Chapter - III

PROFILE OF AUTOMOBILE INDUSTRY &
CAR MANUFACTURERS
PROFILE OF AUTOMOBILE INDUSTRY & CAR MANUFACTURERS:

The automobile sector is a key player in the global and Indian economy. The global motor vehicle industry (four-wheelers) contributes 5 per cent directly to the total manufacturing employment, 12.9 per cent to the total manufacturing production value and 8.3 per cent to the total industrial investment. It also contributes US$560 billion to the public revenue of different countries, in terms of taxes on fuel, circulation, sales and registration. The annual turnover of the global auto industry is around US$5.09 trillion, which is equivalent to the sixth largest economy in the world (Organisation Internationale des Constructeurs d'Automobiles, 2006). In addition, the auto industry is linked with several other sectors in the economy and hence its indirect contribution is much higher than this. All over the world it has been treated as a leading economic sector because of its extensive economic linkages.

India’s manufacture of 7.9 million vehicles, including 1.3 million passenger cars, amounted to 2.4 per cent and 7 per cent, respectively, of global production in number. The auto-components manufacturing sector is another key player in the Indian automotive industry. Exports from India in this sector rose from US$1.0 billion in 2003-04 to US$1.8 billion in 2005-06, contributing 1 per cent to the world trade in auto components in current USD.

In India, the automobile industry provides direct employment to about 5 lakh persons. It contributes 4.7 per cent to India’s GDP and 19 per cent to India’s indirect tax revenue. Till early 1980s, there were very few players in the Indian auto sector, which was suffering from low volumes of production, obsolete and substandard technologies. With de-licensing in the 1980s and opening up of this sector to FDI in 1993, the sector has grown rapidly due to the entry of global players. A rapidly growing middle class, rising per capita incomes and relatively easier availability of finance have been driving the
vehicle demand in India, which in turn, has prompted the government to invest at unprecedented levels in roads infrastructure, including projects such as Golden Quadrilateral and North-East-South-West Corridor with feeder roads. The Reserve Bank of India’s (RBI) Annual Policy Statement documents an annual growth of 37.9 per cent in credit flow to vehicles industry in 2006. Given that passenger car penetration rate is just about 8.5 vehicles per thousand, which is among the lowest in the world, there is a huge potential demand for automobiles in the country.

There are two distinct sets of players in the Indian auto industry: Automobile component manufacturers and the vehicle manufacturers, which are also referred to as Original Equipment Manufacturers (OEMs). While the former set is engaged in manufacturing parts, components, bodies and chassis involved in automobile manufacturing, the latter is engaged in assembling of all these components into an automobile. The Indian automotive component manufacturing sector consists of 500 firms in the organised sector and around 31,000 enterprises in the unorganised sector. In the domestic market, the firms in this sector supply components to vehicle manufacturers, other component suppliers, state transport undertakings, defence establishments, railways and even replacement market. A variety of components are exported to OEMs abroad and after-markets worldwide.

The automobile manufacturing sector, which involves assembling the automobile components, comprises two-wheelers, three-wheelers, four-wheelers, passenger cars, light commercial vehicles (LCVs), heavy trucks and buses/coaches. In India, mopeds, scooters and motorcycles constitute the two-wheeler industry, in the increasing order of market share. In 2005-06, the Indian auto sector had produced over 7.6 million two wheelers and 1.3 million passenger cars and utility vehicles. India is a global major in the two-wheeler industry producing motorcycles, scooters and mopeds principally of engine capacities
below 200 cc. It is the second largest producer of two-wheelers and 13th largest producer of passenger cars in the world. Tata figures among the ten largest global manufacturers of LCVs, heavy trucks, buses and coaches, while it is among the top 25 in passenger car manufacturing.

The two-wheeler industry in India has grown at a compounded annual growth rate of more than 10 per cent (in number) during the last five years and has also witnessed a shift in the demand mix, with sales of motorcycles showing an increasing trend. Indian twowheelers comply with some of the most stringent emission and fuel efficiency standards worldwide. The passenger car segment has been growing at a rapid pace -- from over 6,50,000 vehicles sold during 2001 to over a million vehicles sold during 2004-05, showing an annual growth rate of 17.36 per cent.

ORGANISED AUTO SECTOR IN INDIA:

While the Original Equipment Manufacturers (OEMs) are at the top of the auto supply chain, it should be noted that there are a few OEMs in India which supply some components to other OEMs in India or abroad. Most of the Indian OEMs are members of the Society of Indian Automobile Manufacturers (SIAM), while most of the Tier-1 auto component manufacturers are members of the Automobile Component Manufacturers’ Association (ACMA). All of them are in the organised sector and supply directly to the OEMs in India and abroad or to Tier-1 players abroad. Tier-2 and Tier-3 auto-component manufacturers are relatively smaller players. Though some of the Tier-2 players are in the organised sector, most of them are in the unorganised sector. Tier-3 manufacturers include all auto-component suppliers in the unorganised sector, including some Own Account Manufacturing Enterprises (OAMEs) that operate with one working owner and his family members, wherein manufacturing involves use of a single machine such as the lathe. Auto-component manufacturers cater not only to the OEMs, but
also to the after-sales market. In the recent years, there has been a rapid transformation in the character of the automotive aftermarket, as a fast maturing organised, skill-intensive and knowledge driven activity. Hence, the auto industry in India possesses a very diverse and complex structure, in terms of scale, nature of operation, market structure, etc.

While output, emoluments and Gross Value-Added (GVA) have been growing in both the automobile and auto-component industries, employment is on the rise in the latter and it is declining in the former. Fall in employment despite growth in total emoluments is a matter of concern in the automobile sector. This also indicates that the real labour costs are increasing. The growth rate in gross value-added has been quite impressive in both sub-sectors, more so in the automobile manufacturing sector.

UNORGANISED AUTO SECTOR IN INDIA:

The unorganised sector consists of enterprises that are not registered under certain sections of the Factories Act. In this section, data on the unorganised manufacturing sector from the National Sample Survey Organisation (NSSO) is used. The unorganised auto sector in India has grown in terms of number of enterprises, employment, output, capital, capital intensity and labour productivity. However, capital productivity has fallen considerably. Very similar trends are observed in OAME, NDME and DME21 in rural and urban areas. However, it is evident that the growth of this sector has been quite low in the rural areas than in the urban areas. Rural-urban disparities are even more striking. It is clear that the rural unorganised sector is very small compared to its urban counterpart in the auto industry. However, rural areas still have a major part of OAME. Thus, it could be inferred that only tiny players, even among the smaller firms under the unorganised sector, prefer doing business in rural areas. These observations point
towards the importance of making rural areas more attractive for all industries, including the auto industry, by enhancing infrastructure and introducing incentives, given the current levels of urban congestion and corresponding infrastructure bottleneck. While the share of employment of the unorganised auto sector in the entire auto industry has grown from 16 per cent in 1994-95 to 30 per cent in 2000-01, the share of the unorganised auto sector in total value of auto output has grown only from 2 per cent to 3 per cent. The share of the unorganised auto sector in total capital stock employed in the auto industry has grown from 4 per cent to 8 per cent, during this period. In 2005-06, the number of enterprises in the unorganised sector was about 10 times higher than that in the organised sector.

EVOLUTION OF THE POLICY FRAMEWORK:

The Indian auto policy has generally been in line with the prevailing industrial policy framework. During the British regime, India had no auto industry to begin with and all the automobiles were imported from the global auto manufacturers such as General Motors and Ford Motors. In the 1940s, Hindustan Motors and Premier Motors were established by Indian entrepreneurs, by importing know-how from General Motors and Fiat respectively. In the 1950s, a few other companies such as Mahindra and Mahindra, Ashok Motors (with Technical Collaboration with Leyland Motors) and Bajaj Auto entered the market for commercial vehicles and two-wheelers. Most of them either imported auto-components or produced them in-house, till mid-1950s, when India launched import substitution programme. This development, followed by the L.K. Jha Committee’s recommendations in 1960 to develop an indigenous ancillaries sector, resulted in the evolution of a separate auto-component sector. From being a highly protected segment pre-1980s, the auto-component industry in India has emerged into a global player, supplying not only to domestic firms but also to numerous foreign Original Equipment Manufacturers (OEMs). Till 1991, the Phased Manufacturing Programme (PMP), under which domestic OEMs had to increase the proportion of domestic inputs over a specific time period, had laid foundation for the Indian
Auto-component sector. However, assured demand for their products had rendered many players in this sector inefficient. This led to abolition of this programme under the New Industrial Policy of 1991. Passenger car segment was restricted to licensed production. Commercial vehicles and two-wheelers were also restricted by licences, but the extent of restrictions was less and hence there were quite a few new entrants in these segments in the 1980s, especially in the CV segment. The reforms of 1991, followed by the entry of global OEMs and Tier-1 suppliers in India, paved the way for expansion of range, technologies and number of auto-component manufacturers. This led to a major transition in the Indian auto industry, wherein the vehicle manufacturers started outsourcing most of their components from the auto component manufacturers. Ever since the delicensing of passenger car segment in 1993, the Indian auto industry has grown bigger, with new international players entering the market. Since 2000, there have been many significant policy developments such as removal of Quantitative Restrictions (QRs) on auto imports and permission for 100 per cent FDI. Financial liberalisation in the early 1990s enhanced credit availability to consumers and this, in turn, led to a boost of auto loans in India, which was a key driver of demand for automobiles. This facilitated the transition of passenger cars from being regarded as luxury goods, accessible only for the elites, to necessary goods, accessible to a wider section of the society.

Since 2000, India has been observing a Safety Decade. Efforts have been made for aligning Indian safety standards with global ones. Roadmap has been prepared till 2007 for safety standards, while an outline has been drawn till 2010. The National Road Safety Board is under active consideration by the government, which will be responsible for road-related measures, vehicle-related measures and research on road safety. One of the major measures, which is likely to be implemented in the near future, is the measurement of road-worthiness of vehicles, based on which a regulatory body under the government may be engaged in certifying, whether a motor vehicle is road-worthy or not, in terms of emissions and
safety. Auto policy, 2002, stresses on the need to provide direction to the growth and development of the auto industry in India. This policy document resulted in reduction of duties in the auto-component sector to a large extent and the automobile sector to some extent and extension of R&D incentives to the auto sector. R&D thrust by the government can be inferred from the recent measures such as 150 per cent weighted deduction on R&D expenditure and increased R&D budget allocation for this sector. In 2005-06, a few major policy developments relevant for the auto sector took place in India. Implementation of VAT has taken place in a few states. Euro III emission norms have been introduced in 11 metro cities and at the same time, the Euro II norms have been implementation in rest of the cities. These norms have been delayed for the diesel vehicles due to the unavailability of fuel. Therefore, the government has decided to implement these norms in phased manners in selected northern states. Finance Bill 2006 reduced excise duty of motor vehicles to 12.5 per cent against 15 per cent before and import duty of raw materials to 5-7.5 per cent against 10 per cent before and has given a thrust to the development of infrastructure, which is the key factor influencing auto industry, both as a driver of demand and as a facilitator of enhancing competitiveness in manufacturing of auto products. The introduction of above mentioned norms, in addition to safety and noise norms have led to the increase in the workload on the Automotive Research Association of India (ARAI) testing facilities. Keeping this in mind, the Government of India has made various efforts to improve the testing facilities. These include the approval of two proposed additional testing facilities, upgradation of the ARAI & Vehicles Research and Development Establishment (VRDE), establishment of a world class test track and building of a few additional centres under the NATRIP in and around the major auto hubs in India. This is an industry-government joint initiative, involving an investment of Rs. 1,718 crore. The additional centres would be set up in Manesar, Pune, Ahmednagar, Chennai and Indore. More on emission norms is covered in Section 7.2. For example, when there is a better road network, it is more likely that demand for automobiles increases among the people. With better roads and power availability and quality, for example, the firms will be able to reduce their costs of transportation and production, as well as improve their product quality.
Efforts have also been made to promote alternative fuels. For this, the following three initiatives have been launched:

1. Agreement with the sugar industry on the off-take of ethanol has been made.

2. An action plan has been prepared to grow and procure bio-diesel at fixed price.

3. Hydrogen energy roadmap has been prepared by Ratan Tata. According to this roadmap, 10 lakh hydrogen-fuelled vehicles has been produced by 2010.

The accession to the UNWP (United Nations Working Party) 1998 is another important decision taken by the Indian Government in 2005-06. This agreement will prove a significant step towards the global integration of the Indian auto industry. A great deal of progress has been made on bilateral and regional trade agreements. The bilateral agreement with Chile and Singapore and regional agreements with SAFTA (South Asian Free Trade Agreement) and MERCOSUR (Southern Common Market) have been concluded, while the bilateral discussion with Thailand and regional discussions with ASEAN and BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) have reached the final stage. In August 2006, a Draft of Automotive Mission Plan Statement was released by the Ministry of Heavy Industries, in consultation with industry. This was released as a report in December 2006. This document draws an action plan to take the turnover of the automotive industry in India to US$145 billion by 2016 with special emphasis on small cars, MUVs, two-wheelers and auto-components. Measures suggested include setting up of a National Auto Institute, upgrading infrastructure, cutting the duties of raw materials and fiscal incentives for R&D. In August 2006, the Working Group on Automotive Industry in the Ministry of Heavy Industries has brought out a report for the Eleventh Five Year Plan. This document stresses on the need of speeding up the move towards VAT in the states and GST at the Centre. Labour regulations, paperwork involved in government-related transactions, internal trade barriers, infrastructure bottlenecks, raw materials, human capital, increasing interest rates and
threats due to FTAs are, as mentioned in this document, barriers to competitiveness. This report notes that the effective levy is lower for a Counter-Vailing Duty (CVD) than excise duties locally, because of the fact that excise is made after including the post-manufacturing expenses in the price, while imported Completely Built Units (CBUs) have the advantage of being levied the CVD before post manufacturing expenses. In addition, the document recommends various other measures such as upgrading human resources, mandatory inspection and control and retirement of vehicles based on road-worthiness.

In 2004, Early Harvesting Scheme for Indo-Thailand FTA was launched for 84 auto-component products. The countries included in this group are Bangladesh, India, Myanmar Sri Lanka and Thailand. These are the barriers to inter-state movements, mainly because of inconsistencies and differences in the fiscal and other policies of Indian states. This includes selling and distribution costs (advertising, personnel, incentives, warranty, branding and transportation) and margins. This ‘CVD anomaly’ is explained in the Report of Working Group on Automotive Industry, Ministry of Heavy Industries and Public Enterprises (2006).

Financial Bill for 2007-08 has very few measures that affect the auto sector. Cut in import tariffs of commercial vehicles to 10 per cent is expected to induce further competition in the Indian commercial vehicles sector. Since CVs are required in the development of infrastructure, duty reduction on CVs may give a boost to infrastructure. Increase in total tax burden is certain to occur now, because of the increase in education cess from 2 per cent to 3 per cent of total taxes. Extension of R&D incentives for five more years, reduction of Central Sales Taxes (CST) and increased infrastructural expenditure are positive features of the budget, for auto sector.
EMISSION AND SAFETY STANDARDS:

In India, safety standards were introduced in the 1960s in auto-components, while the Central Motor Vehicles Rules came into existence in 1989. In 1991, the first state emission norms came into force for petrol vehicles and in 1992 for diesel vehicles. From April 1995, fitting of catalytic converters in new petrol-driven passenger cars was mandated in the four metros and unleaded petrol was also introduced. From April 2000, unleaded petrol is available in the entire country. As for road safety, numerous awareness programmes are arranged all over the country, since 2000-10 is a safety decade. In developed countries, lead was phased out from petrol over a period of more than 10 years, while in India this was achieved in just six years. The time gap between the introduction of norms in Europe and India is narrowing down gradually. Euro I was introduced in the EU in 1983, while the same was introduced to India in 1996. Euro II was introduced in the EU in 1996-97. Bharat Stage-II norms, which are the Indian counterparts of Euro II, have been introduced for smaller passenger vehicles (Gross Vehicle Weight < 3.5 tonnes) in 2000, and for heavier vehicles (Gross Vehicle Weight > 3.5 tonnes) from 2001 in National Capital Region of Delhi. For Mumbai, Chennai and Kolkata, these standards were extended to different months in 2001. Later, these norms were extended to the rest of the country in phases by 2005. However, for some categories of vehicles such as two-wheelers and three-wheelers, new generation norms are yet to be announced. Bharat Stage-III norms have been implemented in many Indian states in phases. There are numerous other policy initiatives from the government and industry to encourage adoption of environment-friendly technologies, such as hydrogen energy initiative by Tata and a few other government policies enumerated in the previous subsection. However, there were some contradictions and policy changes in North-Eastern states, in terms of implementation of emission norms. The component-suppliers of an MUV major based in Mumbai, covered in our field survey, had adapted their technologies to suit Bharat-I norms, which were introduced in North-Eastern states in 1997. With the implementation of Bharat-II norms in this region in 2005, they had adapted their technologies accordingly. However, it was later found that fuel that is consistent with Bharath-II norms was not available in sufficient quantity.
and hence Bharat-I was implemented again, instead of Bharath-II. Consequently, some of the suppliers had to close down their operations partly or fully. Hence the emission norms-related policies should be designed in such a way that the manufacturers get sufficient time to adapt their processes and technologies. At the same time, both domestic and foreign firms at all levels should be prepared for the latest international norms.

The dream a carriage that moved on its own was realized only in the 18th century when the first car rolled on the streets. Steam, petroleum gas, electricity or petrol (sold at the chemist's in the beginning) started being used for driving these funny cars that looked more or less like horseless carriages.

**The Benz Vehicle (1886, Germany)**: It is accorded the distinction of being the first gasoline-powered vehicle. This three-wheeler was the first car equipped with a differential gear and had a horizontal, four-cycle single-cylinder engine. The engine was mounted horizontally behind the seat, over the rear axle, in a frame-developed form prevailing tricycles. Its 0.9 horsepower was transmitted to the rear wheels via belt and chain, enabling a top speed of about 15 km/h. A lever connected to a rack-and-pinion controlled the lone front wheel, which steered the car.

**Baker Electric (1899)**: For a long period after gasoline-powered cars gained popularity, battery-powered cars continued to be made in the United States. The Baker was produced from 1899 to 1915. The unusual suspension of this car consisted of attaching the wheel shafts directly to the frame, on top of which was mounted a body on springs. The body carried the motor, which drove the rear wheels by a chain. A lever next to the driving seat controlled its speed. The Baker Electric was reputedly easy to drive, and could cruise a distance of 80 km when fully charged, reaching a top speed of 40 km/h.

**Stanley Streamer**: The steam car, Stanley Steamer continued production until 1927. It was quiet, had little vibration, produced sufficient torque, and was easy to handle. Under the bonnet of this car was a
boiler, which provided the pressure to drive a two-cylinder engine located beneath the floor. Because of its abundant torque,

**Stanley Steamer:** The Stanley Steamer did not have a transmission—just one gear engaged the center of its crankshaft, and directly turned the rear wheels. Manipulating the Steamer's valves, which controlled the flow of fuel, water, and steam, must have required quite a bit of practice and knowledge. Although it could achieve a higher top speed than its gasoline-driven rivals, it was hard to start, especially in the cold weather.

**Panhard et Levassor (1891 France):** Two French toolmakers Rene Panhard and Emile Levassor were the first to propose and commercialize a car having a layout and structure similar to today's cars. The Panhard et Levassor was the origin of the classic front engine, rear-wheel drive layout, the paradigm that transformed the horseless carriage into the car as we know it today. It positioned its transmission in line with the engine and clutch, and had a steering wheel instead of a tiller, and an in-line four-cylinder engine. The front engine gave the car a better balance and made it easier to steer.

**Mercedes (1901):** The new Daimler model combined into one machine for the first time all the vital features of the modern car: a powerful four-cylinder engine, a pressed steel chassis, a honeycomb radiator, and a recognizably modern gear stick moving in a gate. The model was named Mercedes, after the daughter of an Austrian, Emily Jellinek, the Daimler representative in France.

**Tin Lizzie or T Model (1907):** Henry Ford's model T, popularly called the Tin Lizzy, was the first everyman's car. It not only brought motoring to the masses but also was the first mass-produced car. As a result, automobile ownership surged and cars became affordable for the ordinary wage earner as well. The Model T introduced various features to facilitate driving, and the transmission was integrated with the engine. Its planetary gears—two forward and one back—could be shifted without the use of a clutch.
In 1906, gasoline-powered cars were produced that had a style of their own. In these new models, a hood covered the front-mounted engine. Two kerosene or acetylene lamps mounted to the front served as headlights. Cars had fenders that covered the wheels and step-up platforms called running boards, which helped passengers get in and out of the car. The passenger compartment was behind the engine. Although drivers of horse-drawn vehicles usually sat on the right, automotive steering wheels were on the left in the United States. Improvements in engine-powered cars during the 1920s contributed to their popularity: synchronized-mesh transmissions for easier gear shifting; four-wheel hydraulic brake systems; improved carburetors; shatterproof glass; balloon tires; heaters; and mechanically operated windshield wipers.

**The Morris and the Austin Seven (1922):** The bull-nosed Morris launched the family car in Britain. In the 1920s, this popular line could be bought for as little as $775, at $115 down and about $9 per week. Also in 1922, the Austin Seven became the family runabouts. It had all the big car characteristics contained in a small design. The top speed was 45-50 mph, and averaged 40 miles on a gallon of gasoline. It was a front-engine, rear-drive model using 750cc four-cylinder side valve, 10.5-horsepower engine, and floor shift three-speed transmission. The handbrake stopped the front wheels while a more conventional foot pedal stopped the back ones.

**The Volkswagen (1938):** The Volkswagen (German for the "people's car") went on to rack up worldwide sales of more than 40 million. A horizontally opposed four-cylinder engine was designed for the power plant, with a total displacement of 996cc. When mounted in the rear and driving the rear wheels, this engine, with its low height, permitted the Volkswagen to have a streamlined, fastback shape. It was air cooled too and came to be loved all over the world as the beetle.
Aerodynamic Models: From 1930 to 1937, car engines and bodies became large and luxurious. Many 12- and 16-cylinder cars were built. Independent front suspension, which made the big cars more comfortable, appeared in 1933. Also introduced during the 1930s were stronger, more reliable braking systems, and higher compression engines, which developed more horsepower. Mercedes introduced the world's first diesel car in 1936. Cars on both sides of the Atlantic were styled with gracious proportions, long hoods, and pontoon-shaped fenders. Creative artistry merged with industrial design to produce appealing, aerodynamic cars. Some of the first cars to fully incorporate the fender into the bodywork came along just after World War II, but the majority of designs still had separate fenders with pontoon shapes holding headlight assemblies. During the 1940s, sealed-beam headlights, tubeless tires, and the automatic transmission were introduced.

SMALL CARS VERSUS BIG CARS: Two schools of styling emerged in the 1950s, one on each side of the Atlantic. The Europeans continued to produce small, light cars weighing less than 1300 kg (2800 lb). European sports cars of that era featured hand-fashioned aluminum bodies over a steel chassis and framework. In America, automobile designers borrowed features for their cars that were normally found on aircraft and ships, including tailfins and portholes. Cars were produced that had more space, more power, and smoother riding capability. Introduction of power steering and power brakes made bigger cars easier to handle. The Buick Motor Car Company, Olds Motor Vehicle Company (Oldsmobile), Cadillac Automobile Company, and Ford all built enormous cars, some weighing as much as 2495 kg (5500 lb).

Austin Mini (1959): The Austin Mini was introduced in Britain. It became hugely popular. It was small enough to squeeze through city traffic, easy to park, cheap to run, yet big enough for four adults. Its success paved the way for a succession of small cars.

The Japanese Cars: In the 1950s and more years since the Japanese began producing cars
domestically, Japanese automotive technology has made remarkable progress and come to be one of the international leaders. In 1980, Japan became the top automobile-producing country in the world.

**Sports Cars:** The various car races encouraged the automakers to view car racing as a sport resulting in the rapid development of automotive technology. As technological knowledge began to accumulate from car racing, various sports models appeared, allowing motorists to experience real driving pleasure.

**COMPUTERIZED CARS:** Today, stepping into the twenty-first century, utilizing new materials, high-tech electronics, new power sources, and artificial intelligence, the type of car that automakers are capable of producing cannot even be imagined.

**Austin Rover Maestro (1983):** The Austin Rover in Britain introduced the Maestro, with a talking dashboard designed to alert the driver to engine problems, the latest in the line of electronic systems added to cars since the 1960s.

**Ford Probe IV:** The Ford Probe IV prototype, perhaps the world's most aerodynamic four seater, is testing many revolutionary features that may well become the standard in tomorrow's cars. Among them is the use of computer-controlled pneumatic suspension.

**CAR MANUFACTURERS IN INDIA:** Car manufacturing in India first began in late 1940s. Earlier a couple of cars made by foreign technology were manufactured in India. But now, cars made my Indian car manufacturers dominate the business. The future of car manufacturing in India is bright. Sensing this, foreign car manufacturers like Ford, Toyota, Hyundai, Suzuki, Honda and Skoda are spreading their base in the country. Domestic car manufacturers have also contributed to the growth of the automobile industry in India. The popular car manufacturers in India are:
Maruthi Suzuki India Ltd.: Established in December 1983, Maruti Suzuki India Ltd. has ushered a revolution in the Indian car industry. This car is meant for an average Indian individual which is affordable as well as has elegant appeal. Maruti Suzuki India Ltd. is the result of collaboration of Maruti with Suzuki of Japan. At this time, the Indian car market had stagnated at a volume of 30,000 to 40,000 cars for the decade ending 1983. This was from where Maruti took over. The company has crossed the milestone of becoming the first Indian company in March 1994, by manufacturing in totality one million vehicles. It is known for its mass-production and selling of more than a million cars. Maruti Suzuki India Ltd. is the India's largest automobile company which entered in the market with affirmed aim to render high quality fuel – efficient and low - cost vehicles.

Sales figure in the year 1993 has reached up to 1,96,820. Maruti comes in a variety of models in the 800 segment. Its cars operate on Japanese technology, pliable to Indian conditions and Indian car users. By the year 1998-99, the company has modernize the existing facilities and expand its capacity by 1,00,000 units. Recently to ward off the growing competition, Maruti has completed Rs. 4 billion expansion project at the current site, which has raised the total production capacity to over 3,20,000 vehicles per annum. With the coming of each and every year, the total production of the company exceed by 4,00,000 vehicles. In the small car segment it produces the Maruti 800 and the Zen. The big car segment includes the Maruti Esteem and the Maruti 1000. Along with them, the company also manufactures Maruti Omni. Other models includes Wagon R and the Baleno.

Headquarter in Gurgaon, on 17 September 2007, Maruti Udyog was renamed to Maruti Suzuki India Limited. Both in terms of volume of vehicles sold and revenue earned, the company is India's leading automobile manufacturers and the market leader in the car segment. Sales recorded in June 2008, is Rs. 4,753.58 crores.
**Hyundai Motors:** Established in year 1996, Hyundai Motor India Ltd. is a sub division of the giant South Korean multi national, the Hyundai Motor Company. It is Korea's top automobile manufacturer, capturing the Indian market and giving a strong competition to its rivals in the same segment. The company success story is based on a profitable Indian - Korean partnership where Indian skills and workmanship combine with Korean design and technology to produce one of the best cars. In the year 1997, its sales revenue had touched 8.24 billion. The Hyundai Santro is giving tough competition to other segments and has been designed in India at the integrated auto-manufacturing unit at Irrungattukatoi near Chennai. This plant is capable of producing 1,20,000 cars, 1,30,000 engine and transmission systems annually.

It is planned to invest another $1 billion in manufacturing more critical components by the year 2001. Equipped with latest technology, machinery, international quality press, body and paint shops all across the world, the company has set more than 70 dealer workshops. The company has incorporated state-of-the-art manufacturing plant near Chennai that tells about some of the most developed production, quality and testing potentials in the country. According to a company release, the rise in production will help the company increase its export destinations to 95 countries by the end of this year. Apart from offering global technology products, Hyundai motors has also been appreciated with the benchmark ISO 14001 certification for its sustainable environment management practices. To cater with the differing and growing needs of the market, company hopes to increase its presence in the Indian market with coming up new models.

**Honda Motors Co. Ltd.:** Honda Motors Co. Ltd. is the result of joint venture between India's Hero Group and Honda Motor Company. It is one of the most successful venture all across the world. Japan has created world's single largest two wheeler company and Hero Honda became the first name in early 80s in India. This company has proved all across the world that vehicles can be driven without any pollution.
The company has been acknowledged by several awards like Auto Tech of the Year” - Glamout PGM FI by Overdrive Magazine and “Most Trusted Company”, by TNS Voice of the Customer Awards 2006. Along with this, it comes under one of the most fuel-efficient and largest selling vehicles due to its latest use of technology and better services. Hero Honda Co. Ltd. has struggle very hard to fulfill and meet expectations of its customers. A rich background of delivering high value products at the most economical price led the world's largest manufacturer of motorcycles to join hands with the world's largest bicycle manufacturer. This similarity of working environment and system of operation of Honda Motor Company of Japan and the Hero Group ended up in the establishment of Hero Honda Motors Ltd.

All across the world, Hero Honda has achieved indigenisation of over 95 percent. Outstanding marketing and excellent tactical promotions are the reasons behind their success and establishment. Some specific key features include fuel conservation, safety riding courses and mobile workshops which helped the company to reach in the interiors of the country.

Hero Honda Motors Ltd. is well settled in national market, its main attention focused Towards overseas due to which exports has seen a steady rise. Sales recorded up till June’08 is around 2,843.53 crore. Achiever, CBZ, CD Dawn, Karizma, Passion, Pleasure and Splendor are its famous brands on Indian roads. Over the years, the Company has received its share of accolades, including the National Productivity Council's Award (1990-91), and the Economic Times - Harvard Business School Association of India Award, against 200 contenders.

**Tata Motors Limited**: Tata Motors Limited is India's largest automobile company, and is revered as one of the most dynamic, reliable and futuristic automobile manufacturers of the world. Tata Motor cars and vehicles are favored worldwide for their versatile technology features and utility. With more than 130 auto models spanning a wide range of passenger cars, commercial vehicles, and multi-utility vehicles, Tata Motors stands out as a premiere growth booster of Indian automobile industry.
It is India's largest automobile company, the largest commercial vehicle manufacturer, the second largest passenger car manufacturer in India and the fifth largest medium and heavy commercial vehicle manufacturer in the world. The popular brands of the company are Tata Indica, Tata Indigo, Tata Sumo and Tata Safari. **Tata Nano**: Recently Tata Motor launch India’s cheapest car Tata Nano in One lakh rupees.

**Chevrolet Cars India**: Chevrolet is one of the most trustworthy, luxurious and dependable brand in the Global market of vehicles. A large amount of Chevrolets were imported in India between 1918 and 1928. The company has made a king like entry in India in the year 1928 with its National Series AB touring. The 171 cubic inches, 24.7hp four cylinder engine of Chevrolet has proved the reliability of this car. First office of Chevrolet was established at Mumbai and its assembly plant was in Sewree. General Motors, the parent company of Chevrolet, was the first in setting up assembly plant in India.

It is among the newest brands in India launched by General Motors Indian operations. Chevrolet was brought to India on 6th June 2003. Since then, they sold the Chevrolet Optra, Chevrolet Aveo, Chevrolet Tavera, Chevrolet SRV, Chevrolet Spark and Chevrolet Aveo U-VA. The Forester was imported directly from Fuji Heavy Industries in Japan until 2005. Optra and Tavera are built at the Halol plant. The latest brands of Chevrolet is Captiva SUV. Chevrolet also is the sole Engine supplier for the formula racing cars.

**Toyota Motors Car**: Established on 6th October, 1997, Toyota motors has pulled the vigilant of Indian customers to its products. With the full devotion and round the clock services, Toyota tied up with Kirloskar Group by forming Toyota Kirloskar Motor Private Limited. Two shareholders of Toyota Motors are Toyota Motor Corporation holding share of 89% while Kirloskar group is having the share of 11%. Headquartered in Japan, Toyota motors is a multinational corporation, the world's largest
automaker. Other offices are located in Aichi, Nagoya and in Tokyo. In 1982, Toyota Motor Company and Toyota Motor Sales merged into one company, the Toyota Motor Corporation. After two years, Toyota signed a joint venture with GM called NUMMI, the New United Motor Manufacturing, Inc, operating an automobile manufacturing plant in Fremont, California.

Toyota Motors has been appreciated by many awards. In 1970, it was awarded by Japanese Quality Control Award for being participating in a wide variety of Motor sports. Later in the year 1990, Toyota Motors began to branch out from producing mostly compact cars by adding several larger and luxurious vehicles to its lineup. In 1997, the company began production of the world's best selling hybrid car, the Toyota Prius. Later in 2002, it has started IMV project, "Innovative International Multi-purpose vehicle" to optimize global manufacturing and supply systems for pickup trucks and multipurpose vehicles. In the beginning of year 2007, the company has developed as the most profitable automaker and largest seller of cars. Revenue of Toyota Motors in year 2006 is $11 billion along with increasing sales among other countries i.e United States.

**Mahindra Cars** : Mahindra & Mahindra is a part of the Mahindra Group which was established in 1945 to manufacture general-purpose utility vehicles that now services the Indian sub-continent as well as international markets in Africa, Europe, the Middle East, the US, Latin America, China and Malaysia. It later moved into manufacturing tractors and light commercial vehicles, and is today the tenth largest private sector company in India.

**Skoda Cars** : Skoda India is a part of the International Volkswagen Group. It is one of the premier automobile manufacturer in Europe, based in Czech Republic. The company introduced itself on November 16th, 2001. With its Greenfield plant in Aurangabad, the company has its dealership network spread over Mumbai and Delhi region. The brand Skoda Auto is globally known for its stylish looks, well
built exterior and its constant endeavor to introduce modern technologies. The company has already introduced 12 luxury models in Indian market. Skoda Superb and Skoda Laura are the few to be named. Each product of Skoda India are popularly known for their stylish looks and well built exteriors.

In the year 2005, the company acquires approximately one-fourth of the Indian market share (ie, 25%) in luxury car segments. A network of 41 dealerships equipped with 35 facilities spread across the country was set up in the same year. Skoda India received awards like 'Most Technologically Advanced Car' for Skoda Laura and 'Best Variant' for Skoda Superb Turbo Diesel from CNBC-TV18 AUTOCAR AUTO in the year 2006. It has also received 'Executive Car of the Year' award from NDTV PROFIT CAR INDIA and 'Automotive Technology of the Year' award from OVERDRIVE, both for Skoda Laura.

**Audi Cars**: AUDI AG/Audi Cars is a German based company with its production units in five major countries viz. China, Hungary, Belgium, Italy and Germany itself. Audi is a manufacturer of exquisite cars which are attractive, sophisticated and technically perfect in every aspects. The success of Audi AG stems from creativity, commitment and enthusiasm. The company has scattered its wings of success in the field of automobile industry for its technical expertise and creativity.

In the year 2007, Audi has given a total production of 980,880 cars and 1,915,633 engines which shows a growth of 5.9% and 1.4% respectively. This company has a total sale of 1,200, 701 cars in the same year which was again a growth of 5.7%. Audi is looking tactfully Towards the future and investing its wealth on India. The luxury car market has tripled during last five years. With the excellent set-up of a dealer network in India, Audi has already started sketching its footprint in this country from July 2004. Audi has launched its bigger models A6 and A8 in this rat racing market. This is aimed Towards the massively popular Mercedes Benz C Class. Both these cars are good competitors in the automobile markets around the globe.
**Volkswagen** : The Volkswagen plant in Chakan occupies a total area of over 2.3 million square metres (575 Acres), with buildings covering about 115 thousand square metres, which means, the total premises is 2x1 kilometres. A workforce of over 3500 people was engaged in building during its peak construction stages. The plant was built with an investment commitment of INR 3800 Crores (580 million Euros) by Volkswagen India Pvt. Ltd. It is the largest investment by a German company to date in the Indian growth market. The plant has a production capacity of 110,000 vehicles a year. The construction of the plant commenced in 2007 and has been built in a record time of 17 months. The Hon’ble Governor of Maharashtra His Excellency Shri. S. C. Jamir and Prof. Dr. Jochem Heizmann, officially inaugurated the new plant on March 31st, 2009 in the presence of nearly 500 international guests.

The Pune plant is one of the most modern in the Volkswagen Group. It has a high level of vertical integration and a large share of local suppliers. The facility is the only production plant operated by a German automaker in India that covers the entire production process from press shop through body shop and paint shop to final assembly. The facility uses futuristically designed state-of-the-art equipment. For example, the Body shop uses the Diode Laser Brazing (DLB) technology, whereas the Roof & Side Framer laser technology is used for welding the roof to the body of the car. The facility is also one of the few environment friendly manufacturing plants around the area. For example, the Exhaust of the Paint shop is re-burnt and the resultant heat and energy is reused. Full-fledged production has taken off at the plant with the production of the Skoda Fabia in May 2009, followed by a Polo based model in December 2009.

Volkswagen India Pvt. Ltd., in its commitment towards the economic development of the state of Maharashtra, plans to hire 2500 skilled employees.

**BMW Cars** : Established on March 7, 1916, BMW (Bayerische Motoren Werke GmbH) has now become one of the major automobile manufacturers in the international market, and BMW cars one of the
most sought-after brand of luxury vehicles. The company is a worldwide manufacturer of high performance premium cars and motorcycles, and is known for classic BMW luxury cars and BMW motorsports cars. It is the parent company of Rolls-Royce Motor Cars, and also owns and produces the MINI brand.

BMW started operating in India in the year 2006. It has its sales subsidiary in Delhi region, and an assembly plant for BMW series cars, namely BMW 5 and BMW 3 series, in Chennai. Since inception, BMW India has stood its ground in a fiercely competitive market, delivered strong growth performance and achieved an unchallenged market leadership in the luxury car segment in 2009. BMW has been engaged in motor sports activities since the dawn of the first BMW motorcycle. They also manufacture BMW Formula cars, BMW Touring cars and BMW Sports cars.

Exceptional design concept and elegance has always been a part of the BMW cars, and now they are planning to take the aesthetic appeal to the next level with BMW Gran Coupé. So, if you are planning to buy BMW cars, do take a note. And before buying BMW cars, do not forget to update yourself with the upcoming models of BMW classic cars as well, because BMW India is all set to roll out new 5 Series by July 2010. The new 5 Series 530i Sedan will be one of the most sophisticated of all BMW petrol cars. However, BMW M57, produced from 1998, has always remained an all time hit amongst luxurious BMW diesel cars.

**Bugatti**: Bugatti cars are famous for the unmatched speed both on racing track and on road. Bugatti Automobiles S.A.S. is a France automobile brand which is owned by German company, the Volkswagen group. The original brand which is considered legend for exclusive fastest cars failed to regain its status post World War II. The last original model was launched in 1950 and thereafter in 1960, the business has been shifted to airplane parts. Very late in 1998, Volkswagen purchased the right to manufacture cars
under Bugatti but the official incorporation was succeeded in 2000 only. The manufacturing unit is located at Molsheim, Alsace in France. After the acquisition by Volkswagen Group, it shared the engine modular with Volkswagen cars. After Volkswagen revived the lost brand, it successfully released some high performance luxury cars. EB 118 is the first two door coupe which was followed by EB 218 sedan with four doors meant for the touring.

As the demand for luxury car increases in India, the Volkswagen group introduced the Bugatti brand in India in 2010. Veyron will be the first model to hit Indian roads. Veyron is expected to touch a top speed of 400 km/hr. Bugatti in India will be much costly comparing to other Europe countries due to heavy tax. The patent company, Volkswagen is very much positive about bringing in this brand in India and has the future plans to launch more models. The bookings have been already started through independent dealerships and Volkswagen dealerships. Initially company has planned to manufacture limited edition of the model.

**Fiat India Pvt Ltd**: Fiat India Pvt. Ltd. is an Industrial Joint Venture, incorporated on January 02, 1997, between Fiat Group Automobiles and Tata Motors Limited originally. This joint venture resulted in the formation of Fiat Automobiles Pvt. Ltd. which has manufacturing locations in 60 countries. It was hoped that this new venture would produce cars which give good performance, are beautiful and which would be suitable for Indian conditions.

Fiat holds a 50% stack in the company. It owns and controls five Internationally renowned brands like Lancia Automobiles, Fiat Automobiles, Alfa Romeo Automobiles, Abarth and Fiat Light Commercial Vehicles. The Makers of renowned cars such as the Ferrari, Maserati, Alfa Romeo and Lancia besides the Fiat branded cars. The other partner of this joint venture, TATA MOTORS, is the
largest automobile company in India, with revenues of Rs. 32,426 crores (USD 7.2 billion) in 2006-07. It is a leader in every segments with winning products in the compact, mid-size and Sports Utility Vehicles.

The state-of-art infrastructure of Fiat India Pvt. Ltd. have an installed capacity to produce over 100,000 cars and 200,000 engines besides aggregates and components. The Strategy of FIAT car world is to build family vehicles on the platform as conceived for emerging market. This is better known as 178 projects and allows an array of body shapes to serve to the various requirements of the market around the world. The five body styles include a three and five-door hatchback (Palio), a station wagon (Palio Weekend), a three-box saloon (Sienna), a van and a pick-up.

**Hindustan Motors**: Hindustan Motors is one of the leading Electric Motors Manufacturers in India having ISO 9001 Certification. It is the first Indian Car Company to start production in India in 1942. Since then, it has emerged as a vast company manufacturing cars like the sturdy Ambassador, the elegant Contessa, and in collaboration with Mitsubishi of Japan now manufactures the new Mitsubishi Lancer. The company started production of Landmaster in 1954 and began producing Ambassador in 1957. Further, its collaboration with General Motors Corporation of USA, UK, Marion Power Shovel Co, Vauxhall Motors and USA led to the launch of new products. With an annual turnover of one billion, Hindustan Motors manufactures Utility Vehicles, Passenger Cars, Earthmoving Equipment and other power products. Its various manufacturing units are spread across India - Pithampur in Madhya Pradesh, Uttarpara in West Bengal, Thiruvallur in Tamil Nadu and Hosur in Pondicherry. The latest model, Mitsubishi Lancer, is manufactured in their state-of-the-art manufacturing facility at Thiruvallur, Tamil Nadu.

The company launched its new model Ambassador Nova in 1990 and bring out Ambassador 1800 ISZ in 1993. Though the sturdy Ambassador does not find many takers in India, with people looking to
more fancy cars, its export has been steadily increasing, mainly in the British and Japanese markets. Trucks are being exported to Bangladesh, Egypt, New Zealand, Sri Lanka and Mauritius. The Earth moving Equipments are being exported to Oman, Jordan, Iraq, Bangladesh, Mauritius and Libya. The Passenger Car and Utility Vehicle market is being attended by a 115 strong dealer network, 50 Service and Parts dealers and additional 60 exclusive Parts dealers. Hindustan Motors has a widely spread network which includes 4 Regional Offices and Nation-wide Territory Offices all across the globe. Two dealers serve the Earthmoving Equipment and Power Products market from 25 locations spread across the country.

The after sales service of Hindustan Motors can be classified under three divisions: red, green and blue. The Red will handle the new Mitsubishi Lancer, Blue, the Ambassador and Contessa Classic, while the Green caters to the rural market with the Trekker and the HM RTV. The range of cars manufactured by Hindustan Motors conform to the norms of Euro –1 emission. Upgradation of Ambassador 1800 ISZ with multi-point fuel injection led us to this conformance.

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