benefit. The firm has flopped in overseeing of its COGS and income from activities. The working benefit for Mahindra and Mahindra Ltd was 11.42% which was higher than Maruti Suzuki Ltd. In the midst of the relative multitude

of three organizations in monetary year 2013-14 Mahindra and Mahindra remained on evaluated position. The deals of the firm were kept up with against COGS. The underlying OPR of Ashok Leyland for monetary year 2013-14 was estimated as 3.11% in think about of initial four firms of vehicle area, the firm just lead Tata Motors concerning OPR. Bajaj Auto has recorded with higher worth of 23.49% in monetary year 2013-14. During the current year the OPR of Bajaj Auto was determined most elevated among all car organizations. Atul Auto has recorded with OPR of 9.88% during this year. Televisions engines has 4.4% of OPR esteem which was appraised on third last position. Force Motors was determined with 3.55% in OPR. Legend Moto Corp has processed with 11.46% of working benefit for monetary year 2013.14. Eicher Motor Ltd was reached in OPR of 21.41%, which has shown sound place of firm in Indian auto industry.

For monetary year 2014-15, Maruti Suzuki Ltd has acquired in deals and has decreased COGS. Accordingly, the working benefit proportion of the firm expanded by 1.45% than a year ago. The monetary administration of Tata Motors turned out to be more mind boggling, the deals of the firm reliably diminished. Along these lines, the firm has free its working benefit again in monetary year 2014-15. During the current year, the firm has declined in OPR and reached to - 7.22%. It shows disappointment of firm in overseeing deals and COGS. During this year, Mahindra and Mahindra Ltd has diminished its OPR by 0.14% than the year before. Ashok Leyland has a little addition of 0.4% contrast with a year ago. Bajaj Auto was tumbling down in computation of its OPR contrast with the year before. It was an extraordinary ruin in OPR worth of the firm. It has determined with 19.32% during monetary year 2014-15, it declined by 4.17% than the year before. Atul Auto acquired OPR by 2.09% during 2014-15 evaluation year. Televisions engines, Hero Moto Corp and Eicher Motor Ltd have additionally acquired during monetary year 2014-15 in OPR.

The monetary year 2014-15 was effectively overseen by Maruti Suzuki Ltd., Ashok Leyland, Atul Auto, TVS Motors, Force Motors, Hero Moto Corp and Eicher Motor Ltd. This year Tata Motor, Mahindra and Mahindra and Bajaj Auto neglect to deal with the deals and COGS contrast with the year before. Eicher Motor Ltd stood first in overseeing OPR, the firm was positioned second during monetary year 2013-14. For this monetary year the organizations positioned first. Last year Bajaj auto was positioned first, which was defatted by Eicher Motors during monetary year 2014-15.

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Maruti Suzuki Ltd expanded its worth and has demonstrated stable administration in COGS. It has expanded by 1.3% during monetary year 2015-16. Goodbye Motors acquired first opportunity in this year. The firm has include with 2.72% of OPR in this year. Mahindra and Mahindra again neglected to oversee OPR in 2015-16. It has declined in OPR by 1.21% by 2015-16. Ashok Leyland acquired in OPR this year. It has 1.86% expanded during this year. Bajaj Auto again positioned on second situation after Eicher Motor Ltd. In OPR esteem. During the current year the OPR of organization was determined 23.66%. Contrast with last year, it has acquired 4.34% in OPR rate. Atul Auto has likewise getting progress of 1.72% in worth of OPR. Televisions Motors oversaw OPR and has acquired climb of 1.31% in OPR esteem. Force Motor has expanded OPR worth of 1.78%, Hero Moto Corp acquired by 2.25% and Eicher Motor has expanded worth of 2.12% than a year ago.

The monetary year 2015-16 was an agile year to auto industry in India. During this year Mahindra and Mahindra was the main firm who was flopped in overseeing deals and COGS of the firm. Goodbye Motors has acquired in OPR first time in most recent three years.

The exercise of vehicle area during 2016-17 was declined in contrast with 2015-16. During this year Tata Motor neglected to oversee OPR and pushed in misfortune. Bajaj Auto, Atul Auto and Force Motors were neglected to oversee OPR during monetary year 2016-17. Televisions engines didn't proceed according to anticipated esteem. The firm has just acquired 0.01% than the year before. Eicher Motors Ltd has expanded OPR by 0.2% as it were. This year again the firm has lead vehicle area. The firm has performing consistent development in market for most recent four years. Maruti Suzuki Ltd has acquired most noteworthy OPR of 2.66% during the current year. Following two years' reliable ruin in OPR Mahindra and Mahindra has acquired by 1.11% in OPR esteem. Ashok Leyland has expanded by 0.59%. The Hero Moto Corp has expanded worth of OPR of 0.66% contrast with a year ago.

Monetary year 2016-17 as far as OPR was counted normal for car area. Out of 10 organizations under study, 4 were neglected to deal with its COGS. The income of firm was not reached according to the normal level. Goodbye Motors again tumble down during this monetary year. Eicher Motors stood first in the midst of all organizations in OPR, yet Maruti Suzuki Ltd lead in procuring of OPR for monetary year 2016-17.

During monetary year 2017-18, just two firms of area were getting flop in overseeing deals and related working expense. It shows 20% of the organizations were bombed in overseeing

OPR. Any remaining eight organizations have a little increase in their OPR values. During this year Bajaj Auto and Force Motors were neglected to oversee OPR. Maruti Suzuki Ltd has expanded 1.12% in OPR. The extent of tis OPR declined contrast with monetary year 2016-17. Goodbye Motors has acquired for this present year, the OPR worth of firm reached to 0.54% contrast with the year before. The firm has acquired in OPR. Last year the firm was in misfortune. Mahindra and Mahindra has acquired by 1.24% than last year, the firm expanded its OPR than most recent two years' hole. It shows consistent development in deals of the firm and procuring of income. Ashok Leyland has acquired by 2.55%, last year hole in addition of OPR was 0.59% has displayed in development of the OPR of firm. The distinction of hole investigation shown that the firm has getting outcome in deals and overseeing of deals and regulatory costs. Bajaj Auto has bombed in overseeing of OPR. Atul Auto acquired a little measure of 0.28% in OPR esteem. Televisions Motor has a little climb of 0.42% than the year before. Force Motor was neglected to oversee OPR this year. Legend Moto Corp has acquired in OPR by 0.85% than last monetary year. Eicher Motors Ltd again drove every one of the organizations and has procured 0.11% of OPR than last monetary year.

Generally speaking, execution of car area during monetary year 2017-18 was helpful. Greater part of the organizations was acquired their income. The augmentation extent in OPR was little lower than last hole of monetary year, yet the organizations were getting progress in dealing with their deals and authoritative costs and acquiring of income.

Monetary year 2018-19 played startling results for car industry in India. Absolute 70% of the organizations were fizzled in deals and overseeing working costs. Goodbye Motors and Eicher Motors were the main players during this year in acquiring of OPR. Goodbye Motors has acquired in OPR by 4.9% than the year before. The firm has first time getting outcome in market during most recent six years' investigation. Eicher Motors again remained on first position. It has acquired 3.36% than last year in OPR. Atul Auto positioned on third situation during this year in acquiring of OPR. The firm has acquired 0.15% in OPR esteem. The three talked about firms were just getting accomplishment during monetary year 2018-19. Any remaining seven firms were neglected to oversee working benefit. After effective six years' market deals Maruti Suzuki ltd has declined by 1.43% in OPR. Mahindra and Mahindra Ltd has diminished in OPR of 0.56% than a year ago. Ashok Leyland declined by 0.68%, Bajaj Auto has decreased by 0.46%, TVS Motors loosed 0.29% in OPR, Force Motor declined by 0.12% and Hero Moto Corp fallen by 0.15% than the year before.



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Each of the ten vehicle organizations are estimated on bases of normal execution and distinct insights. To look at the inconstancy uses of standard deviation and co-productive of variety are estimated. Maruti Suzuki Ltd has normal working benefit of 12.37 for most recent seven years alongside the inconstancy of 2.36%. In this way, the co-productive shows 19.12% from 2013-14 to 2019-20. Likewise, every one of the organizations are estimated with clear measurements. It is seen that the most noteworthy normal is estimated for Eicher Motors as 27.66%, while the least exhibition of a normal is estimated for Tata Motors as 0.6% for each of the seven years. Execution wise Bajaj Auto is registered with least variety of 6.69% and higher normal. Accordingly, the firm driven every one of the organizations with regards to working benefit proportion.

To inspect the inferential parts of the organizations the factual speculation is expressed as follows:

H0: There is no importance contrast between OPR during monetary years 2013-14 to 2019-20.

H1: There is an importance contrast between OPR during monetary years 2013-14 to 2019-20.

Table 2.2 is presented for Analysis of Variance for Operating Profit Ratio as follows.

Source of Variation	SS	df	MS	F	P-value	F crit
Variation in Companies	4350.68	9	483.41	82.97	1.75E-30	2.04
Error	349.56	60	5.83			
Total	4700.23	69				

The measurable speculation is utilized to look at the changeability among the progressions in benefits of Operating Profit of the vehicle organizations in India. The consequences of F test in view of amount of square and mean amount of square is determined as 82.97 ( $F_{cal}$ ), which is higher than the importance esteem basic worth ( $F_{crit}$ ). It is seen that  $F_{cal} > F_{crit}$  ( $82.97 > 2.04$ ). Higher the worth of determined rejects the invalid theory. In this way, it is presumed that there is an importance contrast between OPR during monetary years 2013-14 to 2019-20 among generally chose car organizations.

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