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DISSERTATION ON  
THE EXPORT POTENTIAL  
OF THE  
INDIAN AUTOMOBILE INDUSTRY

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## **EXECUTIVE SUMMARY**

The Indian automobile industry has a big potential for exports. China and India are the two largest potential automotive markets of the 21st century, and both have been displaying moderate to high rates of growth in both the vehicle as well as the component industry over the years. India currently has only one percent market share in world auto sector, ninety-nine percent of the market still lies outside India. So though the base is small, the opportunities are immense.

India's competitive advantage lies in low cost production and engineering & IT skills. The cost differential enjoyed by India ranges from 10 percent to 35 percent depending on value addition, engineering complexities & level of assembly. This itself is significant considering that global auto components requirement is \$1 trillion. On the flip side, our volumes are low, firms spend very little on R&D, the industry is fragmented, design capabilities are limited and labour productivity is low.

Therefore, to sustain and grow exports at high levels India needs to focus on indigenous R&D, leverage the strengths in IT & develop facilities for designing, concentrate on non-traditional markets and build competencies & focus exports in areas such as components (forgings, castings, stamped steel, rubber and aluminium parts) and the small-car & two-wheeler segment. There is also a need to expand the domestic market and to consolidate.

Thus the potential is huge and basic building blocks are presently in place but in order to make the automobile industry in India globally competitive much needs to be done.

## **CHANGES HAPPENING IN GLOBAL AUTOMOBILE INDUSTRY**

Global automobile firms are segmenting into two distinct product markets: low priced cars and premium segment cars, with intense competition in both segments. The strategy is to make many variants using the same platform. Moreover, to come across intense competition, large corporations are pooling their resources. For instance Toyota and Nissan are working on a common small car platform, with an investment of \$1.35 billion targeting volumes of 500,000 cars annually. In a situation of global oversupply, weak demand and intense competition, aggressive cost reduction is the mantra. For instance, Toyota has a reduction target of 30 per cent for all new models. Ford has established a Total Cost Management Centre to reduce the cost of every single component. All major firms are reducing suppliers, pooling procurement and leveraging e-business.

The global automotive market is growing at 6 percent per annum. Most of this growth is will accrue to Asian economies. China (66 %), Thailand (16 %) and India (11 %) are expected to account for a 93 % of growth in Asian Auto Industry till 2010<sup>1</sup>. The recognized potential of automobile industry for low-cost producing countries is likely to result in a tough competition amongst Asian countries, with governments backing the Industry. The Chinese government, for instance, is investing US\$ 6 bn in an exclusive 'auto-component business city'. Thailand Automotive Institute, which promotes the industry in Thailand, has introduced training programmes in product design and production management. It has also set up centres to prototype and test products.

### **CURRENT EXPORT SCENARIO OF INDIAN AUTOMOBILE INDUSTRY**

In 2002-03, the foreign exchange earnings on account of automobile exports were to the tune of Rs. 2,113.27 crore. The automobile exports were impressive with 63%<sup>2</sup> growth. Passenger car exports have nearly trebled in four years, from 28,122 units in 1998-99 to 71,653 vehicles in 2002-03. The two-wheeler segment is also growing with exports zooming from 100,004 units last year to 179,000 units in 2002-03. The commercial segment has also witnessed unprecedented growth rates.

India's auto component exports amount to just 0.1 per cent of the US\$ 1 trillion global automotive components market. However, Indian auto components industry is continuously experiencing increase in exports as global OEMs are outsourcing their requirements to India. India has almost doubled its exports over the period 1995-2001. About 10 per cent of automobile components produced in India are now exported. In fiscal year 2002-03, Indian automotive component exports are estimated to have jumped nearly 40 percent to US\$ 800 million (Nearly two-thirds of which go to the United States and Europe). OEM and Tier I component sales account for 40 percent of all component exports from India, up from 20 percent five years ago.

Fifteen major global car makers - including GM, Ford, Daimler-Chrysler, Mercedes-Benz, Audi, Isuzu and Nissan – and leading component makers like Delphi, Visteon and Caterpillar, have their outsourcing offices in the country, with a combined budget of approximately US\$ 1.5 billion.

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<sup>1</sup> Source: Pricewaterhouse Coopers Study

<sup>2</sup> Refer Exhibit I for segment-wise growth rates

The table below gives the details of some of the activities/plans of both international and domestic companies pertaining to automobile & auto components exports & outsourcing from India:

<b>Company</b>	<b>Outsourcing/Exports Plans From India</b>
Ford	Outsource engines for US\$ 100mn in 2004, To be scaled up to US\$ 500mn
Delphi	Outsource components for US\$ 140mn in 2004, To go up to US\$ 250mn by 2007
International Truck	To move US\$ 300mn of its US\$ 1.20bn annual purchases to India by 2007
Robert Bosch	Outsourcing for \$25mn in 2004, To move up to \$100mn in 3 years
Volvo	To increase its outsourcing of components to US\$ 120mn by 2006
Fiat	Exporting cars to markets such as Sri Lanka, Nepal and Bangladesh Looking to develop key South-East Asian markets such as Singapore and Malaysia To outsource components worth US\$ 200 mn for its international plants
Hyundai	Establishing India as its export base for small cars. Annual export plans of 35000-40000 cars To export 50,000 engines and transmission devices to its facilities in Malaysia and Indonesia as well as to Kia Motors in Korea
Toyota	Setting up auto parts unit with a \$197 million investment to supply transmission systems to Toyota operations worldwide
Hyundai	Establishing India as its export base for small cars. Annual export plans of 35000-40000 cars. To export 50,000 engines and transmission devices to its facilities in Malaysia and Indonesia as well as to Kia Motors in Korea.
Daimler Chrysler	To export components worth Euro 70 mn to its subsidiaries
Honda	Establish hub for two-wheeler exports
Renault	To source truck parts
General Motors	Plans to invest 60 million for engineering and research on materials and software for Automobiles.
Telco	Agreement with MG Rover to supply the Telco Indica into Europe. 1,00,000 units to be exported over next 5 years.
Mahindra & Mahindra	Exploring setting up manufacturing plant(s) in Eastern Europe for Bolero and distributor networks across Europe for Scorpio.

Source: Created using news items

## **COMPETITIVE POSITIONING FOR EXPORTS (SWOT ANALYSIS)**

### **Strengths**

- **Cost Advantage-** India's \$8 per hour wage rate for skilled labour is lower than the \$20 per hour prevalent in developed markets. In the forging industry, for example, India's labour cost is 9.40 percent of sales, but it is far higher for global forging firms like Dana (38.80 %). Indian manufacturers spend 3-15 percent of sales on labour cost whereas global companies spend 20-40 percent. For instance, cost of labour for Maruti, Ford or Hyundai is less than two per cent of sales. For BMW or Daimler Chrysler in Germany, this is in excess of 21 per cent. Likewise, we have cost advantage at various levels which taken to its logical limit translates into creating a new vehicle platform at US\$ 250 million as against US\$ 1 billion for other global players. Further, according to industry estimates, while the cost of automotive design in Europe ranges as high as

\$800 per hour, and even higher in the US, costs are as low as \$60 per hour in India for equivalent quality.

- **Engineering Skills-** Increasingly OEMs around the world are not only looking at lower cost but also adequate design capabilities in the outsourced countries. India has strong competitive advantage in design and engineering skills vis-à-vis other low cost economies (China & Thailand). India is now the ninth country in the world to design a vehicle on its own.
- **Skills in Low Cost Automation-** India possesses IT skills that makes it an excellent source for IT based Engineering Solutions for Product & Process Integration. India's largest pool of educated and qualified workforce<sup>3</sup> will give an edge to India over its competitors (like China, Brazil, Mexico & Germany).
- **Quality Conscious Manufacturers-** Indian auto components industry widely uses global technologies – Japanese, European, American and Korean. India also has largest number of ISO/QS certified companies. Exhibit II gives some facts reflecting the quality standards of Indian Auto Industry.

### **Weaknesses**

- **Low investment in R&D-** Indian vehicle manufacturers have been spending less than 0.4 per cent of sales on R&D. Companies like Daimler -Chrysler spend over eight per cent of their huge turnover on R&D. Also, investment in R&D by Indian auto components companies is also very low (1 percent of sales) as compared to Korea (7 percent of sales).
- **Quality Considerations & Labour Productivity-** Though the automobile (vehicles) industry matches global standards; the same is not the case with components. The rejection rate for Indian auto components is 2,900 parts per million (ppm), which is more than 12 times the world level of 240 ppm. Further, much of the low labour cost advantage is nullified on accounting for the relatively low labour productivity in the country as compared to international norms.
- **Fragmented Components Industry-** Indian auto components industry is highly fragmented. Of the 400-odd component manufacturers, only 80 have revenues higher than US\$ 10 million. Less than 15 companies have exports of over US\$ 10 million. This

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<sup>3</sup> Refer Exhibit III

fragmentation is preventing players to meet large volumes demand of global auto majors.

- **Inadequate Growth of Domestic Market-** We cannot view the export potential in isolation, to exploit export potential evolution of the domestic industry is indispensable. China's per capita income of \$800 has driven its domestic automobile industry past the inflexion point. India's per capita income (\$250) has to increase to at least \$600 before something similar can happen here. In 1999, India sold more cars than China. Last year, China's car sales (1.2 million) were double that of India's (600,000).
- **Insufficient Design Capabilities-** Over the last five years, global automakers have been passing on responsibilities of research, design, development, testing, validation, and integration to vendors. And even as OEMs start outsourcing from low-cost countries, they want to ensure that the new sources have the desired design capabilities too. India at present does not have sufficient design capabilities.

### **Opportunities**

- **Slowdown in Global Auto Industry-** The global auto industry is going through the worst slowdown in 20 years. As a result companies like GM, Ford, and Cummins are increasingly looking at low cost countries like India, China and Thailand for sourcing components at cheaper costs. According to a recent Detroit Free Press report, over 200 US suppliers (in US\$10 million-US\$ 500 million sales bracket) are in trouble with sourcing of components being directed to low cost countries.
- **Shorter Product Life Cycles and Rapidly Changing Technology-** Is forcing vehicle manufacturers across the globe to involve Tier I component suppliers into vehicle design and development.
- **The UK Automotive Industry -** Has identified India as one of the high priority countries along with China, South Korea, and Brazil. India is their priority market for auto component as wells. In Indian auto sector, UK technical and engineering expertise has vast scope as auto giants in US, Japan, Italy, Germany and France extensively depend on the British technical and engineering expertise.
- **Strategic Alliances-** Indian auto component firms can form strategic alliances with Chinese companies. Moreover, with the tariff reduction because of China's commitments under WTO, some of the Indian auto products have an opportunity to enter Chinese market.

## **Threats**

- **Competition-** In the last four years, India's US exports for automobile components have increased marginally by \$78 million whereas China's exports zoomed by a billion dollars. China now exports 10 times more components than India. Thailand does 3 times more<sup>4</sup>. China's US export growth rate (27%) and Thailand's (36%) are higher than India's (25%)<sup>5</sup>. Also, China has larger economies of scale and lower labour costs<sup>6</sup>. Thailand has excess capacity and depreciated assets. Mexico and Brazil enjoy the benefits of Free Trade Agreement (FTA) with US.

## **FUTURE OUTLOOK AND POTENTIAL**

The export opportunities for Indian auto component manufacturers is expected to increase significantly due to the continuous search for low-cost manufacturing bases by global vehicle manufacturers for sourcing equipments and parts for vehicles. The dynamics of industry are changing globally. Germany, a big manufacturer of components, is getting out-priced as a high cost center. Also, appreciation of euro currency is adding to the woes of European components players. This means more business for India.

Indian exports of automotive components are expected to increase to about US\$ 1 billion by 2004 (with Europe as largest market with 30 percent market share), to US\$ 10 billion by 2010 and to US\$25 billion by 2020, i.e. 20 per cent annual growth.

## **Strategies for the Future**

- **Invest in R&D-** Continuously add value to the components being supplied to the customers so that they graduate from a low value added-low margin player to a high value added-high margin player in the global market. Further, we need to develop facilities for designing & validation and in quality control measures.
- **Focus on Non- Traditional Markets** - Southeast Asia, Africa, Latin America and East European countries are potential buyers of Indian manufactured auto components. Countries like Iran, Uzbekistan, Egypt, and Tunisia have not been able to attract technology from American and European companies due to low volumes in their domestic markets, Indian companies can set up their own facilities in these markets.

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<sup>4</sup> Refer Exhibit IV

<sup>5</sup> Source: ACMA report

<sup>6</sup> Refer Exhibit V

- Another advantage for Indian companies to look at these markets could be the rising purchasing power and growing domestic demand there, which currently is being catered to primarily through imports. Further, the government could explore possibilities of free or preferential trade agreements with Latin American countries, which are a potential market for automobile components.
- **Concentrate on Developing Core Competencies-** Cost savings are greatest for labour-intensive parts such as engine components needing machining but less for electronic items where automation partly offsets lower labour costs. As a result, India's biggest advantages are in products such as forgings, castings, stamped steel, rubber and aluminium parts and we hence should concentrate on developing expertise in these areas.
- **Emphasis on Component Export-** The Global automobile components market has more potential than car market because:
  - Automobile components market has much lower entry barriers vis-à-vis the automobile (vehicles) market, which has large excess capacity worldwide.
  - Moreover, export of automobile components forms a part of the strategy of global automobile manufacturers (who are seeking low cost destinations for components) and hence is much easier to attain than exporting automobiles (vehicles).
  - It much more easier to compete on cost basis in the components market than the automobile (vehicles) market. And India's competitiveness lies in low cost.
- **Within Automobiles (Vehicles) Concentrate on Two-Wheeler and Small Car (Low Priced Cars) Segment-**
  - India possesses established competencies in these to segments with players as Bajaj Auto, Hero Honda, Maruti and Hyundai. With Hyundai & Suzuki (for cars) and Honda (for two-wheelers) deciding to establish India as a manufacturing hub, these two segments have huge export potential.
  - With non-traditional markets identified above being developing economies, two-wheelers and small cars account for a large share of automobile sales in these markets. These regions represent promising markets for 75-125cc bikes, in which Indian manufacturers enjoy the twin advantages of cheap labour and large scale of operations.

## EXHIBITS

Exhibit I: Segment-wise export growth rate in 2003-04

Category	YTD-04	YTD-03	Growth %
<b>Passenger Vehicles</b>			
Cars	35,859.00	19,405.00	84.80
Utility Vehicles	1,480.00	469.00	215.60
Multi-Purpose Vehicles	237.00	165.00	43.60
<b>Total Passenger Vehicles</b>	<b>37,576.00</b>	<b>20,039.00</b>	<b>87.50</b>
<b>Commercial Vehicles</b>			
Middle-Heavy Commercial Vehicles	1,643.00	1,406.00	16.90
Light commercial Vehicles	2,089.00	1,888.00	10.60
<b>Total Commercial Vehicles</b>	<b>3,732.00</b>	<b>3,294.00</b>	<b>13.30</b>
<b>Three Wheelers</b>	<b>21,628.00</b>	<b>10,549.00</b>	<b>105.00</b>
<b>Two Wheelers</b>			
Total Scooters	17,397.00	8,199.00	112.20
Total Motorcycles	8,494.00	6,911.00	22.90
<b>Total Two Wheelers</b>	<b>87,716.00</b>	<b>50,324.00</b>	<b>74.30</b>

Exhibit II: Quality standards of Indian automobile component companies

Quality Parameter	Number of Companies
ISO 9000 Certification	337
ISO 14001 Certification	41
QS 9000 Certification	193
TS 16949	25
Deming Prize	2
Japan Quality Medal	1

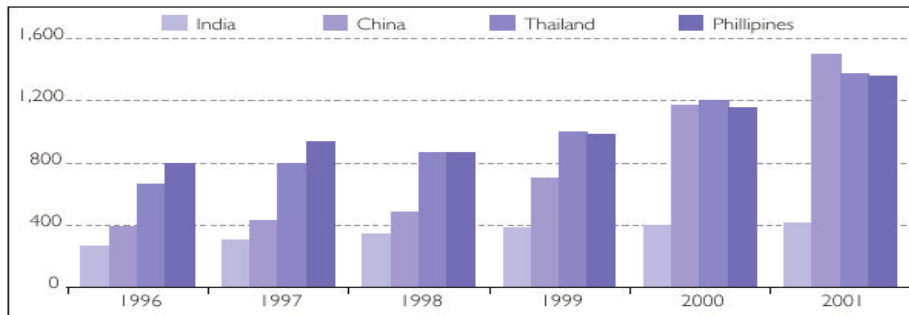
Source: ACMA Report

Exhibit III: Availability of Qualified Engineers



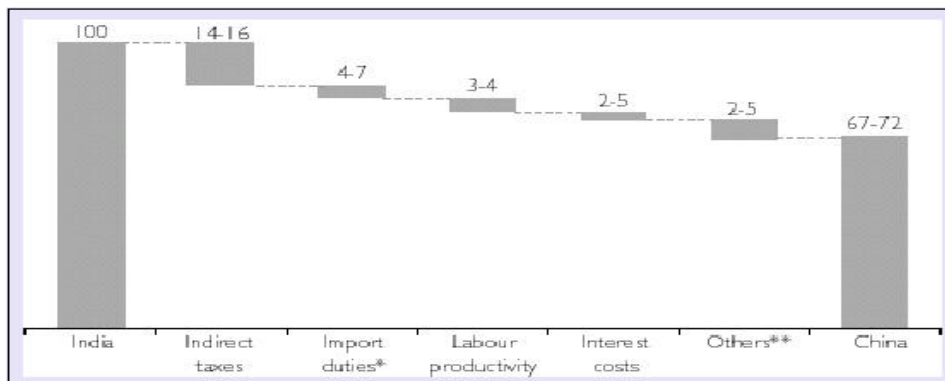
Source: IMD

Exhibit IV: Auto component sourcing from Asia (US\$ mn)



Source: Bloomberg

Exhibit V: China's Competitive Advantage



Source: McKinsey

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