CHAPTER VI

Summary and Conclusions

The present chapter gives the summary of findings and conclusions. The automobile has become an important aspect of economic and social life. The agricultural, industrial and infrastructural investments made during the Five Year Plan Periods have helped the growth of automobile industry in India. Since 1980, the automobile industry received encouragement from the government and public. Liberalised regime in the 1990s opened this sector for competition from foreign countries. Therefore, significant changes have been witnessed since 1990 in automobile industry. The development of automobile industry has resulted in the growth of other associated industries. Technological developments have been absorbed by this industry due to new economic policy.

The automobile industry has grown sporadically over the years. The industry’s contribution to the national income has increased from Rs. 21.08 crore in 1959 to Rs. 40000 crore in 2002. The number of persons employed had also increased from a meagre 5000 in 1953 to over 4 lakh directly. The industry has also provided indirect
employment for 3 lakh persons in 2001. The automobile industry is emerging powerfully with an investment of Rs.40,000 crore. India is the largest producer of tractors, three wheelers, and the second largest manufacturer of two wheelers in the world.

The pattern of automobile production witnessed a change after the introduction of economic liberalisation. The production of the commercial vehicles has been given high priority in India which further increased the tempo of economic activities in India. Telco introduced new models of its light commercial vehicles in 1984-86. A collaboration with Peugeot enabled Mahindra & Mahindra to manufacture a diesel engine and a four speed transmission. Bajaj Tempo limited, manufactured three wheelers and commercial vehicles in collaboration with Daimier-Benz. By a technical agreement with Japan’s General Motors, Hindustan Motors attempted to revive its commercial vehicle segment in the 1980s. DCM entered into agreement with Toyota for the manufacture of light commercial vehicles. The other new commercial companies established during the 1980s were Swaraj Mazda, Allwyn Nissan and Eicher-Mitsubishi.

There has been a spectacular change in the pattern of production of passenger cars also. Maruti Udyog in collaboration with Suzuki of Japan, introduced fuel efficiency cars in 1983. With the coming of Suzuki cars, both Hindustan Motors and Premier
automobiles introduced new models, the former fitted with Isuzu engines and the latter with Fiat 118 NE. Maruti also produced vehicles having similar operating characteristics as that of the Jeep (Gypsy). In early 1995, Tata Engineering and Loco Co. Ltd., introduced Tata Sumo. Thereafter, Bajaj Tempo introduced Trax model. Hindustan Motors introduced Trekker and Toyota with Kirloskar introduced Toyota, Qualis. This product has proved a big threat to the other manufacturers in the two wheelers segment. Suzuki models produced by Ind-Suzuki, Yamaha models manufactured by escorts in collaboration with Yamaha of Japan, and Honda models made by Hero Honda in the early eighties were all supported by collaborations. In recent years, Kinetic Motors LML also entered into the motor cycle segment with foreign collaborations.

The two giants of the Indian automobile industry, namely Bajaj Auto and Telco are comparable to each other, with respect to their technological maturing. On the whole, these are the two firms which without foreign collaboration continued original lines of production even after the expiry of initial collaboration.

Growth and Trends of Automobile Production in India

By taking 1991-92 as the year of division of the period between 1980-81 and 2000-01, the period prior to 1991-92 is taken as
the decade prior to liberalisation and period after 1991-92 is considered as the decade of liberalisation. The growth of various segments of automobile industry in the decade of liberalisation is compared with that of earlier decade.

The pre-liberalisation decadal growth rate of buses, trucks and LCVs are 40.31, 65.85 and 106.52 respectively which shows that LCVs have registered spectacular growth when compared to buses and trucks. The production of commercial vehicles showed better results in the pre-liberalisation decade as compared to the post-liberalisation decade. The production of LCVs also recorded impressive growth during the pre-liberalisation decade. The production of cars increased 5.8 times between 1980-81 and 1990-91. However, in four years out of ten, the liberalisation period recorded negative annual growth in car production. The production of cars did not witness a fast growth in the liberalisation period as compared to the pre-liberalisation decade.

The production of jeeps and multi-utility vehicles (MUVs) registered persistent growth till 1989-90. The highest production of Jeeps and MUVs was achieved in 1997-98. Out of 10 years of liberalisation, three years (1991-92, 1994-95 and 1998-99) witnessed negative growth in the production of jeeps and MUVs. The production of tractors increased 3.29 times in the liberalization decade as compared to the growth of 1.67 times in the pre-liberalisation decade.
As far as the production of three wheelers is concerned, the production increased 7.16 times during a period of 20 years from 1980-81 to 2000-01. The growth of three wheelers during the pre-liberalised era is 3.3 times as compared to 2.28 times in the liberalisation decade. The highest production of three wheelers was registered in the year 1997-98. The fluctuations in the growth of production of three wheelers are more in the liberalisation decade as compared to the pre-liberalisation decade.

The growth of scooters, motor cycles and mopeds increased 4.2, 20.95 and 5.6 times respectively within a period of 20 years from 1980-81 to 2000-01. The production of scooters increased 4.3 times in the pre-liberalisation decade as compared to 0.97 times in the liberalisation decade. Production of mopeds increased 3.5 times in the pre-liberalisation decade and 1.6 times in the liberalisation decade.

The consumer market for vehicles, in fact, has not improved much after liberalisation. Rather it has, continued with the same growth rate. On the other hand, a sudden increase in the production capacity of the Indian firms and the entry of multinationals with huge installed capacity along with the technologically improved new models supplemented by various lucrative finance schemes have only led to instability, and imbalance in the market instead of bringing any
additional buoyancy in the demand position. Thus, the entry of multinationals and consequent expansion of installed capacity together with rationalisation of prices made the market fiercely competitive. It led to Indian car manufacturing units economically unviable.

Regarding market share, 50 per cent of the market of the passenger car segment was held by Hindustan Motors, the rest accounted for by Premier Automobiles before 1980s. In the post liberalisation period the domestic car manufacturers have lost their market share, while the MNCs have made substantial gains in their market share. The passenger car market leader Maruti has also witnessed a decline in its market share due to stiff competition. In the bus segment, Ashok Leyland had shared the market on a 40:60 basis with Telco except some year to year fluctuations. In the truck segment, Telco was the dominant producer, the rest was shared by Ashok Leyland, HM and PAL. Later both HM and PAL were forced out of the market and the entire market was shared between Telco and Ashok Leyland on 80:20 basis. Commercial vehicles segment has been totally dominated by a single firm namely Telco. In all the other segments, market is shared by two or more firms in various proportions. The three wheeler segment of automobile industry is totally dominated by Bajaj Auto holding nearly 80 per cent of market share. In the motor cycle segment, Hero Honda shares the major portion of the market. In
the moped segment, Kinetic Engineering, Sundarm Clayton and Majestic Auto shared the market on a 40:20:35 basis.

The technological status of the Indian automobile industry is still a long way behind international standards. Research and Development activities are important for the technological advancement and efficiency in automobile industry. However, R & D activities have been neglected by Indian manufacturers. On an average, the automobile industry allocated less than 1 per cent of their turnover to R & D as against the 3 to 5 per cent in the case of leading international manufacturers.

The component industry plays a dual role in the manufacture of the large number of components for the main automobile industry and spares for the replacement demand. In the early fifties, there was only a nucleus of ancillary industry associated with the vehicle assemblers and a few manufacturers setting up manufacturing facilities. In the 80’s the number of producers of components increased by a fairly high percentage. During this period, most of the component manufacturers were not able to meet the requirements of the newly established automobile manufacturers in the passenger car, light commercial vehicles and two-wheeler industry. After liberalisation, the automotive industry in India has been undergoing tremendous
transformation. In view of India's competitive advantage, the new vehicle manufacturers are developing Indian component vendors for global sourcing. International component manufacturers are setting up manufacturing bases in India with local partners. It is more economical to enter into buy back arrangements. The automotive component industry has always been a leader in exports and net foreign exchange earnings. This segment exports more than 12 per cent of its total exports. Even during the period of recession, the component industry continued to grow and 20 per cent of the total production was exported.

The component manufacturers try to ensure that liberalization and entry of foreign units do not have any adverse impact on the domestic industry. The global giants like Delphi are largely seeking to make India an export base to supply components to the ASEAN countries.

Industrial policy resolution of 1980 has changed the shape and structure of the industrial scenario of India. The automobile industry has been gradually released from the clutches of control. Beginning in 1981, production in excess of licensed capacity was permitted, provided such production was exported. Further concessions were extended in 1982 policy to permit industrial units to claim and endorse
higher capacity to the extent of one-third of the highest production achieved during the year ending 1981-82. Industrial undertakings were allowed to seek re-endorsed higher capacity on the basis of best production in the 5 years ending 1982-83 or 1983-84. And as part of the liberalisation package, the government announced a technology policy statement in 1983 and the motor vehicle industry was one of the first beneficiaries from this liberalisation policy. Further, for such companies, licences were not required for investment in 'specified backward areas' for the manufacture of two-wheelers and their components.

The 1985 Industrial Policy brought about the biggest transformation in the entire history of Indian two-wheeler industry. The broad-banding procedure gave vast scope to manufacturers to produce a wide variety of products in broad product groups. Such broad-banding was also permitted to component manufactures. Asset limit for companies under MRTP Act was raised from Rs. 20 crore to Rs.100 crore. In the 1988 policy, the Government announced further liberalisation of its industrial policy of 1985. The new industrial policy of 1990 provided the basic thrust to the automobile industry. All new units upto an investment of Rs. 25 crore in fixed assets in non-backward areas and Rs. 75 crore in centrally notified backward areas were
exempted from the requirement of obtaining a licence. Imports up to a landed value of 30 per cent of the total value of plant and machinery, and imports of raw materials and components were permitted up to a value of 30 per cent of the ex-factory value of annual production. To encourage the transfer of technology, and to attract effective inflow of technology, investment up to 40 per cent of equity has been allowed on an automatic basis.

In tractor markets there were four or five basic models. The same was the situation for cars, LCVs, trucks and buses. In the early 1990s, there was a total change in the market variety of production and its various variants inundated the market. The models rolled out during this time were produced mainly depending on manufacturer's technical ability and convenience rather than from any real customer's feedback. By and large, till mid-1990s, the market was governed from supply side. And the focus was basically on quantity augmentation and supplying single basic model for each price segment with some minor changes in product features. Cost reduction, by way of value engineering, re-engineering, effective tackling of different material cost and conversion cost were effected during late 1990s. One can see a big change in the attitude of automobile manufacture. Customer-oriented production and services were augmented.
The performance of the automobile industry has been analysed to assess the impact of liberalisation on it. For this purpose the automobile industry has been divided broadly into four wheeler and two and three wheeler segments and they are further sub-divided into various segments. The four wheelers are classified into multi- and heavy commercial vehicles, (M & HCVs), light commercial vehicles (LCVs), cars and multi-utility vehicles (MUVs). The production of M & HCVs recorded an overall upward trend from 1993-94 to 1996-97 and since then it has shown wide fluctuations. The production of LCVs recorded its peak production level in 1994-95 and thereafter, it declined till 1998-99. The production trend of LCVs also showed wide fluctuations, though it showed a sign of recovery in the end years. The production of cars and MUVs showed similar trend during this period. It was generally pro-active to the performance of economy and the policies pursued by the government.

The sale of four wheelers showed the same trend as that of production. Among various segments of four wheelers, the production and sale trends of cars were relatively better. It was found that the export of automobiles suffered in 1998-99 which might be due to the aftermath effect of restrictions faced by India after the nuclear blast. Among the four-wheelers, the market share of cars increased over the
years due to the increased disposable income of the middle class and salaried sections after the Fifth Pay Commission implementation. The market share of all other vehicles witnessed declining trend during the years of liberalisation. The reasons for the poor performance of four-wheelers except cars by the manufacturers were inadequate demand, lack of business confidence, high cost of capital, overall recession and the resultant industrial slowdown.

The production, sales and export of two / three wheelers category of automobile industry was also analysed. Among the two wheelers, the production and sales trend of motor cycle segment was commendable. The mopeds segment had recorded a slow growth. The export of two wheelers also declined after 1997-98. The two wheeler industry registered an export growth of 34 per cent during the period.

In order to assess the demand for automobiles with the important determinant of different types of road length, the road lengths with registration of different types of automobiles were compared. It was found that the percentage share of all roads and surfaced roads registered positive change in all the years. However, the sub-surface roads showed negative growth in three years. The percentage share of surfaced roads increased while that the share of unsurfaced roads declined. The density of all roads increased from 609 in 1990-91 to
750.13 in 1996-97. The density of surfaced roads increased much faster than the density of unsurfaced roads. It is generally believed that the demand for commercial vehicles depends on the increase of national highways. The length of national highways increased by 119 Km between 1990-91 and 1996-97. During the period, the demand for all segments of automobiles registered nearly doubled during the eight years between 1990-91 and 1997-98. The comparison of growth in the length of roads with registration of automobile segments has been done by using the Karl Pearson's Product Moment Correlation. It showed highest degree of positive correlation of 0.895 between registration of cars and length of all roads. Taxis and trailers recorded highest degree of positive correlation with national highways and state highways.

The year 1991-92 was a period of economic crisis and in order to ascertain the performance of the liberalisation period, the eve year of liberalisation viz 1990-91 was taken as the base year for the analysis. The working capital, sales ratio of all segments of the automobile industry had been declining from 1990-91 to 2000-01 except in the case of the two wheeler/three wheeler segment.

The decline of the Working Capital Sales Ratio (WCSR) is significant in the case of passenger cars and multi-utility vehicles and
commercial vehicles. The lower WCSR shows more capital intensity and a higher capital-labour ratio.

The display of debt-equity-ratio in different segments of automobile industry revealed that the ratio had declined at a faster rate in two wheeler/three wheeler segment as compared to automobile ancillaries and commercial vehicle segments. The DER of overall automobiles shows a consistent decline in the value from 3.64 in 1990-91 to 1.00 in 2000-01. The decline in the DER indicates that the automobile industry relies more on equity capital when compared to the other source of investment, viz., debt.

The amount of net worth of all segments of the automobile industry showed a substantial increase during the liberalisation period. The net worth of two/three wheeler segment improved more than 10 times during the period as compared to over 13 times by the passenger car and multi-utility vehicles, over four times by the commercial vehicles and nearly 10 times by the automobile ancillaries. In all the segments, the increase in the amount of net worth was consistent, which shows that the automobile segments are capable of absorbing shocks in the economy.

Two/three wheeler segment of the automobile industry enjoys the maximum Profit After Tax (PAT) as a percentage of sales when
compared to all other segments in the automobile industry. The automobile ancillaries segment records a moderate PAT as a percentage of sales with less variation in the values over a period of time. The PAT as a percentage of sales for the overall automobile recorded negative growth in 1991-92 and 2000-01. The percentage change was high between 1994-95 and 1999-2000.

Though the performance of automobile segments was quite encouraging, the two/three wheeler and automobile ancillary segments achieved success during the liberalisation period. The demand for the two and three wheelers and the accessibility of it to the general population helped the segment to achieve profitability. The automobile ancillaries succeeded because of the ancillarisation, sub-contracting and the informalisation of the production of automobiles during the liberalisation period.

The commercial vehicles and automobile ancillary segments were consistently maintaining more or less the same share of exports to the sales. However, the percentage share of exports in the sales of highly foreign collaborated segments such as two/three wheelers and passenger cars and multi-utility segments declined during the period.

The forex earnings of overall automobile industry are not encouraging. Moreover, forex spending for the import of necessary raw
materials is almost equal to that of forex earnings. The current ratio of two wheelers and three wheeler category of automobile industry registered a value of more than 2 in almost all years except 1992-93. The passenger cars and multi-utility vehicles created current assets continuously and the current liabilities do not eat away a significant proportion of the assets. It clearly depicts that the current liabilities fall short of the current assets.

The creation of current assets in automobile ancillaries increased nearly ten times between 1990-91 and 2000-01. It witnessed the fastest growth of current assets when compared to the other categories of automobile industry. The current ratio recorded a near consistent growth during the period. The current ratio was the lowest in 2000-01 and the highest in 1994-95.

The performance of automobile industry on the eve of the radical economic reforms suffered due to the fiscal crisis of the early 90s. One can understand that the overall performance of the industry in 1991-92 and 1992-93 was tardy because the current ratio was below the average during this period. Because of the opening up of the Indian economy to foreign direct investment by providing facilities to foreign companies to invest in different fields of economic activity, the Indian automobile industry attracted more foreign direct investment.
Indian companies entered into foreign collaborations, joint ventures and the government carried out massive import liberalisation, programmes by switching over from quantitative restrictions to lower tariffs. All these changes encouraged more investment in automobile industry. The size of investment in automobile industry in 1990-91 was Rs. 225.1 crore and it increased to a maximum of Rs. 5283.7 crore in 1999-2000. All other fundamentals of current assets have been very strong during the study period because there have been a substantial increase in the current ratio of the automobile industry in a sustained manner.

The profitability of the passenger car industry improved sharply after 1993-94. The profits rose continuously from 13.9 per cent in 1991-92 to 659.8 per cent in 1996-97. This growth continued till 1996-97. The enormous increase in profit is a healthy sign of the industry. The passenger car industry gained considerably by way of reduced custom duties. And another factor that contributed to the increase in profit was the operational efficiency of the companies.

The significant policy measure that resulted in the growth of passenger car industry was the delicensing of the manufacture of passenger cars in February 1993. Another milestone in the growth was the new Industrial policy of 1991. Followed by delicensing, there was a host of supportive measures undertaken by various governments which
stimulated the growth of passenger car industry in India. At present the
eexisting Indian passenger car companies have formed joint ventures
with foreign companies which had an eye on the Indian market.

The Hero Honda produced the largest number of motorcycles
in all the years from 1991-92 to 2000-01. It increased its share from
31.1 per cent in 1990-91 to 47.36 per cent in 2000-01. Two out of 4
motorcycles produced in India were from Hero Honda Motors Ltd.

Among the foreign collaborated motorcycle companies, Yamaha
Motor Company has suffered a steady decline of its share from 27.14
per cent in 1990-91 to 8.22 per cent in 2000-01. A motorcycle
company that has been growing at a steady growth over the period is
the TVS motor company Ltd.

The LCV segment has exhibited more buoyancy growing at an
annual rate of 8 per cent during the seventies. The heavy and medium
vehicle industry grew at an annual rate of 2.7 per cent during the
seventies and this rose marginally to 4 per cent in eighties. The
demand recession was a deep seated in early nineties. During this
period buses and trucks were generally purchased through refinance
schemes of banks and financial institutions. Heavy and medium
vehicles are manufactured by TELCO, Ashok Leyland and a minor
share by the Hindustan Motors. TELCO ranks first in the production of
buses and trucks. However, its share dwindled from 72.98 per cent of the total buses and trucks production in 1990-91 to 62.28 per cent in 2000-01. Ashok Leyland Company ranks second in the production of M and HCVs. Its share increased from 27 per cent in 1991-92 to 37.58 per cent in 2000-01.

The market for two wheelers is not even spread in various states of India. The profile of automobile industry gives the details that North Indian states such as Punjab, Uttar Pradesh and Haryana represent the leading market for scooters with 40 per cent of the market share. South India represents 90 per cent of the market for mopeds and about 67 per cent of the market for motor cycles sold in India.

The percentage change of profit by commercial vehicles, by keeping the profit level of 1990-91 as the base, recorded negative growth during the period of liberalisation.

CONCLUSIONS

In fine, the findings of the study reveal that the results relating to the impact of liberalisation on the development of the automobile industry as a whole are neither robust nor cheerless. Liberalisation has had a mixed impact on the industry. However, we gain better insight
by looking at the segment-wise impact of liberalisation on production, sales, exports, profits and technology.

**Production**: The analysis has revealed that the automobile industry as a whole has not shown consistently high rate of growth since liberalisation. Among the various segments of automobile industry, MUVs, three wheelers and motorcycles in general registered a continuous growth in the post-liberalisation period; all other segments of the industry showed marginal decline and it may be attributed to the recessionary trend witnessed in the Indian economy.

In the case of automobile components, the value of production increased over the years, including the recessionary period (1991-92, 1992-93 & 1997-98).

**Sales**: The sales trend of all kinds of vehicles is very close to the production levels. Of the different segments, the sale of cars and motorcycles is relatively better when compared to other segments. The rise in income levels and change in tastes and consumption pattern of the upper and higher middle class sections of the population are cited as the reasons for this trend. The automobile components enjoyed very good sales in the liberalisation period.

**Exports**: The performance of the automobile industry, in general, up to 1996-97 was good. But exports declined after 1997-98 due to the
restrictions imposed on imports from India by some foreign countries. However, the export of LCVs and auto-components has shown an increasing trend due to the cost advantage enjoyed by the INDIAN auto-components industry. 

Profit: The automobile industry, as a whole, has made moderate profits during the liberalisation period except during the years 1990-91 and 2000-2001. However, the two-wheeler, three-wheeler and auto-components have made very good profits during the entire period.

Technology: The automobile industry has witnessed considerable changes in technology during the post-liberalisation period. With the opening up of the passenger car sector to international players, the entry of global giants, there has been a technological upgradation of the INDIAN passenger car industry. Motorcycle segment has gained much through the transfer of technology, next to the passenger car segment. However, foreign technology has not made much impact on the three-wheeler and moped segments due to development of indigenous technology which is on par with foreign technology.

SUGGESTIONS

On the basis of the foregoing summary, a few suggestions, which are illustrative in nature are given below.
1) The country has already permitted too many foreign companies in the production of passenger cars. They import majority of the components from their sister concerns and this has an impact on the employment and domestic production of vehicles. Therefore a limit should be set for the participation of foreign companies.

2) Local content policy of 95 per cent in two years for any model must be insisted on irrespective of the size of the investment. No import licence to be given for any new model unless the previous model is 95% local. There is no logic in bringing an investment of $ 50 million and then spending another $ 100 million in the next 5 years on imports of components in making cars.

3) Both the vehicle and component manufacturers are quite aware of the need for technology upgradation and product quality improvement. They are also conscious of the post-WTO challenges to be faced and are trying their best to be most competitive in their respective fields.

4) The increased duty structure of customs on raw materials, components and finished goods need to be corrected.

5) The government should institute a National Award for the automobile companies which adopt R&D measures so that Indian vehicles can really become world class quality. Vehicles with 100 per cent local content should be given a concessional excise duty of 50 per cent of the normal rate.
6) The import duty of tier 1 suppliers may be reckoned as import by the car company and close scrutiny of subsidiaries and joint ventures of these car companies is needed.

7) Exports must be accepted strictly based on minimum value addition. Annual audit of value addition must be done by the government.

8) A massive project for road development in the future is imperative. Policy measures in this direction were already initiated by the Union Government to strengthen and improve the quality of roads throughout India. This will definitely go a long way in sustaining the growth of automobile industry in India.

9) There is need for conducting a special audit on the local content used by new car manufacturers. This would reveal instances of violation of the Ministry of Commerce's MOU.

10) The policy regarding the import of raw materials and components may take into account the interests of the indigenous component industry which is largely in the small scale sector.

11) The Indian component industry should make continuous innovation in products in order to have a competitive edge.

12) Lastly, the Indian companies should make a habit of continuous learning and try rapid absorption of technology from collaborators to reduce continued dependence on them.