International Research Journal of Management, IT & Social Sciences
Available online at https://sloap.org/journals/index.php/irjmis/
Vol. 4 No. 1, January 2017, pages: 39~52
ISSN: 2395-7492
https://sloap.org/journals/index.php/irjmis/article/view/437

Fundamental Analysis of Car Manufacturing Companies in India for 1.4.2005 to 31.3.2016

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Article history:

Received: 9 September 2016
Approved: 30 November 2016
Published: 31 January 2017

Keywords:

NPM;
CAGR;
P/E ratio;
fundamentals;
automobile sector;

Abstract

The most important strength in today's volatile financial market is information. Investors always confused on the information as to where to invest, when to invest and how much to invest their money. Generally, the information derives from market or some different sources. To act on this information, analysts, experts, and researchers start researching whether the information has positive or negative impact. At individual level, an investor can also do the fundamental analysis, which will give him a better foundation for his investment decisions. This analysis helps investors in taking decision. If investor will take decision based on wrong information, the losses incurred could be tremendous and harmful and the recovery of the investment can take a lot of time or sometimes it can be irrecoverable. Hence, investors should spend a sizable amount of time for scrutinizing financial position of the company, shares of the company and calculating estimations of the same. The fundamental analysis helps to understand the patterns in company's financial performance. One can easily predict the future performance based on fundamental analysis by using financial statements. It is generally useful for long-term investment. As quoted by John Forman, "Fundamental analysis is very powerful in terms of determining long-term direction, but lacks short-term applicability". The researchers used some of the important key variables for a period of 10 years i.e. from 2006-07 to 2015-16 for top five automobile companies (Car-Indian Manufacturing) namely TATA Motors DVR, Mahindra CIE Automotive, SML-Isuzu, Force India and Maruti Suzuki India. The researchers also compared the fundamentals of these 5 companies and applied different statistical tools.

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1. Introduction

Fundamental analysis assesses the fair market value of equity shares by examining the assets, earnings prospects, cash flow projections, and dividend potential. Fundamental analysis differs from technical analysis that essentially relies on price and volume trends and other market indicators to identify trading opportunities.

Fundamental analysis of a business involves analyzing its financial statements and health, its management and competitive advantages, and its competitors and markets. Fundamental analysis is performed on historical and present data, but with the goal of making financial forecasts. Fundamental analysis helps in analyzing strategy, management, product, financial position and many other readily and not-so-readily quantifiable numbers which will help to choose stocks that will outperform in the market.

India is world's sixth largest vehicles manufacturer globally. Further, India is the second largest two-wheeler manufacturers in Asia and fifth largest producer of commercial vehicles, fourth largest manufacturer of passenger car and the largest manufacturer of tractors. Two wheelers dominate production volumes; in FY 16, the segment accounted for about 78.6 per cent of the total automotive production in the country. It becomes clear from the following graph that the Automobile sector of India is performing well since last so many years.

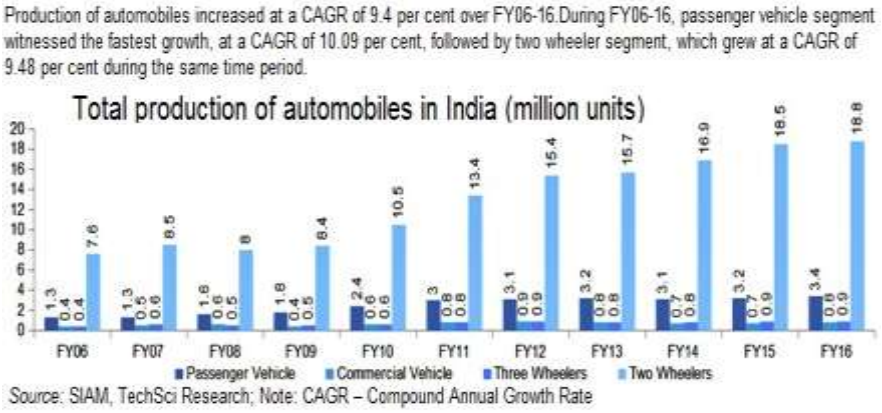

Figure 1. the Automobile sector of India

This sector comes under the purview of the Ministry of Heavy Industries and Public Enterprises, Government of India. As far as Passenger Vehicle is concerned in the automobile sector, it is growing very fast since last one decade. An investor can invest their money on the basis of results of Fundamental Analysis and Technical Analysis.

Hence, the researchers decided to carry out the Fundamental Analysis of Indian Car Manufacturing companies as mentioned in the title. This study is sincere attempt to understand, as to what are the opportunities in Automobile Sector (Car Manufacturing Companies in India) from the point of investing and to suggest investors about the companies for future investment in this sector.

Literature Review

The beginning of Fundamental analysis for the share price estimation can be dated back to Graham and Dodd (1934) in which the writers have debated the significance of the fundamental factors in share price estimation. Theoretically, the value of a company, hence its share price, is the sum of the present value of future cash flows discounted by the risk-adjusted discount rate. This conceptual valuation framework is the spirit of the famous dividend discount model developed by Gordon (1962). However, the dividend discount model valuation includes the forecast of future dividend payment which is problematic due to the variations in the firm's dividend strategy. Thus, the subsequent studies along this line of literature searched for the cash flow that is unaffected by the dividend policy and can be obtained from the financial statements.

Ou and Penman (1989) use financial statement analysis of income statement and balance sheet ratios to estimate upcoming earnings. The principal motivation for this research is to ascertain mispriced securities. However, these writers demonstrate that the information in the earnings forecast indications is useful in generating unusual stock returns.

Jagadeesh and Titman (1993) found that over a period of three to twelve months, previous winners on an average remain to outperform past losers by about one percent per month.

Lev and Thiagarajan (1993) used theoretical opinions to study their ratios. They prove that the earnings forecast signs in variables like growth in debtors relative to sales growth and gross profit ratio are incrementally connected with contemporary stock returns and are important in predicting future earnings.

Joseph. D. Piotroski (2000) revealed whether a simple accounting-based Fundamental Analysis strategy, when applied to a wide portfolio of high Book to Market firms, can shift the distribution of returns earned by an investor. The study shows that the mean returns earned by a high Book to the Market investor can be improved by at least 7.5% annually through the selection of monetarily strong high Book to Market firms.

Pascal Nguyen (2003) exposed a simple financial score designed to capture short-term changes in a firm's operating efficiency, profitability, and financial policy. The scores exhibit a strong correlation with market adjusted returns in the Current fiscal period and the same continues in the following period also.

Rajiv Kumar Bhatt (2011) has analyzed the influence of recent global financial crisis on Indian Economy. The paper is separated into three sections. In the first introductory section, he has mentioned the features of the recent global financial meltdown. Section two deals with the impact of this crisis on the Indian economy and argues how India came back to high growth. Conclusion and suggestions have been given in the third section.

Dyna Sen *et. al.,* (2012) carried out fundamental analysis research beyond the spatial and temporal bounds of previous studies. They have studied how detailed financial statement data enter the decisions of market makers by inspecting how current changes in the fundamental signals chosen can provide information on subsequent earnings changes. Using global data from 1990 to 2000, they have extended the body of research using fundamental indicators for prediction of future earnings changes. Contextual factors such as prior earnings news, industry membership, macroeconomic conditions and country of incorporation that may impact this predictive ability are also studied. Results show that the fundamental signals are important forecasters of both short-and long-term future earnings changes. Research results indication suggests to the use of fundamental analysis.

Hossein Khanifar *et. al.,* (2012) studies affecting factors on analysts' decisions in Tehran Stock Exchange. Principally, analysts use two types of fundamental and technical analyses in their judgments. In the present research, they have calculated the affecting factors on analysts' decisions in the format of fundamental analysis. Such analysis is studied in three sectors: (1) economy/market, (2) industry, (3) firm. This paper uses an analytical approach to study affecting factors on analysts' decisions. Its arithmetical population contains analysts in brokering companies at Tehran Stock Exchange. Based on the results, it was determined that firm – related factors such as actual EPS, estimated EPS, profit margin, P/E ratio, and sale rate have the highest importance in analysts' decisions followed by economy/ market-related factors and industry –related factors.

Richard C. Grimm (2012) explores fundamental analysis to determine its application as an Austrian approach to common stock selection. The Thymologic method and the category of understanding are applied as frameworks for an Austrian approach and to evaluate fundamental analysis as a process for common stock selection. The analysis supports the conclusion that fundamental security analysis can be practiced in a manner consistent with traditional Austrian views and is suitable as a common stock selection method by those who wish to adhere to such views.

Venkatesh C K, Dr. Madhu Tyagi, Dr. Ganesh L (2012), revealed out that investors can create a stronger value portfolio by using simple historical financial performance. They used 'F Score' Model for the same.

Hemal Pandya and Hetal Pandya (2013) carried out Fundamental Analysis of both the companies is carried out and their intrinsic value ranges are obtained from the EIC Analysis of Tata Motors and Maruti Suzuki to help investor decisions.

Objectives of the Study

Investment decision making is constant in nature. Hence, it should be attempted methodically and scientifically. There are two important approaches namely Fundamental Analysis and Technical Analysis. In Fundamental Analysis, the investor attempts to look at the fundamental factors that affect the risk and return characteristics of the security. Economic Analysis and Industrial Analysis are part of Fundamental Analysis. The key objectives of the present study are:

a) To analyze the profitability position of Indian Car Manufacturing companies in the automobile sector.
b) To make a comparative analysis among the fundamentals of sample automobile companies selected for the study.

2. Research Methods

Hypothesis:

H0: There is no substantial difference between the selected variables of the sample companies.
H1: There is a substantial difference between the selected variables of the sample companies.

Sr. No.	Particulars	Details
1	Type of Data	Secondary Data
2	Universe / Population	Companies in Automobile Sector
3	Sources of Data	Balance Sheet, Stock Market, Relevant Websites
4	Nature of Source of Data	Quantitative
5	Sample Size	Top Five Indian Car Manufacturing Companies
6	Name of the Companies selected for study	TATA Motors DVR, Mahindra CIE Automotive, SML-Isuzu, Force India and Maruti Suzuki India
7	Sampling Methodology	Purposive Sampling
8	Key Variables	The variables which have been considered in the study are: a) Operating Profit Margin(OPM) b) Net Profit Margin (NPM) c) Return On Equity (ROE) d) Earnings Per Share(EPS) e) Price-Earnings Ratio(PER) f) Dividends Per Share(DPS) g) Dividends Payout Ratio (DPR)
9	Time Period	10 years i.e. from 2006-07 to 2015-16
10	Statistical tools	a) Arithmetic Mean (Average), b) Standard Deviation (SD), c) Compound Annual Growth Rate (CAGR), and d) One Way Analysis of Variance (ANOVA)

Limitations

The following are the limitations of the study:

a) The study takes into account only top five automobile companies (Car- Indian manufacturing) namely TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India.
b) The study is limited to financial data for a period of 10 years only i.e. from 1.4.2005 to 31.3.2016.
c) The study can be extended to more number of automobile companies over a longer period of time. Researchers can also analyze the fundamentals of the automobile sector after categorizing into different classes. Qualitative aspects can also be included for the purpose of the further study.

3. Results and Analysis

Data Analysis and Interpretation:

a) Operating Profit Margin (OPM): The Operating Profit Margin is the ratio of operating profit to the total revenue. It specifies the effectiveness with which a company controls the cost and expenses related to their normal business operations. Table 1 shows the OPM of the selected companies for the last 10 years. From table 1, we can clearly see that the average OPM of SML-Isuzu is highest among all the five companies. So SML-Isuzu has been most successful in controlling the cost and expenses of operation. Standard Deviation measures the degree of variability. It indicates that the OPM of Force Motors has the highest degree of variability, whereas Maruti Suzuki India has the lowest degree of variability.

Table 1
Operating Profit Margin (OPM)

Year	Tata Motors DVR	Maruti Suzuki India	Mahindra CIE Automotive	SML-Isuzu	Force Motors
2006-07	0.95	0.97	0.98	0.99	0.99
2007-08	0.97	0.96	0.97	0.99	0.95
2008-09	0.96	0.97	0.98	0.99	0.69
2009-10	0.96	0.97	0.99	0.99	0.94
2010-11	0.99	0.98	0.99	0.99	0.99
2011-12	0.98	0.97	0.99	0.99	0.98
2012-13	0.95	0.98	0.99	0.99	0.97
2013-14	0.89	0.98	0.98	0.99	0.97
2014-15	0.95	0.98	0.99	0.99	0.97
2015-16	0.95	0.99	0.99	0.99	0.97
Mean	0.96	0.97	0.98	0.99	0.94
SD	0.025	0.0068	0.073	0.02	0.0903

The OPM of the sample companies was also compared and tested by using the following hypothesis:
H01: There is no substantial difference between the OPM of all the five companies.

Table 2
One-Way ANOVA for OPM

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	0.016572	4	0.004143	2.321442	0.071199	2.578739
Within Groups	0.08031	45	0.001785			
Total	0.096882	49				

As the calculated value (2.321441913) is lower than the Critical Value (2.578739) at the 5% level of significance in Table 2, the null hypothesis (H01) is accepted, and hence it can be concluded that there is no substantial difference between the OPM of all the five companies.

b) Net Profit Margin (NPM): Net Profit Margin is the ratio of net profit to total revenue earned by the company. This indicates how much a company is able to earn after meeting all direct and indirect expenses for every rupee of revenue. The NPM of the selected companies is described in Table 3. It is clear that Maruti Suzuki India earned Rs. 7.13 for every Rs. 100 which is highest in all and hence Maruti Suzuki India scores above all the companies as far as the NPM is concerned.

Table 3
Net Profit Margin (%)

Year	Tata Motors DVR	Maruti Suzuki India	Mahindra CIE Automotive	SML-Isuzu	Force Motors
2006-07	6.88	10.27	-5.81	2.67	-3.51
2007-08	6.87	9.28	-6.44	3.75	-8.62
2008-09	3.82	5.72	-17.09	0.87	11.16
2009-10	6.12	8.30	-31.41	2.97	5.50
2010-11	3.81	6.16	-0.88	4.00	3.73
2011-12	2.26	4.76	1.56	4.01	39.07
2012-13	0.64	5.38	9.19	3.60	0.67
2013-14	0.87	6.25	4.57	1.96	3.73
2014-15	-12.41	7.30	4.67	3.33	4.17

2015-16	0.53	7.85	2.55	4.36	5.73
Mean	1.94	7.13	-3.91	3.15	6.16
SD	5.618	1.787	12.194	1.07	12.76

The NPM of the sample companies was also compared and tested using the following hypothesis as stated below:

H02: There is no substantial difference between the NPM of TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India.

Table 4
One Way ANOVA for NPM

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	758.6405	4	189.6601	2.728714	0.040708	2.578739
Within Groups	3127.739	45	69.50531			
Total	3886.379	49				

As the calculated value (2.728714) is greater than the Critical Value (2.578739) at the 5% level of significance in Table 2, the null hypothesis (H02) is rejected, and hence it can be concluded that there is a substantial difference between the NPM of all the five companies.

c) Return on Equity (ROE): ROE is the ratio of earnings after taxes and preference dividend to owner's equity. It indicates how much profit is generated using the owner's equity capital. The ROE of the selected automobile companies for the last 10 years is depicted in table 5. From table 5, it is clear that among all the companies, Maruti Suzuki India which has the highest ROE at 16.34%. As far as the variability is concerned, Force Motors has the highest standard deviation of 41.32. The degree of variability is least in case of Maruti Suzuki India.

Table 5
Return on Equity (%)

Year	Tata Motors DVR	Maruti Suzuki India	Mahindra CIE Automotive	SML-Isuzu	Force Motors
2006-07	27.95	22.78	-10.58	21.26	-20.09
2007-08	25.96	20.56	-1.85	26.93	-81.25
2008-09	8.21	13.04	-6.16	4.95	54.74
2009-10	15.15	21.10	-12.08	11.31	21.32
2010-11	9.06	16.50	-0.39	17.18	17.53
2011-12	6.33	10.76	0.78	17.35	72.10
2012-13	1.57	12.87	4.53	13.79	1.23
2013-14	1.74	13.26	1.92	6.29	6.33
2014-15	-31.93	15.65	3.36	12.19	7.69
2015-16	1.04	10.92	1.31	15.04	12.11
Mean	6.508	16.344	-1.961	14.629	9.17
SD	16.589	4.032	5.778	6.585	41.322

The ROE of the sample automobile companies was also compared and tested using the following hypothesis:

H03: There is no substantial difference between ROE of TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India.

Table 6
One-Way ANOVA for ROE

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	2024.162	4	506.0406	1.217255	0.316814	2.578739
Within Groups	18707.52	45	415.7226			
Total	20731.68	49				

As the calculated value (1.217255) is lower than the Critical Value (2.578739) at the 5% level of significance in Table 6, the null hypothesis (H03) is accepted, and hence it can be concluded that there is no substantial difference between the ROE of all the five companies.

d) Earnings Per Share (EPS): EPS indicates how much earning is being generated for each share by the company. It is the ratio of earning available to an equity shareholder to the total number of outstanding equity shares. Higher the EPS, the greater is the profitability of the company. The EPS for selected companies is shown in table 7. From table 7, we can understand that the average EPS of Force Motors India is the highest among all the five companies. The degree of variability is least in case of Mahindra CIE Automotive and highest in case of Force Motors India.

Table 7
Earnings Per Share (Rs.)

Year	Tata Motors DVR	Maruti Suzuki India	Mahindra CIE Automotive	SML-Isuzu	Force Motors
2006-07	49.65	54.03	-4.47	15.33	-28.45
2007-08	52.63	59.89	-2.07	24.02	-63.47
2008-09	19.78	42.17	-6.04	4.56	94.52
2009-10	39.26	86.42	-10.78	14.82	45.85
2010-11	6.06	79.22	-0.36	25.26	44.49
2011-12	3.90	56.60	0.75	28.93	625.62
2012-13	0.93	79.19	4.43	25.18	10.84
2013-14	1.03	92.13	1.95	12.02	59.97
2014-15	-14.72	122.85	2.41	25.53	76.93
2015-16	0.68	151.33	0.95	35.35	136.17
Mean	15.92	82.38	-1.323	21.10	100.14
SD	23.343	33.523	4.598	9.160	193.51

The EPS of sample companies was also compared and tested using the following hypothesis as stated below:
H04: There is no substantial difference between the EPS of TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India.

Table 8
One-Way ANOVA for EPS

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	80034.91	4	20008.73	2.551427	0.05191	2.578739
Within Groups	352897.8	45	7842.172			
Total	432932.7	49				

As the calculated value (2.551427) is lower than the Critical Value (2.578739) at the 5% level of significance in Table 8, the null hypothesis (H04) is accepted, and hence it can be concluded that there is no substantial difference between the EPS of all the five companies.

e) Price Earnings Ratio (P/E Ratio): The Price Earnings Ratio is the ratio of market price per share to earnings per share. It indicates the responsiveness between earning capacity and share price in the market. The P/E Ratio position of the sample companies is depicted in table 9. From table 9, we notice that the average P/E Ratio of TATA Motors DVR is uppermost in all five companies. It indicates that there is a higher degree of responsiveness between the earnings capacity and market share price in case of TATA Motors DVR as compared to other companies. However, the degree of variability is highest in Mahindra CIE Automotive and least in Maruti Suzuki India.

Table 9
Price Earnings Ratio (P/E Ratio)

Year	Tata Motors DVR	Maruti Suzuki India	Mahindra CIE Automotive	SML-Isuzu	Force Motors
2006-07	5.90	96.72	-41.37	69.47	-127.35
2007-08	5.57	87.26	-91.37	44.34	-57.08
2008-09	14.81	123.92	-30.82	233.55	38.33
2009-10	7.46	60.47	-16.7	71.86	79.01
2010-11	48.34	65.97	-500	42.16	80.53
2011-12	75.12	92.33	243.24	36.81	5.79
2012-13	315.05	65.99	40.63	42.29	334.22
2013-14	284.46	56.72	92.31	88.60	61.44
2014-15	-19.90	42.54	75.00	41.71	47.09
2015-16	430.88	34.53	189.47	30.13	26.60
Mean	116.77	72.64	-3.96	70.09	48.85
SD	162.685	27.202	203.304	60.361	119.367

The P/E Ratio position was also compared and tested using the following hypothesis as stated below:
H05: There is no substantial difference between the P/E Ratio of TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India.

Table 10
One-Way ANOVA for P/E Ratio

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	76957.4	4	19239.35	1.112987	0.362213	2.578739
Within Groups	777880.6	45	17286.23			
Total	854838	49				

As the calculated value (1.112987) is lower than the Critical Value (2.578739) at the 5% level of significance in Table 10, the null hypothesis (H05) is accepted, and hence it can be concluded that there is no substantial difference between P/E Ratio of all the five companies.

Note:

1) Share price of TATA Motors DVR as on 27/12/2016 as at 14:33 hours is Rs.292.50
2) Share price of Maruti Suzuki India as on 27/12/2016 as at 14:33 hours is Rs.5226.90
3) Share price of Mahindra CIE Automotive as on 27/12/2016 as at 14:33 hours is Rs.180.06
4) Share price of SML-Isuzu as on 27/12/2016 as at 14:33 hours is Rs. 1065.35
5) Share price of Force Motors as on 27/12/2016 as at 14:33 hours is Rs.3623.35

f) Dividend Per Share (DPS): The dividend per share is the ratio of dividend paid and a total number of outstanding shares. The higher the DPS, the higher are the earnings for the shareholders. The DPS position of the sample automobile companies is shown in table 11. From table 11, we can see that the average DPS of Maruti Suzuki India is highest among all five companies. As far as the variability is concerned, the DPS is highest in case of Maruti Suzuki and it is least in case of SML-Isuzu.

Table 11
Dividend Per Share (Rs.)

Year	Tata Motors DVR	Maruti Suzuki India	SML-Isuzu	Force Motors
2006-07	15.0	4.5	5.5	0.0
2007-08	15.0	5.0	5.5	0.0
2008-09	6.0	3.5	1.5	0.0
2009-10	15.0	6.0	4.0	3.0
2010-11	20.0	7.5	8.0	5.0
2011-12	4.0	7.5	8.0	10.0
2012-13	2.0	8.0	8.0	3.0
2013-14	2.0	12.0	3.0	3.0
2014-15	0.0	25.0	6.0	5.0
2015-16	0.5	35.0	8.0	10.0
Mean	7.95	11.40	5.35	3.90
SD	7.477	10.351	2.698	3.725

The DPS was also compared and tested using the following hypothesis testy as stated below:
H06: There is no substantial difference between the DPS of TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India.

Table 12
One-Way ANOVA for DPS

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	311.85	3	103.95	2.279536	0.095944	2.866266
Within Groups	1641.65	36	45.60139			
Total	1953.5	39				

As the calculated value (2.279536) is lower than the Critical Value (2.866266) at the 5% level of significance in Table 12, the null hypothesis (H06) is accepted, and hence it can be concluded that there is no substantial difference between the DPS of TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India.

Note:

Mahindra CIE Automotive is not considered for above analysis because they have not declared their dividend from past several years.

g) Dividend Payout Ratio (DPR): The Dividend Payout Ratio expresses the relationship between dividends per share and earnings per share. It indicates as to what percentage of earnings are being distributed to the shareholders of the company. The DPR position of sample companies is represented in table 13. From table 13, it can be concluded that the DPR of TATA Motors DVR is highest among all the five companies which are 73.47%. The standard deviation is highest in case of TATA Motors DVR and it is lowest in case of SML- Isuzu which indicates that there is a greater stability as far as Dividend Payout Ratio is concerned.

Table 13
Dividend Payout Ratio (%)

Year	Tata Motors DVR	Maruti Suzuki India	SML-Isuzu	Force Motors
2006-07	30.21	8.32	35.84	0.00
2007-08	28.50	8.34	22.88	0.00
2008-09	30.65	8.29	32.85	0.00

2009-10	38.34	6.93	26.97	6.54
2010-11	70.32	9.46	31.66	11.23
2011-12	103.09	13.25	27.64	1.59
2012-13	213.77	10.10	31.77	27.68
2013-14	193.87	13.02	24.94	5.08
2014-15	0.00	20.34	23.50	6.49
2015-16	26.04	23.12	22.62	7.34
Mean	73.479	12.117	28.067	6.595
SD	74.294	5.498	4.695	8.329

The DPR position of the sample companies was also compared and tested using the following hypothesis given below:

H07: There is no substantial difference between the DPR of TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India.

Table 14
One-Way ANOVA for DPR

Source of Variation	*SS*	*df*	*MS*	*F*	*P-value*	*F crit*
Between Groups	27617.39	3	9205.797	6.527458	0.001221	2.866266
Within Groups	50771.48	36	1410.319			
Total	78388.87	39				

As the calculated value (6.527458) is greater than the Critical Value (2.866266) at the 5% level of significance in Table 14, the null hypothesis (H07) is rejected, and hence it can be concluded that there is a substantial difference between the DPR of TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India.

Note:

Mahindra Automotive is not considered above because they have not declared their dividend from past several years.

h) Compound Annual Growth Rate: The Compound Annual Growth Rate is the year-over-year growth rate over a specified period of time. It is calculated using the following formulae:

CAGR= [{(Ending Value)/(Beginning Value)}^(1/No. of years)] –1

CAGR is the best formula for evaluating how different parameters have performed over time. Investors can compare the CAGR in various parameters in order to evaluate how well one company has performed against others in a peer group. The compound annual growth rates of various parameters considered in the study are depicted in table 15.

Table 15
The compound annual growth rates

Particulars	TATA Motors DVR	Maruti Suzuki India	SML-Isuzu	Mahindra CIE Automotive	Force Motors India
OPM	-0.081%	-0.54%	0.008%	26.62%	-0.196%
NPM	-22.61%	-2.65%	5.019%	7.91%	-5.008%
ROE	-28.04%	-2.93%	-3.40%	18.85%	5.31%
EPS	-53.98%	10.85%	8.713%	14.35%	-16.95%
P/E Ratio	-28.83%	-9.78%	-80.14%	16.43%	14.5%
DPS	-28.83%	22.77%	3.81%	Not Defined	Not Defined
DPR	-1.47%	10.76%	-4.50%	Not Defined	Not Defined

CAGR Analysis

From table 15, we can notice that the CAGR is highest for Mahindra CIE Automotive. CAGR in NPM is negative in case of TATA Motors DVR, Maruti Suzuki India and Force Motors India. CAGR in ROE is negative

in case of TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive and SML-Isuzu. Mahindra CIE Automotive has the highest CAGR in EPS and P/E Ratio as compared to other companies whereas CAGR is negative in DPS and DPR in case of TATA Motors DVR.

i) Comparison

Table 16
TATA Motors DVR

Particulars	TATA Motors DVR	SML-Isuzu	Force Motors India	Maruti Suzuki India	Mahindra CIE Automotive
Face Value (Rs.)	138.02	10	16.31	27.35	10
Current Price (Rs.)	293	1065	3623	5226	180.60
Percentage Change	112.28%	1055%	2211.30%	1900.86%	170.80%

Note:
With reference to TATA Motors DVR, Force Motors India, and Maruti Suzuki India: The face value kept changing during the years right from their establishment to current period but the capital went on increasing during the period so we had taken the average of the changing face values from the year of establishment to current period.

j) Research Implications
A small investor may not have a huge investable amount. Hence, he cannot invest his money in different sectors. Therefore, his ability to diversify investment is very much restricted. A sensible investor should try to identify a few sectors first and then should go for a comprehensive study of the sector. He should inspect carefully the fundamentals of the sector before taking any investment decision. This paper helps us to know the fundamentals of the automobile (Car-Indian Manufacturing) sector in India by taking a sample of top five leading automobiles (Car-Indian Manufacturing) companies namely TATA Motors DVR, Maruti Suzuki India, Mahindra CIE Automotive, SML-Isuzu, and Force India for a period of 10 years.

4. Conclusion

From the point of view of investment decision, fundamental analysis is fairly important. It provides awareness into the economic performance of a business enterprise. The main findings of the study are as follows:

a) Maruti Suzuki India performed better than any other automobile company in the parameters like DPS, NPM, and ROE.
b) Force Motors India did better than any other automobile company in the parameters like EPS.
c) Tata Motors DVR performed better than any other automobile company in the parameters like P/E Ratio and DPR.
d) SML-Isuzu performed better than any other automobile company in the parameters like OPM.
e) If we compare in terms of the face value of the shares then Force Motors India has the highest positive percentage change over all the five automobile companies.
f) There was a significant difference between NPM and DPR of all the five automobile companies.
g) For Tata Motors DVR, CAGR is negative for all the parameters.
h) CAGR for Maruti Suzuki India is negative for all the parameters except EPS, DPS and DPR. But ratios of Maruti Suzuki India like OPM, NPM, ROE, and PER is negative and EPS, DPS and DPR is positive.
i) For SML-Isuzu, CAGR is positive for all the parameters except ROE, P/E Ratio and DPR.
j) For Force Motors India, CAGR is not defined for DPS and DPR (as beginning value is zero) positive for P/E Ratio and ROE and negative for rest.
k) For Mahindra CIE Automotive, CAGR is not defined for DPS and DPR (as they have not declared the dividend for last several years) and positive for OPM, NPM, ROE, EPS, and P/E Ratio.

Suggestions

a) All the companies performed will during the period of ten years. Their performance is also good and investors can invest their money in the shares of these companies.
b) EPS indicates how much earning is being generated for each share by the company. As EPS is highest for Force Motors India it is best to invest out of five.
c) The Compound Annual Growth Rate (CAGR) is the year-over-year growth rate over a specified period of time. As it is highest for Force Motors India, it is best to invest out of five.
d) The percentage change from the face value to the current value is highest for Force Motors India (2211.30%) over the period of ten years. So from this point of view researchers find force motors India is the best company to invest as of today.

Conflict of interest statement and funding sources

The author(s) declared that (s)he/they have no competing interest. The study was financed by the authors.

Statement of authorship

The author(s) have a responsibility for the conception and design of the study. The author(s) have approved the final article.

Acknowledgments

Our deep and sincere gratitude were presented to almighty for granting us the ability and the opportunity to complete this Research Paper. We are extremely thankful to all our friends and colleagues for their constant motivation and support. We are also obliged to IJCU for giving us an opportunity to present our research work in their esteemed Journal.

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