



# MANUFACTURING IN INDIA



A stylized graphic in a light blue color. It consists of three thick, curved lines that originate from the bottom left and sweep upwards and to the right. Three solid blue circles are positioned between these lines, roughly following an upward diagonal path from the bottom left towards the top right. The overall composition is minimalist and modern.

MANUFACTURING IN INDIA

## **MANUFACTURING IN INDIA**

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*A report by KPMG for IBEF*

## Executive summary

### Background

India is one of the fastest growing economies in the world. With a population of over 1 billion, a country endowed with significant natural resources and with costs that are at the low end of the global average, India represents an attractive economic opportunity.

India is the largest democracy and fourth largest economy in purchasing power parity terms in the world. India has experienced robust growth in the recent past and holds positive outlook (strong and stable GDP growth rate, strong reform process, reduction in external debt as a percentage of GDP, and strong FDI inflows). These factors have influenced several leading multi-national companies to invest in business operations in the country.

*“India is one of the most promising markets of the 21<sup>st</sup> century”*  
– Senior Managing Director, Toyota Motor Corporation (TMC)

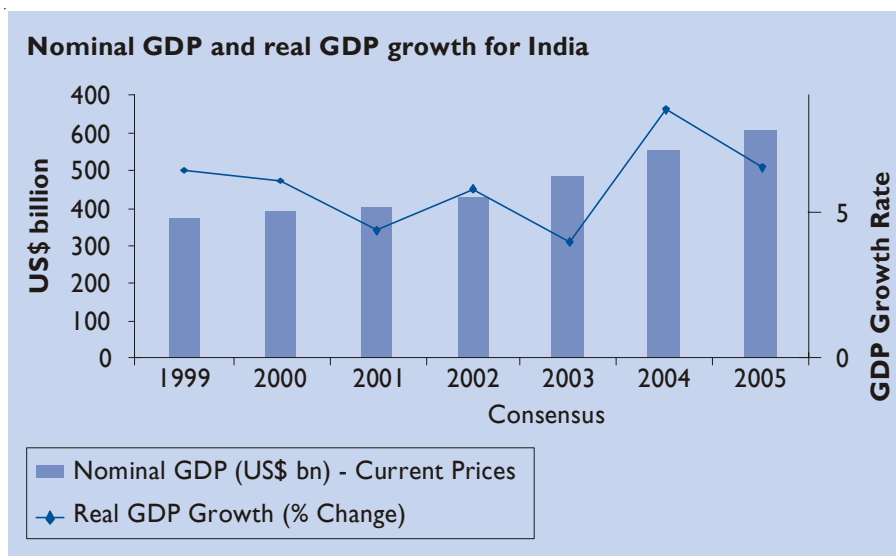
Since the beginning of the liberalisation process, India has made significant progress towards becoming a strong economy. The emphasis on forward-looking policies in a stable political and macro-economic environment has resulted in a steady and sustained economic growth of 5.6 per cent (CAGR) for the past 20 years. This is expected to improve further to a level of around 8 per cent in the future. In terms of GDP, India is expected to overtake several developed countries by early 2030s.

India’s strong performance and growth has attracted several multinationals to invest in India. Most of these companies have leveraged India’s strengths to both establish their operations in the domestic market, and also develop India as a sourcing base for their global operations.

While the strong economic performance has been primarily driven by the service sector over the past decade, India also has strong capabilities in manufacturing. This is slowly gaining in prominence. It is widely believed that the next wave of growth in India will be powered by the manufacturing sector.

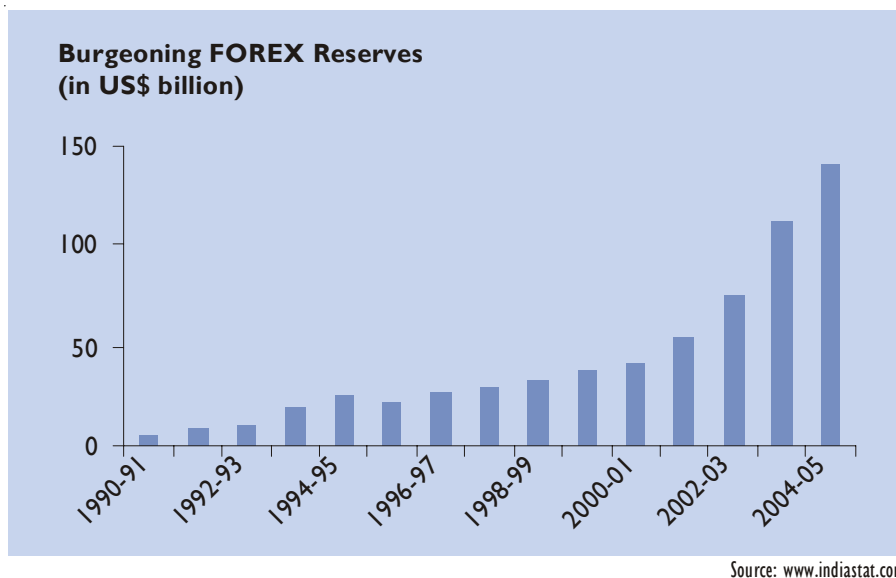


## India is one of the most attractive developing economies of the world



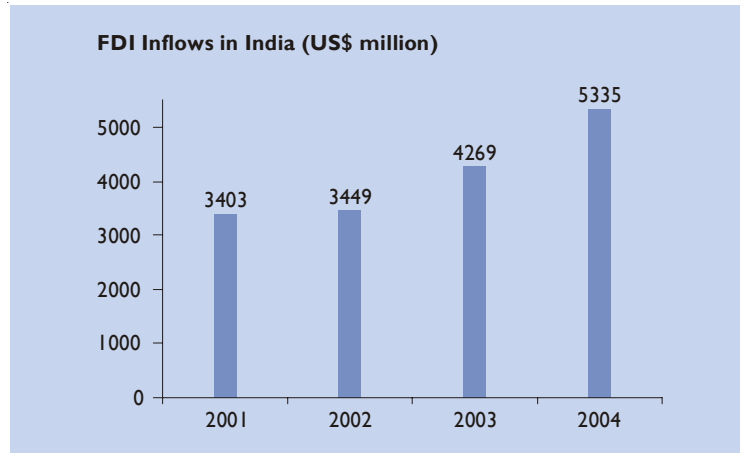
India is one of the fastest growing economies in the world, with steady growth based on strong fundamentals. The nominal GDP has seen a consistent growth from around US\$ 300 billion in 1994 to over US\$ 600 billion in 2005, making India a significant force in the world economy.

The real GDP has been growing consistently over the 5 per cent mark over the last few years and reached a high of over 8 per cent in 2004.



India's foreign exchange reserves have been growing. Foreign exchange reserves have increased from around US\$ 5 billion in 1990-1991 to around US\$ 140 billion in 2004-2005. This is a reflection of the on-going reform process and the positive business climate in India. This has also facilitated further relaxation of foreign exchange restrictions and a gradual move towards greater capital account convertibility.

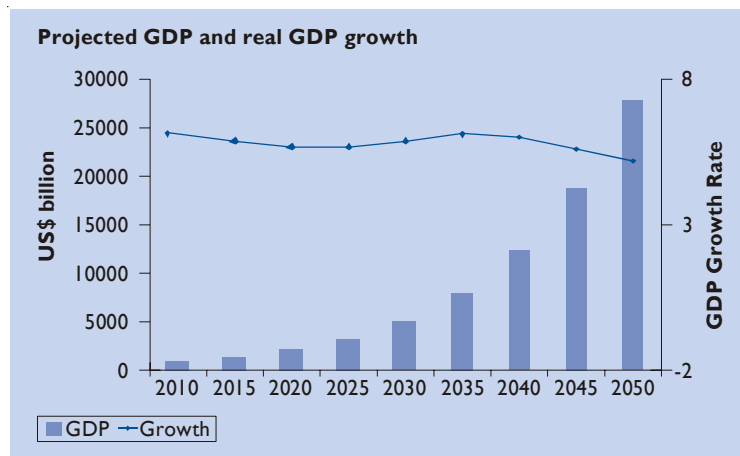
India is also emerging as an attractive destination for foreign direct investments. This is evident from the growing FDI inflows in India. India received FDI of over US\$ 5 billion in 2004 as against US\$ 3.4 billion in 2001.



Source: UNCTAD, World Investment Report, 2005

Inflation has been consistently on the downswing over the years, from 7 per cent in 1997-1998 to less than 4 per cent in the recent past. The interest rate has thus declined in the recent past and this has in turn stimulated consumption and investment. The rupee has also become stronger against the US dollar over the recent years.

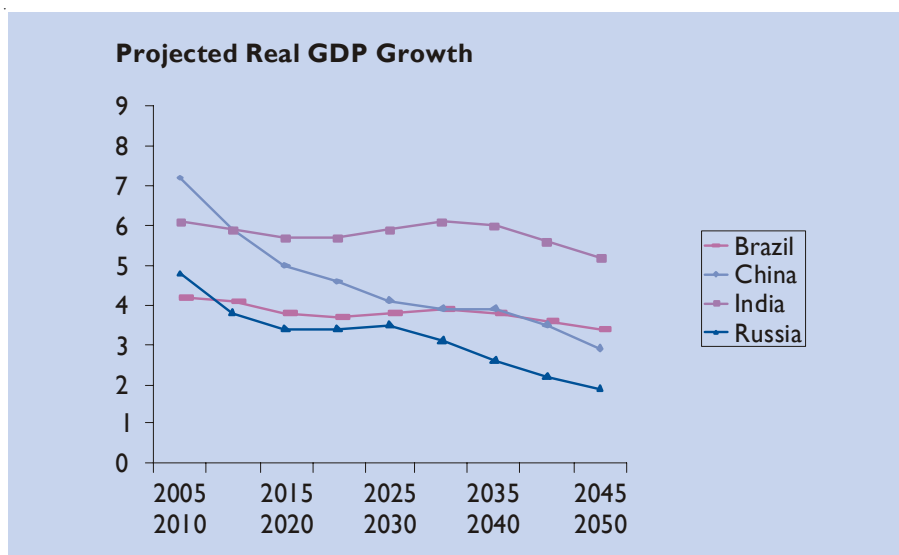
The strong fundamentals of the Indian economy have enabled growth without compromising stability.



Source: BRICS Report.

It has been estimated that India has the potential to clock the fastest growth over the next thirty to fifty years and by 2050, be the only country recording growth rates significantly above 3 per cent.

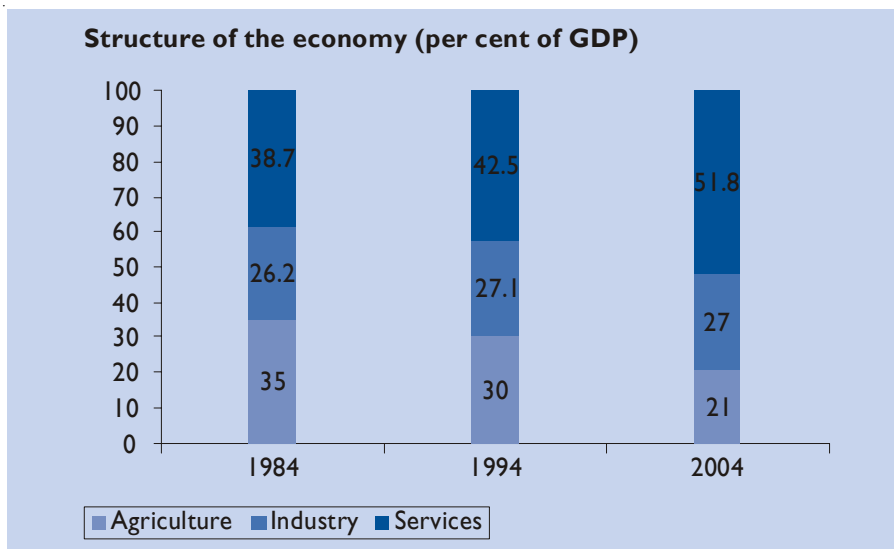
The GDP of India has been expected to be around US\$ 900 billion in 2010, around US\$ 5000 billion in 2030 and over US\$ 25000 billion in 2050 which would make it the third largest economy in the world, after US and China.



Source: Dreaming with BRICs, Goldman Sachs Report

### GDP growth is driven by services and manufacturing sectors in India

Typically, as a nation progresses, the driver for economic growth shifts gradually from agriculture to low-end manufacturing, then to high-end manufacturing and services. India's growth over the past two decades has seen a quantum change in the composition of its GDP.

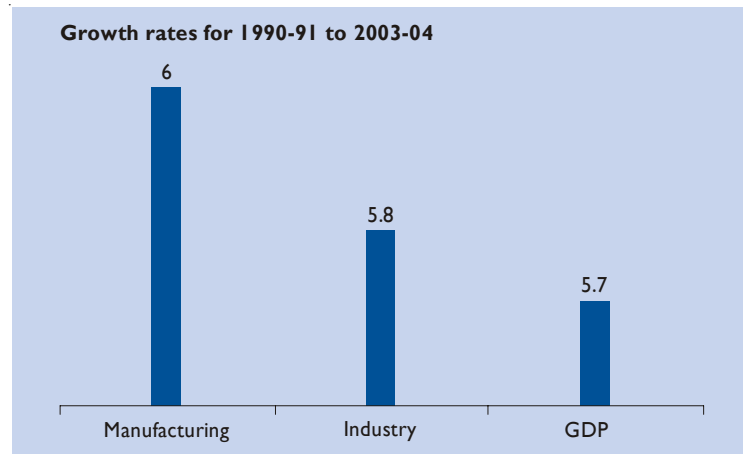


Source: Worldbank

The share of the agriculture sector in India's economy has decreased from 35 per cent in 1984 to 21 per cent in 2004. In contrast, the share of services has increased from 38.7 per cent in 1984 to over 50 per cent in 2004. The share of industrial sector also increased marginally from 26.2 per cent in 1984 to 27 per cent in 2004. Thus, India's strong economic growth over the past decade and a half has been driven primarily by the services sector, followed by manufacturing. The foundation for sustained growth over the long term is expected to be based on the growth of India's manufacturing sector.

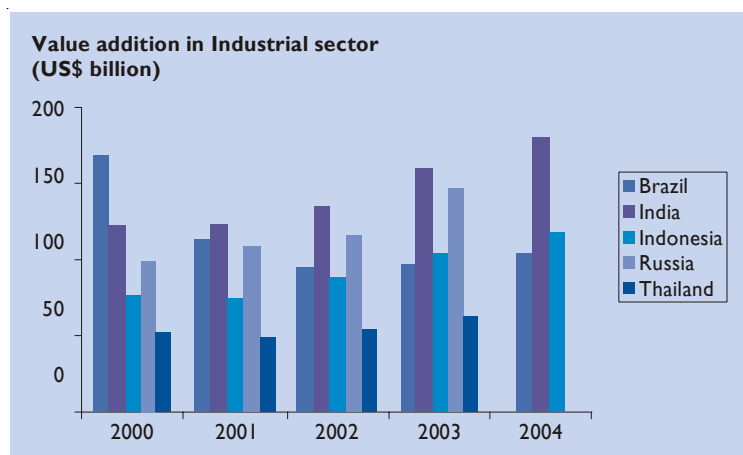
### Manufacturing sector has been growing rapidly in India

India's manufacturing sector grew at an average annual rate of 6 per cent per year in the fourteen years between 1990-91 and 2003-04, which was higher than the 5.8 per cent growth achieved by overall industry and the 5.7 per cent GDP growth during the same period.



Source: Reserve Bank of India

Though the share of manufacturing in India's GDP is relatively low at 17 per cent, the manufacturing sector is on the growth path. The sector recorded a growth of 11.4 per cent in 2005, while the overall industrial sector also recorded a double-digit GDP growth of 10.3 per cent - this is just about a per cent less than the Chinese industrial sector's growth. The manufacturing sector has been instrumental in increasing India's industrial GDP, as well as closing the gap between GDP growth rates of India and China.



Source: World Bank

The value addition in industrial sector in India has also increased over the past few years, from US\$ 122 billion in 2000 to US\$ 180 million in 2004, and is higher than many competing economies.

Further, Indian manufactured products are now gaining acceptance in world markets. India already exports about US\$



50 billion a year in manufactured goods and this is increasing at the rate of 20 per cent a year.

A study by the Confederation of Indian Industry (CII) and McKinsey & Co. on manufacturing sector in India estimates that Indian manufacturing export has the potential to touch US\$ 300 billion by 2015, growing at an annual rate of 17 per cent as against the historic growth of 11 per cent. Of this, nearly US\$ 70 billion to US\$ 90 billion could be captured from just four sectors — apparel, auto components, specialty chemicals and electrical and electronic products.

India's expertise in skill-intensive manufacturing sectors such as auto components, pharmaceuticals and textiles gives it an edge over other low-wage producers. While many other Asian countries can provide relatively low skilled labour force at a minimal wage level, the introduction of high technologies into manufacturing makes it necessary to source from a country that can provide high tech, skilled labour force – and this is where India scores.

India's manufacturing sector is poised to become the driving force of the nation's economy and offers attractive opportunities for investment and growth. In the next section we assess the investment climate in India, defined by the policy, institutional and behavioural environment in the economy that influences returns and risks associated with the investment.

### **India offers a favourable investment climate**

India today is a mature, vibrant democracy and a robust pillar of the world economy. The democratic process is nurtured as well as protected by a well-developed and independent judiciary, an alert and free media and active non-governmental organisations. Indian government has implemented reforms in policies and systems to increase the confidence of investors in India.

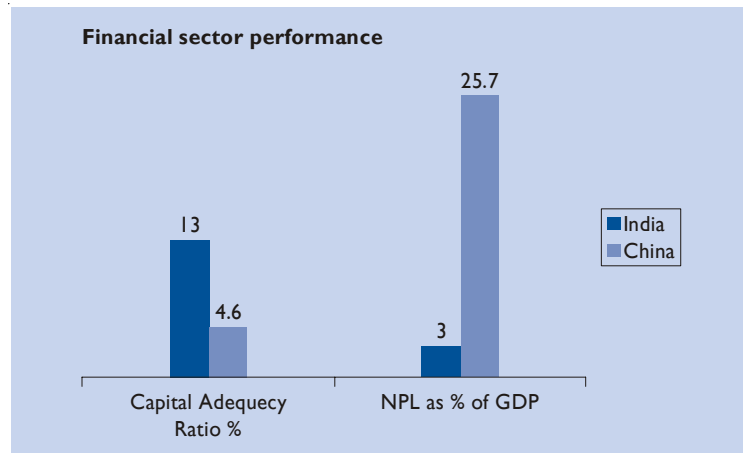
### ***Reforms in Indian economy***

In the post-liberalisation era, beginning early 1990s, India gradually opened up its market, lowering trade barriers and freeing industrial licensing and exchange controls, and set the stage for its evolution as an active player in global economy and trade. Wide-ranging structural reforms have resulted over time in India moving to a higher growth path with the Tenth Five-Year Plan period (2002-07) most likely to end up with a 7 per cent average growth. With its vibrant manufacturing and liberalised financial sectors, India has been reaching out to the world and asserting its competitiveness.

Some of the industrial policies that have helped India in its growth include de-reservation of the small scale industry, privatisation of the public sector undertakings (PSUs), private participation in key infrastructure sectors, simplification of import procedures so that most items are placed under OGL (Open General License) and simplifying the import procedures for key raw materials. In addition, peak customs tariffs are reducing steadily, licensing has been removed from all but a few sectors, and Intellectual Property Rights (IPRs)

are now TRIPS compliant. FDI today can enter India in most sectors through automatic route

Some of the key financial sector reforms have been the rationalisation of tax rates, widening of tax base, current account convertibility and partial capital account convertibility, formation of SEBI to regulate the securities market and act as a watchdog and the Securitisation Act to facilitate reduction of non-performing assets (NPAs). As a result of these financial sector reforms, currently, non-performing loans (NPL) are just 3 per cent of GDP in India as compared to 25.7 per cent in China.

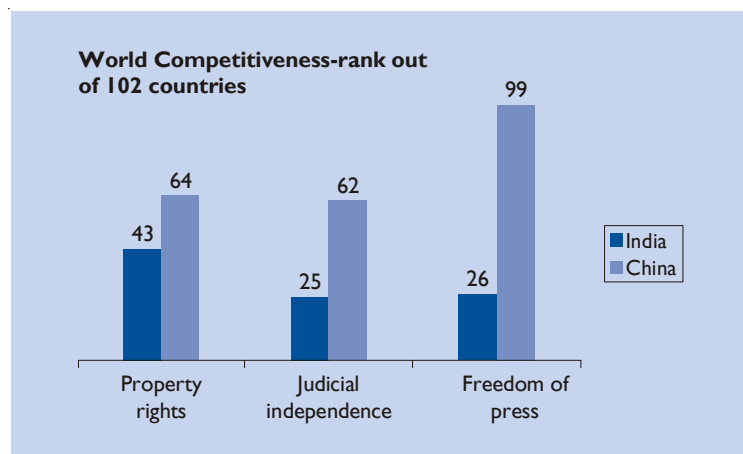


Source: Morgan Stanley

New judicial reforms have been established for speeding up settlement of cases. The democratic system of governance and strong judiciary allows multinational companies to invest with confidence in India.

As a result of these reforms, India has emerged as one of the most attractive investment destinations in the world, and many global majors have leveraged the emerging opportunities in India.

**India compares favourably with other developing economies**



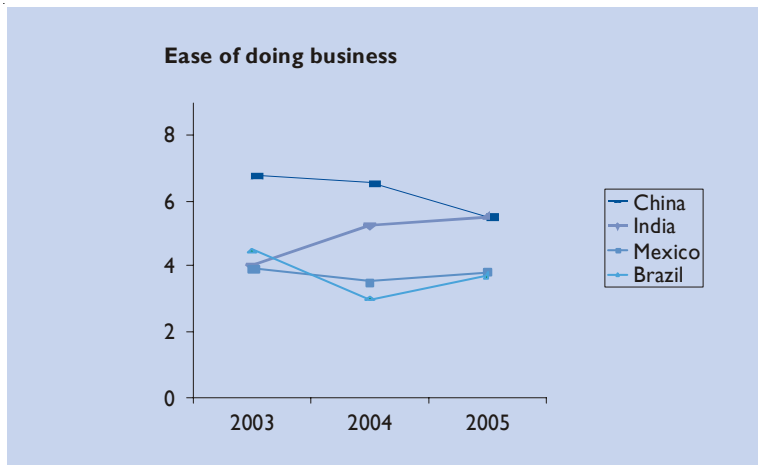
Source: World Economic Forum

Compared to other Asian nations, the quality of many of the institutions that influence business environment is high in India. Property rights are enforceable; the judiciary is independent, press and political systems are vibrant in India..

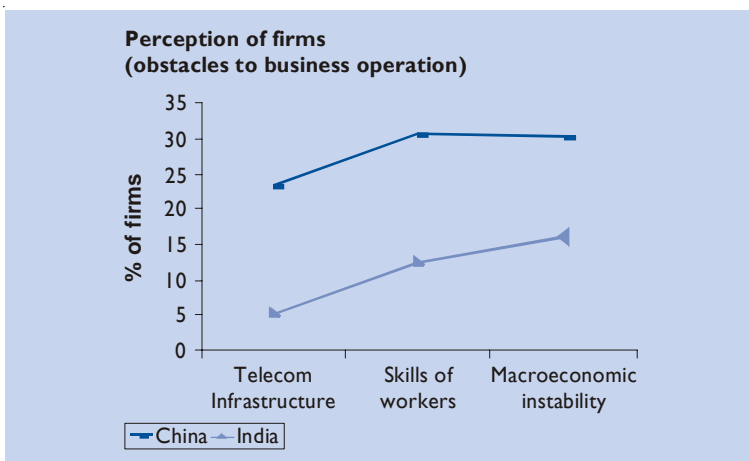
According to the World Bank's survey on investment climate and manufacturing, which tracks changes in the Indian investment and operating environment between 2000 and 2003, while manufacturing companies do find the burden of administrative compliance, complex taxation, and corruption considerable, in several key indicators of the costs of doing business in India, their rating of India has significantly improved since 2000. India is seen as an environment where companies can expect incremental but consistent positive change.

Overall, the ease of doing business in India is now better in comparison with other emerging economy competitors.

In fact, India has bettered itself in terms of its telecommunication infrastructure, availability of skilled labour and macroeconomic stability. Only 5 per cent of firms perceive Indian telecom infrastructure to be an obstacle for their operation in India as compared to 23.5 per cent of firms for China.



Source: World Competitiveness Yearbook, IMD, 2005



Source: World Bank

India thus scores favourably with other developing countries in terms of its investment climate, strong economic growth, and positive future outlook.

India's manufacturing sector offers an attractive investment option for foreign and Indian investors. The sector's strong performance is aided by several inherent strengths that India possesses, which makes the future outlook for the sector very positive. In the next section, we shall assess the comparative advantages of India in the manufacturing sector, and discuss some of the ways in which companies are leveraging these.

### India is one of the top performers in the manufacturing sector in the world

India's manufacturing sector is large and diverse, composed of several independent sub-sectors. The 10 key sectors that comprise the bulk of Indian manufacturing are:

- Engineering
- Electronics
- Automotive
- Textiles
- Chemicals
- Leather
- Metals
- Machine tools
- Food processing
- Gems and Jewellery

The following table provides a brief snapshot of these sectors



Sector	Key sub-sectors	Market size	Growth rates	Key companies
Automobile	<ul style="list-style-type: none"> <li>Commercial vehicles</li> <li>Passenger vehicles</li> <li>Two wheelers</li> <li>Three wheelers</li> </ul>	Total vehicle production was 8.4 million in 2004-05	Domestic sales – CAGR 14.2% for past 4 years  Exports – CAGR 39 % for past 4 years	Ford, General Motors, Hyundai, Hero Honda, Toyota, Daimler Chrysler, Tata Motors, Mahindra & Mahindra, Ashok Leyland, Hindustan Motors, Bajaj Auto, Maruti Suzuki etc.
Chemicals	<ul style="list-style-type: none"> <li>Petrochemicals</li> <li>Inorganic chemicals</li> <li>Organic chemicals</li> <li>Fine &amp; specialties</li> <li>Agrochemicals</li> <li>Paints and dyes</li> </ul>	The industry has a turnover of about US\$ 30 billion	Production of Basic Chemicals - 6.67 % year on year  Exports – CAGR 21% for last 5 years	IPCL, GAIL, Haldia, Tata Chemicals, Asian Paints, Ciba, Rallis, Nerolac, Hindustan Organic Chemicals
Electronics	<ul style="list-style-type: none"> <li>Consumer electronics</li> <li>Industrial electronics</li> <li>Computers- Strategic electronics</li> <li>Communication &amp; broadcasting equipment</li> <li>Electronic components</li> </ul>	The total size was US\$ 11 billion in 2004-05	Exports- 16 % in 2004 over 2003	Samsung, LG, Philips, Mirc Electronics, Flextronics, Solectron, Jabil Circuits, HCL Infosystems Ltd, Videocon International Ltd.
Engineering	<ul style="list-style-type: none"> <li>Heavy engineering</li> <li>Light engineering</li> </ul>	Total production was US\$ 22 billion in 2003-04	Exports- 28.3 % in 2004 over 2003	BHEL, L&T, Cummins, Siemens, Alfa Laval, Sandwik Asia, Voltas, ABB, Thermax, BEML, Engineers India
Food Processing Industry	<ul style="list-style-type: none"> <li>Dairy, fruits &amp; vegetable processing</li> <li>Grain processing</li> <li>Meat &amp; poultry processing</li> <li>Fisheries and</li> <li>Consumer foods</li> </ul>	The industry size has been estimated US\$ 70 billion	The industry is estimated to grow at 9-12 %	HLL, Cadbury, Dabur, Godrej, ATFL, Haldiram, MTR Foods, Gits Foods, Britannia, ITC, Nestle, Pepsi, Coca Cola

Sector	Key sub-sectors	Market size	Growth rates	Key companies
Gems & Jewellery	<ul style="list-style-type: none"> <li>• Gemstones</li> <li>• Jewellery</li> <li>• Pearls</li> </ul>	Total market size of jewellery is US\$ 13 billion	Gold jewellery- 15 % Diamond jewellery-27% Exports- 26.4% in 2004 over 2003	Dimexon, Rosy Blue, Asian Star, Tanishq, Gili, Suashish Diamonds Ltd, Su-Raj Diamonds & Jewellery, Oyzterbay, Intergold
Leather	<ul style="list-style-type: none"> <li>• Tanning and finishing</li> <li>• Footwear &amp; footwear components</li> <li>• Leather garments</li> <li>• Leather goods and accessories</li> </ul>	Market size - US\$ 4 billion in 2004	Exports - CAGR of 8%	Superhouse Leathers, Mirza International, Bata India, Lakhani India, Forward Group, Liberty Shoes Ltd.
Machine Tools	<ul style="list-style-type: none"> <li>• Forming tools</li> <li>• Cutting tools</li> </ul>	Production was worth US\$ 225 million in 2004	Market size - over 35 % 2005 over 2004	L&T, Siemens, Crompton Greaves, Cummins, HAL, Thermax, ABB, Alfa Laval, BHEL
Metals	<ul style="list-style-type: none"> <li>• Ferrous metals</li> <li>• Non-ferrous metals</li> </ul>	Installed capacity- 36.12 million tons of steel and 477,500 tons of copper	Exports of steel - CAGR 22 % for past 3 years Cotton textiles - 7.7% in 2005 over 2004	Hindalco, Sterlite, SAIL, Essar Steel, ZISCO, TISCO, Ispat Industries, Hindustan Zinc, Nalco, Rio Tinto, BHP Billiton
Textile	<ul style="list-style-type: none"> <li>• Spinning</li> <li>• Weaving/ Knitting</li> <li>• Processing</li> <li>• Garment manufacturing</li> </ul>	Contributes 1/5th to the total export earnings and 4% to India's GDP	Textile products - 18.2% in 2005 over 2004	Arvind Mills, Raymond, Indian Rayon, Bombay Dyeing, Himatsingka Seide Ltd, Welspun India, Century Textiles

In several of these areas, India ranks amongst the top performers globally.

## Manufacturing sector in India

*India is the largest three wheeler market and second largest two wheeler market in the world*

*India is the second largest jewellery market and largest diamond cutting and polishing centre in the world*

*India stand nineteenth in production and sixteenth in consumption of machine tools in the world*

*India's Textile Industry is the second largest in the world in cotton trade.*

*The Indian Chemical industry ranks twelfth by volume in the world for production of chemicals. India is the third biggest leather producer in the world after China and Italy.*

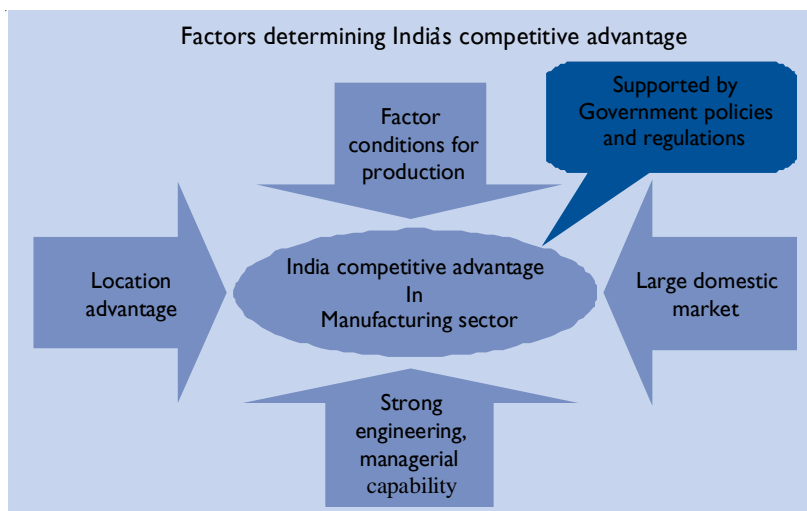
*India is world's largest producer of milk, tea and pulses with world's largest livestock population to support food processing sector*

*India ranks fifth in the world bauxite reserves next to Australia, Guinea, Brazil and Jamaica.*

The competitiveness of the manufacturing sector in India comes from a number of advantages that India offers to the companies investing in India.

### India has competitive advantage in manufacturing sector

The competitive advantage of Indian manufacturing sector is determined by four major factors. These factors are further supported by government policies and regulations to provide favourable investment climate for investors in manufacturing sector in India.



Factor conditions for production: These include availability of skilled labour and raw materials.

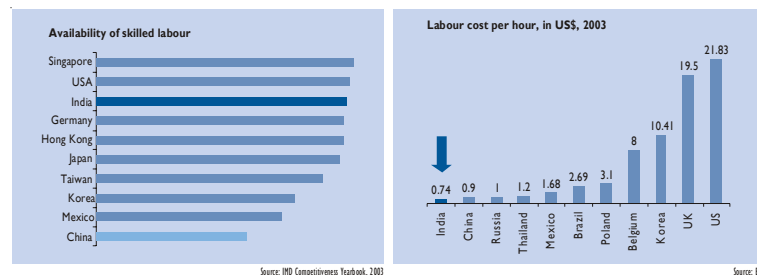
- Large domestic market
- Engineering capability
- Infrastructure / location advantage
- Government policies and regulations, which mainly focus on infrastructure support, improving competitiveness of manufacturing firms and attracting foreign investments in India.

### Factor conditions

#### Availability of skilled labour

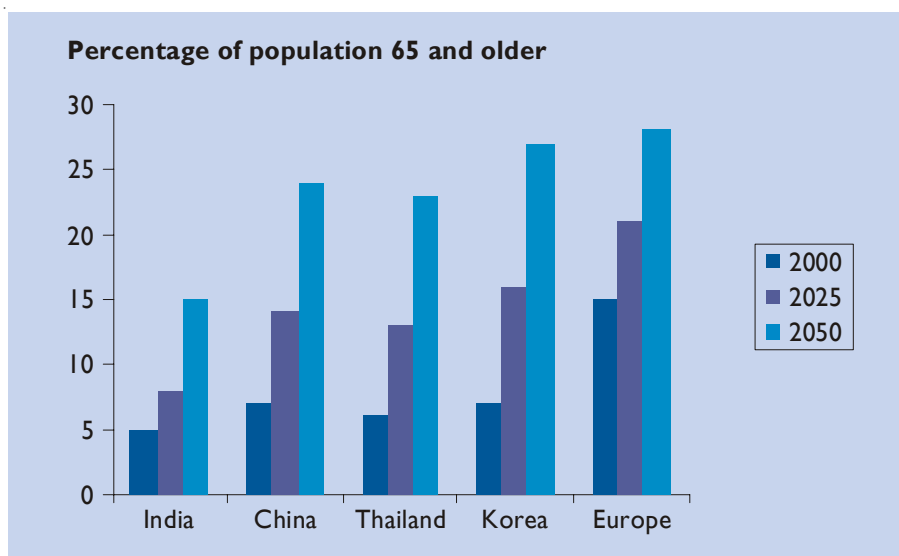
India has a growing workforce that is English-speaking, highly skilled and relatively low cost. India ranks among top three of 30 nations in terms of availability of skilled labour force.

India has one of the lowest labour costs per hour compared to other developed and developing countries. Labour costs form the majority of the total costs of manufacturing various products. Thus, there is a distinct cost advantage for companies having manufacturing bases in India.



India's outlook on future availability of productive manpower is positive, unlike most competing countries. Unlike China, where the proportion of working age citizens is likely to fall from around 2010, India is likely to have a growing population of employable workforce for at least the next 20 years. A growing labour force can enable higher growth rates and creates an urgent need for growth. India's comparative advantage offered by its skilled labour force is likely to extend well into the future.





Source: UN World Population Prospects (2004 revision)

### Availability of raw materials

Apart from skilled labour, India is also capable of meeting demand for raw materials for manufacturing sector in India. India has large domestic resources of metals, minerals, rubber, wood, oil and gas, which power domestic manufacturing.

India has rich reserves of minerals like bauxite, iron ore, copper, zinc etc to support industries like metal, engineering, automobile and machine tools. India ranks sixth in the world in iron ore deposits and fifth in terms of bauxite deposits. At 3037 million tonnes, bauxite reserves in India account for 7.5 per cent of the world's total world deposits.

Due to its diverse agro-climatic conditions, India has a wide-ranging and large raw material base suitable for the food processing industry. India has the largest irrigated land area in the world. It is also the world's largest producer of milk, tea and pulses. India has large marine product and processing potential with varied fish resources along the 8,041 km coastline, 28,000 km of rivers and millions of hectares of reservoirs and brackish water. India also possesses the largest livestock population in the world with 50 per cent of world's buffaloes and 20 per cent of cattle.

India has significant reserves of gem stones to support gems and jewellery industry in India. Key states with gems stone reserves and mining potential are Maharashtra, Madhya Pradesh, Orissa, Chattisgarh, Bihar and Andhra Pradesh. Orissa has rich deposits of ruby and has about twenty varieties of various gemstones like rhodolite, garnet, aquamarine etc.

Access to low-priced supplies of domestically produced cotton is a significant advantage for the Indian textile industry, currently not matched by other key countries with competitive labour costs, including China and Brazil. India has the largest acreage under cotton cultivation - nearly twice that of US. India produces nearly twenty-three varieties of cotton and this diversity makes India

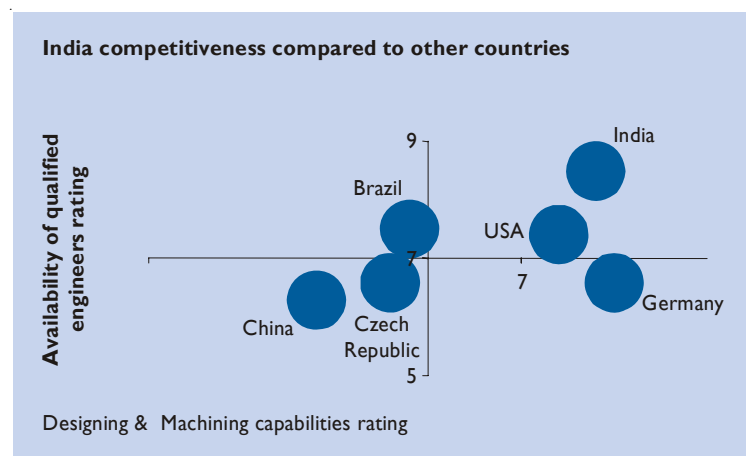
capable of catering to various segments in the world trade. This gives inherent strengths in raw material availability and prevents supply side shocks.

Apart from cost and quality advantage, India also provides engineering and managerial capabilities to domestic and multinational companies to leverage.

### Engineering and managerial capability

*“Not only are there brilliant engineers here [in India], I’ve been seeing that the entrepreneurial spirit of the businesses is second to none.”*  
Mike S. Zafirovski, President and COO, Motorola Inc.

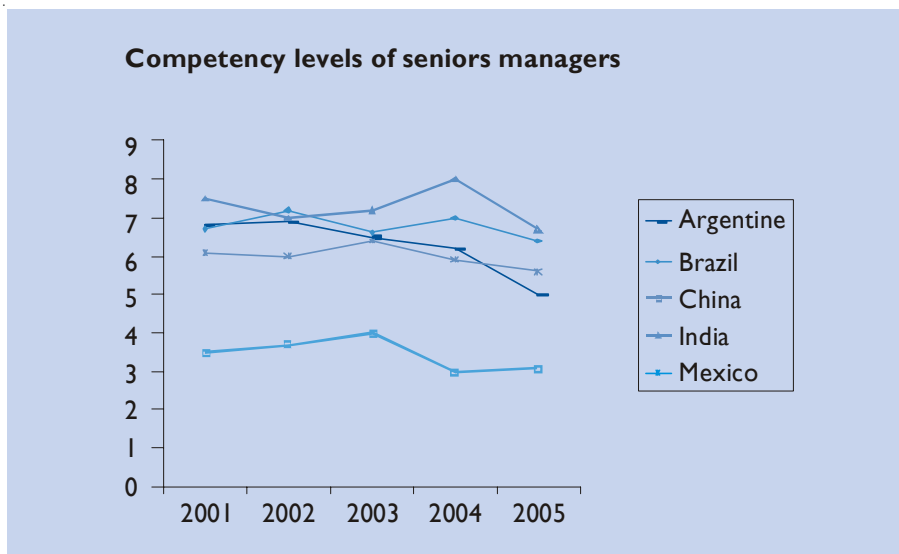
India has a well-developed technical and tertiary education infrastructure of over 250 universities, 1500 research institutions and over 10,000 higher education centres. These institutes produce over 500 PhDs, 200,000 engineers, 300,000 non-engineering postgraduates and 21,00,000 other graduates each year. Indian Institutes of Technology (IITs) and Indian Institute of Science (IISc) are premier institutes of education and research that set benchmarks not only in India but also globally. These institutes produce highly qualified engineers and professionals to support manufacturing industries like engineering, automobile, electronics, machine tools and textiles in India.



Source: IMD, KPMG Analysis

India has well developed designing and machining capabilities as well, and ranks second to Germany in terms of the designing and engineering capabilities. The combination of availability of qualified engineers and designing capabilities gives India a distinct competitive advantage.

The competency of senior managers in India is also higher



Source: World Competitiveness Yearbook, IMD, 2005

compared to other developing nations. About 8 per cent of the Indian population ranging from 25 to 34 years old had attained some tertiary education compared with 5 per cent in China.

Another edge for India is that a majority of the tertiary programmes use English as the main medium of instruction.

### Quality focus

The combination of engineering and managerial capabilities have been effectively leveraged by Indian firms to improve quality levels to global standards. A number of Indian manufacturing firms have quality management programmes like ISO 14001, TS 16949 and TQM in place, while a few have won the coveted Deming Award for Quality (awarded by the Union of Japanese Scientists and Engineers [JUSE] for quality). In 2003, five out of eight Deming Award winners were from India. Some of the Deming award winners in India include Rane Brake Linings, Mahindra & Mahindra (farm equipment and tractor division), Brakes India (foundry division), Sona Koyo Steering Systems, Grasim Industries (Birla Cellulosic, Kharach unit) and TVS Motor Company.

### Large domestic market

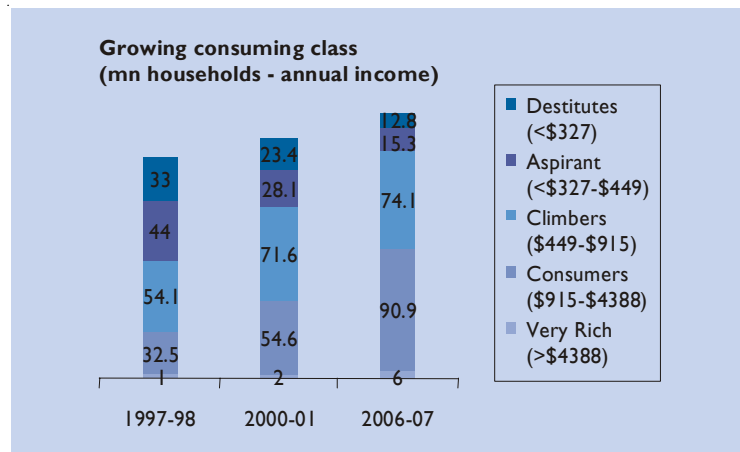
*“India is a dream space where companies would like to venture; the potential is huge.”*name of the person – CFO, Whirlpool India Ltd.

India represents a large and potentially high growth market driven by changing demographic trends and rising income levels of Indian population. Apart from lower costs, this is the single biggest contributor to India’s attractiveness for foreign investors.

### Large target consumer base and rising income levels

India is one of the most attractive consumer markets in the world. Income levels across population segments have been growing. According to NCAER data, the consuming class, with an annual income of US\$ 449 or above, is growing and is expected to constitute over 80 per cent of the population by 2006-07.

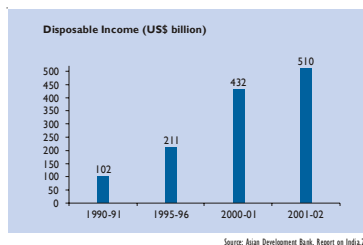
The increase in income levels of the Indian population and the emergence of the consuming class that has higher propensity to spend, offers great growth opportunities for companies across various sectors.



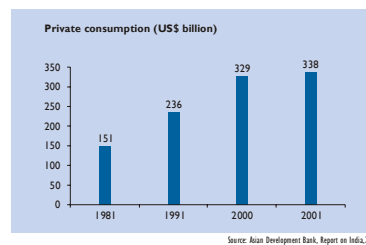
Source: NCAER

### Increasing consumerism

Disposable income levels of people in India have multiplied nearly five times over the last decade. The increase in income levels has led to a growth in consumption levels of the consumers. This is evident from the increase in private consumption levels, which has increased three times in the past twenty years. This trend is expected to continue in future resulting in increasing domestic potential for the manufacturing companies in India.



Source: Asian Development Bank, Report on India, 2002



Source: Asian Development Bank, Report on India, 2002

### Changing age profile of the Indian population

Due to high birth rates till the 1990s, a large proportion of the Indian population is relatively young - in the age group of 20-59 years. This group is also high in consumption and therefore, is expected to provide a further boost to the growth of consumption in India.

## Changing lifestyles

Urban consumers in India have become more exposed to western lifestyles, specially through overseas travel. For example, more than 5 million Indians travelled abroad last year and this number is expected to increase by 15 per cent to 20 per cent per annum. Increase in the population of working women and increasing prevalence of nuclear double-income families, especially in urban areas, are other trends shaping lifestyles.

*“India is a large market with huge potential. However, come to India with a long-term strategy and not a short-term outlook. The ROI will be better than most other regions in the world.”* Name of the person – Executive Director, Siemens AG, Indiap

These emerging trends provide a considerable market potential for both the domestic as well as international manufacturing companies. This is evident from the large growth rates of different manufacturing sectors in India. For example, the food processing sector has been impacted by these trends as there has been an increase in the demand for processed, ready-to-cook and ready-to-eat foodstuffs. The domestic sales of automobiles in India have been growing at a CAGR of around 14 per cent for the past four years. Gold jewellery market is growing at 15 per cent per annum and diamond jewellery market is growing at 27 per cent per annum in India.

Apart from domestic market, India also offers access to other markets by its locational advantage.

## Location and Infrastructure

India serves as a gateway to other Asian markets such as Japan and Korea. Many global companies have set up their manufacturing bases in India and use them to meet global requirements. For example:

- **Whirlpool** is exporting refrigerators and washing machines to South Asia, Asia-Pacific, Latin America and West Asia. They also export small kitchen appliances under its ‘Kitchen Aid’ brand to the US market.
- **P&G** exports products from India to Association of South-East Asian Nations (ASEAN) countries, Australia, and Japan.
- **Kodak** has a camera manufacturing and assembly plant near Bangalore, which produces over four million units per year. Around 60 to 70 per cent of this centre’s products are exported to the US, Europe, West Asia and the Far East.
- **Pepsi’s** export business today supports the company’s core food and beverage businesses. Pepsi India has emerged as a high quality, competitive supplier to the worldwide PepsiCo system of glass, PET resin, syrups, concentrates, fruit pulps and merchandising materials.

## Infrastructure

Indian Railways is the largest rail network in Asia and world's second largest under one management. Indian Railways comprise over one hundred thousand track kilometres and run about 11000 trains every day carrying about 13 million passengers and 1.25 million tons of freight.

- a) Development of the road network is an essential component of the Tenth National Plan (2002-07), which accords high priority to the National Highway Development Programme (NHDP). The National Highways Authority of India (NHAI), would be constructing *a total of 23,546 kms of roads over the next two years.*

India is close to major shipping routes and sea access is facilitated through a network of ports. There are 11 major ports managed by the Port Trust of India and 148 minor operable ports under the state Governments.

The Airport Authority of India (AAI) manages 120 airports in the country which include 5 international airports, 87 domestic airports and 28 civil enclaves. Top 5 airports in the country handle 70 per cent of the passenger traffic out of which Delhi and Mumbai account for 50 per cent.

These advantages offered by India are further supported by the government policies and regulations, which focus on providing ideal investment climate for companies investing in manufacturing sector in India.

## Government support and regulations

The Indian government supports the manufacturing sector, recognising its growing contribution and importance to the growth of Indian economy. The government support and regulations focuses on three main aspects:

1. Infrastructure support.
2. Facilitating improvement in competitiveness of the manufacturing firms.
3. Deregulation of business environment for attracting foreign direct investments.

## Infrastructure support

Sound physical infrastructure with easy availability of key utilities is a primary requirement for any investor. Indian government is

aware of this and is taking proactive steps to build proper infrastructure in the country. There has been a rapid growth and improvement in telecom, power, ports and roads infrastructure in the last few years in India.

## Telecom

The Indian government has taken numerous steps to improve the telecom infrastructure in the country. The international bandwidth situation has improved dramatically over the last three years. The privatisation of the telecom industry has resulted not only in significant drop in rates but also better services. Telecom costs have dropped by about 85 per cent in 3 years and are today among the lowest in the world.

## Power

The Government of India has undertaken systematic reforms in the power sector to improve quality and availability of power while lowering costs. Several state governments in India have also undertaken reforms in the power sector to improve power supply to consumers. Power availability has improved over the last few years as a result. This has gone a long way in ensuring uninterrupted power supply to the major cities like Bangalore, Delhi, Chennai, Mumbai, Pune and Kolkata.

## Roads

Roads and highways infrastructure in India has witnessed improvements over the last few years. The ambitious highways development programme envisages a Golden Quadrilateral, linking the four metros (Delhi, Mumbai, Chennai and Kolkata) with multi-lane highways, as well as North-South and East-West corridors. Both the central and the state governments have invested heavily in the roads sector.

The government has taken important policy initiatives for the road sector and has started many road development / improvement projects with private partnership. The government will carry out land acquisition and utility removal and make available Right of Way (RoW) free from all encumbrances. National Highway Authority of India (NHAI) / Government of India may provide capital grant up to 40 per cent of project cost to enhance viability on a case-to-case basis. The concession period has been allowed up to 30 years while foreign direct investment is permitted up to 100 per cent for construction of roads and bridges.

## Ports

Regulatory initiatives by the government in the ports sector include the policies laid down for private participation. These policies provide for joint ventures between the existing Indian ports and private companies to improve efficiency of operations. There is a shift towards privatisation of minor ports and operation of relatively new major ports. The concession mechanisms have been developed by some state governments (Gujarat, Andhra Pradesh, Orissa) and agreements have been signed for the development of minor ports.

The Government of India has also developed the US\$ 13.6 billion *National Maritime Development Programme* (NMDP) to boost infrastructure at major ports in the next ten years. Under the NMDP, public investments will be primarily for common user infrastructure in the ports such as deepening and maintenance of port channels, construction of breakwaters, internal circulation systems of cargo within ports, and rail and road connectivity from ports to the hinterland. Private investments will be in areas where operations are primarily commercial such as construction, management and operation of berths/terminals. NMDP will help government to raise capacity of Indian ports to meet the projected traffic of around 705.84 million tons (CAGR of 7.69 per cent) by 2013-14 to be handled by major ports.

### Industrial parks

The Government of India is also developing and promoting industrial parks with proper infrastructure and incentives to the companies investing in those parks.

For example, the government has been developing *agri-zones* and the concept of *mega food parks* to promote the food processing industry in India. It is considering investing (US\$ 22.97 million) in at least 10 mega food parks in the country besides working towards offering 100 per cent foreign direct investment and income tax benefits to the sector.

EHTP (Electronic Hardware Technology Park) developed by the government provides benefits to companies that are replacing certain imports with local manufacturing. EHTP benefits include export credits, no duties on imported components or capital equipment, business tax incentives, and an expedited import-export process.

Another package envisaged an outlay of US\$ 24.5 million for setting up five *leather parks* — two in Chennai and one each in Nellore, Agra and Kolkata. Under the leather parks package, Chennai would have one for footwear and the other for components.

### Special Economic Zones

In order to enhance foreign investment and promote exports from the country, the government announced the Special Economic Zone (SEZ) policy. SEZs are deemed to be foreign territory for the purpose of trade, duties and tariffs. It reinforces the government's realisation of need for a level playing field to



be made available to the domestic enterprises and manufacturers in order to be globally competitive. Unlike most of the international instances where zones are primarily developed by the governments, the Indian SEZ policy provides for the development of these zones in the government, private or joint sector. This offers equal opportunity to both Indian and international private developers.

Currently a number of SEZ projects are coming up in the country, including the conversion of some existing Export Processing Zones into SEZ. In addition, approval for setting up of 36 SEZ in various parts of the country in the private, joint sector or by state government have been given. In addition three new SEZs have recently started operations.

SEZs offer high quality infrastructure facilities and support services, besides allowing for the duty free import of capital goods and raw materials. Additionally, attractive fiscal incentives and simpler customs, banking and other procedures are offered in such zones. For example gems & jewellery units in SEZ can receive precious metal i.e., gold/silver/platinum prior to exports or post exports equivalent to value of the jewellery exported. This means that they can bring export proceeds in kind against the present provision of bringing in cash only.

Along similar lines, Indian state governments are also focusing on infrastructure development in various states. Most of the Indian states like Tamil Nadu, Karnataka, Andhra Pradesh etc have set up infrastructure development fund to develop and improve infrastructure – roads, power, airports and ports etc.

### **Facilitating improvement in competitiveness of the manufacturing firms**

#### *Support for technology upgradation and Research and Development activities*

Recognising the importance of research and development (R&D), the Government of India has announced schemes for supporting R&D activities through the Department of Scientific & Industrial Research (DSIR), Department of Science & Technology (DST) and Technology Information, Forecasting and Assessment Council (TIFAC). The different programmes are as follows:

- Home grown technology programme
- Technopreneur Promotion programme
- Programme Aimed at Technological Self-reliance (PATSER)
- Industrial R&D Promotion Programme (IRDP)

The National Manufacturing Competitiveness Council (NMCC) has been set up by the government to provide a forum for policy dialogue to energise and sustain the growth of manufacturing industries in India. The NMCC will suggest various ways and means for enhancing the competitiveness of the manufacturing sector, including identification of manufacturing sectors, which have the potential for global competitiveness; current strengths and constraints of identified sectors, and recommend national level industry/sector specific policy initiatives as may be required for augmenting the growth of manufacturing sector.

The Council of Scientific and Industrial Research (CSIR) is amongst India's premier research and development body and functions autonomously. Its research covers a wide range of scientific and industrial disciplines.

In the chemicals sector, the government is promoting research on the use of alternative and safe pesticides using *Neem* seeds. The Department of Chemicals & Petrochemicals is undertaking a country programme entitled "Development and production of *Neem* products as Environment Friendly Pesticides" with the financial assistance of United Nations Development Programme (UNDP).

Various state governments also support companies in undertaking research and development activities to improve their competitiveness. The policies also focus on assisting firms across various sectors in improving their technology and quality of products. For example: *The Technology Upgradation Fund Scheme (TUF)* has been designed for textile sector to ensure availability of the bank finance at rates comparable with the global rates. Under this, the government reimburses 5 per cent of the interest rate charged by the banks and financial institutions, thereby ensuring credit availability for upgradation of technology at global rates

- In June 2005 the Union Government initiated a US\$ 64 million 'modernising scheme' called the '*Integrated Leather Development Programme*'. It has a scheme whereby all leather tanning and product units will be eligible for modernisation assistance at 30 per cent and 20 per cent of the project cost in respect of SSI (Small scale industries) and Non-SSI units respectively and at a ceiling of US\$ 110,000 per unit. This would lead to technology upgradation and modernisation of existing tanneries and units for footwear, components and leather products, resulting in productivity gains, right-sizing of capacity, cost-cutting and design development.
- In the revised Export and Import Policy of the government a new provision has been made to allow gem and jewellery exporters meeting certain defined criteria to export cut and polished diamonds for the purpose of certification/grading by specified laboratories/agencies like Gemological Institute of America (GIA), The Robert Mouawad Campus, International Gemmological Institute (IGI) and European Gemological Laboratory (EGL) in USA, Hoge Raad voor Diamand, Antwerp, (HRD), World Diamond Centre of Diamonds High Council, Antwerp, Belgium and for re-import thereof without payment of duty. These and other similar initiatives of the government ensure that Indian manufacturing companies develop the competencies to compete with the global companies.

## Reduction in import and custom duties

The Government has reduced the import, excise and custom duties for the manufactured products in India. Some of the examples include:

- **Metals sector:** Duty has been reduced to 10 per cent on inputs to steel industry like electrodes, graphite, refractory catalysts. Import duty on stainless steel & alloy steel has been reduced from 15 per cent to 10 per cent. Customs duty on primary and secondary metals has been reduced to 10 per cent from 15 per cent. Customs duty on coking coal was reduced to 5 per cent from 10 per cent. This will increase the profitability of steel sector.
- **Gems and jewellery:** Import duty has been reduced on platinum from US\$ 12.2 per 10 gms to US\$ 4.64 . Rough coloured precious gems stones have been exempted from customs duty at the first stage itself instead of claiming reimbursements later. Rough semi precious stones are already exempted aimed to further increase the exports of studded jewellery and platinum jewellery.
- **Leather:** Free import of raw hides & skins, semi-finished and finished leather are allowed. The government has imposed a concessional duty on imported machinery and chemicals for the leather sector.
- **Textile:** In 2005, the duty structure of textiles was completely revised. The excise duty for textiles was made optional with mandatory duty only on man-made fibres / yarns. Except for mandatory duty on man-made fibres / yarns, all other textile goods were fully exempt from excise duty. For those opting to pay the duty and thereby avail of duty credit, the duty was reduced to a nominal rate of 4 per cent for cotton textile items (i.e., yarns, fabrics, garments and made-ups) and 8 per cent for other textile items including yarn, fabrics, garments, and made-ups. Additional excise duty was abolished; customs duty on a number of textile items was also reduced.
- **Electronics:** The government in an attempt to encourage manufacture of electronics in India has changed the tariff structure significantly. The customs duty on specified raw materials / inputs used for manufacture of electronic components or optical fibres / cables has been removed. Customs duty on specified capital goods used for manufacture of electronic goods has been abolished. Excise duty on computers has been removed. Microprocessors, hard disc drives, floppy disc drives and CD ROM drives continue to be exempt from excise duty.
- **Automobile sector:** The customs duty on inputs and raw materials has been reduced from 20 per cent to 15 per cent. Customs duty has been reduced from 105 per cent to 100 per cent on second hand cars and motorcycles.
- **Engineering sector:** The custom duties on various engineering equipments have been reduced

The reduction of custom duties on various input materials and equipments will reduce the total cost of production and hence prove to be beneficial for the manufacturing companies. Reduction in prices will enhance the competitiveness of the manufacturing sector to compete in the domestic as well as international market.

### Special policy initiatives

Some of the special sector specific policy initiatives of government include:

- **Automobile sector:** National Automotive Fuel Policy has been announced. This envisages a phased programme for introducing Euro emission and fuel regulations by 2010. This new regulations would strengthen India's commitment to globalisation and would ensure that Indian automobile equipments meet world standards.
- **Metals sector:** Thirteen minerals, which were reserved exclusively for the public sector have been opened to the private sector. This would result in enhanced exploration activities in India and provide significant opportunities for investment by private players. India has also entered into a Free Trade Agreement (FTA) with Sri Lanka, which has resulted in a large influx of copper and copper products at zero import duty from Sri Lanka.
- **Gems and jewellery sector:** The government of India introduced the Replenishment (REP) licence, allowing an importer to import rough diamonds worth 80 per cent of the value of his imports. The REP licence thus provides the foreign currency needed to purchase rough to manufacture the relevant type of polished diamonds.

These policy initiatives illustrate the enhanced focus of government of India towards improving competitiveness of manufacturing companies operating in India.

### Deregulation of business environment for attracting Foreign Direct Investments

Government of India recognises the key role of Foreign Direct Investment (FDI) in economic development not only as an addition to domestic capital but also as an important source of technology and global best practices. The government has accordingly put in place a liberal and transparent FDI policy. FDI up to 100 per cent is allowed under the automatic route in most sectors/activities.

- **Engineering sector:** the government has permitted 100 per cent FDI in construction and development projects. India has opened up to private sector participation and FDI in infrastructure projects for power, roads, ports, mining sector, and pharmaceutical sector. Heavy electrical industry has been de-licensed and foreign collaborations are also allowed with 100 per cent FDI.
- **Metals sector:** Foreign equity holding is allowed up to 100 per cent through the automatic route for all non-fuel, non-atomic minerals except diamond and precious stones for which the limit for automatic approval is 74 per cent foreign equity.

- **Textile:** The Foreign Direct Investment (FDI) limit of 24 per cent has been removed and now foreign investors are allowed to invest up to 100 per cent through Foreign Investment Promotion Board (FIPB). The obligation of the firms with foreign investment to export 50 per cent of the production is also removed.
- **Electronics:** Foreign investment up to 100 per cent is allowed in Indian electronics industry set up exclusively for exports. It is now possible to import duty-free all components and raw materials, manufacture products and export it.
- **Chemicals:** Most of the chemical items fall under the RBI automatic approval route for FDI/NRI/OCB investment up to 100 per cent.
- **Food processing industry:** Automatic approvals for foreign investment up to 100 per cent are allowed, except in few cases, and also technology transfer.
- **Automobile sector:** Automatic approval for foreign equity investment up to 100 per cent of manufacture of automobiles and component is permitted.

Indian government has opened up the manufacturing sector for the foreign investors and has simplified the procedures for investment in India. The online approval mechanism has been put in place by numerous states. A number of incentives and subsidies are also provided to the companies investing in manufacturing sector in India depending on the sector, amount of investment and location of investment etc.

### Multinationals have been leveraging these advantages

The advantages presented by India - ready availability of factor conditions, growing demand, location advantage and regulatory / policy support - are being leveraged by a large number of multinational companies, which are looking at India as a key sourcing and research & development base for their global operations.

### Leveraging India as sourcing base

*“Toyota Motor has chosen to source from India due to its competitive cost of manufacture, availability of abundant engineering talent, and strong indigenous machine tool.”*

*Akio Toyoda, Senior Managing Director, Toyota Motors*

*“CIL has been chosen as our single source as it has demonstrated its ability to make high quality products at low cost. Also, unlike China, which mainly caters to the domestic market, Cummins India has more experience in exporting to other countries”*  
 – President, Engine Business of Cummins Inc.

- Currently **Unilever** sources products worth about US\$ 165 million from its Indian subsidiary, Hindustan Lever Ltd (HLL). Based on manufacturing cost-benchmarking studies across Unilever globally, HLL had emerged as one of the most competitive home and personal care products production centres.
- **Toyota** has been leveraging its Indian operations to source transmissions for its global operations.
- Cummins India Limited (CIL) is aggressively looking at becoming a global sourcing hub for its parent company, **Cummins Inc.**, in the engine and component segments. The company is the single worldwide source of K-38 power-generation engines (that was shifted from England), apart from the V-28 engines, for Cummins and is looking at opportunities in the area of components as well. CIL was chosen as the single source for its demonstrated ability to make high quality products at low cost.
- Production cost arbitrage has prompted the **Siemens Ltd**, a subsidiary of German engineering giant Siemens AG and a major player in Indian engineering sector, to increase production and hence exports from its factory in Goa, India. The Siemens Goa plant is used as a manufacturing hub for catering to the international market. The Goa factory will become the hub for manufacturing X-ray tubes as it can save 30 per cent of the cost.

#### Leveraging India as Research and development base

- Samsung India Electronics Ltd, a subsidiary of **Samsung Electronics Company Ltd** (a global leader in semiconductor, telecommunication, and digital convergence technology), has an R&D Centre at Noida. The centre has become the Regional R&D hub for Samsung's requirements in India as well as in the Middle East and South East Asia regions.
- Cummins India Ltd, part of **Cummins Inc.**- world's largest designer and manufacturer of diesel engines, opened a new R&D centre in Pune, Cummins Research & Technology India Pvt. Ltd., which would offer engineering design and analysis capabilities for the company's technical centres worldwide.
- **Unilever** has the Hindustan Lever Research Centre (HLRC) in India, which is involved in developing new products and processes, improving benefits and quality of existing products, finding ways for optimal use of resources, energy conservation and pollution control. HLL (Hindustan Lever Limited) has over 184 patents.

- **ABB**, leader in power and automation technologies in the world, has set up a global corporate R&D Centre in Bangalore, which focuses on industrial IT development and deployment. This was the first such centre to be established outside US and Europe.
- **General Motors**, the worldwide leader in car manufacture, has set up a technical centre at Bangalore that became fully operational in September 2003. GM has invested US\$ 21 million in the venture and as the project moves forward, the company plans to make more investments depending upon the requirement. It is one of the four GM technical centres in Asia (GMDAT, GM China and Holden). On the engineering side, the India team provides math-based tools for GM India, GM Asia Pacific and Global Engineering.
- **ICI Pic.**, market leader in paints, adhesives etc, has recognised and leveraged Indian managerial talent. Personnel from ICI India are routinely assigned global positions at ICI. About fifteen managers including country heads in some of the global operations of the company are Indians. India also provides skilled labour to the company at most competitive rates.

### Future outlook

The Indian manufacturing sector has seen significant growth and changes over the past few years, driven by changing trends in markets, consumer segments and regulations. These trends, such as changing demographics, growing population and rapid urbanization are expected to continue in the future and therefore, shape the demand for value added products and thus for manufacturing sector in India.

The Government of India's focus towards manufacturing sector is expected to ensure policies supporting investment in this sector and attracting more FDI. India, having access to a variety of natural resources and growing technical knowledge base, has strong comparative advantages over other nations in manufacturing. The manufacturing sector in India is poised to become the engine of growth, to propel India to be a global economic power. The sector holds much promise, and companies that spot and seize the opportunity in time can gain significantly.

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