

**CRISIL YOUNG THOUGHT LEADER 2007 SERIES**

**DISSERTATION ON**

**HOW WILL THE PLANNED 1 LAKH CAR IMPACT  
THE INDIAN ECONOMY?**

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## **Executive Summary**

The announcement of the launch of the 1 lakh car by the Tata Group has been one of the most keenly anticipated events in the automobile industry. The success of this project will definitely impact the Indian economy in a significant way. The impact of this venture shall be felt by all segments of the society, from the poorest to the richest, from the small car manufacturers to the auto giants and the Indian economy as a whole. This paper analyses the potential market demand for this car along with its repercussions on the oil demand, inflation, interest rates, insurance, automobile industry, accident related deaths, and the infrastructure. It also explores the possibility of utilization of this vehicle as a means of public transport. While this venture can bring about development in the automobile industry and the long due improvement in our mass transit system, the negative aspects of this endeavor cannot be easily ignored.

## **Introduction**

In the recent years, the Indian economy has seen rapid growth and development, resulting in an increase in disposable income of the middle class. This has left its population base of millions of potential customers demanding for more comfort and class. The automobile industry too has grown at a rate of nearly 12%<sup>1</sup> over the last decade. According to the Society of Indian Auto Manufacturers, the total sales of passenger vehicles by automobiles giants like Maruti, Tata and Hyundai is expected to be 1.4 million in the year 2007-08.

This, however, represents a tiny share of India's potentially giant market – India just has about 7 cars per 1000 people as compared to 477 per 1,000 in the US<sup>2</sup>. This could change rapidly if prices of four-wheelers dropped to the range of two-wheelers. According to Automobile India, about 75 lakh two-wheelers were sold in India in the last one year, typically for prices between Rs 30,000 and Rs 70,000. The cheapest passenger car, however, starts from 2.2 lakh upwards. The Tata's target price of Rs 1 lakh for their new car will bridge this glaring gap between the two segments. Given that India's middle class numbers the largest in the world – close to 300 million<sup>3</sup> - the prospect for sales is enormous.

## **Effect on the automobile industry**

India Infoline's Amar Ambani says that the compounded annual growth rate for the four-wheeler segment is about 15% for the next 2 to 3 years<sup>4</sup>. However, he expects the two-wheeler segment to grow by only 7.4% because of pricing pressures and stiff market competition. The two-wheeler manufacturers have already burnt their fingers by low pricing to increase their market share. Further price reduction along with the burden of rising interest rates would be quite impossible for them to bear. Without any attractive discounts, a large chunk of their customers is bound to be lured towards the 1 lakh car.

The economy segment (cars priced below Rs 2.5 lakh) dominates the car industry and had a share of 46.9% of all the vehicles sold in 1999-00<sup>5</sup>. A significant portion of these customers would also be interested in the Tata's new venture. Lately, soaring prices of steel and raw materials, in addition to sky-high auto loans (interests ranging from 12-18%) have cost a significant dent in the car manufacturer's profits. Hence, they will find it difficult to reduce their prices further to compete with the Tata's car. In due course, this would inevitably divert some of their customer base to the Tatas.

1: 'The Next People's Car' by Robyn Meredith on [www.forbes.com](http://www.forbes.com) dated 04/16/07

2, 3: 'Just what overcrowded, polluted India didn't need - the \$3,000 car' by Andrew Buncombe on *The Independent* (London), dated 22/06/07

4: <http://www.moneycontrol.com/india/news/market-outlook/amar-ambaniindia-infoline/276310>

5: 'Crash Boom Bang: Second Hand Car Imports in India', Arjun Bhattacharya and O'Neil Rane, *Centre for Civil Society*, Working Paper No. 0060, 2003

A considerable fraction of the second-hand car market may also be hit. True Value, Maruti's branded 'used-car' business venture in 2001, plans to do a million valuations this year, almost as much as India's new car market. The 1 lakh car might upset their plans, as the price of most economy cars in second-hand market is more than 1 lakh. The premium car segment isn't likely to be effect by the launch of this car as they deal with a different set of customers set altogether.

The launch of this car might create a scenario in which other major players might also rush in for a share of the pie. This is comparable to the current state of the aviation industry in which a tremendous boom in the low cost carriers has resulted in heavy losses for all of them.

### **Potential market for the car**

Ratan Tata, Chairman of Tata Motors' parent company, Tata Group, believes that his company can eventually sell as many as 1 million cheap cars annually<sup>6</sup>. When Tata first suggested these targets for his ultra-cheap car a few years ago, other manufacturers were skeptical, and considered the project a pipe dream. But if Tata lures away even 10% of the 7.5 million Indians who buy motorbikes and scooters every year, apart from having a hugely popular brand, it also would have expanded the India's car market by more than half.

The burgeoning middle class population of about 300 million would certainly be the primary intended market that this car would try to capture. In India, owning a car has always been a dream for the status-conscious middle class population. From Table 1 below, it is clear that by bringing down the price of a car from 2.2 lakh to 1 lakh , the Tata's potential customer base would have increased from around 11% to 29% (assuming that a family's expenditure on transport would approximately be equal to its annual income).

Table 1: **Income distribution in India**

Income class	Population %	Income class	Population %
0-5,000	10.5%	50,000-70,000	9.5%
5,000-10,000	7.1%	70,000-1,00,000	9.8%
10,000-20,000	11.2%	<b>1,00,000-1,50,000</b>	<b>9.4%</b>
20,000-30,000	8.9%	<b>1,50,000-2,50,000</b>	<b>9.0%</b>
30,000-50,000	13.1%	<b>&gt;=2,50,000</b>	<b>10.6%</b>

Source: Research paper on 'Distribution of household wealth in India' by S. Subramanian and D. Jayaraj, October 2006

6: 'Autopian Vision' by Simon Robin on *The Time*, dated 27/09/07

Since this car is going to be gearless, this will attract another segment of people who find car driving too complicated and difficult. A section of people who are slightly better off might also decide to go for this car while buying a second car for their spouses or children, giving rise to the concept of ‘multi-car’ families. The Tata’s can also expect to have a decent export market for its vehicles in countries like Nepal, Sri Lanka and a few African countries.

### **Inflation**

The gasoline consumption would go up drastically with the influx of 1 million new vehicles on Indian roads. This would have catastrophic effects on the demand and the price of oil in India. The effect on inflation can roughly be predicted as follows:

Table 2: **Direct contribution of the 1 lakh car to the inflation**

Average consumption of oil	= 2,485,000 barrels/day ( <i>according to rediff.com</i> ) = 2,485,000x158.98x365 liters/year ≈ 1,440 lakh tonnes/year
Average distance travelled by an automobile	= 15,000 km/year ( <i>according to businessworld.com</i> )
Average mileage of an automobile	= 18 km/liter ( <i>assumed</i> )
Total registered vehicles in India	≈ 10 crore ( <i>12% annual growth from 7,27,18,00 vehicles in 2004 according to yahoofinance.com</i> )
Oil consumption by automobiles	≈ 15,000 x 10 crore /18 ≈ 833.3 lakh tonnes per year
Contribution of transport in oil consumption	≈ 833.3/1440 ≈ 58%
Increase in the vehicles by the launching of lakh car	= Expected annual sales ÷ current vehicle base = 10 lakh / 10 crore = 1% annually
Resultant increase in the oil consumption because of the 1 lakh car	= 0.58 x 0.01 ≈ 0.6 % annually
Increase in price caused by the 1 lakh car	≈ 0.6 % annually
Weight of oil in Consumer Price Index	= 6.38%
Direct contribution of the 1 lakh car in the increase inflation	= 0.0638 x 0.006 ≈ 0.04 %

From the above calculations, we can clearly see that there is a substantial increase in oil prices caused directly by the launch of this car. Rising oil prices would increase the transportation cost, which would in turn increase the costs of food items and other consumer goods. All these constitute a major portion of

the consumer price index, which is used as a measure of inflation (oil- 6.3%, transport - 2.6 % and food items - 57%). An increase in their price would cause inflation to spiral upwards. This would consequently push the interest rates upwards, thus increasing the overall cost of ownership of a car.

### **Trade Deficit**

According to the Department of Commerce, the value for oil imports during April 2006 – Feb 2007 was around Rs 2.8 trillion. This accounted for about 35 % of our total imports of Rs 8 trillion. Our export during the same period were around Rs 5.6 trillion, making our trade deficit Rs 3.4 trillion. This means that the value of oil imports was almost equal to our trade deficit last year. Clearly, importing oil is a huge burden for the country and even an increase of 0.6% in its demand can have disastrous consequences from India's foreign trade point of view. In the recent times, the rupee has been going strong against the dollar. Weakening of the dollar coupled with increased oil demand in the future could prove to be disastrous for the Indian economy.

### **Accidents**

According to Tribune India, the rate of accidents in India is about 35 per 1000 vehicles. In comparison, accidents occur with the rate of about 4 to 10 per 1000 vehicles in the developed countries. Our country loses nearly Rs 8 billion annually as a result of this. An alarming trend in these accidents is that about 75% of them take place in cities, which account for only 7% of the total road network of the country. Evidence from a research paper in the Journal of Accident Analysis and Prevention (April 2004) by Elizabeth Kopits and Maureen Cropper suggests that the traffic fatalities are directly proportional to the traffic density. They also predicted a 147% increase in accidents in India within the next 2 decades. The launch of this car would definitely increase the traffic density in the cities and further aggravate the issue of accidents.

Besides traffic density, the principal causes of accidents are carelessness, drunken driving, juvenile driving and road rage. The escalating traffic density will lead to excessive traffic congestion, which can induce behavioral changes such as road rage and rash driving, thus increasing the risk of accidents.

### **Insurance**

Since the number of accidents is bound to increase with the launch of this car, the insurance companies are bound to hike their insurance premiums. This will increase the average cost of living, adding to the

woes of inflation. The average third party insurance for a 1-1.2 lakh car is around Rs. 425, whereas comprehensive insurance costs nearly Rs 4500. A car loan of about 1.2 lakh for 5 years (@16% interest) would have an EMI of around Rs. 2900.

Table 3: **Percentage of Debt in different household asset holding in India**

Size of asset holding	Cash Loans % in asset	Size of asset holding	Cash Loans % in asset
0-15,000	18.6 %	1,50,000-2,00,000	3.2 %
15,000-30,000	10.1 %	2,00,000-3,00,000	3.0 %
30,000-60,000	6.8 %	3,00,000-4,50,000	2.7 %
<b>60,000-1,00,000</b>	<b>5.2 %</b>	4,50,000-8,00,000	2.8 %
<b>1,00,000-1,50,000</b>	<b>4.1 %</b>	>= 8,00,000	2.0 %

Source: Computations based on data in NSSO (2005 59<sup>th</sup> Round, Report No. 500)

As we can see from Table 3, the target customer base of this car has an average 4-5% of its assets in cash loans.

Table 4: **Share of comprehensive insurance in disposable income**

EMI attracted on a loan of 1 lakh rupees	= Rs 2,500 (for 5 years @ 16% per annum)
Average maintenance and fuel costs	= Rs 2,500 per month (assumed)
Average income of the targeted customers	= Rs 10,000 per month (assumed)
Average income that is disposable	= (10,000 - 5,000) x 12 = Rs 60,000
Share of comprehensive insurance in the remaining disposable income	= 4,500/60,000 = <b>7.5%</b>

It can be safely assumed that not many of these people would like to shell out around 7%-10% of their disposable income on insurance premium and would rather take third party insurance. In this scenario, the owner will not be able to claim any damage to the vehicle/passengers in the event of an accident. This will lead to high maintenance costs, lesser disposable income and lesser purchasing power for the people.

### Loans

Manish Mathur, Principal at A. T. Kearney's New Delhi office, who oversees the firm's automotive practice, says that 85-90% vehicles bought in India are financed, typically up to 80% of the cars value<sup>7</sup>.

This figure is going to increase both in number and percentage with the car segment throwing its doors opens to the lower middle class. Assuming that a loan of Rs 80,000 is acquired per car, the banks would have to come out with additional Rs 8000 crore per year for auto financing. As a result of decreased liquidity, the banks might turn to RBI for the extra financing. This might increase the repo rate at which the banks borrow from RBI, increasing the interest rates. This would increase the average cost of ownership of a car. This trend has been seen in the recent years, with the auto loans touching as high as 18% per annum.

Investment is usually inversely related to rate of interest as shown in Figure 1 below. The increase in the interest rates would mean lesser investment by the investors who might transfer this cost to the customers.

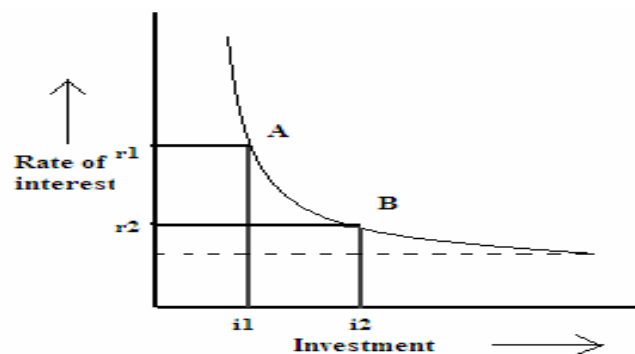


Figure 1: Investment Vs Rate of Interest

The customers of the 1 lakh car would usually belong to the lower income classes and in all probability would have lower credit scores. This might lead to sub-prime lending by the banks, increasing their credit risk, further leading to a high default rate which increases the Non Performing Assets of the banks. As mentioned before, a significant segment of the customers would prefer third party insurance to comprehensive insurance. In the event of an accident, they would face high repair costs and a very high chance of defaulting on the remainder of their loans.

### **Pollution**

Automobiles are a major source of air and noise pollution. The manufacture and use of automobiles makes up 20-25 percent<sup>8</sup> of the carbon dioxide emissions that are mainly responsible for global warming.

8: <http://www.worldcarfree.net/resources/stats.php>

The Euro-III norms dictate that a petrol car emits 27 kg of carbon monoxide on the road every year<sup>9</sup>. So even if the Tatas meet half of their target sales of 1 million cars, they would generate an additional 13,500 million tonnes of carbon monoxide annually (27 kg x 5,00,000 cars/year). The additional pollution caused would further aggravate health problems like visual impairment, breathing disorders and even deaths. The deaths caused due to pollution in 1998 in India were about 2.5 million. This might trigger an increase in the funds allocated for research in eco-friendly alternatives such as bio-fuels and electric cars like Reva. India might also decide to impose the Kyoto Protocol and open up emissions trading in India to counter excessive pollution.

### **Infrastructure**

One of the most pertinent concerns arising from the launch of this car is that would the Indian roads be able to handle an additional 10 lakh cars per year apart from the present 1.3 crore vehicles that ply the Indian roads. The traffic situation would deteriorate drastically from its present limp condition. Traffic snarls, mile-long jams and bumper-to-bumper driving during the “non-office” hours would become a matter of routine even in small cities and towns.

In a country of a billion-plus people, providing good roads to commute from one place to another has been an uphill task for government agencies as it involves infrastructural costs of billions of rupees. A sudden spurt in the number of vehicles plying the roads caused by this project would put an additional pressure on the already overburdened traffic system of our nation. To manage and regulate the increased traffic, the government would need to increase its spending on infrastructure and its pool of traffic personnel. More projects like the toll bridge between Noida and Delhi by NTBCL and the Delhi underground metro would need to be encouraged. It could achieve this by the Public-Private-Partnership model already effectively implemented in the aviation industry.

All these induced changes would necessarily mean enormous investment from the government. In order to secure funding for such large-scale development schemes, the government would need to adopt measures like increase in the road tax, congestion tax, tax on fuel, excise duty on cars, income tax, etc.

### **Parking**

Entry of this car into the automobile segment would add to parking woes of India. The increased number of cars would not only lead to increased parking charges but will also amplify the real estate prices.

10: <http://www.businessworld.in/content/view/2200/2296>

This might popularize the multi-level parking model in India which is a common concept in foreign countries. However a recent study by the Times of India shows that the costs for this model in cities like Delhi may be between Rs 3-9 lakh per car. With 1.3 million cars and 3 million two-wheelers in Delhi, the multi level parking model would not work unless there is a steep increase in the parking charges to 10-40 rupees an hour. The spiraling parking costs may also start the trend of drive-in restaurants in India.

### **Alternative Public Transport**

Another possible market for this project can be the public transport industry. Amongst the small vehicles, the three-wheeler auto-rickshaws form a major chunk of this market. These are noisy, uncomfortable, slow (maximum speed 40-50km/hr) and fuel-inefficient. These new 1 lakh cars can provide a viable, comfortable, faster, cost and fuel efficient alternative to this outmoded means of transport. Besides, these are also much cheaper and fuel efficient than the Ambassadors and Fiat Padmanis that usually ply as taxis. These features will encourage the taxi drivers and owners to choose this car.

### **Conclusion**

The one-lakh car is a case study which is not only watched by the car industry of India but the entire world. The introduction of this car would reduce the difference between the have and the have-nots and place India on the world map of the leading automobile producing destinations. The Government will be forced to develop a faster and more efficient mass transit system resulting in a more comfortable experience for the passengers. However, the success of this car might lead to several adverse economic conditions. The infrastructural changes effected by the Government might be too slow and not enough in number. Oil prices would skyrocket along with a surge in inflation and interest rates. There would be a severe parking space crunch that will cause the real estate prices to shoot up. The advantage gained by the low cost of this car would therefore be negated by the high cost of ownership of the car.

