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**IMPACT OF GST ON INDIAN ECONOMY (IMPACT on AUTOMOBILE  
INDUSTRY)**

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**Abstract:**

*In an effort to simplify taxes and stimulate economic growth, India's government implemented the Goods and Services Tax (GST) in 2017. With the automotive industry being one of India's most important drivers of industrial growth and job creation, this study aims to thoroughly analyze the effects of GST on the country's economic development. To do a quantitative study, one must compare the economy's growth, tax income, investment trends, and consumer behaviour before and after GST implementation. This article aims to shed light on the many aspects of GST's impact on the car industry by analyzing empirical data and expert opinion. These aspects include price variations, supply chain efficiency, tax compliance loads, market competitiveness, and customer preferences. Contributing to the current body of knowledge on taxation changes and economic development methods, this paper outlines the numerous effects of GST on the Indian economy, specifically within the car sector. Insights gained from this study can help scholars, policymakers, and industry stakeholders evaluate the success of the Goods and Services Tax (GST) and develop plans to promote long-term economic growth in India.*

**Keywords:** Goods and Services Tax, Economic Development, Industry

**Introduction**

The automobile sector in India is a key engine of economic growth. Since the monetary reforms 1991, its involvement in the global value chain has grown substantially. In 2019, the automotive sector ranked fourth for producing light-engine cars and seventh for producing commercial vehicles. According to IBEF (2020), the Indian auto sector is projected to grow between 16.16 and 18.18 trillion rupees by 2026. The Indian car industry produces more than

30 million cars annually, encompassing many types such as business, traveler, motorcycles, three-wheelers, and more (CMIE, 2020). The automotive sector contributes 7.1% to GDP, employs over 35 million people, accounts for 40% of global inventive activity, and accounts for 4.3% of total exports (Contribute India, 2020). From 2000 to 2020, the automobile area received 5% of India's total foreign direct investment (FDI) of 1,52,553 crores, according to recent data from the Department of Promotion of Industry and International Trade (DPIIT). Given the strengths of middle-class and upper-class families, the expanding young population and easier access to finance contributed to the car industry's expansion. There have been a lot of mergers and acquisitions in the automotive industry recently, which has improved production efficiency and led to new innovations thanks to synergistic effects in technology and increased access to global funding sources.

Increases in vehicle production in India were spurred by government initiatives to establish the country as a global hub for automotive manufacturing, such as Make in India, the Auto Mission Plan 2026, and the NEMMP Plan of 2020. The movement of people, goods, and freight from one location to another was necessitated by an ever-increasing population and burgeoning commercial activity. This, in turn, led to an increase in the demand for motorcycles, scooters, and other motorized vehicles, as well as an improvement in the infrastructure of roads in urban, rural, and suburban areas. When buying cars with engines, price is a major deciding factor. The previous charging systems' complicated expenditure regulation, flow of duties, and overcharges contributed to the inflated price of automobiles in India. However, with the implementation of GST, several assessments were consolidated, which improved the expenditure structure and set the stage for increased efficiency in supply chains throughout India. Vehicle prices dropped because the Input Tax Credit (ITC) was more widely available, and assessments came at a discount.

The Goods and Services Tax (GST) benefited the automotive sector by eliminating interstate charge exchange opportunities and introducing government subsidies for e-vehicles from the market value (R. Mohan, 2020). However, excluding gasoline from the GST purview has significantly impacted the diesel and petroleum prices rise. It would cause a decline in enthusiasm for the automotive sector. Both the petroleum and diesel extract obligations increased from 9.48 to 32.98 rupees per liter in 2014 and from 3.56 to 31.83 rupees per liter in 2021, respectively (ET, 2020). There are a lot of factors that influence the car industry, including the information barrier tax break. This review aims to examine the impact of GST on the automotive industry.

## Objective of the Study

1. To analyze the performance of the Indian automobile sector vis a vis another major country during 2019
2. To analyze the growth of the Indian automobile Industry from 2010-11 to 2017-18 under various parameters, viz., number of factories, number of employees, number of workers, fixed capital amount, invested capital amount, Working capital amount, gross value of output, Net income and profits.
3. To look at the effect on production and sales of automobiles in the pre-GST- period (2014-15, 2015-16 and 2016-17 with a post-GST period (2017-18, 2018-19 and 2019-20).

## Data and Methodology

The review follows a logical order of events. Having an understanding of how the Goods and Services Tax (GST) affects the automobile industry is the heart of the review. It depends on supplementary information acquired from data sets such as the Centre for Monitoring Indian Economy (CMIE) and EPWRF data sets. There are a variety of reports that are mentioned, such as the International Business Environment Forum (IBEF), the annual reports of vehicle organizations, the reports of the Department of Industrial Policy and Planning (DIPP), the report of the fuel arranging and investigating cell, and more. For the purpose of information analysis, a variety of illustrative metrics, including the mean, standard deviation, year-on-year growth (YoY), matched t-test, and connection, were utilized to arrive at the findings of the review.

## Data Analysis and Interpretation

**Table 1: Production, Sales, and GST/VAT of automobiles of top 10 manufacturing countries**

S. No	Nation	Production in 2019				Sales in 2019				Tax rate (%)
		Cars	%	Comm Vehicles	%	Cars	%	Comm Vehicles	%	
1	China	2,13,60,19	41.19	43,60,472	22.3	21,444,180	47.59	43,24,497	20.25	1-56
2	USA	25,12,780	4.85	83,67,239	42.8	4,715,005	10.46	1,27,64,99	59.79	0-10
3	Japan	83,28,756	16.06	13,55,542	6.95	4,301,091	9.54	8,94,125	4.19	10
4	Germ	46,61,328	8.99	-	-	3,607,258	8.00	4,09,801	1.92	19
5	India	36,23,335	6.99	8,92,682	4.57	2,962,052	6.57	8,54,839	4.00	28+
6	Mexic	13,82,714	2.67	26,04,080	13.3	761,720	1.69	5,97,951	2.80	16
7	SKore	36,12,587	6.97	3,38,030	1.73	1,539,060	3.42	2,56,074	1.20	10
8	Brazil	24,48,490	4.72	4,96,498	2.54	2,262,069	5.02	5,25,781	2.46	17
9	Spain	22,48,109	4.34	5,74,336	2.94	1,258,260	2.79	2,43,000	1.14	21
10	Franc	16,75,198	3.23	5,27,262	2.70	2,214,279	4.91	4,79,698	2.25	20

Source: Commercial Vehicles world 2020

Table 1 presents a brief overview of the production and sales of automobiles and commercial vehicles in ten countries that manufacture automobiles. In addition, it illustrates the current assessment rates that are applicable to automobiles. Depending on the motor limit and the traveler limit, China is imposing a duty rate that may range from 1 to 56%. This is something that ought to be observed. There are several regions in the United States of America that do not impose a fee on automobiles, while few states impose a burden of up to ten percent. There is a standard rate that applies to the remaining locations; however, the expenditure rates are lower when compared to the duty rates that are being charged in India. Alongside the cess, the Goods and Services Tax (GST) in India is appropriate at a rate of 28%. In addition to other arrangement drives of states that are areas of strength for and from customers, the implementation of the Goods and Services Tax (GST) has motivated the expansion of the automobiles that are now being offered. Because of the lack of interest and the economic slowdown, the number of transactions created and completed in 2019-20 was lower than in previous years.

**Figure 1**

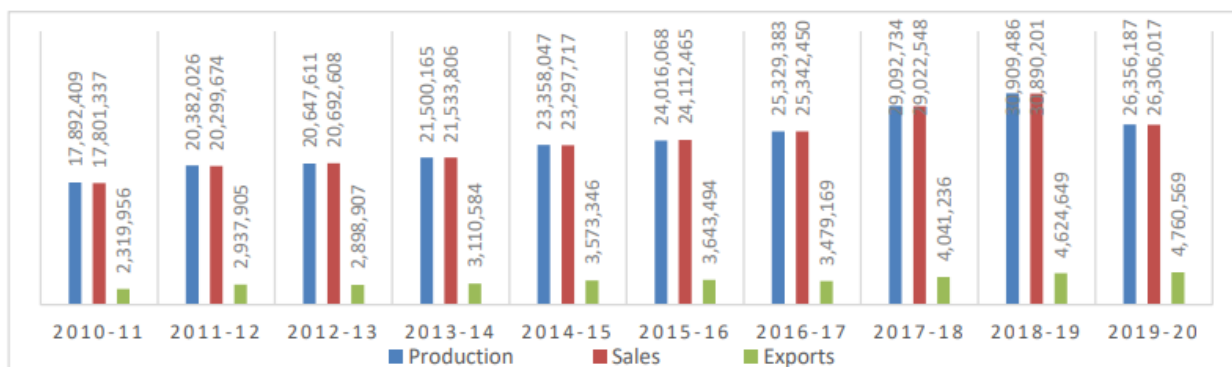


Figure 1 displays the production and sale of automobiles in India over ten years, from 2010-2011 to 2018-2019. Production, sales, and exports generally increased regularly. The implementation of GST, in conjunction with other state-level arrangements, has spurred growth in the automotive industry and the sale of both new and used vehicles. However, due to a lack of interest and a stalemate in the economy, production and sales dropped in 2019-20.

**Table 2. Growth of the Automobile industry in India**

Year	Before GST							After GST
	2010-11	2011-12	2012 - 13	2013-14	2014-15	2015-16	2016-17	2017-18
Factories	220 (-)	200 (-9%)	255 (28%)	188 (-26%)	182 (-3%)	182 (0%)	238 (31%)	210 (-12%)
Employees	128,135 (-)	152,731 (19%)	148,497 (-3%)	176,510 (19%)	187,346 (6%)	185,779 (-1%)	206,946 (11%)	207,213 (0%)
Workers	91,470 (-)	111,191 (22%)	110,273 (-1%)	120,786 (10%)	135,282 (12%)	135,837 (0%)	147,204 (8%)	147,586 (0%)
Fixed capital'	421,159 (-)	482,561(15%)	578,828 (20%)	708,802 (22%)	703,050 (-1%)	775,543 (10%)	980,804 (26%)	907,831 (-7%)
Invested capital'	573,125 (-)	694,000 (21%)	790,311 (14%)	895,239 (13%)	900,842 (1%)	1,029,464 (14%)	1,228,429 (19%)	1,146,269 (-7%)
Working capital'	52,570 (-)	9,496 (-88%)	21,046 (-1 %)	143,846 (-783%)	-234,347 (63%)	61,406 (-74%)	90,156 (-247A)	125,384 (39%)
Gross value of output	1,526,593 (-)	1,900,460 (24%)	2,140,476 (13%)	2 158 586 " (1%)	2,508,956 (16%)	2,759,543 (10%)	3,039,291 (10%)	3,160,785 (4%)
Net income	129,461 (-)	105,025 (-19%)	207,454 (98%)	157,915 (-24%)	332,606 (111%)	374,125 (12%)	354,769 (-5%)	276,252 (-22%)
Profit	70,434 (-)	33,784 (-52%)	121,207 (259%)	62,507 (-48%)	229,528 (267%)	248,965 (8%)	161,121 (-35%)	125,403 (-22%)

The car industry progressed from 2010–2011 to 2017–2018, as shown in Table 2. The total gain, benefit, number of processing plants, fixed capital, and contributed capital have all shown negative development. The lack of significant progress between legislators and laborers is a point to discern. Positive growth is observed in working capital and gross worth of results. There were additional internal and external factors that caused variations in the automotive industry over the review period. Additionally, the government's substantial approach has had repercussions on the car industry's presentation. The demonetization and implementation of the Goods and Services Tax (GST) had a significant impact on the growth

of the automotive sector. One possible effect of demonetization is the downward trend in working capital during 2016–17. It is possible that GST is to blame for the 2017–18 deluge of working capital. The reason behind this is that in order to agree to GST arrangements, businesses need a solid cash flow. This is in addition to the fact that businesses' overall gain advantage will drop. The slow growth of the automotive industry is also reflected in other indicators.

**Table 3. Production and Sale of automobiles (Values in Numbers)**

Year	Before GST		Year	After GST	
	Production	Sales		Production	Sales
2014-2015	23358047	23297717	2017-2018	29092734	29022548
2015-2016	24106068	24112465	2018-2019	30909486	30890201
2016-2017	25329383	29022548	2019-2020	26356187	26306017
Mean	24264499.33	25477576.6	Mean	28786135.67	28739588.67
S.D.	995171.7298	3096945.25	S.D.	2292080.899	2305154.057
Paired t-Test values for production			Paired t-test values for sales		
N 3			N 3		
Correlation $r = -0.7018$			Correlation $r = -0.8530$		
Paired Sample t-test 2.5482			Paired Sample t-test 1.0856		
P value of Paired Sample t-test 0.1256			P value of Paired Sample t-test 0.3910		

H1: H0: There is no considerable distinction underway in the offer of cars when GST is applied.

The results of the matched t-test and the correlation and coefficient of the increases in vehicle production before and after the GST are displayed in Table 3. The correlation between pre- and post-GST car creation is significantly negative, at -70 percent. In essence, when the Goods and Services Tax (GST) rolls out in India, a significant negative correlation at - 85% is seen in the sale of automobiles. This implies that the creation and sale of automobiles are unrelated to GST. The average production benefits increased from 24264499 units to 28786135 units, and sales increased from 25477576 units to 28739588 units following GST implementation, which is an interesting fact to observe. At the 5% significance level, however, there is no statistically significant difference between car production and sales, according to the Matched example t-test findings. Thus, the unfounded assumption is admitted, and it may be reasoned that there is no significant difference between pre-and post-GST deals and ongoing projects.

**Table 4. Commercial, passenger, two-wheeler, and three-wheeler vehicle wholesale price index**

Year	2011-12 (Base Year)	2012- 13	2013- 14	2014- 15	2015- 16	2016- 17	2017- 18	2018- 19	2019- 20
Motor vehicles, trailers and semi-trailers	100	100.1 (0%)	99.1 (-1%)	102.6 (4%)	101.1 (-1%)	101.7 (1%)	114.5 (13%)	122.7 (rA)	100.2 (-1 rA,)
Passenger Vehicles	100	95.9 (-4%)	111.6 (16%)	119.8 (7%)	119.1 (-1%)	117.2 (-2%)	111.1 (-5%)	110.9 (0%)	111.8 (1%)
Light medium & heavy	100	107.4 (7%)	113.0 (5%)	114.1 (1%)	113.6 (0%)	114.1 (0%)	113.9 (0%)	114.1 (1%)	114.2 (0%)
Minibus bus	100	105.9 (6%)	108.1 (2%)	109.7 (1%)	111.0 (1%)	111.6 (1%)	115.0 (3%)	116.5 (1%)	120.0 (3%)
Motor cycles	100	100.7 (1%)	98.8 (-2%)	101.6 (3%)	101.4 (0%)	103.2 (2%)	105.6 (2%)	106.9 (1%)	115.1 (8%)
Scooters	100	101.3 (1%)	97.1 (-4%)	98.0 (1%)	97.2 (-1%)	97.3 (0%)	99.6 (2%)	101.4 (2%)	103.9 (2%)
Three wheelers	100	107.0 (7%)	113.0 (6%)	115.8 (2%)	116.0 (0%)	122.5 (6%)	128.4 (5%)	133.3 (4%)	137.1 (3%)

From 2011–2012 to 2019–2020, with 2011–2012 as the base year, Table 4 displays the evolution of the discount cost list. Light, medium, and heavy vehicles, minibusses, bikes, bikes, and three-wheeler parts exhibit unusual price fluctuations. The WPI showed a dramatic increase for engine vehicles, trailers, and semi-trailers in 2017 and 2018, which indicates the rising cost of vehicles. Between the time before and after the implementation of GST, discount costs for travel vehicles decreased. It demonstrates that following the implementation of GST, the discount costs of engine cars increased while the costs of traveler vehicles decreased. In addition, the comparative pattern continued in 2018–19; 2019–20 saw no change in car prices and a decline in the WPI record for engine vehicles, leading to sales

and an increase in popularity. Except for engine vehicles and traveler vehicles, there aren't a lot of price fluctuations among various parts of cars when GST is in effect.

## **Conclusion**

Many changes have occurred in India's economy since the Goods and Services Tax (GST) was introduced, most notably in the car sector. A number of important conclusions are drawn from this thorough investigation, which integrates quantitative and qualitative data. First, by consolidating several indirect taxes into one, GST has simplified India's taxation system, which has improved efficiency and reduced tax cascading. Second, it has greatly enhanced automotive supply chain operations, making cross-state shipments easier and reducing logistical challenges. Thirdly, by promoting a more equal business climate and doing away with interstate trade obstacles, GST has increased market competitiveness for automotive firms. In addition, consumers' buying habits and brand preferences have changed as a result of GST's impact on pricing structures and tax rates. Industry stakeholders have faced hurdles throughout the transition to GST, such as initial compliance burdens and changes to new tax systems, notwithstanding these benefits. But it has also opened doors to new possibilities regarding innovation, cost reduction, and market penetration. For the economy's future, officials need to keep an eye on how GST is being implemented, fix any problems that crop up, and tweak their policies as needed to keep growth and development going strong. To make the most of GST as a tool for economic growth in India, researchers should look into how it will affect the car industry and the economy as a whole in the long run, and lawmakers should be careful to adjust the rules of the tax to reflect changing market conditions.

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