



Analyzing The Growth Trends Of The Automobile Industry: A Study Of Production, Sales, And Export

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Abstract: The automobile industry is considered one of the high-performing industries in the world emerging as the fourth largest automobile producer globally. Additionally, its strong forward and backward links with other industries contribute significantly to the rapid growth of the economy and industry. In this paper, the growth trends of the automobile industry are examined in terms of production, domestic sales, and export over the last decade. Secondary data is collected for the period of ten years from 2011-12 to 2021-22. Data is analyzed through various statistical tools like CAGR & AAGR.

The study concludes that segmentation-wise, the highest growth is found in passenger vehicles in the case of production and sales whereas, in the case of export, two-wheelers accounted for the highest growth during the study period. Simultaneously, the annual growth rate of production, domestic sales, and exports is showing declining or negative results due to various circumstances like changes in BS emission standard norms, demonetization, covid-19 pandemic, rise in unemployment, and other industrial slowdowns, etc.

Key Words - Automobile industry, Government initiatives, Production, Sales, Export

INTRODUCTION

A well-developed transportation system plays the most important role in the development of any economy, and India is no exception. The automobile industry is considered a main pillar of the economy, with deep forward and backward linkages. The automobile industry covers automobiles and auto component sectors, which include commercial vehicles, passenger vehicles, three-wheelers, two-wheelers, and components. The contribution of the automobile industry to the national GDP has increased to about 7.1%, 49 % of the manufacturing GDP, and it also provides direct and indirect employment opportunities to over 19 million people in the country. (Source: PIB).

There is another reality that, before covid-19 pandemic started, the growth of the automobile industry facing a slowdown, if we look at the passenger vehicle segment, it was growing at a CAGR of 12.9% from 2005 to 2010, then this dropped by 7% in the next 5 year period from 2010-2015. After the impact of covid-19, this was further dropped to just 1.3% during the next 5 year period from 2015-2020.

Similarly, the two-wheeler vehicle segment was growing with a CAGR of 9.8% during the decade of 2000 to 2010. In next from 2010 to 2020 the growth rate dropped to 6.4%. The same happened with three-wheeler segment and commercial vehicle segment, the CAGR of both segments fell from 9.8% to 3.8% and 12.7% to just 3% respectively. Covid -19 has thrown the industry into negative zone, it has also developed further problems for the industry as overall automobile sales declined by (-)17.97% in April-March 2020 as compared

to the same period last year (-)13.60% in April-March 2021 and (-) 5.36% in April-March 2022. After a long wait annual growth rate raised to 13 % of passenger vehicles, 26% of commercial vehicles, and 20% of three-wheeler except for two-wheelers,, and overall sales of automobiles come in the positive zone.

The automobile industry has become one of the high-performing industries of the Indian economy. It has contributed to becoming India as 4th rank globally in terms of automobile production in 2022. The government of India aims to emerge India as the leader in the manufacturing as well as research and development (R&D) hub, in this regard, the other major programs/plans initiated by the Government include Automotive Mission Plan (2016-26), National Electric Mobility Mission Plan (NEMMP) 2020, Make in India and Product linked Initiative to robust and faster growth of vehicles to become the world leaders in the automobile sector.

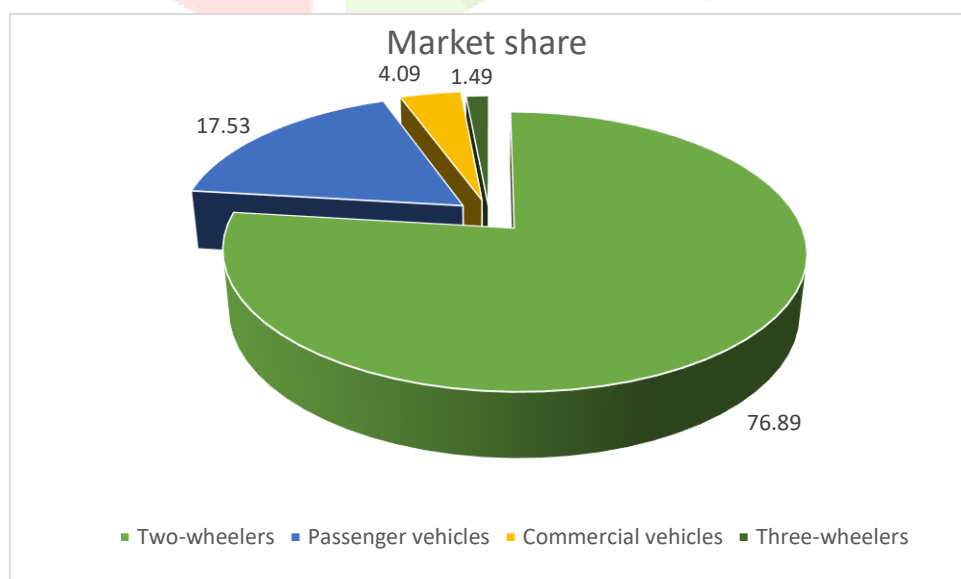
1. Automotive Mission Plan 2016-26: has been planned to increase the value of the Indian automobile sector to over 12% of its GDP, place it among the top three in the world for engineering manufacturing and exports of automobiles and components, as well as generate 65 million additional employment opportunities.

2. The National Electric Mobility Mission Plan 2020 (NEMMP): initiatives to provide the vision and roadmap for the faster adoption of electric vehicles and their manufacturing in India. This plan has been designed to develop national fuel security, and also to provide affordable and environment-friendly transportation to attain a coveted place among the world as global manufacturing leaders.

3. Product-Linked Incentive (PLI): scheme in the automobile and auto components sectors launched in April 2020, aims to give companies incentives on incremental sales from products manufactured in domestic units and also to generate more employment and minimize the reliance of the country on imports from other countries.

Under the automatic route, 100% foreign direct investment (FDI) is permitted along with full deli censing so that investors can easily set up their manufacturing plant in India. Also, Government has developed infrastructure like National Automotive Testing and R&D Infrastructure Project (NATRiP) centers as well as a National Automotive Board to act as a mediator between the government and the industry. Under NATRiP, five testing and research centers have been established in the country since 2015.

Graph 1: Domestic market share of automobile industry in India in FY 2022



Considering the domestic market share of the automobile industry for the year 2021-22, the sector was dominated by two-wheelers segment with the share of 76.89 percent, followed by passenger vehicles accounted for 17.53 percent of the market share, commercial vehicles at 4.09 percent, and a minimum share of 1.49 percent belongs to three-wheeler vehicles.

REVIEW OF LITERATURE

1. Gaddam (2013) the study has been conducted to analyse the production and sales trends of automobile industry. In this paper the analysis of 13 years data of the industry, indicate that the sales of the industry is quite satisfactory. The study found that the production of passenger vehicles with annual growth rate of 11.86% more than other segment of vehicles during the study period from 1995-2008.
2. Sarangi et al (2014) the main idea behind the study is to understand and analyse the current and future trend in Indian automobile industry during the study period of 2013-14 to 2015-16 using statistical approach. It is found that after various ups and down in past years the result shows positive growth in all segments.
3. Singh (2014) the study has been conducted to understand the impact of changing policy on the growth of automobile industry in India and also to reveal its export potential. This study comes to the conclusion that the changing policy environment during the last three decades in the country has ultimately contributed in the expansion and export intensity of the automobile industry.
4. Singh (2017) the study has been conducted to analyse the growth pattern and economic impact of automobile industry on Indian economy. The result show positive impact of growth of Indian automobile industry on economy in terms of GDP, export, FDI, employment etc. Automobile industry become an instrument in shaping the country's economy as a major employment provider, export generator, GDP contributor, FDI earner.
5. Arya (2019) has studied paper titled 'A Review of Growing Automobile Industry in India' discovered and automobile industry become major contributor to economic development of country this industry contribute 7.1% of global GDP and provided employment among 32 million people directly and indirectly. This paper focuses to study the performance and growth of Indian automobile industry, and its contributing factor for its growth and current status of FDI. The study found that this industry is highly supported by factor such as availability of skilled labour at low cost and low cost steel production.
6. Chandrasekar and Palanivelu (2018) the study has been conducted to analyse the trend and growth of automobile industry. It was found that the automobile export from India increased considerably during the study period, it was revealed that growth rate of export of all types of vehicles from India was more than the growth rate of production of those vehicles.
7. Chattopadhyay and Mukherjee (2019) to study segmentation wise growth trends in terms of sales, export, production and FDI inflows in automobile industry and its correlation with total output of automobile industry. It was concluded that, there is strong market in terms of both domestic demand and exports of Indian automobile industry. It became massive market with lots of potential over the last decade.
8. Melwani and Sitlani (2017) the paper attempt to study the export performance of Indian automobile industry in all segment. The study tries to forecast the trend values for the exports in various segment of automobile industry. The study found that the export in various segment has increased during study period and the forecasted trend value through time series analysis.
9. Dhande and Magar (2018) the study has been conducted to understand the role of FDI in automobile sector in India, and periodic change in this sector after announcing the new economic policy 1991 by the Government of India. The study found that after liberalisation in automobile sector, inflow in FDI increased and this rejuvenate the sector and presented the potential of Indian automobile market to whole world. The study concluded that government of India's Make in India plan gets positive supports after the entry of global automaker and automobile sector become most important sunrise sector in Indian industry.

10. Singh (2022) studied paper titled “ A review study of development of automobile in India” discovered and, the paper focuses to examine the challenges that have led to automobile industry recent slump it examine how the dynamic automobile market landscape affect customer preferences and spending. The paper found that, customer happiness in crucial to the success of any business. The research wants to highlights the importance of excellent maintenance as a way of giving pleasure to car users throughout the life of vehicle. This sector can make smarter investment choices and boost both service quality and customer happiness.

OBJECTIVES OF THE STUDY

The study has been conducted with the following objectives to analyze the growth trends of automobile industry in terms of production, sales, export, and FDI inflow in the automobile industry, study period from 2011-12 to 2021-22.

1. To examine the growth trends in automobile production within the Indian automobile industry.
2. To analyze the growth trends in automobile sales within the Indian automobile industry.
3. To examine the growth trends in automobile export from the Indian automobile industry.

RESEARCH METHODOLOGY

This research work is descriptive in nature, and it is conducted to analyze the growth of the automobile industry in terms of production, sales, and export.

Source of the data: The study is based on secondary data, the data has been collected through annual reports, websites, and reports of Society of Indian Automobile Manufactures (SAIM), Department of Industrial Policy and Promotion (DIPP).

Period of the study: The present study covered the period of ten years spanning from 2011-12 to 2021-22.

Statistical tools: Data is analyzed with the help of statistical tools like average, percentage, compound annual growth rate (CAGR), and average annual growth rate (AAGR), besides table and graph used to present, analyze and interpret the data.

LIMITATIONS OF THE STUDY

1. The study is based only on secondary data.
2. The study focuses only on the automobile industry.
3. Time is the constraint of the study.

DATA ANALYSIS AND INTERPRETATION

This section of the paper presents the trends of automobile production during 2011-12 to 2021-22. The total industry produced 2,30,36,005 vehicles including passenger vehicles, commercial vehicles, three-wheelers, and two-wheelers in April-March 2022 as against 2,26,48,272 in April-March 2021. The production of passenger vehicles, commercial vehicles, two-wheelers, and three-wheelers shows an increasing trend in all the years of the study period except 2018-19 and 2020-21.

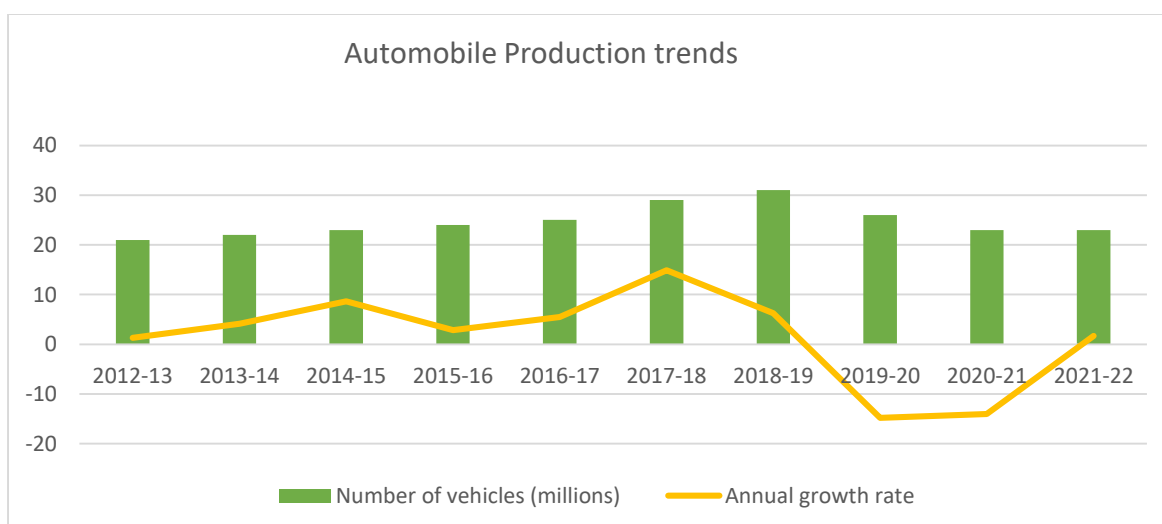
The sales of all segments of vehicles were registered at 2,30,36,005 in 2021-22 respectively. There was a declining trend started in 2018-19 and a negative trend in 2019-20 to 2020-21. There was a positive trend in 2021-22 which show a recovery in production. India become the second largest two-wheelers market in the world, with major contributing factors like sales incentives, easy availability of low cost finance, etc.

Table 1: Production trend of automobile in India

Automobile Production Trend										
(Number of Vehicles)										
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 %
2011-12	31,46,069	-	9,29,136	-	8,79,289	-	1,54,27,532	-	2,03,82,026	-
2012-13	32,31,058	2.70	8,32,649	10.38	8,39,748	-4.50	1,57,44,156	2.05	2,06,47,611	1.30
2013-14	30,87,973	-4.43	6,99,035	16.05	8,30,108	-1.15	1,68,83,049	7.23	2,15,00,165	4.13
2014-15	32,21,419	4.32	6,98,298	-0.11	9,49,019	14.32	1,84,89,311	9.51	2,33,58,047	8.64
2015-16	34,65,045	7.56	7,86,692	12.66	9,34,104	-1.57	1,88,30,227	1.84	2,40,16,068	2.82
2016-17	38,01,670	9.71	8,10,253	2.99	7,83,721	16.10	1,99,33,739	5.86	2,53,29,383	5.47
2017-18	40,20,267	5.75	8,95,448	10.51	10,22,181	30.43	2,31,54,838	16.16	2,90,92,734	14.86
2018-19	40,28,471	0.20	11,12,405	24.23	12,68,833	24.13	2,44,99,777	5.81	3,09,09,486	6.24
2019-20	34,24,564	-14.99	7,56,725	31.97	11,32,982	10.71	2,10,32,927	14.15	2,63,47,198	14.76
2020-21	30,62,221	-10.58	6,24,939	17.42	6,11,171	46.06	1,83,49,941	12.76	2,26,48,272	14.04
2021-22	36,50,698	19.22	8,05,527	28.90	7,58,669	24.13	1,78,21,111	-2.88	2,30,36,005	1.71

Source: SAIM

Graph 2: Automobile Production in India



Domestic sales trend of automobile in India

Table 2: presents domestic sales of total automobile in India, it shows an increasing trend over the period 2011-12 to 2018-19, the factor behind the growing demand was a rise in the income of the middle class. In the financial year 2013-14, there was an unfavourable situation for the automobile industry, as decline in growth rate can be ascertained in all the three segments except in two wheelers segment, which was due to state of the economy. In the financial year 2019-20, registered negative growth rate in all the segments. The compound annual growth rate of last 20 years is very low in case of domestic sales. So, the automobile companies should think strategically to transform the prospects in to the customers and boost domestic sales.

The sales of all categories were registered at 1,73,76,624 in 2011-12 and 1,76,17,482 in 2021-22 respectively. There was a declining trend started in 2019-20 and 2020-21 due to the impact of covid-19 pandemic.

Table 2: Growth trend of automobile sales in India

Growth Trend of Automobile Sales in India										
(Number of Vehicles)										
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 %
2011-12	26,18,072	-	8,09,532	-	5,13,251	-	1,34,35,769	-	1,73,76,624	-
2012-13	26,65,015	1.79	7,93,211	-2.02	5,38,290	4.88	1,37,97,185	2.69	1,77,93,701	2.40
2013-14	25,03,509	-6.06	6,32,851	-20.22	4,80,085	-10.81	1,48,06,778	7.32	1,84,23,223	3.54
2014-15	26,01,236	3.90	6,14,948	-2.83	5,32,626	10.94	1,59,75,561	7.89	1,97,24,371	7.06
2015-16	27,89,208	7.23	6,85,704	11.51	5,38,208	1.05	1,64,55,851	3.01	2,04,68,971	3.78
2016-17	30,47,582	9.26	7,14,082	4.14	5,11,879	-4.89	1,75,89,738	6.89	2,18,63,281	6.81
2017-18	32,88,581	7.91	8,56,916	20.00	6,35,698	24.19	2,02,00,117	14.84	2,49,81,312	14.26
2018-19	33,77,389	2.70	10,07,311	17.55	7,01,005	10.27	2,11,79,847	4.85	2,62,65,552	5.14
2019-20	27,73,519	-17.88	7,17,593	-28.76	6,37,065	-9.12	1,74,16,432	-17.77	2,15,44,609	-17.97
2020-21	27,11,457	-2.24	5,68,559	-20.77	2,16,197	-66.06	1,51,19,387	-13.19	1,86,15,600	-13.60
2021-22	30,69,523	13.21	7,16,566	26.03	2,61,385	20.90	1,35,70,008	-10.25	1,76,17,482	-5.36

Source: SAIM

The export trend of Automobile in India

The table presents the export of automobiles from India. Total export of all categories was registered at 29,10,151 in 2011-12 and 56,13,033 in 2021-22 respectively.

Due to a slowdown in the European market, commercial vehicles and three-wheelers observed negative growth rates of 13.64% and 16.48% in 2012–13, respectively. But passenger vehicles and two-wheelers experienced favourable growth rates of 10.25% and 0.47%. In 2016–17, the demand for three-wheelers and two-wheelers decreased by 32.77 percent and 5.74 percent, respectively, while the market for passenger vehicles and commercial vehicles experienced positive growth of 16.18 percent and 4.99 percent, respectively. Three-wheelers and two-wheelers experienced substantial improvement in 2017–18 and 2018–19, whereas exports of passenger vehicles faced negative growth of 1.37 percent and 9.64 percent, respectively.

Commercial vehicles registered negative growth of 10.53 percent in 2017-18 and revive with a growth rate of 3.17 percent in 2018-19 and again declined by 39.58 percent in 2019-20 due to the impact of covid-19 pandemic. In 2020-21, the export of all segments registered negative growth at 13.03 percent but after this in 2021-22, a high rise in each segment can be seen at 42.90 percent in passenger vehicles, 83.37 percent in commercial vehicles, 27.18 percent in three-wheelers and 35.56 percent in two wheelers segment. Overall export in 2021-22 registered a high positive growth rate at 36.06 percent.

Table 3: Growth trend of automobile export from India

Growth Trend of Automobile Export from India										
(Number of Vehicles)										
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 %
2011-12	5,07,414	-	92,663	-	3,62,876	-	19,47,198	-	29,10,151	-
2012-13	5,59,414	10.25	80,027	-13.64	3,03,088	-16.48	19,56,378	0.47	28,98,907	-0.39
2013-14	5,96,142	6.57	77,050	-3.72	3,53,392	16.60	20,84,000	6.52	31,10,584	7.30
2014-15	6,21,341	4.23	86,939	12.83	4,07,600	15.34	24,57,466	17.92	35,73,346	14.88
2015-16	6,53,053	5.10	1,03,124	18.62	4,04,441	-0.78	24,82,876	1.03	36,43,494	1.96
2016-17	7,58,727	16.18	1,08,271	4.99	2,71,894	-32.77	23,40,277	-5.74	34,79,169	-4.51
2017-18	7,48,366	-1.37	96,865	-10.53	3,81,002	40.13	28,15,003	20.29	40,41,236	16.16
2018-19	6,76,192	-9.64	99,933	3.17	5,67,683	49.00	32,80,841	16.55	46,24,649	14.44
2019-20	6,62,118	-2.08	60,379	-39.58	5,01,651	-11.63	35,19,405	7.27	47,43,553	2.57
2020-21	4,04,400	-38.92	50,334	-16.64	3,92,941	-21.67	32,77,724	-6.87	41,25,399	-13.03
2021-22	5,77,875	42.90	92,297	83.37	4,99,730	27.18	44,43,131	35.56	56,13,033	36.06

Source: SAIM

CONCLUSION

The present study analyzed the growth trend in terms of production sales and export of the automobile industry in India. The study found that growth in the number of vehicles in the case of production, sales, and export of the automobile industry has increased over the last decade. Although total annual growth is showing fluctuating trends. Segmentation wise highest growth is found in passenger vehicles in the case of production and sales whereas in the case of export, two-wheelers accounted for the highest growth during the study period. Three-wheelers registered negative growth in sales during the study period due to a straight fall in the year 2020-21. The growth trend of automobiles has declined due to poor result in the growth of the two-wheelers segment in the case of production and sales. The annual growth rate in production and sales of two-wheelers was also continuing decline in the period of 2019-20 to 2021-22. It inferred that continuous negative growth rate from three years of two-wheelers may slowdown in the overall growth of the automobile industry in the future and may create hindrances in route of the automotive mission plan and target set up by the government of India. There is need of improve the growth of two wheelers segment because this segment capture major portion that is 77% composition in the industry leads to major contribution to the economic growth of India.

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