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RESEARCH ARTICLE

CHANGING STRUCTURE OF INDIAN AUTOMOBILE INDUSTRY

*Neeraj Kumar and Dr. Kuldip Kaur

Punjab School of Economics, Guru Nanak Dev University, Amritsar-143001

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ABSTRACT

The aim of the present study is to investigate the change in structure of Indian automobile industry in the context of liberalization and globalization, which caused major changes in this industry. Before 1991, the industry was dominated by a few domestic manufacturers and was hardly known for any innovations, but now it is one of the fastest growing manufacturing industry not just in India but globally as well. The data for the analysis have been extracted from the various secondary sources like Centre for Monitoring Indian Economy (CMIE *PROWESS*), Society of Indian Automobile Manufacturers (SIAM) reports and *Organisation Internationale des' Constructeurs d'Automobiles* (OICA) over the period 1992-93 to 2010-11. The results indicate that the automobile sector of emerging nations like China and India is growing at faster rate than developed one. China's automobile industry registered 16.92 per cent compound annual growth, followed by India 13.57 per cent. Whereas the developed nations like US and Germany lost their ground during that same period (1997-2013). The study also shows that the vehicle penetration is rising over the years in India. The situation was not good during 1990s but later on the situation started improving and in 2013 there were 31 motor vehicles available for 1000 persons.

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INTRODUCTION

In an economy, the automobile sector plays a pivotal role. The key segments of the economy, directly or indirectly, are linked with automobile industry, as for the success of these different segments of economy a sound transportation system is required. It gratifies the principal requirement of equipment for basic industries like steel, refineries, textiles, petrochemicals, rubber, paper, cement, etc. Thus, it has forward as well as backward linkages with key sectors of the economy. Therefore, it is imperative to study the different aspects and characteristics of this very important industry. The auto sector is basically divided into two parts i.e., vehicle manufacturing (automobile sector) and component manufacturing (automotive sector). One of the researcher, Piplai (2001) has given the Justification for this division by saying 'Initially, the activity of component manufacturing was taken care by the vehicle manufacturers either inside their plant or through import. Later on, with dawn of the advance technology in component industry, the vehicle manufacturers found it difficult to manage it and also component manufacturing required high degree of specialization and investment to reap the benefits of economies of scale'. Thus, the vehicle manufactures started concentrating more and more on vehicle assembly. Later on, the import substitution waves of 1953 further supported the division of auto sector. India's automobile industry is one of the successful cases of India's economic liberalization strategy set into motion since 1991. Before 1991, the industry was dominated by a few domestic manufacturers and hardly known for any innovations, but is now one of the fastest growing manufacturing industries not just in India but globally as well. Indian Automobile Industry growth decades started in 1970s. Between 1970 and 1984 cars were considered a luxury product; manufacturing was licensed, expansion was restricted; there were Quantitative Restriction (QR) on imports and tariff structure designed to restrict the market (Singh and Gupta, 2012). Indian automobile industry is evergreen sector of Indian economy; it is hardly affected by external or internal factors in last few years. Despite economic slowdown, the Indian automobile sector has shown high growth. The automobile sector is one of the largest industry which exhibiting the fantastic growth over the years and continuously record their increasing contribution to overall industrial development of the country. In 2006-07, the Indian automotive industry provided direct employment to more than 300,000 people. The passenger vehicle market, which constitutes around 80 per cent of automobile sales has immense growth potential as passenger car stock stood at around 11 per 1000 people in 2008 (Shinde

Corresponding author: Neeraj Kumar,
Punjab School of Economics, Guru Nanak Dev University, Amritsar-143001

and Dubey, 2011). The automobile Industry is important from the point of employment generation, revenue to the government in the form of taxes and duties and for national defence. From the experience of industrialized countries, it is observed that a healthy automobile industry is essential for the large scale industrialization (Aggarwal, 1988). This sector has shown flexibility in the adoption of technology as per the wake of changing global scenario. At the time of economic liberalization in the country, technological upgradation was the need of the hour. During that reform wave the Indian automobile industry is going through a technological change where each firm is engaged in changing its processes and technologies to maintain the competitive advantage and provide customers with the optimized products and services (Varshney, 2014). Before analyzed the structure of Indian automobile industry, let us take a bird eye facts about this very important industry.

- Seventh largest producer in the World, annual production of 17.5 million vehicles.
- Fourth- largest automotive market by volume in the World, 2015.
- Seven per cent contribution in Gross Domestic Product
- Employs about 19 million people directly or indirectly.

The present study is an attempt to evaluate the different aspects of automobile industry with the context of liberalization and globalization, which brings major changes in Indian automobile industry and draw some conclusions and policy implications.

The data have been taken from the various secondary sources like Centre for Monitoring Indian Economy (CMIE, PROWESS) reports, Automotive Component Manufacturers Association of India (ACMA), Society of Indian Automobile Manufacturers (SIAM) reports and related searches on the internet from 1992-93 to 2010-11.

Internationalization of Indian Automobile Industry

Since the de-licensing of the sector in 1991 and the subsequent opening up of 100 percent FDI through automatic route, Indian automobile sector has come a long way. The Indian economy showing continues impressive growth over the years. Indian market becomes 'sweet spot' for foreign investor. Every global auto player eager to tapped the huge potential market. Today, almost every global auto major has set up facilities in the country. Many Multinationals like Daewoo, Peugeot, General Motors, Mercedes-Benz, Toyota, Honda, Suzuki, Hyundai, Ford, Volvo, and Fiat entered the Indian market (Ghanbari, 2012). One can have described the evaluation of Indian automobile industry into three phases. The first phase pre 1980s, during 1980s and the third phase is post 1980s i.e. phase of 1990s onwards.

The table 1.1, 1.2 and 1.3 illustrated these phases according to segment-wise i.e. commercial, passenger and two-three wheeler vehicles. During first phase i.e. pre-1980s the automobile industry dominated by domestic manufacturer, the protective measures restricted the new entrant into this industry.

Table 1.1. Incorporation of Commercial Vehicle

Company Name		Incorporation Year	Domestic/Foreign
Pre 1980s	Tata Motors Ltd.	1945	Domestic
	Ashok Leyland Ltd.	1948	Domestic
	Force Motors Ltd.	1958	Domestic
During 1980s	S M L Isuzu Ltd.	1983	Domestic
Post 1980s	Asia Motor Works Ltd.	2002	Domestic
	Shri Lakshmi Defence Solutions Ltd.	2003	Domestic
	Man Trucks India Pvt. Ltd.	2006	Foreign
	V E Commercial Vehicles Ltd.	2008	Foreign
	Defence Land Systems India Pvt. Ltd.	2009	Domestic

Source: CMIE

Table 1.2. Incorporation of Passenger Vehicle

Company Name		Incorporation Year	Domestic/Foreign
Pre 1980s	Hindustan Motors Ltd.	1942	Domestic
	Maestro Motors Ltd.	1974	Domestic
During 1980s	Maruti Suzuki India Ltd.	1981	Foreign
	Daewoo Motors India Ltd.	1983	Foreign
Post 1980s	General Motors India Pvt. Ltd.	1994	Foreign
	Mercedes-Benz India Pvt. Ltd.	1994	Foreign
	Pal-Peugeot Ltd.	1994	Domestic
	Ford India Pvt. Ltd.	1995	Foreign
	Honda Cars India Ltd.	1995	Foreign
	Hyundai Motor India Ltd.	1996	Foreign
	Mahindra Reva Electric Vehicles Pvt. Ltd.	2000	Domestic
	International Cars & Motors Ltd.	2003	Domestic
	Mahindra Vehicle Mfrs. Ltd.	2007	Domestic
	Jahnvi Motor Pvt. Ltd.	2011	Domestic

Source: CMIE

Table 1.3. Incorporation of Two & Three -Wheeler Vehicle

	Company Name	Incorporation Year	Domestic/Foreign
Pre 1980s	Royal Enfield motorcycle Ltd	1955	Domestic
	Kinetic Engineering Ltd	1970	Domestic
	L M L Ltd.	1972	Domestic
	Scooters India Ltd.	1972	Domestic
	Kerala Automobiles Ltd.	1978	Domestic
During 1980s	Eicher Motors Ltd.	1982	Domestic
	T V S-Suzuki Ltd.	1982	Foreign
	Hero Motocorp Ltd.	1984	Domestic
	V C C L Ltd.	1984	Domestic
	Sooraj Automobiles Ltd.	1985	Domestic
	Sunku Auto Ltd.	1985	Domestic
	Atul Auto Ltd.	1986	Domestic
Post 1980s	T V S Motor Co. Ltd.	1992	Domestic
	Kranti Automobiles Ltd.	1995	Domestic
	Yamaha Motor India Pvt. Ltd.	1995	Foreign
	Monto Motors Ltd.	1997	Domestic
	Honda Motorcycle & Scooter India (Pvt.) Ltd.	1999	Foreign
	Kabirdass Motor Co. Ltd.	2006	Domestic
	Bajaj Auto Ltd.	2007	Domestic
	Mahindra Two Wheelers Ltd.	2008	Domestic

Source: CMIE

In commercial and Two & three wheeler vehicles, there were not a single foreign manufacturer exist during pre-1980s. The situation started changing with the liberalization policy adopted by the government of India in the early nineteen eighties. There were two initiatives taken by government i) to allow foreign technology with or without equity participation in partnership with Indian companies and ii) the policy of 'broad-banding'. As a result of first policy many international companies entered in the field of vehicle manufacturing in India during 1980s like Suzuki, Yamaha, Honda and Daewoo. Further, the second initiative i.e. broad-banding spurring the growth in this sector. This policy effectively meant that, a heavy truck manufacturer could think of making light trucks or even cars or that a company making scooters could start manufacturing motorcycles or mopeds (Mani, 2007). As observed from table 1.1, 1.2 and 1.3 that the period 1990s was the witness of maximum entrance of foreign auto manufacturer in the Indian automobile industry, because the 1990s brought major relaxation in the form of i) de-licensing of almost all industries, especially automobiles ii) give 'high priority' to some industries including automobiles to allow up to 51 per cent foreign equity participation iii) reduction of customs duties from 110 per cent to 65 per cent.

All these relaxations make India as 'sweet spot' for investor. From 1993, the year when the auto policy was amended, till now there has been no looking back for the auto sector. From two to three brands in the market in 1950, the sector has come a long way today. The industry was once dominated by the domestic players, Hindustan Motors and Premier Automobiles, for about three decades. At present, the market is witnessing hyper-competition and a new brand is hitting the roads almost every quarter (Kumar, 2007). The Indian auto market is currently small with potential for dramatic growth. Given the large size of the middle class with increasing purchasing power and the youthful population (over half the population is less than 25 years of age and India has the highest proportion of population below 35); there is the potential to penetrate a largely untapped market. Also, given the availability of cheap, skilled labour, India has the potential to serve as a regional export hub for manufacturers in the Asia-Pacific region.

Changing Status of India's Automobile in World Automobile Industry

The automobile production started in 19th centaury in Europe and USA and expanded worldwide through export, foreign direct investment etc. The automobile industry said to be the industry of industries. There is a symbiotic relationship between the growth of an economy and the demand for vehicles. "Automobiles provide access to markets, to doctors, to jobs. Nearly every car trip ends with either an economic transaction or some other benefit to our quality of life. Building 60 million vehicles requires the employment of about 9 million people directly in making the vehicles and the parts that go into them. This is over 5 percent of the world's total manufacturing employment. The world's automotive industry made over 66 million cars, vans, trucks and buses in 2005. These vehicles are essential to the working of the global economy and to the wellbeing of the world's citizens. This level of output is equivalent to a global turnover (gross revenue) of almost €2 trillion. If auto manufacturing were a country, it would be the sixth largest economy *(OICA, 2014)".* It is rightly said by Humphrey and Memodovic (2003) that auto industry is one of the most global among all the other industries in globalization era. This sector has deep backward linkages (such as metals like steel, aluminium, plastics, electronics and capital equipment etc.) as well as forward linkages including (dealership retails, logistics, repair, advertising, petroleum products and maintenance etc.). Thus, automobile sector have a vital role in growing economy.

From Table 1.4, it is observed that global vehicle production rose by around 34 million units during 1997-2013. However, in couple of year there were decreasing trend also noticed in global vehicle production. The year 2008 and 2009 witnessed decrease in vehicle production to the tune of (-) 3.46 per cent and (-) 12.68 per cent respectively. It was well known that during 2007-2009 world face the global financial downturn, which affected the almost every sector of world economy. Worldwide, all of the major auto companies have announced a drastic slump in sales and have introduced reduced production or direct dismissals (Henning, 2008).

Table 1.4. World Vehicle Production 1997-2013 (In Units)

Year	World Vehicle Production (Cars+LCV+HT+Buses)	Percentage Increase/Decrease
1997	53116996	-
1998	51932085	-2.23
1999	54455953	4.86
2000	56594162	3.93
2001	56304925	-0.51
2002	58994318	4.78
2003	60663225	2.83
2004	64496220	6.32
2005	65482439	1.53
2006	69222975	5.71
2007	73266061	5.84
2008	70729696	-3.46
2009	61762324	-12.68
2010	77591911	25.63
2011	79880920	2.95
2012	84236171	5.45
2013	87354003	3.70

Source: Author's Calculations from *Organisation Internationale des' Constructeurs d'Automobiles* , LCV- Light Commercial Vehicles, HT- Heavy Trucks

The process of development of automobile industry took place in different stages. During the 1950's, the slogan of import-substitution raised by developing nations including India. The basic motive behind the import-substitution policy was to promote the development of domestic auto industries in these nations. Later on, the process of trade liberalization initiated like quantitative restrictions and tariffs reduced. Further the 1990s witnessed openness of regional boundary for rest of world, in the form of Trade-Related Investment measures (TRIMs). Humphrey and Memedovic (2003) observed in their study that the vehicles production grew at the rate of 4.2 per cent CAGR in the triad regions (i.e. North America, Japan and Western Europe) whereas the fast-growing emerging countries (ASEAN, China, Eastern Europe, India and Mexico) at 93.1 per cent CAGR during 1990-1997.

Table 1.5. Country-wise Compound Annual Growth in Motor Vehicle Production

Motor Vehicle (Cars+LCV+HT+Buses)	1997	2013	CAGR %
Germany	5022928	5718222	0.81
USA	12131574	11066432	-0.57
Russia	1160365	2175311	4.01
India	409895	3138988	13.57
China	1579699	19271808	16.92
Malaysia	266162	601407	5.23

Source: Author's Calculations from *Organisation Internationale des' Constructeurs d'Automobiles*

Table 1.5 narrate similar story, the automobile sector of emerging nations like China and India growing at faster rate than developed one. The china's automobile industry registered 16.92 per cent compound annual growth, followed by India 13.57 per cent. Whereas the developed nations US and Germany lost their ground during that same period (1997-2013). The major auto players like General Motors, Mercedes Benz, Ford and Honda looking at developing nations China and India, they established their Research and Development (R & D) base in these nations. Nag et. (2007) also observed in their study:

"The global automotive industry, increasingly characterized by global mergers and re-location of production centers to emerging developing economies, is in the grips of a global price-war. The rising competition and increasing global trade are the major factors in improving the global distribution system and has forced many auto-giants such as General Motors, Ford, Toyota, Honda, Volkswagen, and Daimler Chrysler, to shift their production bases in different developing countries which help them operate efficiently in a globally competitive marketplace".

Table 1.6. Percentage Share in World Motor Vehicle Production

Year	USA	Germany	China	India
1997	22.8	9.5	3.0	1.1
2001	20.3	10.1	4.1	1.4
2005	18.2	8.8	8.7	2.5
2009	9.2	8.4	22.3	4.3
2013	12.7	6.5	22.1	4.4

Source: Author's Calculations from *Organisation Internationale des' Constructeurs d'Automobiles*

Table 1.6, further supports the above mention facts that the automobile industry in the emerging countries grows year by year. In 1997, world-wide USA had the maximum share i.e. 22.8 per cent in total production, but started declining and now it has remain just 12.7 per cent. However, in unit's production it still have vital place and enjoyed the second position with 11066432 vehicles in 2013 (see table 1.5). On the other hand, the emerging nations China and India shows their muscles in total vehicles share, continuously increasing 3 per cent to 22.1 per cent and 1.1 per cent to 4.4 per cent, respectively during 1997-2013.

Table 1.7. Per 1000 Vehicle Penetration

Year	USA	India	China
1997	445	6	13
2001	402	7	18
2005	404	15	44
2009	186	22	104
2013	350	31	142

Source: Author's Calculations from *Organisation Internationale des' Constructeurs d'Automobiles* and World Bank Indicators (Population statistics)

The Penetration indicates how many users are for any product. The rising penetration of any product indicates that there is grater consumer class, who willing to use that particular product. However, low penetration signifies existence of huge market potential. Table 1.7 illustrated the number of vehicle behind per 1000 persons in India. The situation was not good during 1990s but later on the situation started improves year by year and in 2013; there were 31 motor vehicle available for 1000 persons, still India far behind in context of auto penetration. It means there is huge un-tapped potential market existing in these developing Nations.

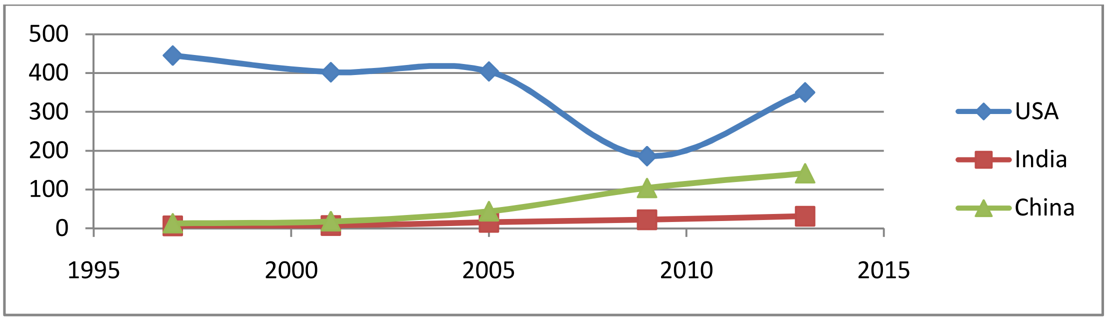

Figure 1.1. Motor Vehicle Penetration

Table 1.8. Key players in which they Operate

Company Name	Segments					
	Cars	MUVs	LCVs	Two-Wheeler	Three-Wheeler	M&HCVs
Tata Motors Ltd.	√	√	√			√
Ashok Leyland Ltd.			√			√
Force Motors Ltd.		√	√		√	
S M L Isuzu Ltd.			√			√
Asia Motor Works Ltd.						√
Man Trucks India Pvt. Ltd.						√
V E Commercial Vehicles Ltd.						√
Defence Land Systems India Pvt. Ltd.						√
Hindustan Motors Ltd.	√	√	√			
Maruti Suzuki India Ltd.	√	√				
Daewoo Motors India Ltd.	√					
General Motors India Pvt. Ltd.	√	√				
Mercedes-Benz India Pvt. Ltd.	√					
Pal-Peugeot Ltd.	√					
Ford India Pvt. Ltd.	√	√				
Honda Cars India Ltd.	√					
Hyundai Motor India Ltd.	√	√				
Mahindra Reva Electric Vehicles Pvt. Ltd.	√					
Mahindra Vehicle Mfrs. Ltd.	√	√	√	√	√	√
Atul Auto					√	
Bajaj Auto			√	√	√	
BMW India	√	√				
Honda	√	√		√		
Ford India	√	√				
Majestic auto					√	
Piaggio			√		√	
Eicher Motors			√		√	√
Fiat India	√					
Kinetic Motor				√		
Royal Enfield Motors				√		
Scooters India					√	
Skoda Auto India	√					
Suzuki Motorcycles				√		
Swaraj Mazda Ltd			√			√
Yamaha Motor India				√		
Toyota Kirloskar	√	√				
TVS Motor				√		

Source: Various Issues of *SIAM*

The vehicle availability behind per 1000 people increased more than five times during 1997-2013. The prime factors responsible for this increase are:

- Increase of Urban percentage of total population.
- The Indian pocket growing deeper i.e. rising per capita income.
- Accelerated overall growth of other industrial segments like IT industry, electronic industry, telecom subscriber, retail lending by banks, etc.
- According to Sunil Kakkar, General Manager of Maruti Suzuki the demographic dividends, in 2000 the average age of car buyer was 39 years and it decreases over the year and in 2010 the average age of car buyer was 33 years.

With increasing industrial production and growing spending power of the Indian middle class households, the country is expected to make it to the top five markets in the cars and commercial vehicles segment by 2020 (Indian Brand Equity Foundation, 2008).

Diversification of Business of Key Players

The traditional assumption of single producing product or homogeneous product firm no more exist, as one can see in reality, the present situation of the industries where firms are producing varieties of products, some of which are found quite different or unrelated to each other. In the words of Penrose (1959), a firm is said to diversify, whenever, without entirely abandoning its old lines of product, it embarks upon the production of new products, including intermediate products, which are sufficiently different from the other products it produces to imply some significant difference in the firm's production and distribution programmes. According to Jefferson & Associates (2009), diversification can occur either at the business unit or at the corporate level.

i) At the business unit level, it is most likely to expand into a new segment of an industry in which the business is already in.
ii) At the corporate level, it is generally and it's also very interesting entering a promising business outside of the scope of the existing business unit.

In the Indian automobile industry too most of players are present in more than one segment. The industry is also witnessing diversification by players into other segments. Mahindra Vehicle Mfrs. Ltd. Registered their existence in all the seven segments (Cars, MUVs, LCVs, Two-Wheeler, Three-Wheeler and M&HCVs).

It is observed from Table 1.8, the Indian commercial vehicles market dominated by Tata Motors Ltd and Ashok Leyland Ltd. Both the companies have plants all over the country. Tata motors ltd, the market leader in the commercial trucks business, has plants at Jamshedpur, Pune and Lucknow. In the words of Rajmanohar (2007) these two companies dominated for the last 50 years, a number of attempts have been made by Japanese and other companies to enter this segment, the new comers have not been able to make a dent in the market and the market is still dominated by these two players. Apart from these two companies, there are a number of new players entered the market and some of the smaller plan to increase their capacity, Bajaj Auto, two-wheeler segment is having business plan to enter the commercial vehicles business and so is Piaggio. On the other hand, most of the foreign players dominated in the passenger cars and MUVs segment like BMW India, Ford India, Honda and Hyundai Motors India ltd. Besides, passenger cars and MUVs, foreign player also take interest into the medium heavy commercial vehicles (M&HCVs) segment, engaged in the manufacturing of trucks and busses. Like VE commercial Vehicles Ltd, Eicher Motors and Asia Motors ltd.

Conclusion

Overall, the outlook for Indian automobile industry appears to be bright. With post-liberalization reforms in place since 1991, India has achieved remarkable development on the overall economic front by achieving a sustained growth rate for its economy in recent years. The world Bank and other reliable sources state that India is set to emerge as the second-most important economic powerhouse in Asia and the third-largest economy in the world in terms of purchasing power parity by 2020 (Kumar, 2007). As regards the automobile sector, India has already become the world's seventh largest vehicles producer with a huge potential for growth in other segments. Exports have also started flourishing and it is expected that Indian manufacturers can grab the global market in a big way. However, the Indian manufacturers will have to upgrade their technology and quality to move from good to excellent.

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