



AUTOMOTIVE

KPMG's India Automotive Study 2007

Domestic Growth
and Global Aspirations

KPMG INTERNATIONAL

About KPMG's Global Automotive Practice

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The independent member firms of the KPMG network are affiliated with KPMG International, a Swiss cooperative. KPMG International provides no client services.

Through its member firms, KPMG has invested extensively in developing a highly experienced Automotive team. KPMG's understanding of the industry is both current and forward looking, thanks to KPMG's member firms' global experience, knowledge sharing, industry training and the use of professionals with direct experience in the Automotive industry.

KPMG member firms serve many of the market leaders within the Automotive sector. KPMG's strength lies in its member firm network, its professionals and their knowledge and experience gathered from working with a large and diverse client base. KPMG's industry experience helps the team understand both your business priorities and the strategic issues facing your company.

KPMG's Global Automotive practice's presence in many major international markets, combined with industry knowledge, helps KPMG assist you in recognizing and making the most of opportunities, as well as advising on the implementation of changes dictated by industry developments.

KPMG's member firms in India were established in September 1993, serving over 2,000 international and national clients.¹ KPMG in India has offices in Mumbai, Delhi, Bangalore, Chennai, Hyderabad, Kolkata, and Pune.

KPMG's Automotive practice in India has a team of professionals who combine functional specialization with deep industry knowledge to provide broad-ranging strategies to automotive clients. The team has assisted a large number of Indian and global OEMs and suppliers, in areas such as strategy and planning, product development, operational improvement and advanced technologies.

Foreword

Today the Indian automotive industry is overflowing with optimism. The wider economy may be booming, but the automotive sector is racing ahead of the pack.



Uwe Achterholt
Global Head, Automotive
KPMG in Germany

What is driving this growth? Higher incomes have helped, not to mention improved roads, and easier access to finance. Less easy to define but just as important is the steady trend of liberalization across the whole economy, a trend that has helped to build confidence in future growth of opportunities and wealth.

Add to those factors the growing commitment of international auto manufacturers to India as a source of high value, high quality engineering products and services. India seems set to emerge not only as a very large domestic auto market, but also as a powerful link in the global auto chain.

Yet it is just when confidence is running high that questions need to be asked. India may be full of potential, but it faces more than its fair share of challenges too. From the remotest road-building site to the highest levels of government where policy is hammered out, there is work to be done.

Whether those challenges will be met is the question this report seeks to address. With the help of many senior executives from India's automotive sector we ask how realistic is India's goal of becoming a leading participant in the global auto business – and what India needs to do to get from here to there.



Yezdi Nagporewalla
National Industry Director,
Industrial Markets
KPMG in India

Executive Summary

This report reviews the future prospects of India's fast-growing automotive sector in the context of the global automotive industry. KPMG interviewed over 40 CEOs, CFOs and other senior officers from different segments of the Indian automotive industry to discover whether Indian companies are likely to make the transition to full global participation.

The senior industry professionals interviewed by KPMG were positive about India's global potential. However, while optimism grows some more challenging aspects of the industry are coming to light. In order to provide a broad-ranging overview of the automotive industry in India; KPMG asked senior executives to cite critical issues for maintaining growth and profitability in nine key areas:

Will cost continue to be the key competitive advantage for India?

- Infrastructure Deficit. Companies believe that their cost advantage will be eroded if India's promised infrastructure improvement fails to deliver.
- Pace Of Automation. Companies believe that increasing the level of automation in auto manufacturing has the potential to counteract rising labor costs.
- Management Improvement. Some companies say that the management productivity of Indian automotive businesses remains low and that successful implementation of business process improvement remains critical.

Will India emerge as a key source of Research and Development (R&D) and engineering services for the global automotive industry?

- Global Vision. India remains dependent on the view global auto businesses take of India's engineering potential, say companies: potential is underestimated.
- Training. Companies believe that more focused training will be needed before India can emerge as a provider of global engineering services.
- Graduated Approach. Indian companies need to adopt a graduated approach to developing an auto engineering service sector that extends to original research and design, say senior executives.

Will India emerge as a leading exporter in the small car segment?

- Physical Infrastructure. Companies consider that export infrastructure constraints in ports, road and rail remain the leading critical issue for growing small car exports.

Will the top five Indian OEMs see a growing proportion of revenue coming from international sales?

- More Global Products. It remains for India's indigenous automakers to build their product range and manufacturing scale, say executives.



- Distribution. Companies believe that Indian auto businesses are still at the stage of building technology and manufacturing joint ventures: marketing and distribution networks remain to be built.

Will at least one Indian auto-component manufacturer join the world top 20 component companies?

- Managerial Professionalism. Companies say that as Indian component makers gain scale they need to develop more professional and systematic management processes.

Will large Indian auto component manufacturers increasingly seek growth through acquisition?

- Finding the Strategy. Companies comment that there are many acquisition opportunities not worth taking: Indian component makers should focus on profitmaking acquisitions, not turnaround propositions.
- Merger Integration. Companies argue that it remains important for businesses seeking acquisitions to develop the capacity to integrate acquired businesses.

- Financing. Companies say that the majority of Indian component makers are family controlled, and may have to exchange total control in return for acquisition finance.

Will the Indian domestic market continue to be dominated by small cars?

- Affordability & Credit. Affordability will restrict sales growth of larger cars for the foreseeable future, say companies, but credit availability for small car purchases is now good and will drive growth.
- Consumer Attitudes. Indians remain frugal, cost conscious, and very driven by value-for-money, comment executives.

Will a growing percentage of vehicles in the Indian market run on alternative fuels?

- Policy Support. Companies consider that fiscal and other central government support is critical for the alternative fuel industry.
- Marketing. Companies believe that the consumer acceptability of alternative fuels for private vehicles remains untested.

- Infrastructure. Several companies comment that a lack of distribution infrastructure will limit alternative fuel development for some years.

Will replacement of commercial vehicles boom as older vehicles get scrapped and logistics hubs emerge?

- Policy Support. Most companies expect continuing but graduated regulatory change to support the commercial vehicle replacement cycle.
- Road Infrastructure. Several companies believe that the next five years will only see high commercial vehicle sales growth and renewal of fleets if there are more improvements in road infrastructure.

India's senior automotive professionals are increasingly upbeat regarding the future of the automotive industry; many interviewees are confident that the challenges above can be overcome. Those interviewed by KPMG observed opportunities as well as challenges for the industry. When these are viewed alongside India's existing strengths, such as the strong domestic and manufacturing economies, the future for India's automotive industry looks bright.

List of Abbreviations

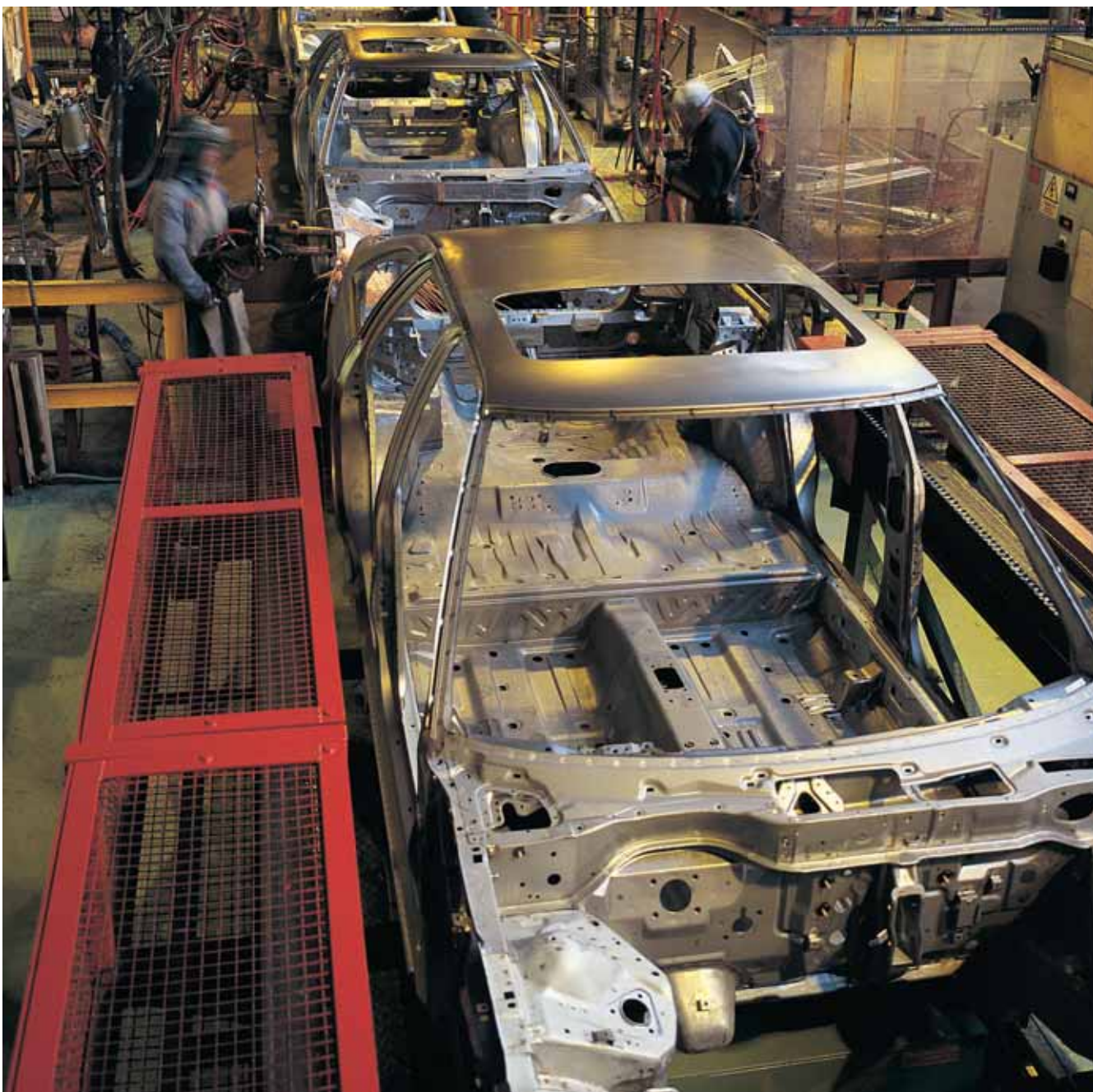
ACMA	Automotive Component Manufacturers Association of India
B2B	Business to Business
BPM	Business Process Management
CEO	Chief Executive Officer
CFO	Chief Financial Officer
CNG	Compressed Natural Gas
GDP	Gross Domestic Product
HR	Human Resources
JV	Joint Venture
LPG	Liquified Petroleum Gas
MNC	Multinational company
NCAER	National Council of Applied Economic Research
OEM	Original Equipment Manufacturer
QS-9000	Quality System Requirements 9000, automotive industry standards released in 1994 by OEMs
R&D	Research and Development
SIAM	Society of Indian Automobile Manufacturers
TS-16949	Technical Specification 16949, an ISO 9000 specification for design, production, installation and servicing of automotive related products, released in 2002.

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1 Introduction

Is India set to become a global base for automotive manufacturing and services?



During 2006 and 2007 KPMG in India has been talking to senior industry professionals, many of whom are increasingly upbeat about India's global potential. Some believe that India should be able to build a range of worldclass auto businesses in the next ten years. But even as optimism grows some key concerns are becoming more pressing. KPMG has found that senior auto executives are also concerned about India's eroding cost advantage and the increasing challenges of rewarding and retaining talent, about the pace of consolidation in the component sector, and about the challenge companies face in building Indian auto brands.

The Indian automotive industry is worth around USD 34 billion a year and contributes about 5 percent of India's gross domestic product (GDP). It produces over 1.5 million vehicles and employs – directly and indirectly – in excess of 13 million people.¹

The auto business is vital for India. But what are this industry's prospects in the context of a global auto industry that is worth around USD 1,129.8 trillion? The sector has been growing fast; around 17 percent annually over the last five years (and faster still in some sectors, such as components).¹ However, can it make the transition to becoming a significant contributor in the global auto industry? Does India have the talent, the technology and the global reach to become a significant exporter of auto services and products?

This report is intended to address these questions, using original survey data and extensive contacts with senior

automotive strategists and managers from India and beyond.

The report uses proprietary and public domain secondary sources. It also includes extensive first hand interviews with some of India's most senior decision makers in the automotive industry.

KPMG interviewed 40 chief executive officers (CEOs) and other senior officers from different segments of the Indian Automotive industry. The mix of companies selected for the study

included Indian-origin and multinational companies (MNCs) operating in India. The sample was chosen to ensure a balanced spread across sizes and segments of the auto value chain. (Figure 1)

Growth In Perspective

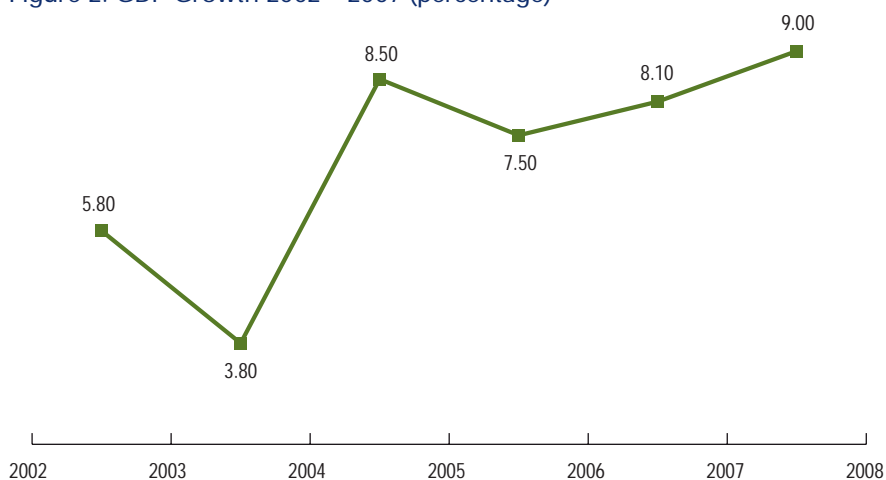
India is growing faster than most economic projections. The economy has experienced consistent growth of over eight percent in the last four years, and has achieved growth of around nine percent in 2007. (Figure 2)

Figure 1. Companies Participating In The KPMG India Automotive Study 2007

Company	Passenger Cars	Two Wheelers	Three Wheelers	Commercial Vehicles
Indian OEMs	✓	✓	✓	✓
MNC OEMs	✓			✓
Indian Auto Component Manufacturers	✓	✓	✓	✓
MNC Auto Component Manufacturers	✓	✓		✓

Source: KPMG International, June 2007

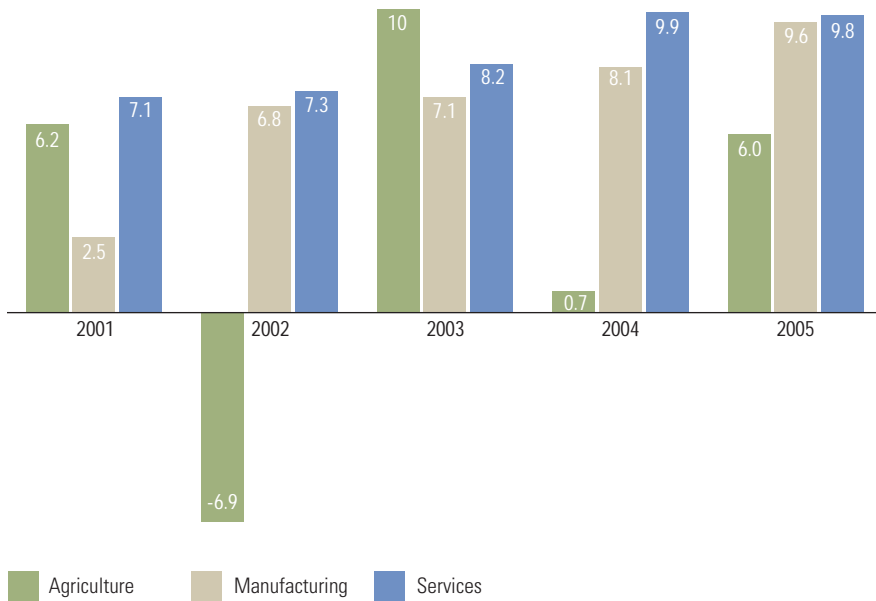
Figure 2. GDP Growth 2002 – 2007 (percentage)



Source: Economic Survey of India, 2007

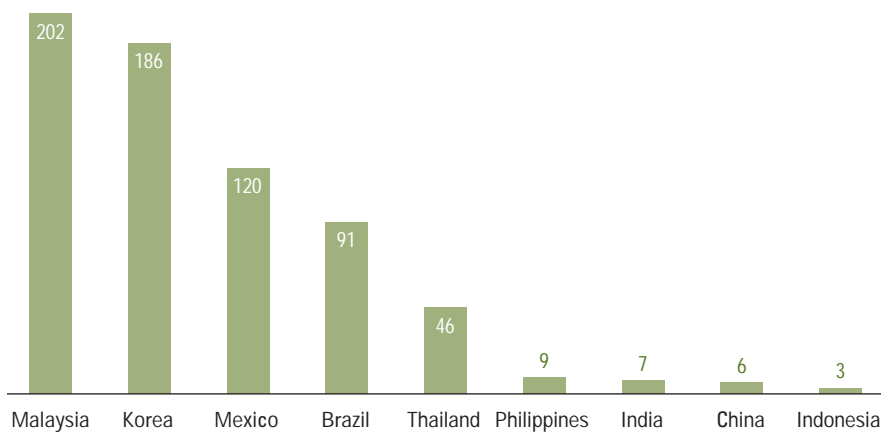
¹ Indian government Automotive Mission Plan from the Department of Heavy Industries (Dec 2006)

Figure 3. Sectoral Shares of GDP Growth



Source: Economic Survey of India 2006-2007, Ministry of Finance, Government of India, February 2007

Figure 4. Cars per 1000 people



Source: KPMG in India, 2007

In contrast to sharp growth rate fluctuations in agriculture, overall manufacturing and services growth rates have both been consistently strong, expanding at more than seven percent growth rate over the last three years. (Figure 3)

Most of the automotive sector growth appears to be domestically driven. International sales of services, components and finished vehicles have increased. However, the main drivers of growth are increasing disposable income and willingness to spend in a billion-citizen economy where vehicle use is still very low by global standards. As a result, the Indian automotive market is now poised to become one of the fastest growing in the world. (Figure 4)

The growing propensity of Indians to consume marks a transformation of the Indian economy. At one end of the income spectrum, a large proportion of Indians are emerging out of poverty. At the other end, middle class incomes are rising fast. Furthermore, households are increasingly disposed to spend those incomes on status and mobility purchases, including automobiles. Consumption has been aided by increased availability of financing – most goods considered luxuries even a decade ago are becoming common household items today. (Figure 5)

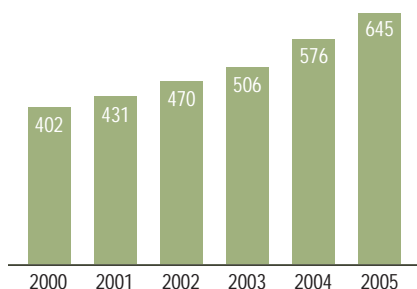
Will this growth record be maintained or even exceeded over the next 10 years, and will the Indian automotive sector come to play a significant global

role? Some foresee Indian automotive companies reproducing the success of the Indian information technology sector, which has emerged as a leading supplier of low-cost, high-quality information technology (IT) services to the world. Some also believe that India will provide a new global export base for existing automotive manufacturers and suppliers. But to achieve this, India has to compete with locations like China, Brazil and Eastern Europe. Has India got what it takes?

To answer these questions, KPMG in India produced a series of propositions about the Indian auto sector in the coming five years and tested them against objective market data and the subjective views of senior industry professionals. We proposed scenarios designed to evoke views both about the pace of internationalization of the Indian auto sector, and about the growth prospects for the domestic market:

Figure 5. India Is Spending

Disposable Income (in USD Billion)



Private Consumption (in USD Billion)



Source: National Council of Applied Economic Research (NCAER), March 2006

1 International: cost will continue to be the key competitive advantage for India.

We asked whether India will maintain its cost advantage, and whether its competitiveness would change or remain founded on labor cost.

2 International: India will emerge as a key source of Research & Development (R&D) and engineering services for the global automotive industry.

We asked whether India's auto services sector could reproduce the international success of Indian IT.

3 International: India will emerge as a leading exporter in the small car segment.

We asked whether India could make the world's small cars in volume,

and where the main markets for such production would be.

4 International: the top five Indian vehicle manufacturers will gain an increasing proportion of revenue from international sales.

We asked whether Indian automakers would get their main sales growth at home or abroad in the next five years.

5 International: at least one Indian auto component maker will emerge as a global business in the world top 20 component makers.

We asked whether India's component makers could break free from the limitations of small scale and local customer bases.

6 International: Indian auto component makers will increasingly grow by international acquisitions.

We asked whether India's component makers were capable of managing the risk of international acquisitions.

7 Domestic: the Indian market will remain dominated by small cars.

We asked whether significant numbers of Indian consumers were ready to move up to larger, more powerful vehicles.

8 Domestic: a significant percentage of vehicles in the Indian market will run on alternative fuels.

We asked whether India would be able to profit from the worldwide surge of interest in vehicles that run on alternative fuels.

9 Domestic: commercial vehicle replacement will boom.

We asked whether changes in regulation and distribution networks will accelerate commercial vehicle sales.

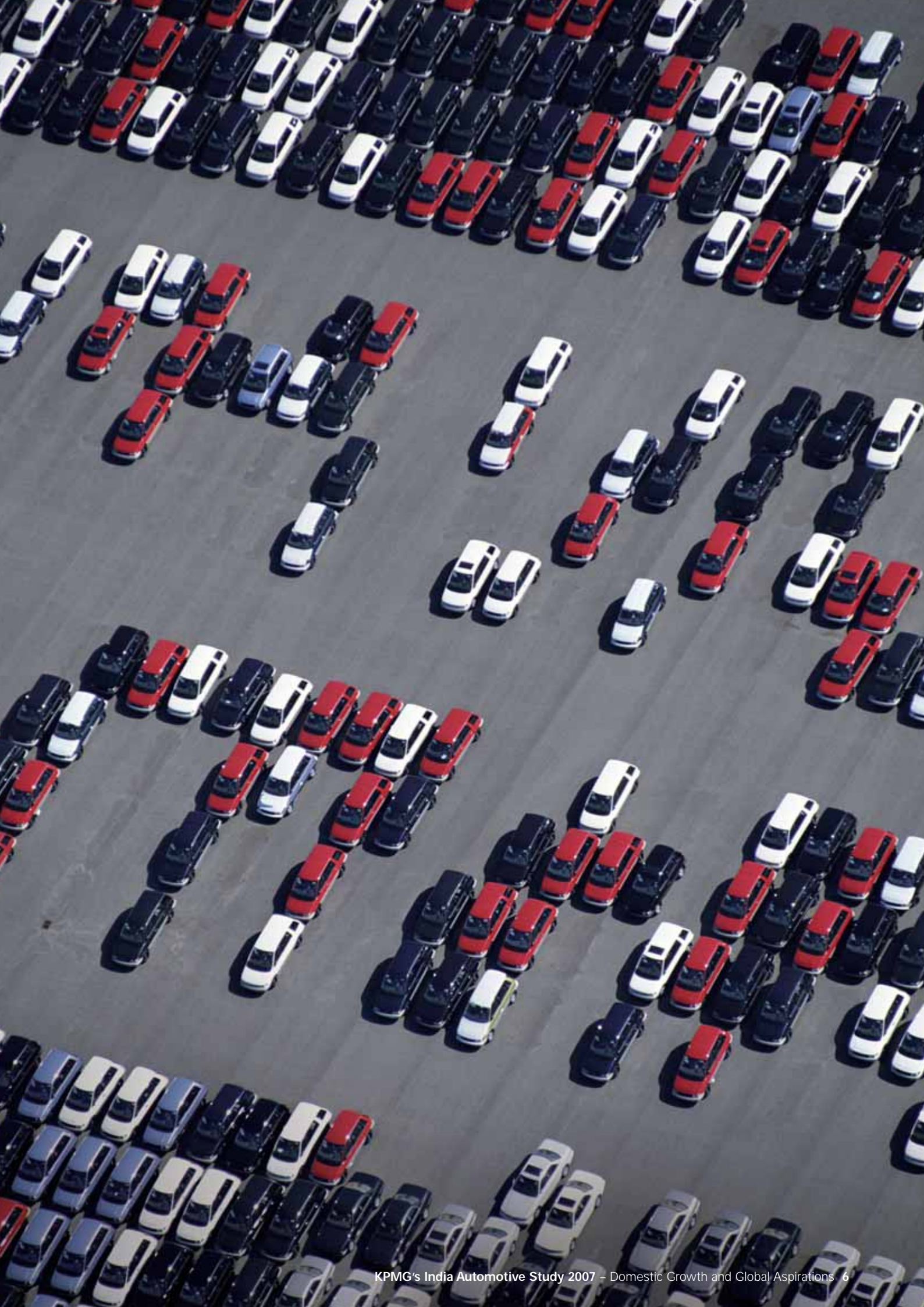
Overall, auto executives were exceptionally optimistic about the prospects for domestic growth, and cautiously optimistic about the development of India as a global auto manufacturing hub. For example, when asked about prospects for India's emergence as a global supplier of R&D

and engineering services, a large proportion of respondents felt that competitive wage costs and talent availability would help to drive strong growth. When asked about domestic demand, the overwhelming majority felt that increasing incomes would drive very strong demand for small cars, although there were concerns about increasing competition from China when it came to small car exports. Many executives felt that continued international mergers and acquisitions would support increasing international sales.

However, amid the optimism there are acute concerns. Many executives believe that India's cost advantage is eroding fast. Some are concerned that India's fragmented component industry needs to do more to consolidate in order to achieve critical mass. Almost without exception,

executives express concerns that Indian auto manufacturers face a very steep brand building challenge.

India is becoming a multi-layered automotive market. Income growth, infrastructure improvement and the growth of organized retail markets and consumerism are helping to drive growth in the domestic market: a market in which several indigenous manufacturers already have many decades of auto manufacturing experience. There is also a powerful trend of internationalization. The domestic passenger car market is now contested hotly by the full range of international manufacturers while Indian vehicle makers and component companies increasingly see themselves as global providers of vehicles, parts and auto engineering services.



2 The International Challenge

Cost and quality remain the underlying issues of India's auto industry internationalization. Indian makers are being challenged on both counts: costs, especially labor costs are rising for Indian manufacturers, while the cost reductions that should come with infrastructure improvements are painfully slow in materializing.



The quality imperative means that Indian makers have to seek new technological resources through alliances and acquisitions, challenging the capital and management resources of companies that are often small and family owned. These are the themes of six propositions on India's international challenges that we put to leading automotive executives in this report.

Cost will continue to be the key competitive advantage for India

India's low labor costs and high level of available management and engineering skills have maintained the competitiveness of domestic auto companies and made it an attractive location for direct manufacturing investors. How long will India be able to maintain this cost advantage?

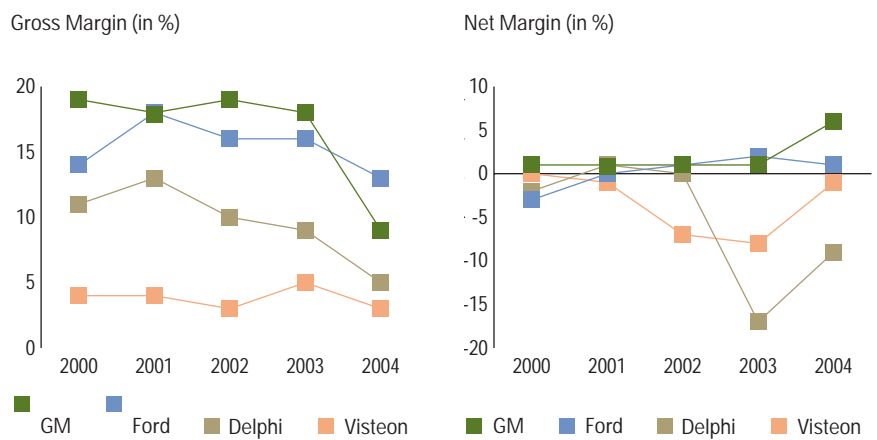
"The Indian cost advantage will continue to be a lot to do with people," says Prakash Kodlikeri, Managing Director of auto components maker Kalyani Lemmerz; "Indian auto companies can't just imitate the developed country model, with high productivity through massive

automation. It is still too costly to attempt that." However, many companies believe that low labor costs may not be sufficient to keep Indian automotive businesses competitive. "India is at the bottom of the cost curve right now, but that will change," believes Sunil Rekhi, CFO of General Motors India. A senior executive of component maker Endurance Group agrees: "HR is going to be a restraint. The turnover rate is already almost 20 percent a year in many management levels. Unless companies can learn to retain people for longer, all the benefits

of having talented people available will be lost."

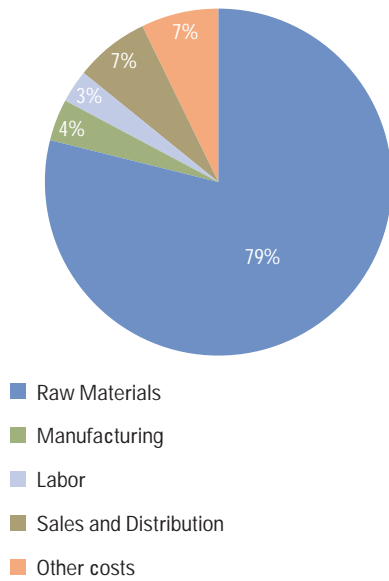
The global automotive industry is under increasing cost pressure relating to raw material and some other costs (including growing pension and healthcare costs in developed economies), while consumers have begun to demand vehicles with a lower "total cost of ownership." The result has been shrinking margins for many of the world's large businesses, whether vehicle makers or component suppliers. (Figure 6)

Figure 6. Global Auto Margins Shrink



Source: Financial Reports of GM, Ford, Delphi and Visteon

Figure 7. Indian Auto Manufacturers' Costs



Source: Society of Indian Automobile Manufacturers (SIAM), February 2007

Consequently, automakers are looking for lower costs. The fall in number of vehicle platforms and the increase in number of models per platform have made it easier for large automakers to globalize production and sourcing, and take advantage of lower cost structures in emerging economies such as India and its competitors.

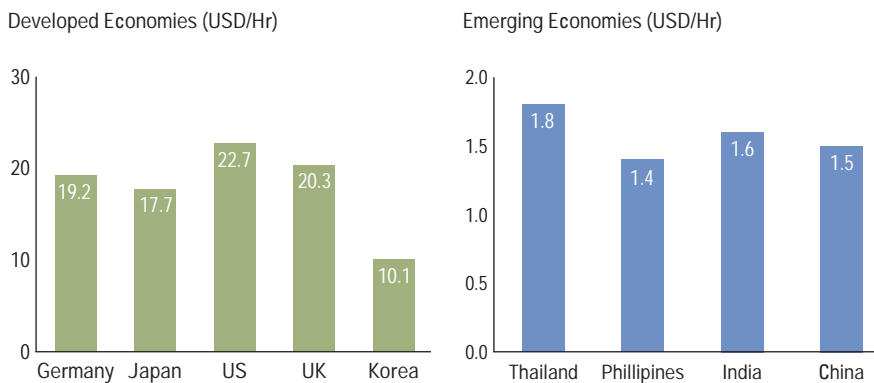
Although India's primary cost advantage is in low labor costs coupled with good availability of trained workers, labor remains a small component in the total costs of manufacturers. Raw material costs are by far the largest cost portions: steel and rubber constitute the two main raw materials for automakers, and strong global demand is likely to ensure that prices for steel and rubber remain stable or increase in the medium term. (Figure 7)

Most raw material costs are determined by world markets, although proximity to the source can yield significant cost reduction. Prakash Kodlikeri of Kalyani Lemmerz comments that "In some raw materials, we often have a price advantage in India. For example, in finished steel I can usually get a 10-12 percent price advantage compared to buying steel somewhere like Germany." But it remains labor costs that manufacturers can most consistently cut by sourcing or manufacturing in low cost countries. (Figure 8)

"Many companies believe that India's labor cost advantage is eroding rapidly", says Prakash Kodlikeri of Kalyani Lemmerz. "It is getting more and more difficult to retain automotive talent – especially with so many large manufacturers coming in. The shortage started in IT, but now you see it in manufacturing as well, and if you don't plan ahead you will face disruption. For example, we recruit more people than we actually need, because we know we will face a retention problem. We are also paying more attention to reward: somewhere between 10 and 15 percent of our employees are now on some form of incentive scheme."

Our survey of executives from Indian companies and MNCs for this survey showed that a majority of the respondents (72.4 percent) agreed that reduction in 'total delivered costs'

Figure 8. Labor Cost Comparisons



Source: "Comparison of purchasing power across the globe", UBS, 2006

was the primary reason why global auto companies chose to source from India. Other considerations were the availability of quality suppliers (58.6 percent), the responsiveness of suppliers (24.1 percent) and the advantage of India also offering a large domestic market (10.3 percent).

In interviews, companies cited three leading **critical issues for maintaining cost advantage**:

- **The Infrastructure Deficit:** “What will upset the cost advantage is if India’s promised infrastructure improvement fails to deliver,” believes AK Taneja, President of component maker Shriram Pistons. He adds: “There is a lot being done but the infrastructure deficit in highways, city roads, and ports is huge. I don’t know any country where the basic infrastructure is developed other than by the government – private industry can chip in but the real work of building infrastructure belongs to government. And don’t forget the infrastructure of health and education – these are beginning to crack up too.”
- **The Pace of Automation:** Companies believe that increasing the level of automation in auto manufacturing has the potential to counter rising labor costs. “The cost of finance

has come down, the cost of the technology which used to be massive has come down, and above all the government has cut import tariffs,” argues one large component maker; “Only three or four years ago no Indian company could afford to get into robotics while they were still paying import taxes of 30-40 percent. Now those taxes have been cut, and where before I would never have dreamt of importing robotic production lines, now we are beginning to do that.” Rajiv Dube, Head of the passenger car business at Tata Motors agrees. He states: “The cost advantage will only be retained if Indian capital can be used to develop low cost automation in manufacturing. That is the way to preserve our lower cost. But it must be low cost automation – it isn’t going to help if we have to import automation at the same price that the developed world has paid.”

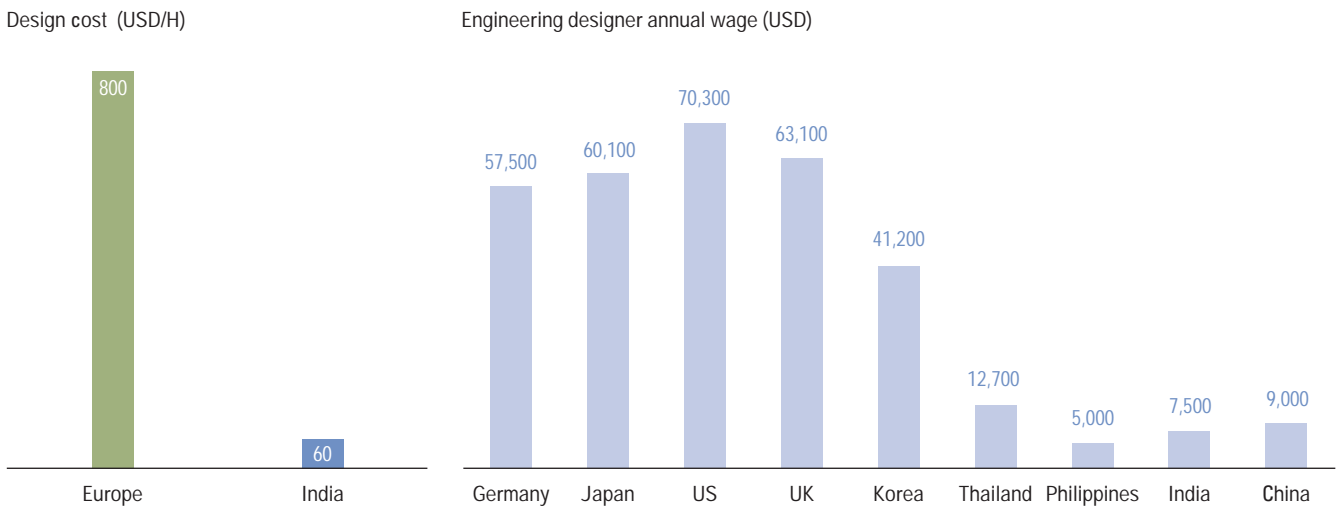
- **Management Improvement:** Some companies say that the management productivity of Indian automotive businesses is low. A senior executive of component maker Endurance Group believes improved management techniques could improve India’s cost advantage even as labor rates are rising. He says: “We have to look at value improvement, we have to look

at business process management. Business process management puts a big emphasis on shop floor productivity and on the yield you get from raw materials, which are 50-75 percent of our cost base. This is happening now but there is always a lag of 5-7 years between beginning to implement BPM and seeing some results. So we have to wait for improvements.”

India will emerge as a key source of Research & Development (R&D) and engineering services for the global automotive industry
India’s IT industry has already built a reputation for delivering intellect-intensive services to global industry.
Will India’s auto engineering sector be able to replicate this success?

“There needs to be a greater realization of India’s potential by the global auto industry,” comments Rajiv Dube of Tata Motors. “The global players are almost all in India now, but they have focused on meeting demand with existing products. They are gradually waking up to the kind of engineering talent there is in the industry, but they are still not using it to any great extent.”

Figure 9. Relative Technical Labor Costs



Source: Indian Brand Equity Foundation (Feb 2007), Prices & Earnings, UBS (July 2006)

India's attractiveness as an R&D location is already an established fact: more than 125 Fortune 500 companies have already setup their R&D bases in India.² There are already signs that automakers too are choosing to use India's auto engineering potential to cut the high cost of design as auto model lives shrink and the imperative grows to innovate at lower cost. (Figure 9)

Indian companies are already drawing on local engineering design capability where in the past they relied on imported auto design, allowing companies like Tata Motors and Mahindra & Mahindra to develop entirely new vehicle platforms locally.

The global engineering services market is set to grow. One recent study³

forecasts growth from the current annual USD750 billion to USD1 trillion by 2020. India's engineering services sector already earns around USD1.5 billion through global outsourcing, of which the automotive services share is around USD300 million.⁴ Many executives interviewed for this report felt that this sub-sector of the engineering services industry has the potential to grow considerably, given continued government support and further integration with the existing Indian IT services industry. "This is more an issue of vision than an issue of capability to deliver," argues Rajiv Dube of Tata Motors. "Indian companies are designing and producing their own products, so clearly it can be done. But in automaking the Indian IT companies

have really focused on efficiencies in processes and systems, not on new design." However, he adds that original design is already being achieved in some sectors of the industry: "overseas component manufacturers have shown more faith than the vehicle makers in Indian engineering," says Mr. Dube. "There is more original design in components, and I believe the trend will spread from components to the vehicle makers quite soon."

In survey responses, low wages were cited as the continuing primary driver of growth in the engineering services sector, followed by superior manpower quality, diversity of service offerings, and continued government support. (Figure 10)

² <http://www.foreignaffairs.org/20060701faessay85401-p40/gurcharan-das/the-india-model.html>

³ Booz Allen Hamilton, 2006

⁴ KPMG International, 2007

In interviews, companies cite three leading **critical issues for developing global R&D services**:

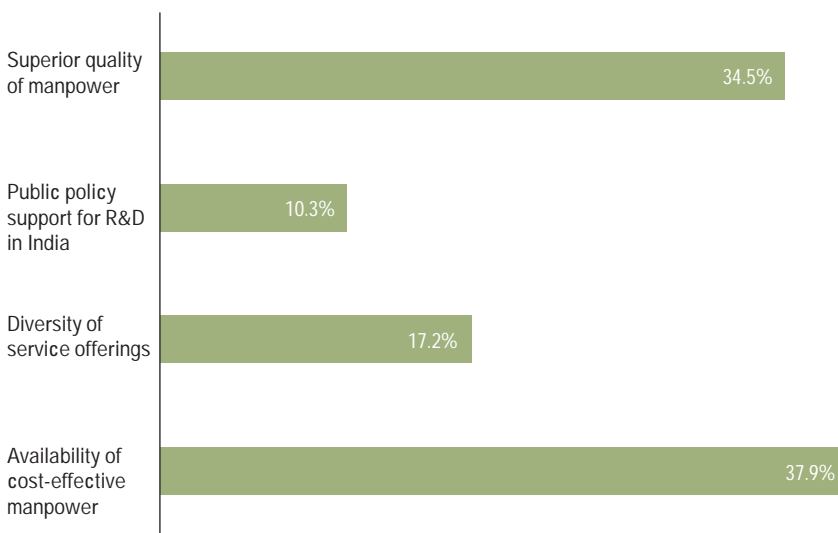
- **Vision:** Rajiv Dube of Tata Motors believes that India remains dependent on the view global auto businesses take of India's engineering potential. "This is something that has to be led by the global auto companies." Sunil Rekhi of General Motors agrees that a step change in vision is needed: "People are used to using India as a back office, but they are not so used to India leading the design and engineering process," he believes. "The European and U.S. players are still not doing this, even the Japanese have been very slow to move high-end, high value-added work out of Japan. But for us, this is the future."

- **Training:** some companies believe that more focused training will be needed before India can emerge as a provider of global engineering services. "It will take more than five years for India to achieve this," argues Suhas Kadlaskar, Director of Corporate Affairs of DaimlerChrysler in India. He adds: "India is turning out somewhere between 200 and 300 thousand qualified engineers a year, but that doesn't mean that all those engineers are employable in a global automotive industry. You need very specific skills. You need to be able to take a global approach, and that requires experience and training. The global players will have to do a lot of training to fulfill this target." A senior executive of component maker

Endurance agrees, saying "We still need to move to a more focused auto-engineering capability – and that means trained talent availability."

- **Graduated Approach:** Some companies consider that India needs to implement a graduated approach to developing an auto engineering service sector that extends to original research and design. "You have to respect the natural order of technology development," argues AK Taneja of Shriram Pistons. "First come engineering services. Then design and development and prototyping. Testing and validation follow. Then finally you reach the point where you can develop as a research hub. We will need to develop these abilities progressively – I believe the time for investment in basic research is probably a decade away."

Figure 10. Survey: What Will Sustain Indian R&D Advantage?



Source: KPMG International, June 2007

India will emerge as a leading exporter in the small car segment

Many of the companies interviewed for this report felt that the Indian auto market would develop as one of the world's leading small car markets in the next five years. Will that small car expertise also provide a platform for India's emergence as a small car exporter?

The Indian auto market is dominated by the small cars that fall into what the industry calls the 'A1' and 'A2' segments – mini and compact cars between 3.4 and 4 meters long. Sales of small cars in India continue to be

driven by affordability and fuel economy. The global market, however, is driven by different considerations: the relatively low retail cost of fuel and the lack of space constraints mean that North America may see only a marginal shift toward smaller cars in the next five years. In Europe, Japan and South East Asia, there is likely to be a greater shift due to increased parking and usage restrictions, environmental concerns over large car recycling costs, and increasing fuel taxes, all of which should create new opportunities for low cost exporters with small car experience. The emergence of a significant small car market in Africa will add an additional dimension to the opportunity.

Many companies interviewed for this report felt that China would emerge as India's main competitor as a global

small car exporter (72 percent of respondents). Thailand (14 percent), Malaysia (10 percent) and Poland (3 percent) were also cited as candidates.

In interviews, companies cited physical infrastructure as the leading critical issue for small car exports. "The infrastructure solution is a long way off -- this is our biggest challenge," says Shriram Parameswaran, India country head of the Eaton Corporation, a diversified industrial manufacturer. Rajiv Dube of Tata Motors adds: "There are still not many ports you can export from, and the feeder rail lines to those ports that exist are insufficient. Plus the railways have not woken up to the freight potential!" But Shriram Parameswaran of Eaton also comments that part of the solution may lie in companies making more investments in their supplier

networks. "You need to place factories at strategic locations," he argues. "Hyundai for example has done this very successfully in the south of India -- they are close to the port facility in Chennai, but they have also succeeded in building up a supply chain all around that hub."

The top five Indian OEMs will see a growing proportion of their revenue coming from international sales

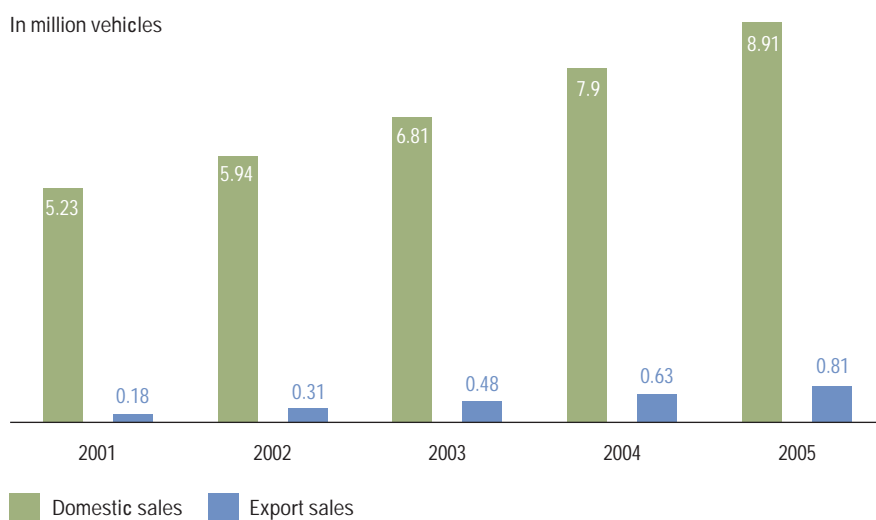
The leading Indian auto manufacturers are in the process of transforming themselves from exclusively local players to global companies. How significant will their international operations become in the next five years?

"For the near future the international story may not be so much global as regional," says Rajiv Dube of Tata Motors. "We can compete against Europe's high cost base, and we can export into Asia Pacific. I'm not sure we can beat the Russians, and I'm not sure we can make big inroads into the U.S., not yet. But we are very optimistic about Africa."

Exports are an increasingly significant element in the growth of the Indian auto industry, more than doubling in share of sales from 2001 when Indian producers sold 3 percent of vehicles abroad to 8 percent of sales in 2005. (Figure 11)

The foreign sales of Indian automakers are also increasingly made through directly owned or joint venture (JV)

Figure 11. Export Sales Are Growing Fast



Source: Society of Indian Automobile Manufacturers (SIAM), February 2007

based foreign operations, rather than exclusively through exports from Indian manufacturing facilities. Indian companies have bought capacity or made alliances with other automakers in East Asia, South America, Africa and Europe, and total exports as a proportion of sales are close to an average of 9 percent for the Top five OEMs together. Bajaj Auto now makes 12 percent of sales from exports and Tata Motors 10 percent. (Figure 12)

Current trends suggest that exports of two-wheelers have the best growth prospects. TVS and Bajaj Auto have a strong presence in Asian and Latin American markets where there is strong demand for two-wheelers. Both companies recorded export growth of over 50 percent in 2006, and both companies have recently expanded manufacturing capacity in Indonesia.

Figure 12. Indian Automakers Go Global

OEM	Global acquisition/JV/Subsidiary	Description
Tata Motors	Global JV with Fiat, Italy (2006)	Memorandum of Understanding to manufacture passenger vehicles, engines and transmissions for the Indian and overseas markets
	Marco Polo, Brazil (2006)	Manufacture and assembly of fully built buses and coaches
	Hispano Carrocara, Spain (2005)	21 percent stake in leading bus/coach manufacturer
	Assembly plants in Malaysia, Kenya, Bangladesh, Spain, Ukraine and Russia	Assembly of knocked down units exported to these countries
Mahindra & Mahindra	Mahindra Australia (2005)	Branch office and assembly operations
	Stokes Group, UK (2005)	Auto component manufacturer
	JV with Renault, France (2005)	Export focused JV with Renault for manufacture of Logan sedan was launched in India in 2007
	Subsidiaries in South Africa, Italy and Uruguay	Assembly and auto components
TVS Motors	Proposed Columbian JV in which 26 percent is held by TVS Motors (2006)	Assembly of scooters/ motor cycles from Completely Knocked Down (CKD) kits
	Assembly plant in Indonesia	USD 55 million investment towards one of the world's largest two wheeler plants

Source: Company Annual Reports

Critical Issue: Global Branding

Many respondent companies agree: in the vehicle business, reputation is critical.

“Establishing our brands as quality brands in key markets is going to be a huge challenge,” says the head of manufacturing at one large Indian vehicle maker. “We have to sell against established players, and we are going to have to spend a huge amount of time and energy on demonstrating the qualities of the brand.” Many companies have not yet grasped that brand building requires substantial and long term investment, says this executive. “You know, even in India it has not been easy to sell a brand with our own name and our own technology. For many Indian

companies, not just vehicle makers, this is one of the biggest challenges – overcoming perceptions on performance and quality.”

However, some companies believe that the rising reputation of the component industry holds a lesson for India's vehicle makers. “It is true that a vehicle made in India does not command the respect of a vehicle made in Europe or the U.S.,” says one U.S. component maker. “But things are changing, especially for the component makers. Today anything coming from Bharat Forge for example is recognized as first quality. Anything coming from Sundram Fasteners is recognized as first quality.”

How can vehicle makers achieve the same sort of reputation that the best component makers enjoy? This U.S. company believes that better market understanding is needed: “We have not looked hard enough into the psyche of the customer. In the end it will not matter where a vehicle is made – what will matter is how that vehicle speaks to the customer.”

“Everybody has brand building challenges,” says another U.S. vehicle maker. “Joint ventures can help, of course. But you must never forget that it takes years to establish a brand, and it takes minutes to blow it to pieces.”

Foreign sales of passenger and commercial vehicles are likely to see more modest growth in the absence of new investments in foreign manufacturing and sales operations. Tata Motors, for example, projects exports to grow at 13 percent over the next year, against domestic sales growth of 18 percent. Many companies believe the day when India offers real volume competition in the world's mature passenger car markets is a long way off: Shriram Parameswaran of Eaton, for example, comments that "some markets are going to be more receptive than others. Africa, East Asia, these will be markets for the Indian auto majors – but they are small markets. Elsewhere it is going to be a long battle – certainly we will not be making big sales in the next five years."

Executives interviewed for this report concur that expansion of foreign sales beyond 20 percent of total sales for the top five Indian automakers would require more aggressive expansion abroad. A significant segment of respondents to our survey (41 percent) felt that such foreign sales growth could only be achieved through more mergers and acquisitions. Some 28 percent of respondents felt that current domestic production infrastructure is sufficient to further increase exports; 21 percent felt that Indian makers would have to invest in more sales subsidiaries abroad.

In interviews companies identified two **critical issues for international sales:**

- **More Global Products:** Several companies comment that it remains for India's indigenous automakers to build their product range and manufacturing scale. "You have to remember there are only two Indian manufacturers with any real international presence, Tata and Mahindra and Mahindra are focused entirely on off-road or SUV vehicles," says Rajiv Dube of Tata Motors. Suhas Kadlaskar of DaimlerChrysler agrees that "The domestic market is going to be more important over the next five years at least, as long as India lacks the kind of economies of scale that China has, as an exporter," he says.
- **Distribution:** Companies believe that Indian auto businesses are still at the stage of building technology and manufacturing joint ventures: marketing and distribution networks remain to be built. "We will need international warehousing and distribution," says AK Taneja of Shriram Pistons. "We don't have to build it, it is already available, but what we need are the relationships that will allow us to exploit it." Mr. Taneja adds that access to international warehousing and distribution by the domestic players has grown increasingly easy, thanks to the streamlining of export procedures. "Reforms that affect international business have moved much faster than internal reforms," he says. "It is now easier to move goods from Mumbai to Hamburg than it is to move goods from Delhi to Mumbai."

At least one Indian auto-component manufacturer will join the world top 20 component companies

The component industry is the fastest growing sub-sector of the Indian auto industry. Will one or more of India's leading component makers reach the global top 20 within the next five years?

"I think there is a real opportunity for volume production of components," says Sunil Rekhi of General Motors. "As a result GM is now looking at the possibilities of fully integrating Indian components into the global sourcing process." And Shriram Parameswaran of Eaton adds that India's component makers have a market advantage compared to vehicle makers, "Because the component makers have a Business to Business (B2B) model, their products are invisible products so they don't face the same branding issues. That explains the huge growth in the components industry."

Despite the fact that Indian automotive component companies are achieving high growth in overall sales and in exports, auto executives interviewed for this report do not expect to see an Indian company enter the global top 20 within the next five years. Bosch, the largest global supplier had annual sales of USD 64.8 billion in 2006,⁵ while the largest individual Indian maker, Bharat Forge, had only USD 1.06 billion sales,⁶ followed by Amtek Auto at

⁵ <http://www.bosch.com/content/language2/html/index.htm>

⁶ <http://www.bharatforge.com/>

USD 670 million⁷ and trailed by Sundram Fasteners in third place with USD 230 million in sales.⁸

In our survey, executives ranked lack of appropriate technology as the key obstacle when it comes to Indian component companies achieving global scale. Other factors cited were the fragmented nature of the Indian component industry (ranked second), the inability of smaller companies to achieve global quality standards (ranked third) and the weakness of Indian infrastructure (ranked fourth).

Asked what the preferred route to overcoming these obstacles and achieving global scale should be, international alliances were ranked first and more investment in R&D ranked second. Domestic alliances and new investment in

domestic capacity ranked third and fourth respectively.

In the interviews companies identified the challenge of managerial professionalism as the key critical issue for the emergence of global component businesses. AK Taneja of Shriram Pistons says: "The biggest challenge for the family owned component makers – and these form the backbone of component industry in India – is to develop the professionalism you need to build scale. A single location business is all very well but a multi-location business serving domestic and international customers requires a different level of professionalism. These companies need to develop and rely more on systems and procedures and less on traditional hands-on management."

Large auto component manufacturers will increasingly seek growth through acquisitions

India's auto component makers are typically small, family owned and in need of scale, customers and technology. Will they succeed in finding those essentials through acquisition?

"If you really want to access the technology that component makers need, that will have to be through acquisition," says Suhas Kadlaskar of DaimlerChrysler. "But there is no need for us to re-invent the wheel – it is better to use the benefits of acquisition and JV."

The Indian auto component manufacturing industry is currently worth USD 15 billion annually, according to the Automotive Components Manufacturers Association (ACMA), which forecast the industry to grow to USD 18.7 billion sales in 2009 and USD 40 billion by 2016.

Such growth forecasts are based on component makers continuing to make successful acquisitions of U.S. and European companies to build technology capability and customer bases. Several of India's largest component makers have already increased international sales thanks in part to acquisition,

Figure 13. Component Makers' Quality Profile

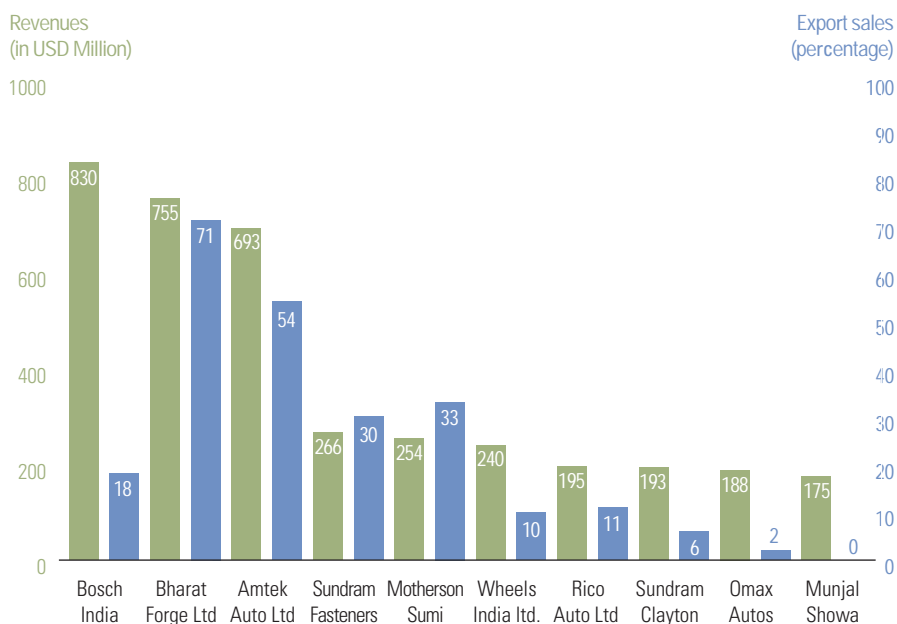
Certification	Number of Companies
Deming Awards	Sundram Clayton, Sona Koyo Steering Systems, Sundram Fasteners and Rane Brake Linings
QS 9000	> 50 percent
TS-16949	~ 25 percent
ISO 14001	~ 15 percent
ISO 18001 OHSAS	~ 2 percent

Source: SSKI Research, September 2006

⁷ <http://www.amtek.com/aal.aspx?pgid=20>

⁸ <http://www.sundram.com/>

Figure 14. Component Makers' Export Performance



Sources: Company Annual Reports, SSKI (Sep 2006), Motilal Oswal (Jul 2006), KPMG International, 2007

and the ten largest makers already make an average of 32 percent of sales abroad. Bharat Forge and Amtek Auto in particular are now more international than Indian, with international sales of 71 percent and 54 percent respectively. (Figure 14)

Although the majority of India's component makers remain small with sales of less than USD 5 million, domestic and foreign acquisitions have led to the emergence of a small core of larger companies. "There are quite a few USD 20-30 million companies today" says Sunil Rekhi of General Motors, who adds "Now five years ago people didn't have much confidence on quality or value from these companies, but that has changed."

Figure 15. Component Makers' Recent Acquisition Record

Manufacturer	Acquisitions and Investments Abroad
Bharat Forge	<ul style="list-style-type: none"> • FAW Corporation in China - 52 percent, JV (2006) • Imatra Kilsta, Sweden (2005) • Scottish Stampings (2005) • CDP Aluminiumtechnik GmbH, Germany (2004) • Carl Dan, Germany (2004)
Amtek Auto	<ul style="list-style-type: none"> • Zelter GmbH, Germany (2006) • GWK, UK (2004) • Smith Jones Inc, USA (2002)
Sundram Fasteners	<ul style="list-style-type: none"> • Peiner, Germany (2005) • Bleishtal Germany (2004)

Source: KPMG International, 2007 and company Annual Reports – Bharat Forge Ltd, Amtek Auto Ltd, Sundram Fasteners

Typically, Indian component companies acquiring overseas assets continue to service the new customer base through the acquired company rather than shifting manufacturing and customer service to India, although they are likely to seek savings by sourcing some specific products from India. In our survey of executives from Indian and international auto companies for this report, the majority of respondents believed this acquisition trend would continue but be intermittent and driven by opportunity. (Figure 15)

Our discussions with key executives from Indian companies and MNCs as part of this survey indicated that a majority of the respondents (55 percent) felt that growth through acquisition would be unsteady and very opportunity driven. The need to acquire complementary product operations was ranked as the most important driver of component company acquisitions. The need to grow internationally was ranked second, while the search for a bigger customer base and the need to build management capability were ranked third and fourth respectively.

Typical of the trend is Endurance Group, a component company that recently acquired component makers in Italy and Germany. A senior executive of Endurance comments "What we are looking for in these kinds of acquisitions is one, a bigger client list, and two, high-end technology." A K Taneja of Shriram Pistons agrees that the need to own technology is driving the acquisition trend. "Indian enterprises tend to be harvestors of technology, not creators of technology," he believes: "to get into the big league, you have to create and own your technology. One way to do this is to acquire technology-rich companies abroad."

In interviews, companies identified three **critical issues for component companies' acquisitions**:

- **Strategy:** Companies comment that there are many acquisition opportunities not worth taking. A Arumagam, a private equity specialist at Standard Chartered Bank argues "It would be very ill-considered for Indian companies to go about making indiscriminate acquisitions. Just because there are loss-making companies on the market that do have existing customers that doesn't mean they are good acquisition targets. You can't turn those companies around just by shifting operations to India. There are labor issues, there are regulatory issues, and there is nothing that says you are going to keep those existing customers. So you need to look at entities that are profitable and are going to continue to be profitable." A senior executive of Endurance agrees, saying "We are only interested in profit-making companies – we are not in the turnaround business."
- **Capacity:** Companies argue that it remains important for businesses seeking acquisitions to develop the capacity to integrate acquired businesses. AK Taneja of Shriram Pistons believes that the management challenge of integrating international assets is considerable: "India has [many] family owned component companies that are all faced with a new situation," he says. "It calls

for multi-location operations, for decentralization, for delegation. This is the challenge." A Arumagam agrees with Mr. Taneja, "The cultural challenge of these sorts of acquisitions is very great," he says. "One way to address it is to make sure you don't lose the management team when you acquire. Good management teams need to be incentivised to stay."

- **Financing:** The majority of Indian component makers are family controlled, and face hard choices when it comes to raising finance. "This is an issue that is troubling a lot of companies," says AK Taneja. "Do you go public? Are you willing to dilute your equity? Or should you just grow slowly?" A Arumagam of Standard Chartered Bank believes that most component company acquisition deals will contain a strong private equity element – but he adds that even with highly leveraged acquisition financing, the number of companies involved will stay small: "There are only between ten and twenty Indian companies capable of growing through these kinds of acquisitions," he says. "The auto components business has been very small scale, and there are still only a handful that have reached global scale."

3 The Domestic Challenge

Indian auto companies face favorable domestic conditions: a vehicle market growing considerably faster than GDP growth, which itself is very strong; a phase of economic modernization which is bringing easier finance with it; and increasingly favorable consumer behavior, as well as a new round of auto-supportive infrastructure improvements.



However, there are also challenges: growth in India and the rest of Asia is bringing tougher competition at home, and competition for investment is intensifying from emerging producers like China. Indian automakers face the challenge of establishing their brand credentials; global companies will have to work hard to fulfill their profit potential so long as India's physical infrastructure and business environment remains at best only partly rebuilt and reformed. These are the themes of the three propositions on India's domestic challenges that we put to leading automotive executives in this report.

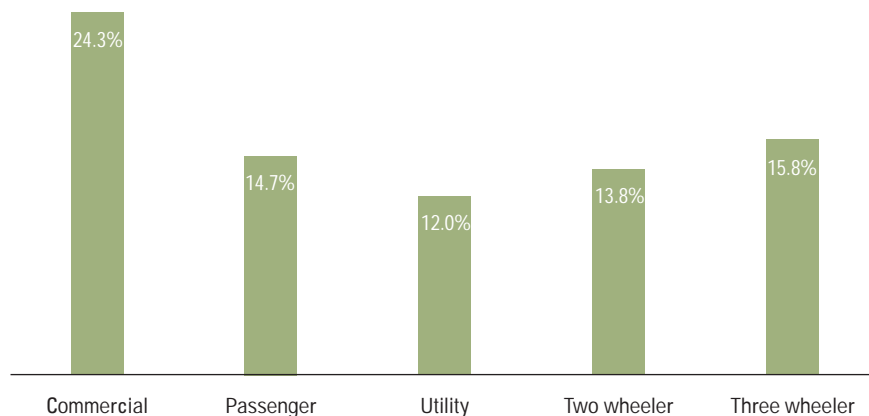
The Indian domestic market will continue to be dominated by small cars

Passenger car sales in India have grown by almost 15 percent CAGR over the last five years, with growth concentrated in the small car segment. Will India remain a predominately small car market, or trade up to higher specification medium-sized vehicles?

Indian car buyers' preferences are changing. "A few years ago Indians would never pay for luxury, but now they will," comments Sunil Rekhi of General Motors.

New car registrations have grown from 625,000 in 2001 to over 1.3 million in 2006. The sub-1500 cc or 'mini and compact car' segments account for over 66 percent of new sales – the Maruti 800 was the best selling car in India for a number of years before ceding the position to another sub-1500 cc car, the Maruti Alto, in 2005. (Figure 17)

Figure 16. India's Auto Sales By Segment



Source: Society of Indian Automobile Manufacturers (SIAM), February 2007

Carmakers are investing accordingly: Toyota has announced plans to set up a new small car manufacturing plant by 2010 with an annual capacity of 100,000 units. Hyundai, Tata and Ford have also announced small car manufacturing expansion plans.

"Customers want more quality and they want more comfort," says Suhas Kadlaskar of DaimlerChrysler. "They are even calling for more power – this was something that was unheard of just a couple of years ago." But Mr. Kadlaskar believes this trend is seen primarily in the shift from two-wheelers to cars, rather than the purchase of larger cars.

"The main trend is that people are migrating from two-wheelers to four-wheelers," he says.

Affordability shapes the Indian passenger car market. Indian lenders are typically willing to advance between three and four times household incomes in car finance loans. That rate of borrowing combined with forecasts of household income from NCAER suggests that it is the small car segment that will continue to dominate the passenger car market, with almost 50 percent of households being able to afford an A1 or A2 small car by 2009, compared with less than 15 percent able to afford a mid-sized car. (Figure 17)

Figure 17. Auto Affordability Forecast

Households which can afford a particular car-segment			
Segment	Price (USD '000')	2005	2009
Segment A1 & A2 (Mini & compact)	6.25 – 12.5	35.06 percent	48.46 percent
Segment A3 & A4 (Mid Size & Executive)	12.5 – 3.0	8.9 percent	14.53 percent
Segment A5 & A6 (Premium & Luxury)	Over 30.0	2.43 percent	4.50 percent

Source: KPMG International, 2007

The small-car segment will also benefit from recently introduced tax incentives, cutting central excise duty on small cars to 16 percent (compared to 20 percent for larger models). But responses to our survey suggest that the majority of auto executives (65.5 percent) believe it is affordability in terms of household incomes that will ensure that India remains overwhelmingly a small passenger car market in the next five years.

"I believe India will remain a small car market," says a senior executive of Endurance. "Thanks to the small cars being produced by Tata and others there will be 15-20 percent growth in this market. The medium-size car market will grow but the small car segment will grow a lot faster."

In interviews, companies identified two **critical issues for the growth of the small car market:**

- **Affordability & Credit:** In Indian terms even small cars are costly – the average small car costs around 12 times average annual disposable income. A K Taneja of Shriram Pistons believes that affordability will restrict sales growth of larger cars in the foreseeable future: "Small, fuel efficient cars will remain the main market," he says. "It is not only a matter of the cost of the vehicle in the showroom, it is also the total cost of ownership. But what is changing is that vehicle

demand used to be driven by government, by institutions and private companies – now it is being driven by private, middle-class consumer demand. And for this set of consumers, affordability is the key issue." A senior executive of Endurance says that financing and taxation will continue to shape the market for larger cars, arguing "The medium segment is still dominated by company cars, the sort of thing that medium- to high-level managers get. Either companies buy fleets, or they offer employees finance. And in this segment a lot will depend on whether there are new fringe benefit taxes."

- **Attitudes:** "Indians are savers, they are frugal, they are cost conscious, and they are very driven by value-for-money," says AK Taneja of Shriram Pistons. Most companies believe that this means that medium sized cars will remain hard to sell in volume – but that despite the conservatism of consumers, attitude changes will drive small car sales. "There is a huge social shift in India," says Shriram Parameswaran of Eaton. "People are coming from rural areas to the cities, two-wheelers are giving way to four wheelers, and as a result the very small 800-1000 cc car market is going to grow very fast. Plus we are moving to an era of dual incomes, husband and wife both working, and we are also seeing new concerns about two-wheeler safety that support small car sales."

A growing percentage of vehicles in the Indian market will run on alternative fuels

Alternative fuels and the vehicles that use them are now high on the agenda for the global auto industry with new alternative fuel initiatives already in place in Europe, the U.S. and South America. Will India develop as a significant market in this emerging sector?

"We are an agricultural country, with 365 days of sunshine," says AK Taneja of Shriram Pistons. "Biofuels can not only address our emissions and sustainability issues, they also hold immense promise for the participation and prosperity of the politically important farming sector".

Demand for alternative fuels in the coming period is likely to be determined by the price and availability of different fuel categories, and the enforcement of new emission controls.

Demand pressure is likely to keep the price of conventional fossil fuels relatively high: the Economist Intelligence Unit (EIU) currently forecasts that global petroleum demand will grow at an annual 2.3 percent over the next five years with most of the demand growth coming from Asia: Asian demand is forecast to grow at 6.1 percent and Indian demand to grow at 7.2 percent. The EIU also predicts that crude oil prices will fall moderately over the next five years, predicting an oil price of USD 44

per barrel by 2011. Such a price will increase the likelihood that only the most efficient producers of biofuels will find profit opportunities in the medium term. (Figure 18)

At current prices, however, existing alternative fuels offer a very significant price advantage where they are available. KPMG in India estimates that fuel costs for the average Indian passenger car are USD 9.8 cents per mile for conventional gasoline, whereas Liquid Petroleum Gas (LPG) costs USD 5.8 cents per mile and Compressed Natural Gas (CNG) USD 2.8 cents per mile.

India is currently experimenting with a range of alternative fuels. In both Delhi and Mumbai, CNG is already widely used for buses, taxis and three-wheelers. Some larger gas-powered vehicles run on LPG, although the distribution infrastructure remains embryonic. There are only two cross-country pipelines, both in Northeastern India, while one more is proposed. Some states have introduced gasoline blended with 5 percent ethanol derived primarily from molasses, and field trials are underway on a 10 percent ethanol blend. Bio-diesel which can be derived from a wide range of fat-bearing agricultural products (in India the crop of choice is the Jatropha plant) or even industrial waste is also limited to field trials in passenger cars, buses and trains. A very small number of electrically-powered vehicles also operate.

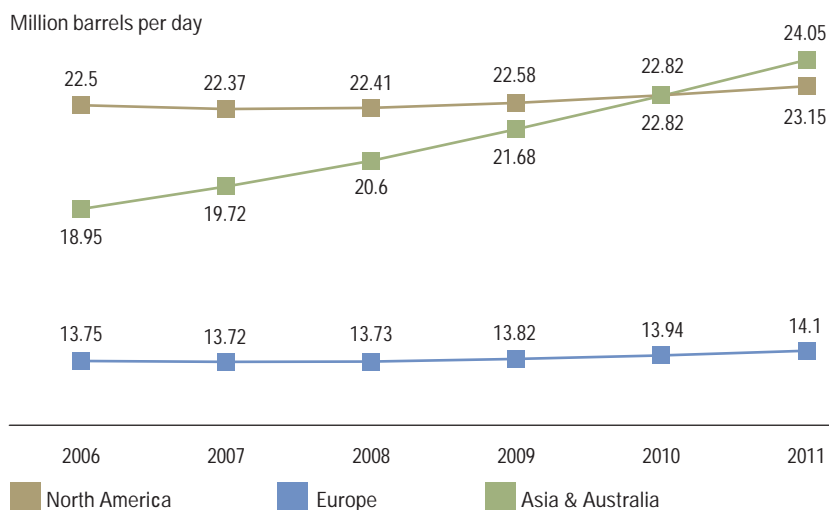
Some companies believe that biofuels will emerge as a significant sector in the Indian economy, as policymakers grasp their potential for bringing new profitability to agriculture. "There is a big question in India over how farmers can participate in fast economic growth," says AK Taneja of Shriram Pistons. "The answer is biofuel."

Regulatory changes in India will also create demand for lower-emission alternative fuels. Under the Indian government's Automotive Fuel Policy, a series of new emission controls known as the Bharat Stage norms – standards modeled on European emission rules – are already being enforced in a rolling program ending in April 2010. The Bharat norms have already resulted in the conversion of all three-wheelers and taxis, in the

national capital region (NCR) and Mumbai, to LPG or CNG vehicles; the phased conversion of diesel-based commuter public buses in target cities to CNG and the phasing out of commercial vehicles above 15 years in age.

Based on a survey of auto industry professionals, KPMG in India estimates that of the 14 'select' cities with access to piped fuel gas, approximately 10 percent of passenger cars (or 680,000 vehicles) will be running on CNG by 2015. Commuter vehicles and light commercial vehicles are likely to be running on LPG and CNG without exception by 2015. As the final Bharat stage IV emission controls are introduced, a likely total of 2.17 million vehicles will be running on gas fuel in the 14 cities.⁹

Figure 18. Forecast Global Oil Consumption

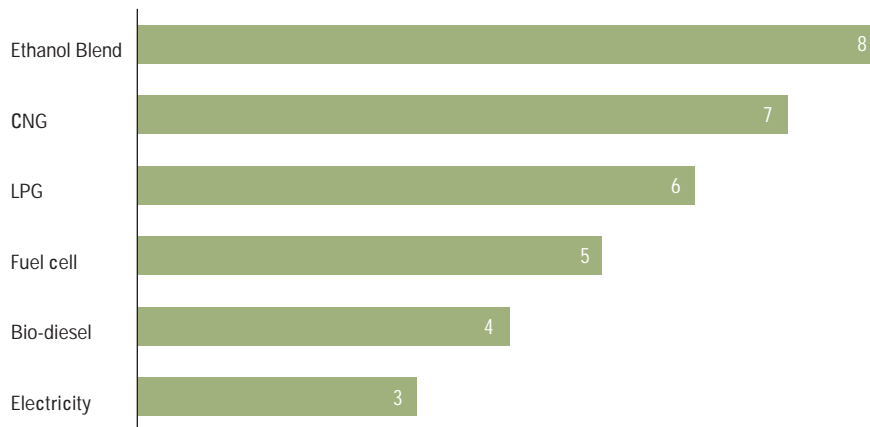


Source: Economist Intelligence Unit (EIU), February 2007

⁹ KPMG International, 2007

Figure 19. Survey: Executives Rate Consumer Acceptance of Alternative Fuels

Aggregated ranking by industry people interviewed



Source: KPMG International, June 2007

There is disagreement among companies over how readily consumers will adopt new fuels. Shriram Parameswaram of Eaton states "Historically India has always been a petrol market. Diesel was always seen as very downmarket – only recently have you seen a shift to diesel. And the 'right fuel, wrong fuel' mindset is still strong in India." But AK Taneja of Shriram Pistons points out: "Already all the buses and taxis in Delhi run on CNG – this is the largest fleet of buses in the world. This change was something that was readily embraced by the government and the people, so I see no reason not to go further and adopt biofuels."

In our survey of executives from Indian and global auto companies a majority (45 percent) agreed that national distribution infrastructure was the key to developing a mature alternative fuel market. Some 31 percent also felt that government subsidies towards alternate

fuels would be essential during the early development of a national market. (Figure 19)

In interviews companies identified three **critical issues for alternative fuel development**:

- **Policy Support:** "It depends a lot on government: will they come out with the fiscal policies that are needed to support it?" asks Suhas Kadlaskar of DaimlerChrysler, commenting on the future of biofuels. He adds: "There is still a lot work to be done on processing this fuel: you have to be sure you can cultivate a suitable quality input, and you have to get sufficient yields. As a commercial reality it is at least five years away – we have yet to convince farmers that there is a profit in it." Sunil Rekhi of General Motors also doubts that new policies to support biofuel development will be in place soon. "Fossil fuel is coming to an end

and the whole of mankind needs something to replace it. I am not sure the government is really geared up to deal with this fact."

- **Marketing:** Companies believe that the consumer acceptability of alternative fuels for private vehicles remains untested. Shriram Parameswaram of Eaton believes that this is a market that has yet to materialize: "for one thing environmental consciousness is not widespread," he says. "There is a lack of demand, arising out of the reluctance to pay a premium for a higher cause."

- **Infrastructure:** Tata Motors says that there will be continuing constraints on the availability of gas fuels. Suhas Kadlaskar of DaimlerChrysler agrees: "To get the CNG infrastructure in place will take years. Today and tomorrow, petrol and diesel will be the fuels of choice."

Replacement of commercial vehicles will boom as older vehicles get scrapped and logistics hubs emerge
Most of India's commercial vehicle fleet is old and inefficient. Will a combination of new legislation and the development of more efficient distribution drive a new cycle of vehicle retirement and replacement?

"This is the need of the hour," says AK Taneja of Shriram Pistons. The commercial vehicle market is dominated by three companies (Tata Motors, Ashok Leyland and Mahindra & Mahindra) which account for nearly

90 percent of the entire domestic commercial vehicles market. Historically, commercial vehicles in India have tended to be short- to medium-haul vehicles, often owned by single-vehicle contractors. This is a result of poor federal infrastructure and an absence of organized retailing. Single vehicle contractors keep their vehicles for longer than larger logistics companies: almost a quarter of the commercial vehicles on India's roads are over 15 years old, while more than 40 percent are over 10 years old.

"These older vehicles cause more pollution, they are more costly to maintain, and they cause more accidents," argues a senior executive of Endurance Group. "So we have to move to the concept of end of life for vehicles. The realization has come and I think the issue will gain momentum." Conversely, some companies believe

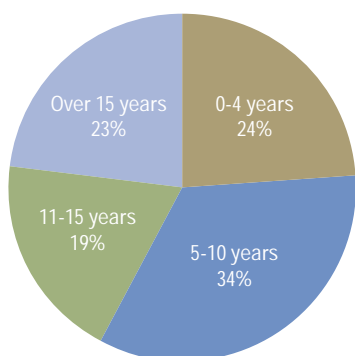
that electoral sensitivities will slow progress: "You have to start vehicle retirement with commercial vehicles, but there are a lot of single vehicle owners out there, entirely dependent on their one vehicle," says Rajiv Dube of Tata Motors. "That is why the issue is sensitive." (Figure 20)

However, the commercial vehicle fleet is already changing fast. Domestic sales of new commercial vehicles grew at 24.3 percent for the whole segment over the last five years: medium and heavy vehicle sales grew at 23.2 percent and sales of light commercial vehicles grew at 26.1 percent (Figure 21). Sales have been driven by economic growth, easier financing, better roads and regulatory developments. In particular, a Supreme Court ruling in November 2005 sharply limited the permitted loading of commercial vehicles, creating replacement demand.

Growth is also being fuelled by new road building, including 5,800 km Golden Quadrilateral federal highway network that is now nearing completion.¹⁰ New roads and the increasing sophistication of retailing are leading to the emergence of a 'hub-and-spoke' national logistics network. This is likely to increase commercial vehicle demand, especially for vehicles at the larger and smaller ends of the spectrum.

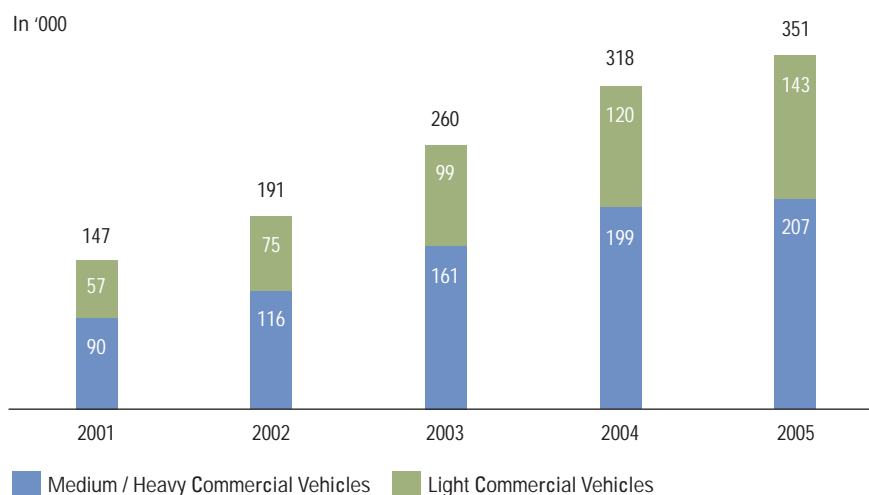
Our survey of Indian and international auto executives revealed that there was almost equally strong support for the propositions that faster vehicle retirement and the emergence of logistics hubs as drivers of commercial vehicle sales. Some 34 percent of respondents thought that vehicle retirement would create demand; 31 percent felt that logistics hubs would do so.

Figure 20. Age of Commercial Vehicles in India



Source: Businessline, July 2006

Figure 21. Domestic Commercial Vehicle Sales



Source: Society of Indian Automobile Manufacturers (SIAM), February 2007

¹⁰ National Highways Authority of India

"There is a perception change," believes Sunil Rekhi of GM India, who adds: "People used to buy a vehicle for a lifetime. Then they were thinking in terms of five years. Now it is three years. It is already getting harder and harder to run old vehicles. Insurers, for example, are getting very reluctant to insure vehicles that are over 15 years old."

In interviews, companies identified two **critical issues for vehicle replacement**:

- **Policy Support:** "The industry has been asking policymakers for a retirement policy for old vehicles," says Sunil Rekhi of General Motors. "The trouble is we are not getting it. Government is warming up to the idea, but as of today there is nothing actually on the table." Other

companies agree that electoral sensitivity will determine policy: "That is why we think the starting point should be end of life regulations not for private vehicles but for example city bus fleets," says Suhas Kadlaskar of DaimlerChrysler. "Government understands that this is an area where they can use policy to influence safety and environmental standards. But measures should not be coercive, they should be incentive-based." AK Taneja of Shriram Pistons says: "Government is not going to mandate an overnight change [in vehicle retirement policy]," he says. "It will be more like the approach to emissions. First there will be change in Delhi. Then the next biggest metro cities. Then the mini-metro areas. It is already happening – a truck or bus that is more than ten years old is not allowed to register or apply in Delhi.

And this policy is something that will be gradually extended to other cities, virtually like a step-by-step vehicle retirement policy."

- **Road Infrastructure:** Prakash Kodlikeri of Kalyani Lemmerz believes that the next five years will see high commercial vehicle sales growth and renewal of fleets only if there are more improvements in road infrastructure. "Weak infrastructure is a real drag on growth," he says. "But there are huge efforts being made to improve that infrastructure. The whole program of highway building is delayed by around 1-2 years, but it is getting completed."



4 Conclusion

India's leading automotive executives are optimistic. That is the overall result of the interviews and surveys conducted for this report: several years of strong domestic growth combined with a growing level of internationalization of the manufacturing economy has given corporate executives high expectations for the near future.



Almost all the companies surveyed expect the above trend growth in the automotive sector to continue, fuelled by rising disposable incomes and increasing consumerism. They also believe that global automakers will continue to allocate a rising proportion of their foreign direct investment into India, growing auto manufacturing first and later auto engineering and R&D services.

Many companies are aware that their labor cost advantage is beginning to erode as both shop floor and managerial wage costs rise. However, they are optimistic that productivity improvements through low-cost automation and improved management efficiency will compensate for rising direct wage costs.

But Indian companies are also cautious. Their leading concern is the continuing cost imposed by India's relatively poor physical infrastructure, and the slow pace of improvement in road, rail and port facilities. They are also aware that the automotive industry lags behind other sectors such as IT and financial services in management training, reward and retention.

In international business, many companies surveyed speak of the need for more extensive alliances in distribution and marketing, and for more well-chosen acquisitions especially in the auto component sector. Above all, Indian companies recognize that to achieve global scale they will need to meet the challenge of building persuasive global brands.

Nevertheless, the overall impression of these discussions is that India's auto sector has passed a critical turning point. The inherent strengths of India's manufacturing economy – an exceptional human resource base, the capacity to deliver high quality engineering products, and the strategic geographical positioning – have been reinforced by a strong domestic economy and a new readiness on the part of global auto manufacturers to make key investments in India.

The opportunity for India's automotive companies to emerge as leading participants in the global industry is clearly present: the challenge is no longer to create the opportunity, but to manage it.



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KPMG Contributors

KPMG International

Karen French

Roland Schmid

Fiona Sheridan

KPMG in India

Ashwin Jacob

Gaurav Khungar

Arun Krishnan

Yezdi Nagporewalla

Ankur Pegu

Preet Mohan Singh

Priyankar Bhikshu

Vivek Subramanian

Contacts

For further information about KPMG's Global Automotive practice, please contact:

KPMG in Germany

Uwe Achterholt
Global Head, Automotive
Tel: +49 89 9282 1355
e-Mail: uachterholt@kpmg.com

Roland Schmid

Global Executive, Automotive
Tel: +49 89 9282 1147
e-Mail: rolandschmid@kpmg.com

KPMG in India

Pradeep Udhas
Head, Markets
Tel: +91 22 39835400
e-Mail: pudhas@kpmg.com

Yezdi Nagporewalla

National Industry Director, Industrial Markets
Tel: +91 22 39835101
e-Mail: ynagporewalla@kpmg.com

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Designed and produced by KPMG LLP (UK)'s Design Services

Publication name: KPMG's India Automotive Study 2007

Publication number: 308-018

Publication date: November 2007

Printed on recycled material.