CHAPTER VII

Findings and Conclusion

The corporate sector is the backbone of the Indian economy so far as it provides a vital, effective and organized system for the growth of industrial as well as non-industrial sectors of the economy. The rapid growth of corporate sector in India and the increasing scale of its operations and investments have turned it into the most dominant form of economic organisation. The ever increasing importance of the corporate sector in the economic growth of the country has attracted several academicians, professional institutions, researchers and administrators. There is need to study industries performance appraisal which ultimately shall determine the overall industrial development in future. The present study is a small endeavor in that direction.

The study aims at making performance appraisal of Indian automobile industry and specifically aims at assessing the trends in the production, capacity utilisation, sales and market shares, analyzing profitability position and its trends and determinants of profitability, analyzing financial health, nature of factors which affect financial structure and economic value added analysis of Indian automobile industry.

This study covers three sectors of Indian automobile industry, viz., commercial vehicles, passenger cars and multiutility vehicles and two and three wheelers. The selected sectors include 26 companies. Out of 26 companies, 11 years data is available only for 12 companies. Therefore, all the 12 companies are included in the sample which accounts for 46.15 percent of the total companies available in the Indian automobile industry. Further, sample companies represent 87.24 percentage of market share in commercial vehicles, 89.76 percentage in passenger cars and multiutility vehicles and 50.07 percentages in two and three wheelers sector. The period covered under
the study extends over 11 year from 1995-96 to 2005-06. The data for the study were taken from “PROWESS” database which is the most reliable on the empowered corporate database of Centre for Monitoring Indian Economy (CMIE). The important statistical techniques used in the study are correlation, multiple regression, analysis of variance, F-test, arithmetic mean, co-efficient of variation and compound annual growth rate besides simple percentages, ratios and graphs.

This chapter, being the concluding part of the study, is an endeavor to present a summarized version of the findings of the present study. The summary of the major findings are given below.

Production trend

The production of all the three selected sectors of the Indian automobile industry in market shows fluctuating trend throughout the study period. The mean value of production is the highest in two and three wheelers sector followed by passenger cars and multiutility vehicles and commercial vehicles. With a view of making an inter-industry comparison of the overall production performance, production trends are taken under consideration. The projection of production of automobiles in India shows that two and three wheelers and passenger cars and multiutility vehicles are having good market potential in our country.

Dispersions in production of industries under three sectors revealed through the mean value of the series and value of co-efficient of variation for each industry. It is observed that Tata Motors Ltd and Ashok Leyland Ltd in commercial vehicles, Maruthi Udyog Ltd and Mahindra and Mahindra Ltd in passenger cars and multiutility vehicles Bajaj Auto Ltd, Hero Honda Motors Ltd and TVS Motors India Ltd in two and three wheelers show better performance in this regard.
Capacity Utilisation

The capacity utilisation ratio of commercial vehicles sector varied in a range of 67.59 per cent from 29.29 per cent to 96.88 per cent, passenger cars and multiutility vehicles varied 56.68 per cent from 34.75 per cent to 91.43 per cent and two and three wheelers sector varies in a range of 29.57 per cent from 43.84 per cent to 73.41 per cent during the study period. It is therefore obvious that the Indian automobile industry has not utilized its plants capacity on an average of more than 40 per cent which remains idle during the study period. The mean capacity utilisation is the highest (being more than 100 per cent) in Maruthi Udyog Ltd, Swaraj Mazda Ltd and Eicher Motors Ltd which indicates that company utilised its plants effectively and efficiently among the selected industries. Ashok Leyland Ltd and Tata Motors Ltd in commercial vehicles, Maruthi Udyog Ltd and Mahindra and Mahindra Ltd in passenger cars and Multiutility vehicles and Hero Honda Motors Ltd, TVS Motors India Ltd and Maharashtra Scooters India Ltd in two and three wheelers sector showed better performance with regard to their capacity utilisation. The capacity utilisation of the selected industries varies greatly irrespective of the sector of which they belong.

Sales trend

The sales of passenger cars and multiutility vehicles and two and three wheelers sector market show rising trend throughout the study period. However, sales of commercial vehicles market shows fluctuating trend. The projection of sales of automobiles in India revealed that commercial vehicles, passenger cars and multiutility vehicles are growing marginally where as two and three wheelers have fast emerging growing markets in the years to come in our country. The analysis of company - wise dispersion in sales of Indian automobiles industry over the study period reflected the same picture with regard to production performance.
Trends in Market Share

The analysis of company-wise dispersion in market shares of Indian automobile industry reveals that the mean rates of market share vary greatly in case of all the industries under examination irrespective of the sector of which they belong. It is observed that Ashok Leyland Ltd and Tata Motors Ltd in commercial vehicles, Mahindra and Mahindra Ltd and Maruthi Udyog Ltd in passenger cars and multiutility vehicles and Bajaj Auto Ltd and TVS Motors India Ltd in two and three wheelers sectors have the highest market share during the study period.

Profitability performance

The profitability performance of Indian automobile industry under review has been studied by computing various ratios relating to profitability. The profitability ratio can be determined on the basis of sales and investment. The profitability of the selected sector measured through operating profit margin ratio is satisfactory in all the three sectors of Indian automobile industry and showed adequate to cover the fixed charges and dividend reserve during the study period. The mean operating profit margin ratio is the highest in two and three wheelers followed by commercial vehicles and passenger cars and multi utility vehicles. The overall fluctuating trend of this ratio in all the sectors of Indian automobile industry can be attributed to the factors like high operating expenses, market condition, planned product mix and high rate of wages and salary. The overall analysis of net profit margin ratio shows the ability of the companies to withstand competition and adverse conditions during the study period. However, Hindustan Motors Ltd and Daewoo Motors India Ltd in passengers’ cars and multiutility vehicles have negative mean net profit margin ratio which indicated the poor performance. This is due to increase of non-operating expenses in these companies during the study period. All the selected companies should be in a position to pay off debt and
give a satisfactory return to its share holders during the study period. The overall analysis of profit margin ratio shows that the operating efficiency of Indian automobile industry is satisfactory from the point view of shareholders.

When profitability is also measured in relation to assets, the results seem to be encouraging in the sense that the resources of the Indian automobile industry were being utilised in a profitable manner. An analysis of return on assets ratio depicts that operating assets are effectively utilised in a profitable manner by the selected companies of Indian automobile industry during the study period, except Hindustan Motors Ltd and Daewoo Motors India Ltd in passenger cars and multiutility vehicles. The overall fluctuating trend of return on assets ratio can be influenced by the ability of the industry to utilise its assets in the profitable manner.

The analysis of return on networth ratio also reveals that owner’s equity was utilised profitability by all the selected companies during the study period except Hindustan Motors Ltd. The overall analysis of return on capital employed ratio showed that this ratio has been improved significantly during the study period which was on account of considerable increase in profit margin as well as assets turnover. In fine it can be inferred that the operating efficiency of the Indian automobile industry is satisfactory and the management generally succeeded in investing capital funds. It is significant to note that the position regarding earning per share, dividend per share and dividend payout ratio in all the selected companies of the Indian automobile industry during the period under review highlighted the better performance and prospects from the view point of shareholders. However, the fluctuating trend of the ratio can be attributed to the factors like profitability position, fluctuation in the market prices and dividend policy.
The observation made from F-test clearly shows that there are significant differences in all the profitability ratio between the years except operating profit margin, net profit margin, earnings per share, dividend per share and dividend payout during the study period. Similarly, there are significant differences in all the profitability ratio between the sectors except operating profit margin during the study period. Hence, the analyses of profitability of selected sectors of Indian automobile industry during the period under review highlighted their better performance and prospects from the point of view of owners.

**Profitability trend**

The analysis of profitability trend reveals that the linear model of time trend of profitability has proved to be good fit in case of three out of twelve industries (25 per cent) examined. The results show that Ashok Leyland Ltd, Swaraj Mazda Ltd (commercial vehicles), Hero Honda Motors Ltd (two and three wheelers) experienced a strong tendency in profitability to decline over the study period.

The falling tendency of profit rate of these industries is the proof of adverse effect of various controls on prices, output, expansion, investment, distribution etc., exerted by government on these industries over time. Only in case of five industries viz., Ashok Leyland Ltd, Tata Motors Ltd, Eicher Motors Ltd, Swaraj Mazda Ltd and Hero Honda Motors Ltd the time trend coefficient of profit rate is positive, implying a tendency of profit rate of rise over time. The sector-wise time trend regression results reveal that all the three sectors have a strong tendency for profit rate to fall over the study period. Further, variation in the value of $R^2$ implies that time explain profitability variations of different industry in different degree over the time.
The industry-wise dispersion in rate of profit of Indian automobile industry over the study period showed that Hero Honda Motors Ltd experienced highest profit rate, while Daewoo Motors India Ltd experienced lowest rate of profit over the study period. Another observation made is that mean rate of profit for Indian automobiles industry varied greatly irrespective of the sector to which they belong. The relative dispersion in the series of profit rate is captured by the value of co-efficient of variation. It is observed that majority of industries (6 out of 12) experienced moderately fluctuated variation in profit rate series. Further, 3 out of 12 industries experienced highly fluctuating variance and 3 out of 12 industries have erratically fluctuating variation in profit rate series.

D**eterminants of profitability**

The determinants of profitability in Indian automobile industry during the study period are analysed using the technique of ordinary least square. In automobile industry model explains 99 percentage of variation in profitability of firm included in the industry. The analysis reveals that size is the strongest determinant of profitability of Indian automobile industry followed by vertical integration, current ratio, growth rate of assets, and past profitability. For the commercial vehicles sector, model explains 94 percentage of variation in profitability of firms included in this sector. It is evident from the result that size is the strongest determinant of profitability in commercial vehicles followed by vertical integration, fixed assets turnover ratio, past profitability and growth rate of assets. For the passenger cars and multiutility vehicles, model explains 95 percentage of variation in profitability of firms included in this sector. The analysis shows that size is the strongest determinant of profitability of firms included in this sector. The analysis shows that size is the strongest determinant of profitability in passenger cars and multiutility vehicles followed by current ratio, fixed assets turnover ratio, past profitability and growth rate of assets. The selected variables explain 94

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percentage of variation in profitability of firms in two and three wheelers sector. The results portray that size is the strongest determinant of profitability followed by inventory turnover ratio, past profitability, growth rate of assets and vertical integration in this sector.

The overall analysis of determinants of profitability reveals that size, vertical integration, growth rate of assets, fixed assets turnover ratio and past profitability significantly explain the profitability of Indian automobile industry during the study period. Further, among the selected variables, size is the strongest determinant of profitability in all the three sectors of the automobile industry. The overall explanatory power of regression appears to be good in all the selected sectors of Indian automobile industry. This may be inferred from the co-efficient of determinations (R^2) which is the measure of the extent of movement in the dependent variable that is explained by the independent variables.

**Analysis of financial structure**

The analysis of variance carried out for the financial leverages of Indian automobile industry reveals 49.73 as calculated value of F which is much higher than its table value (i.e., 2.92) at 5 per cent level of significance. This indicates that the means of financial leverage of the three sectors of automobile industry differed significantly. Hence, the null hypothesis that financial leverage is independent of industry size is rejected leading to the conclusions that financial structure depends upon industry class. The relationship between financial leverage and size is found to be positive and significant at 5 per cent level. Therefore, the null hypothesis that leverage is independent of industry size is rejected and hence concluded that size has got bearing on financial structure. The analysis of financial leverage and profitability reveals that the null hypothesis that financial leverage is independent of profitability is rejected and thus concluded that there exists
negative correlation between them. As far as financial leverage and operating leverage concerned, both negative as well as positive correlations between them in different sectors were noticed. Thus, the null hypothesis that operating leverage and financial leverage are independent of each other could not be fully rejected in the case of automobile industry. The same picture is reflected as in the case of relationship between financial leverage and external financing. Further, the null hypothesis that there is no association between income gearing and financial leverage is rejected consequently leading to the conclusion that, depending upon the time period and nature of industry, there exists a positive correlation between financial leverage and income gearing.

**Determinants of financial structure**

The analysis of determinants of financial structure of Indian automobile industry reveals that the selected variables collectively explain 88 percentage of total variation in Indian automobile industry, 90 per cent in commercial vehicles sector, 60 per cent in passenger cars and multiutility vehicles sector and 89 per cent in two and three wheelers sector during the study period. As far as the importance of individual variation of concern, size followed by external financing, operating leverage, profitability and income gearing are found to be most important factors explaining the variations in the financial structure of Indian automobile industry during the study period.

**Analysis of financial strength**

The over-all analysis of assessing the financial strength shows that the Indian automobile industries is able to meet its current obligation as and when they become due for payment. Although the current ratio is less than the standard norms, even then the liquidity position of the selected industry may be considered satisfactory as its liquidity ratio is close or above to the standard norm. Another interesting inference drawn from the analysis is that
except Ashok Leyland Ltd in commercial vehicle sector none has ever achieved the required norm of 2:1 ratio during the study period. Further, analysis of interest coverage ratio also reveals that all the selected industries have the ability to meet fixed interest charges during the study period. The analysis of long-term financial strength as reviewed by debt equity ratio, fixed assets to net worth ratio, total assets turnover ratio, fixed assets turnover ratio, inventory turnover ratio, and working capital turnover ratio it is concluded that the long-term financial position of commercial vehicles sector and passenger cars and multi utility vehicles sectors may be considered satisfactory than the two and three wheelers sector of Indian automobile industry.

**Assessment of financial health**

The assessment of financial health of Indian automobile industry has been made by using Altman Z score. The analysis shows that the financial health of Indian automobile industry during the study period is never in bankruptcy zone. This shows the better financial performance of Indian automobile industry. However, in case of commercial vehicles sectors for the period 1997-98 the financial health is in bankruptcy zone. It is also obvious from the analysis that the financial health of passenger cars and multiutility vehicles sector is never in bankruptcy zone. It is also evident from the analysis that the Z score for the two and three wheelers sectors witnessed more than three during the entire period of study showed the better financial health of two and three wheelers sector. The overall analysis concluded that, assessment of financial health using Altman Z score model.

**Analysis of EVA and MVA**

The analysis of EVA created on the sample company concludes that about 2/3 of the sample companies have been able to govern affirmative EVA
during the period under study whereas remaining companies make it feasible to append a very little to the value of share holders. Company’s like Tata Motors Ltd, Bajaj Auto Ltd and Maruthi Udyog Ltd are all topping in the list during the study period. On the other hand companies like Swaraj Mazda Ltd, Daewoo Motors India Ltd, Maharastra Scooters India Ltd have been losing the ground. Remaining companies have indexed unsteady position during the study period. Sector-wise trends in EVA reviews the significant deviation in then EVA during the study period. The comparison of EVA and traditional method of financial performance shows that the traditional method does not reflect the real value addition to the share holders’ wealth.

The analysis of market value added indicates that 9 out of 12 companies have registered positive MVA throughout the study period. Further, it is noticed that companies like Maruthi Udyog Ltd, Bajaj Auto Ltd, Tata Motors Ltd, Ashok Leyland Ltd, Mahindra and Mahindra Ltd and TVS Motors India Ltd are topping the list and on the other hand companies like Daewoo Motors India Ltd and Hindustan Motors Ltd are struggling in terms of MVA over the period. The analysis of sector-wise trends in MVA exhibits that there has been no significant deviation in MVA in respect of years except the terminal years.

The linear regression analysis between MVA and other financial variables reviews that EVA, EPS, ROCE and NOPAT, are highly significant in explaining MVA movement of sample companies. Further, the market value added is positively influenced by EVA, EPS, ROCE and NOPAT. The sector-wise multiple regression analysis showed that EVA is positively influenced by the MVA of all the sectors Indian automobile industry by supporting Stern Stewart’s Claim.
Suggestions

Keeping in view of the above observations relating to the study, the following measures are suggested which would go a long way to improve the performance of Indian automobile industry.

1. It is suggested that still there is a need for Indian automobile industry to adopt producing and selling wide range of products, to adopt better market strategy, by reducing cost and revising selling prices to enhance the value of turnover so as to go ahead in the era of competitions.

2. It is obvious from the study that Indian automobile industry has not utilised its plan capacity on an average of more than 40 per cent which remain idle during the study period. It is therefore suggested that the management of the selected unit should concentrate on overcoming the problem of power cuts, implementing research and development programs, application of latest technology and making industrial relation cordial and congenial to increase the capacity utilization.

3. The profitability trend of selected Indian automobile industry experienced a strong tendency in profitability to decline over the study period. Therefore, it is suggested that all the selected industries should undertake cost control measures further so that increased profit margin of the companies may enhance the earning power ratio. In this regard further reduction of excise duty, tariff and surcharge of sales tax and steps to control operating expenses are the measures suggested for the improvement of profitability trend.

4. Cost accounting and cost audit should be made mandatory in automobile industry and they should be called to prepare cost sheet along with their annual financial statement.
5. A systematic, prompt and regular flow of information and its analysis is important for improving productivity, efficiency and profitability. A suitable management information system needs to be evolved which will take care of the data requirement of administrative officers as well as other units like factory etc., for internal management and control. Appropriate organisational arrangements should be made for the successful implementation of management information system in Indian automobile industry.

6. At present, in India the financial statements are presented on historical cost basis. As such these statements do not exhibit the correct realizable value of the assets on the date of the balance sheet. Thus, the true profitability cannot be ascertained on the basis of the figures given in the balance sheet on historical cost basis. It is, therefore, suggested that a supplementary statement should be included in the annual report showing the figures of assets and liabilities on the basis of current values.

7. At present, the profit and loss account of multi-product concern is disclosed in a consolidated form which cannot measure and judge the performance and profitability of each activity. Hence, the profit and loss accounts should be prepared on departmental activity basis by such multiproduct concerns.

8. The policy of borrowed financing in automobile industry is not proper. So, the company should use wisely the borrowed funds and should try to reduce the fixed charges burden gradually by decreasing borrowed funds and by enhancing in owners fund.

9. It is also suggested that EVA has been used as a performance evaluation tool of the organisation. The cost drivers of EVA like sales growth, operating profit margin, cost of capital etc., should be identified and the
performance should be measured based on the improvement made in this value drivers. It appears to be useful in spotting changes in a company’s on going performances that are hidden in EPS.

10. A vehicle retirement programme will assist not only in fleet modernization and reduction of emission but will also provide quantum fillip to the demand should be put in place.

11. There is a need to brief the international communities on technological and quality related capabilities at Indian automobile industry. Substantive efforts are required for educating opinion leaders and build a strong ‘made in India’ brand in overseas markets. Existing incentives for promoting exports are considered inadequate. An institutional mechanism such as the Automobile Export Promotion Council which can address industry-specific issues and facilitate exports is urgently required.

12. Tariff rationalisation and taming of available competition between rail and road transport sectors should be carried out. In this unhealthy competition, both the industries are unable to realize the full potential.

13. The automobile industry is impeded by power and the state of road infrastructure in the country. Because of the road condition the penetration level of automobile in India is very low compared to other developing countries. Therefore, it is suggested that mass road building project should be seriously implemented in the next fifteen years are imperative.

14. To meet the emerging challenge of new emission norms the Indian automobile industry has started making investment in introducing new technology. A higher safety and emission standards regimes required adequate infrastructure for testing and certification of domestically
produced one and imported product. However, the existing testing infrastructure in the country is limited and grossly inadequate to meet the emerging requirements of the industry. Therefore, the government in close co-operation and co-ordination with the industry has initiated steps for upgrading the existing testing facilities and setting up of new testing infrastructure in the country.

15. Method of production by the Indian automobile industry is based on the assembly of different components in a knock down condition. The MNC’s have not been improving the quality of produce in India rather they have been in a sense “importing” high quality products into the country. This is actually providing in India. Cost of fuel is important and at the same this fuel quality needs to be improved in terms of gumming tendency, and dust contamination.

16. The inverted duty structure of customs duty on raw materials components and finished goods needs to be corrected. The government should grant certain funds to leading Indian automobiles companies for research and development so that Indian vehicles can really become world class in five years time. Vehicles with 100 per cent local content should be given a concessional excise duty of 50 per cent of the normal rate. Further, all local constraints like the outdated industrial disputes act, factories act and the like, which make local manufacturing far more difficult, should be modified without further delay.

17. The Indian automobile market is still in its evolutionary or early growth stage. Therefore, no fixed or widely accepted method of segmenting the market has been evolved yet. Segmentation has mostly been done on product types or price ranges. Therefore, it is suggested that segmentation on psychographic or behavioral parameters may be been adopted as seen in developed car market.
Scope for Further Research

Any research study can explore only a limited field of knowledge. There are many aspects which need to be researched further. In the present case also there is a considerable scope for further research. In spite of every attempt to make this study more intensive, there are quite many fields which remain unveiled owing to constrains of time and resources. Financial study, specially, has numerous dimensions. Each component of the financial statement has got scope for an extensive study. An analysis of the social profitability of the automobile industry with the help of value added and the other techniques can provide an ample scope for research. A concetrable scope for further research also exists in the area of diversification, mergers, takeover etc., Another interesting theme would be to identify sick and healthy units separately in the automobile industry and find out discriminating characteristic of each group with respect of performance. A study can also be undertaken in the area of performance appraisal comparing private sector and public sector.

The findings of the study may not have universal applicability since the study is confined to a period and to a definite scheme of corporate sector in India. Hence, to arrive at any general conclusion, the hypothesis need further testing by way of addition to research in the same filed in different periods and even in different fields in the same period. Last but not the least, one can make a comparative study of corporate performance in the pre liberalization and the post liberalization period. Therefore, research work in the above mentioned area would be of great practical significance and would throw more light on the operation of automobile industry in our country.
Conclusion

Easier and faster mobility of people and goods across the regions, countries and continents is a cherished yearning of mankind. The automobile industry’s potential for facilitating the mobility is enormous. Wheels of development across the globe would have to be powered by the industry. However, a seamless development of this industry across countries and continents alone will help in realisation of this objective. For such seamless and barrier free development of the sector, countries will have to come together and develop better understanding. Industry across countries will have to meet challenges of new technologies, alternative fuels and affordability of automobiles by people at large through constructive co-operation. The earlier we are able to achieve this the better it would be for the world development.

The Automobile industry across the world has great potential to trigger sustained employment, mobility, inter-sectoral industrial growth and thus conduce conditions for general economic and social well being. However, there is need to promote and sustain international co-operation between government and industry. There is need for co-ordinated research and development, standardization of designs and broader technologies, effective cost cutting to enhance affordability and loosening of trade barriers across the globe. The industry licensing and foreign investment reigns in the country has been progressively liberalised. The freeing of the industry from restrictive environment has on the one hand helped to absorb newer technologies, align itself to the global development and realize its potential; on the other hand, this has significantly increased industry’s contribution to overall industrial growth. The Automobile industry being the driver of economic growth, we should use it as a lever of accelerated growth in the country. It is concluded that conscious efforts should be made to fine-tune government policy to enable the Indian automobile industry to realise its potential to the fullest capacity.