

A Study of Growth Trends and FDI Inflows in Indian Automobile Industry

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Abstract

Automobile industry is considered as the key indicator to boost the economic development and technology advancement of India. The growth of automobile industry has been rising since 1991 after removing the restrictions on foreign collaboration in India. It has made great transformation over the last decade. This paper endeavours to study the growth trend and foreign direct investment inflows in Indian automobile sector over the last decade. The study is based on secondary data which is collected from relevant sources of study for the period of 2008-09 to 2018-19. Analysis of data is done with the appropriate statistical tools like CAGR, AAGR and Correlation Analysis. The study found that growth in number of vehicles in case of production, sales & export of automobile industry is increased over the last decade but the total annual growth is showing fluctuating trends. Segmentation-wise, highest growth is found in two-wheelers segment in case of production and sales whereas in case of export, three-wheelers has achieved the highest growth during the study period. The growth of automobile industry has recently declined due to the poor result in growth of passenger vehicles segment. The study further found that there is high degree of correlation between the FDI inflows and total output of automobile industry.

Key Words

Automobile Industry, Growth Trends, FDI Inflows.

INTRODUCTION

A well-developed transportation system plays most vital role in the development of the economy and India is not exception to it; the Automobile industry is one of the key drivers of economic growth of India and is a

significant contributor to the global economy. As of now, it contributes over 7% to India's GDP, 49% country's manufacturing GDP & 26% industrial GDP and great many individuals are working in this sector. As per Automotive Mission Plan, the cumulative vision of government in automobile industry has set an objective to expand the contribution around 12% to India's GDP in the coming years. The Automotive Mission Plan aims to impel this sector to make up the locomotive of the "Make in India" campaign as it is amongst the front-most drivers of the manufacturing sector. It has been the quickest developing sector over the most recent couple of years. In any case, in the event that we think back preceding 1991, it is found that there were a couple of players in the circle of four-wheelers and the business was experiencing obsolete, insufficient and needing innovations. Prior to liberalization, rules and guidelines were tremendously confined to the automobile produces in India. After 1991, the Indian government released simple standards and opened the Indian market for all. The nation turned into an open economy by supporting 100% FDI through auto-route. Nowadays, all the significant international organizations like Maruti, Honda, Ford, Toyota, Hyundai, and General Motors and so on, have entered their business in Indian market. The advancement of 1991 opened the flood gates of rivalries and development which is still in continuation in the Indian economy.

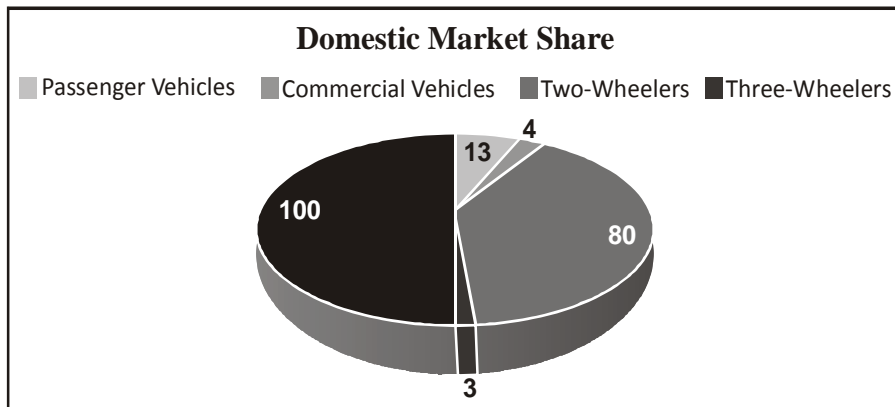
If one glances at the current factual information of SIAM reports, India has become the fourth largest manufacturing nation in 2018 with a sale of 3.99 million units that was expanding at the rate of 8.3% year-on-year. It, likewise, became seventh biggest producer of the commercial vehicles in 2018. The two-wheelers business commands the market regarding volume expanded by the interest of middle class and youthful populace in 2019 and make up 80 per cent share in domestic vehicle sales. Overall, sales of domestic sales expanded to 6.71 per cent CAGR between financial years 2013-19 with an immense number of 26.27 million vehicles being sold in 2019. Overall production in domestic automobiles expanded at 6.96% CAGR between financial years 2013-19 with 30.92 million vehicles being manufactured in the year 2019. Automobile vehicle export increased 14.50 per cent during 2019. It is expected to increase at CAGR to the degree of 3.05 per cent during 2016-2026. As per DIPP released information, the vehicle parts has attracted FDI worth US\$ 22.35 billion during the period April 2000 to June 2019. The Automobile sector is categorised into four sub-sectors Two-Wheelers, Passenger Vehicles, Commercial Vehicles and Three-Wheelers.

Table 1

Domestic Market Share for Automobile Industry for 2018-19

| | |
|---------------------|------|
| Passenger Vehicles | 13% |
| Commercial Vehicles | 4% |
| Two-Wheelers | 80% |
| Three-Wheelers | 3% |
| TOTAL | 100% |

Source : SIAM (Society of Indian Automobile Manufactures)



A portion of the prominent highlights, quickening the development of the market are : Rise in discretionary cash flow, fast urbanization, persistent increment in populace, advancement in road infrastructure and the starting of a few ease models of various division vehicles. However, fluctuations in fuel costs, growing inclinations for open transport such as metro may hinder the development of vehicles market.

REVIEW OF LITRATURE

Gaddan (2013) studied the segmentation-wise growth of production and sales trends of automobile industry. The study found that the growth of sales trends was quite satisfactory than the production trends in all vehicles' segments during the period 1989 to 2008. It was concluded that segmentation-wise study is useful to have a close picture over the overall growth of automobile industry. Singh (2014) examined the impact of changing policy regime on the growth and export potential of automobile industry as a whole and its sub-sectors. It was observed that changing economic environment had eventually contributed to

the growth and export intensity of automobile industry and had also visible across its sub sectors during the last three decades in the country. Passenger vehicles' segment had considerably high growth and export potential. Kumar and Manwani (2015) attempted to notice the production, sale performance and efficiency of the production of automobile industry during pre & post recessionary period in India. It revealed that during the pre-recession period, production and sales were growing continuously while during recession period, it was decreasing due to market changes. But in the post-recession period, there was improvement over sales and production and it started growing due to demand of the products. It was concluded that in the manufacturing industry, automobile sector is rapidly growing and generating high employment in Indian economy. Singh (2017) analysed the growth pattern in the term of GDP, FDI, export, employment etc. of automobile industry and its economic impact on Indian economy. It was indicated that all variables of growth trend of automobile industry had positive impact on the Indian economy. It was concluded that automobile industry has a strong multiple effect and is capable of being the driver of the economic growth of country. Melwani and Sitlani (2017) analysed the export performance and forecast the trend values of automobile industry in various segments. It was found that export in all the segments has increased in the study period. The trend values were forecasted through time series analysis. It was concluded that the study is used for automobile industry as a whole as well as the exports have major contribution towards the economy of India. Chandrasekar and Palanivelu (2018) conducted a study on the trend and growth of automobile industry. It was found that growth of both production and export from India increased considerably during the study period. It was also noted that the growth rate of export of all type of vehicles from India was higher than the growth rate of production of those vehicles. Dhande and Magar (2018) focused on the role of FDI in India automobile sector and periodic changes in this sector after announcing the new economic policy 1991 by the government of India. The study found that FDI inflows increases may regenerate the sector and presented the potential of Indian automobile market to the world. It was concluded that Make in India campaign of government gets positive support through the entry of global automobile sector become most important progressive sector in Indian economy. Chattopadhyay and Mukherjee (2019) conducted a recent study of automobile sector in terms of FDI, growth trends of production, sales and export over the last decade. It was concluded that the Indian automobile industry has evolved into strong market in terms of both domestic

demand and exports and has become monumental market with lots of potential over the last decade for the growth of economy.

The previous studies concentrated on the growth pattern in terms of production, sales and export trends. This paper is an attempt to study segmentation-wise growth trends in terms of sales, export, productions and FDI inflows in automobile sector and its correlation with the total output of automobile industry.

OBJECTIVES OF THE STUDY

The study has been conducted with the following objectives to analyse the growth trends of automobile industry in terms of production, sales, export and correlation of FDI inflows with total output of automobile industry.

1. To analyse the segmentationwise growth trends of automobile industry in India.
2. To study FDI Inflows and its correlation with total output of automobile industry.

RESEARCH METHODOLOGY

The present study is analytical in nature and is attempted to analyse the segmentation-wise growth trends of automobile industry in India.

Source of Data : The present study is based on secondary data. The data has been compiled from annual reports, journals and research articles, books and websites of the respective companies and necessary data collected from Society of Indian Automobile Manufacturers (SIAM), Department of Industrial Policy and Promotion (DIPP), India Brand Equity Foundation (IBEF).

Period of the Study : The study covered the period of ten years from the year 2008-2009 to 2018-2019.

Statistical Tools : Data is analysed with the help of CAGR (Compound Annual Growth Rate), AAGR (Average Annual Growth Rate) and correlation analysis. Tables and graphs are used to present data analysis and interpretations.

DATA ANALYSIS AND INTERPERTATIONS

This section of research paper presented the results of data analysis of the segmentation-wise growth trends of automobile industry and also showed the correlation between the FDI inflows and total output with the help of different statistical tools.

GROWTH TREND OF AUTOMOBILE INDUSTRY IN INDIA

Growth trends of automobile industry can be analysed in terms of production, sales and export of the automobile industry in India. The production of automobile industry in India increased significantly after the new economic policy 1991. As per factual information of SIAM reports, India has become the fourth largest manufacturing nation in 2018 with a sale of 3.99 million units that was expanding at the rate of 8.3% year-on-year. India has also become a spectacular exporter of automobile and has strong growth expectation in the near future. The following Table shows the growth trend of production, sale and export of automobile industry during the period 2008-09 to 2018-19.

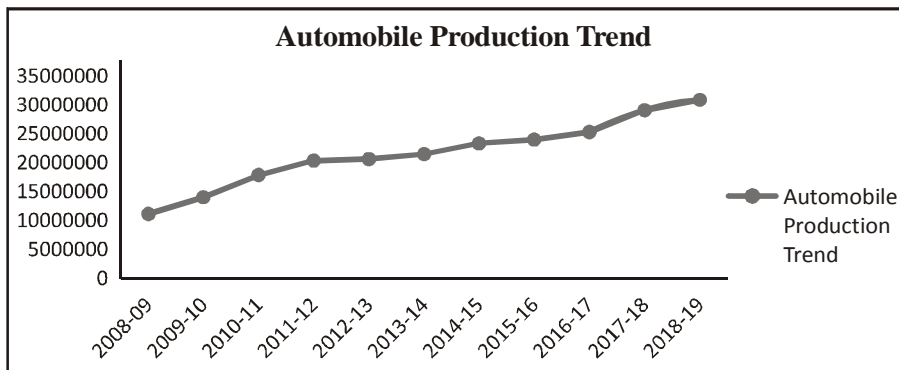


Figure shows that total production of all vehicles (segmentation-wise) in india increased during the study period. Table shows that total vehicle production increased from 1,11,72,285 in 2008-09 to 3,09,10,032 vehicles in 2018-19 at a compound annual growth rate of 10.71% and an average annual growth rate of 11%. It is observed that highest annual growth was achieved in total production by automobile industry in india during 2010-11 at 27% followed by in 2009-10 at 26%. Segmentation-wise, highest growth is found in two-wheelers segment increased from 8419792 in 2008-09 to 24503086 vehicles in 2018-19 at a compound annual growth rate of 11.27% and an average annual growth rate of 12% and it has been positive during the study period. The growth rate in production of passenger vehicles is lower than the growth rate of other type of vehicles during the study period. The two-wheeler industry dominates the market in terms of volume increased by the demand of growing middle class and young population in 2019.

Table 2
Growth Trend of Automobile Production in India

| Year | Passenger Vehicles | Annual Growth Rate % | Commercial Vehicles | Annual Growth Rate % | Three Wheelers | Annual Growth Rate % | Two Wheelers | Annual Growth Rate % | Grand Total | Annual Growth Rate % |
|---------|--------------------|----------------------|---------------------|----------------------|----------------|----------------------|--------------|----------------------|-------------|----------------------|
| 2008-09 | 1838593 | - | 416870 | - | 497020 | - | 8419792 | - | 11172275 | - |
| 2009-10 | 2357411 | 28% | 567556 | 36% | 619154 | 25% | 10512903 | 25% | 14057024 | 26% |
| 2010-11 | 2982772 | 27% | 760735 | 34% | 799553 | 29% | 13349349 | 27% | 17892409 | 27% |
| 2011-12 | 3146069 | 5% | 929136 | 22% | 879289 | 10% | 15427532 | 16% | 20382026 | 14% |
| 2012-13 | 3231058 | 3% | 832649 | -10% | 839748 | -4% | 15744156 | 2% | 20647611 | 1% |
| 2013-14 | 3087973 | -4% | 699035 | -16% | 830108 | -1% | 16883049 | 7% | 21500165 | 4% |
| 2014-15 | 3221419 | 4% | 698298 | 0% | 949019 | 14% | 18489311 | 10% | 23358047 | 9% |
| 2015-16 | 3465045 | 8% | 786692 | 13% | 934104 | -2% | 18830227 | 2% | 24016068 | 3% |
| 2016-17 | 3801670 | 10% | 810253 | 3% | 783721 | -16% | 19933739 | 6% | 25329383 | 5% |
| 2017-18 | 4020267 | 6% | 895448 | 11% | 1022181 | 30% | 23154838 | 16% | 29092734 | 15% |
| 2018-19 | 4026047 | 0% | 1112176 | 24% | 1268723 | 24% | 24503086 | 6% | 30910032 | 6% |
| AAGR | 9% | 12% | 11% | 12% | 11% | | | | | |
| CAGR | 8.15% | 10.31% | 9.82% | 11.27% | 10.71% | | | | | |

Source : SIAM and Author Calculations

Table 3
Growth Trend of Automobile Sales in India

| Year | Passenger Vehicles | Annual Growth Rate % | Commercial Vehicles | Annual Growth Rate % | Three Wheelers | Annual Growth Rate % | Two Wheelers | Annual Growth Rate % | Grand Total | Annual Growth Rate % |
|---------|--------------------|----------------------|---------------------|----------------------|----------------|----------------------|--------------|----------------------|-------------|----------------------|
| 2008-09 | 1552703 | | 384194 | | 349727 | | 7437619 | | 9724243 | |
| 2009-10 | 1951333 | 26% | 532721 | 39% | 440392 | 26% | 9370951 | 26% | 12295397 | 26% |
| 2010-11 | 2501544 | 28% | 684905 | 29% | 526024 | 19% | 11768910 | 26% | 15481383 | 26% |
| 2011-12 | 2618072 | 5% | 809532 | 18% | 513251 | -2% | 13435769 | 14% | 17376624 | 12% |
| 2012-13 | 2665015 | 2% | 793211 | -2% | 538290 | 5% | 13797185 | 3% | 17793701 | 2% |
| 2013-14 | 2503509 | -6% | 632851 | -20% | 480085 | -11% | 14806778 | 7% | 18423223 | 4% |
| 2014-15 | 2601236 | 4% | 614948 | -3% | 532626 | 11% | 15975561 | 8% | 19724371 | 7% |
| 2015-16 | 2789208 | 7% | 685704 | 12% | 538208 | 1% | 16455851 | 3% | 20468971 | 4% |
| 2016-17 | 3047582 | 9% | 714082 | 4% | 511879 | -5% | 17589738 | 7% | 21863281 | 7% |
| 2017-18 | 3288581 | 8% | 856916 | 20% | 635698 | 24% | 20200117 | 15% | 24981312 | 14% |
| 2018-19 | 3337436 | 1% | 1007319 | 18% | 701011 | 10% | 21181390 | 5% | 26227156 | 5% |
| AAGR | 8% | 11% | 8% | 11% | 11% | | | | | |
| CAGR | 7.95% | 10.11% | 7.20% | 11.03% | 10.43% | | | | | |

Source : SIAM and Author Calculations

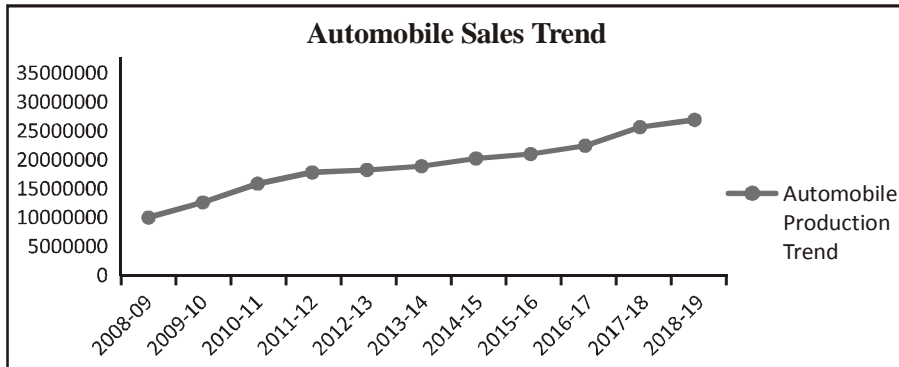


Figure depicts that the total sales of automobile sector have increased tremendously during the study period. It is seen from the Table 3, total sales of vehicles increased from 9724243 in 2008-09 to 26227156 in 2018-19 at a compound annual growth of 10.43% and an average annual growth rate of 11%. Highest total sale annual growth is achieved in the year 2009-10 & 2010-11 and this growth is much more as compared to the year 2018-19. Segmentation-wise, highest growth is found in two-wheelers segment increased from 7437616 in 2008-09 to 21181390 vehicles in 2018-19 at a compound annual growth rate of 11.03% and an average annual growth rate of 11% and also shows positive impact during the study period. The growth rate in sale of passenger vehicles is lower than the growth rate of other type of vehicles during the study period. Commercial vehicles' sales increased from 384194 to 1007319 and three-wheelers sales increased from 349727 to 771011 during the period 2008-09 to 2018-19.

Table 4 shows that total export of vehicles from India increased considerably from 1530594 to 4624654 at 11.69% of compound annual growth rate and at 12% of average annual growth rate during the period 2008-19. It is seen that highest annual growth of total export was found in 2010-11. Three-wheelers segment registered the highest growth of export from 148066 to 567689 at compound annual growth rate of 14.38% and at average annual growth rate of 18% during the period 2008-19. The annual growth rate in export of passenger vehicles declined by 10% in the year 2018-19.

Table 4
Growth Trend of Automobile Export from India

| Year | Passenger Vehicles | Annual Growth Rate % | Commercial Vehicles | Annual Growth Rate % | Three Wheelers | Annual Growth Rate % | Two Wheelers | Annual Growth Rate % | Grand Total | Annual Growth Rate % |
|---------|--------------------|----------------------|---------------------|----------------------|----------------|----------------------|--------------|----------------------|-------------|----------------------|
| 2008-09 | 335729 | | 42625 | | 148066 | | 1004174 | | 1530594 | |
| 2009-10 | 446145 | 33% | 45009 | 6% | 173214 | 17% | 1140058 | 14% | 1804426 | 18% |
| 2010-11 | 444326 | 0% | 74043 | 65% | 269968 | 56% | 1531619 | 34% | 2319956 | 29% |
| 2011-12 | 507414 | 14% | 92663 | 25% | 362876 | 34% | 1947198 | 27% | 2910151 | 25% |
| 2012-13 | 559414 | 10% | 80027 | -14% | 303088 | -16% | 1956378 | 0% | 2898907 | 0% |
| 2013-14 | 596142 | 7% | 77050 | -4% | 353392 | 17% | 2084000 | 7% | 3110584 | 7% |
| 2014-15 | 621341 | 4% | 86939 | 13% | 407600 | 15% | 2457466 | 18% | 3573346 | 15% |
| 2015-16 | 653053 | 5% | 103124 | 19% | 404441 | -1% | 2482876 | 1% | 3643494 | 2% |
| 2016-17 | 758727 | 16% | 108271 | 5% | 271894 | -33% | 2340277 | -6% | 3479169 | -5% |
| 2017-18 | 748366 | -1% | 96865 | -11% | 381002 | 40% | 2815003 | 20% | 4041236 | 16% |
| 2018-19 | 676193 | -10% | 99931 | 3% | 567689 | 49% | 3280841 | 17% | 4624654 | 14% |
| AAGR | 8% | 11% | 18% | 13% | 12% | | | | | |
| CAGR | 7.25% | 8.89% | 14.38% | 12.56% | 11.69% | | | | | |

Source : SIAM and Author Calculations

FDI INFLOWS IN AUTOMOBILE INDUSTRY IN INDIA

The foreign direct investment has opened the new avenues to boost the growth of this sector in indian industries. The liberalization policy of government regarding FDI has increased the scope of indian automobile sector in the world. Today, 100% FDI is allowed in this sector under the automatic route which means foreign investor can invest in this sector without the prior authorization of the government of india. As per the data released by Department of Industrial Policy and Promotion, automobile sector has attracted FDI (foreign direct investment) worth US\$ 22.35 billion during the period April 2000 to June 2019. FDI inflows in indian automobiles sector have been increasing year on year at fast rate and this sector ranked seventh among the top ten sectors attracting highest FDI inflows.

Table 5
FDI in Automobile Industry in India

| Year | Total FDI Inflows (Cr) | FDI Inflows in Automobile Industry | Share of Automobile Inflows in Total FDI Inflows % |
|---------|------------------------|------------------------------------|--|
| 2008-09 | 142829 | 5212 | 3.6 |
| 2009-10 | 123120 | 5609 | 4.5 |
| 2010-11 | 97320 | 5864 | 6.0 |
| 2011-12 | 165146 | 4347 | 2.6 |
| 2012-13 | 121907 | 8384 | 6.8 |
| 2013-14 | 147518 | 9027 | 6.1 |
| 2014-15 | 181682 | 16760 | 9.2 |
| 2015-16 | 262322 | 16437 | 6.2 |
| 2016-17 | 291696 | 10824 | 3.7 |
| 2017-18 | 288889 | 13461 | 4.6 |
| 2018-19 | 309867 | 18309 | 5.9 |
| Total | 2132296 | 114234 | 5.3 |
| CAGR | | 13.38% | |

Table 5 shows that total FDI inflows registered 2132296 out of which total FDI inflows in automobile sector received 13461 during the period 2008-19 which is 5.3% of the total FDI inflows. FDI inflows in automobile sector is registered at a compound annual growth rate of 13.38 during the study period.

Table 6**Correlation Analysis Between FDI in Automobile and Total Output**

| Year | FDI Inflows in Automobile Industry (Cr) (X) | Total Production No. of Vehicles (Cr) (Y) | Coefficient of Correlation between X and Y (r) |
|---------|--|--|---|
| 2009-10 | 5609 | 1405 | |
| 2010-11 | 5864 | 1789 | |
| 2011-12 | 4347 | 2038 | |
| 2012-13 | 8384 | 2064 | |
| 2013-14 | 9027 | 2150 | |
| 2014-15 | 16760 | 2335 | |
| 2015-16 | 16437 | 2401 | |
| 2016-17 | 10824 | 2532 | |
| 2017-18 | 13461 | 2909 | |
| 2018-19 | 18309 | 3091 | |

Source : Author Calculations

Table 6 shows the degree of correlation between the FDI inflows in automobile industry and total production of automobile industry during the study period. X represents FDI inflows in automobile and Y represents total production of automobile industry and r represents correlation coefficient between X and Y which is calculated is 0.79. This shows a high degree of positive correlation between X and Y.

CONCLUSION

The present study analysed the growth trend and foreign direct investment inflows in Indian automobile sector over the last decade. The study found that growth in number of vehicles in case of production, sales & export of automobile industry has increased over the last decade but the total annual growth is showing fluctuating trends. Segmentation-wise, highest growth is found in two-wheelers segment in case of production and sales whereas in case of export, three-wheelers has achieved the highest growth during the study period. The growth of automobile industry has declined due to the poor result in growth of passenger vehicles segment. It is noted that annual growth of production and sales of passenger vehicles is lower than the growth rate of other types of

vehicles during the period 2017-19. The annual growth rate in export of passenger vehicles also declined in the period 2017-19. The study further found that there is high degree of correlation between the FDI inflows and total output of automobile industry. It is inferred that lower growth of passenger vehicles in 2017-19 may slowdown the overall growth of automobile industry in the future and may create obstacles in the path of automobile mission plan which was set up by the government of India. Hence, there is need to improve the growth of passenger vehicles segment because this segment hold of 13% composition in the industry leads to major contributor to the economic growth of India.

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