

Highlights of some industries

Automobiles

7.4 The high growth observed since 2001-02 in automobile production continued in the first three quarters of the current year. Annual growth was 16.0 per cent in April-December, 2004; the growth rate in 2003-04 was 15.1 per cent (Table 7.4). Consequent to liberalisation, the arrival of new and contemporary models, easy availability of finance at relatively low rate of interest and price discounts offered by the dealers and manufacturers appear to have stimulated the demand for vehicles and a strong growth of the industry. The automobile industry grew at a compound annual growth rate (CAGR) of 22 per cent between 1992 and 1997. With investment exceeding Rs. 50,000 crore, the turnover of the automobile industry exceeded Rs. 59,518 crore in 2002-03. Including turnover of the auto-component sector, the automotive industry's turnover,

which was above Rs. 84,000 crore in 2002-03, is estimated to have exceeded Rs. 1,00,000 crore in 2003-04.

7.5 The progressive liberalisation of the norms for foreign investment and import of technology appear to have benefited the automobile sector with production of total vehicles increasing from 4.2 million in 1998-99 to 7.3 million in 2003-04. It is likely that the production of such vehicles will exceed 10 million in the next couple of years. The global standards achieved by the industry have manifested in the increasing exports of the sector. After a temporary slump during 1998-99 and 1999-00, such exports registered robust growth rates of well over 50 per cent in 2002-03 and 2003-04 each to exceed two-and-a-half times the export figure for 2001-02 (Table 7.5). Growth of exports of 32.8 per cent in the first three quarters of 2004-05 augurs well for the current year.

Table 7.4 : Automobile production (Numbers)

Category	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05*
Passenger Car	390,709	577,243	513,415	564,052	608,851	842,437	699,082
Multi Utility Vehicles	113,328	124,307	127,519	105,667	114,479	146,103	178,187
Commercial Vehicles	135,891	173,521	156,706	162,508	203,697	275,224	247,797
Two Wheelers	3,374,508	3,778,011	3,758,518	4,271,327	5,076,221	5,624,950	4,758,639
Three Wheelers	209,033	205,543	203,234	212,748	276,719	340,729	271,983
Total	4,223,469	4,858,625	4,759,392	5,316,302	6,279,967	7,229,443	6,155,688
Percentage Growth	5.4	15.0	-2.0	11.7	18.1	15.1	16.0

* Figures relate to period April-December, 2004.
Source: Ministry of Heavy Industry & Public Enterprises (Department of Heavy Industry).

Table 7.5 : Automobile export (Numbers)

Category	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05*
Passenger Car	25,468	23,271	22,990	50,088	70,828	126,249	121,478
Multi Utility Vehicles	2,654	5,148	4,122	3,077	1,177	3,067	3,892
Commercial Vehicles	10,108	9,912	13,770	11,870	12,255	17,227	19,931
Two Wheelers	100,002	83,237	111,138	104,183	179,682	264,669	256,765
Three Wheelers	21,138	18,388	16,263	15,462	43,366	68,138	51,535
Total	159,370	139,956	168,283	184,680	307,308	479,350	453,601
Percentage Growth	-16.6	-12.2	20.2	9.7	66.4	56.0	32.8

* Figures relate to period April-December, 2004.
Source: Ministry of Heavy Industry and Public Enterprises (Department of Heavy Industry).

7.6 Contrary to the misconception that the growth in automobile industry has catered only to the top income-stratum of society by producing mostly passenger cars, the fastest growth in volumes has come from commercial vehicles. Between 1998-99 and 2003-04, output of such vehicles has grown 2.8 times compared to the 2.2 times increase in passenger cars. Furthermore, two-wheeler output continues to dominate the volume statistics of the sector. In 2003-04, for every passenger car turned out by the sector, there were 7 two-wheelers produced. In the two-wheeler segment, there is a greater preference for motorcycles followed by scooters, with both production and domestic sales of motorcycles increasing at faster rates than for scooters in the current and previous years. However, mopeds have registered low or negative growth. Export growth rates have been high both for motorcycles and scooters.

7.7 Sales incentives, introduction of new models as well as variants coupled with easy availability of low cost finance with comfortable repayment options continued to drive demand and sales of automobiles during the first two quarters of the current year. The risk of an

increase in the interest rates, the impact of delayed monsoons on rural demand, and increase in the costs of inputs such as steel are the key concerns for the players in the industry. As the players continue to introduce new models and variants, the competition may intensify further. The ability of the players to contain costs and focus on exports will be critical for the performance of their respective companies.

7.8 The auto component sector has also posted significant growth of 20 per cent in 2003-04, to achieve a sales turnover of Rs.30,640 crore (US\$ 6.7 billion). Further, there is a potential for higher growth due to outsourcing activities by global automobiles giants. Today, this sector has emerged as another sunrise sector.

Textiles

7.9 Indian textiles industry is at the crossroads with the phasing out of quota regime on January 1, 2005 and the full integration of the textiles sector in the WTO (Box 7.1). Over the last few years, preparations have been on for meeting this challenge and opportunity by revamping textile legislation,

Box 7.1 : Impact of the expiry of agreement on textiles and clothing (ATC) on india

- The global trading regime in textiles and clothing sector has a long history. Starting with voluntary export restraints for cotton textiles in the 1950s, the Long-Term Agreement in International Trade in Cotton Textiles (LTA) of the 1960s and early 1970s, it graduated to the Multi-Fibre Agreement (MFA) from 1974 to 1994. On January 1, 1995, MFA was replaced by the WTO Agreement on Textiles and Clothing (ATC), with a commitment to a 10-year transitional process for the ultimate removal of these quotas and fully integrating the sector into WTO rules by January 1, 2005.
- Most of the studies conducted to estimate the impact of ATC expiry on textile trade, share the finding that some Asian countries are most likely to benefit from the dismantling of the quotas. They predict a substantial increase in market shares for China and India. According to a recent study by CRISIL, the Indian textile and apparel industry can achieve a potential size of US\$ 85 billion by 2010, with a domestic market size of US\$ 45 billion and nearly 60 per cent of exports comprising of garments. The potential translates to creation of 12 million job opportunities, 5 million directly in the textile industry, and 7 million in allied sectors.
- India has a natural competitive advantage in terms of a strong and large multi-fibre base, abundant cheap skilled labour and presence across the entire value chain of the industry ranging from spinning, weaving, and madeups to manufacturers of garments. But, with prices expected to fall in the post- quota regime with increased international trade and competition, such an advantage may not be enough. Enhanced efficiency and productivity is a must to meet this emerging challenge of global competition. Further, while textile and cloth buyers had been sourcing products from multiple sources because of quota limitations, there is an increasing trend towards reducing the number of vendors and opting for vertically integrated companies to eliminate inefficiencies in the supply chain. Indian players need to focus on reduction in lead time through cost-cutting measures. Low labour cost benefits tend to get neutralized by high infrastructure expenses.

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- The Indian companies have been expanding capacities in anticipation of the opportunities emerging from the phase-out of the quota system. Under the Technology Up-gradation Fund Schemes (TUFS), applications with a project cost of Rs. 18,467 crore have been sanctioned for a loan amount of Rs. 8,505 crore. Indian textile industry needs to make for more investments in the coming years to capitalise on the post quota regime opportunities. Assuming a capital-to-turnover ratio of one, there is a need to invest Rs. 1,40,000 crore in the next six years to achieve the vision of reaching the textile and clothing exports target of US\$ 40 billion by 2010 and to meet the growing domestic demand.
- Close attention needs to be paid to the composition, volume and value of products as well as competitive strengths vis-a-vis countries like China, Sri Lanka, Bangladesh and Pakistan. Textiles contribute around 19 per cent of India's total annual export earnings. Despite India's comparative advantage, a number of constraints continue to restrict the growth of Indian textile markets abroad. These include: (a) more than 60 per cent of the fabric production in the decentralised power loom sector, which is unable to compete with the cheaper and flawless fabric from state of the art plants of China or Taiwan; (b) infrastructure constraints; and (c) emergence of Preferential Trade Arrangements (PTA) as an important factor in the global textile trade.
- Ensuring a technology-induced self-sustained and multi-fibre base to enlarge its share in global exports of textiles and clothing, and maintaining its present leading position in the domestic market despite the removal of import restrictions, remain as the major challenges before the Indian textile industry. Areas where national policy measures will be necessary include reduction of disincentives for the factory mode of production (production in the industry is based on a decentralised system with continuing small-scale reservation for many items), introduction of a more flexible labour policy, removal of policy bias (although narrowing) against synthetic fibres, modernization and technological upgradation of the sector and easing of other trade and investment constraints.
- Several steps have already been taken to improve India's textile industry. Apart from the setting up of the Technology Upgradation Fund Scheme (TUFS), these include new schemes of Apparel Parks for Exports, and Textile Centres Infrastructure Development Scheme, de-reservation of the garments sector, increase in investment ceilings, and introduction of a Technology Mission on Cotton to improve the productivity and quality of cotton. FDI is freely allowed in the sector. Basic customs duty on designated textile machinery and spare parts have been reduced, and the Additional Excise Duty on Textiles & Textile Articles (AT&T) and Additional Excise Duty (Goods of Special Importance) Act have been abolished. Furthermore, except for mandatory excise duty on polyester filament yarn including texturised yarn, synthetic and artificial fibres and synthetic and artificial filament yarn, the option of excise exemption has been given to the whole value addition chain in the textile industry.

regulations and inspection system, introduction of an optional CENVAT regime in cotton textile, rationalization of duty on manmade fibres, removing the small-scale reservation of the woven garment sector and enhancing the investment ceilings for small-scale units in the knitwear sector.

7.10 The evidence on substantial improvement in the performance of the textile sector, however, remains sketchy as yet. After registering a growth rate of 8.5 per cent in 1999-2000, growth of fabric production remained at 2.6 and 4.5 per cent in the next two years and actually fell by 0.1 per cent in 2002-03. Fabric production increased only marginally by about 1 per cent in 2003-04 to touch a peak of 42,383 million square meters. There are some signs of resurgence in the

current year, with production of fabrics in April-November 2004 rising by 4.8 per cent over the corresponding period last year. Similarly, for example, textile products (including wearing apparel) have registered a growth of 10.6 per cent in April-November, 2004-05 with a robust growth of 26 per cent in the last two months. The growth rate in 2003-04 of this category was negative. Cotton textiles has shown a good performance consistently in almost all the months of the current year and 8 per cent growth in the first eight months of the current year. The preference for textiles sector in recent industrial investment intentions is also a reflection of the growing interest of investors in this sector. In the first eight months (April-November) of the current year, there was a marginal increase in the share of the power

Sector	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	April-November 2003-04	2004-05 (P)
Mills	1,785 (4.9)	1,714 (4.4)	1,670 (4.2)	1,546 (3.7)	1,496 (3.6)	1,434 (3.4)	953 (3.4)	976 (3.3)
Powerlooms (incl. Hosiery)	26,966 (74.7)	29,561 (75.3)	30,499 (75.7)	3,2259 (76.8)	33,835 (80.6)	34,794 (82.0)	23,159 (82.0)	24,541 (82.8)
Handlooms	6,792 (18.8)	7,352 (18.8)	7,506 (18.7)	7,585 (18.0)	5,980 (14.2)	5,493 (13.0)	3,701 (13.1)	3,660 (12.4)
Others	584 (1.6)	581 (1.5)	558 (1.4)	644 (1.5)	662 (1.6)	662 (1.6)	441 (1.5)	441 (1.5)
Total	36,127	39,208	40,233	42,034	41,973	42,383	28,254	29,618

(P)- Provisional
Source: Office of Textile Commissioner, Mumbai
Note: Figures in parenthesis indicate share in output

loom sector (including knitwear) in total fabric production to 82.8 per cent compared to 82.0 per cent during the corresponding period in the previous year (Table 7.6).

7.11 The signs of resurgence in textiles are also corroborated by an increase in textile exports by 14.1 per cent to US\$ 6,542.8 million in April–September 2004-05, from US\$ 5,732.0 million during the first six months of 2003-04 (Table 7.7). The item group 'other,' which includes handicrafts, coir and coir manufactures and jute goods, registered a negative growth of 5.0 per cent. A detailed analysis of this fall along with the issue of data classification needs to be carried out.

Gems and jewellery

7.12 The exports of gems and jewellery registered a buoyant growth of 34.2 per cent in dollar terms during April – September 2004-05. In 2003-04 the exports of this sector increased by 16.8 per cent and crossed a level of US\$10.5 billion. This is a particularly interesting industry from an Indian standpoint, since it involves imported raw materials, domestic value added, and global markets and provides skilled employment. Indian gems firms are tightly integrated into global production chains.

7.13 In order to give a boost to exports of gems and jewellery, Government took major

item	2001-02	2002-03	2003-04	2003-04 (April-Sept.)	2004-05 (April-Sept.)	Percent Variation
Ready made garment	4,618.7	5,334.3	5,625.8	2,491.2	2,779.1	11.6
Cotton textiles	3,081.9	3,361.4	3,501.1	1,419.5	1,662.5	17.1
Wool& woollentextiles	289.1	269.3	358.3	155.9	231.0	48.2
Manmade textiles	1,088.5	1417.5	1,817.6	805.1	990.4	23.0
Silk	437.0	451.3	534.2	227.7	278.8	22.4
Others@	1,249.6	1,578.9	1,322.6	632.6	601.2	-5.0
Total textiles	10,764.8	12,412.7	13,159.6	5,732.0	6,542.8	14.1

@ Includes Handicrafts, Coir & coir manufactures and Jute Goods.
Source: Foreign Trade Statistics of India (Principal Commodities & Countries) DGCIS, Kolkata.

policy initiatives during 2004-05, which include lowering import duty on platinum from Rs.550 per 10 gms to Rs.200 and exempting rough coloured precious gems stones from customs duty at the first stage itself instead of claiming reimbursements later. Rough semi precious stones are already exempt. This will further increase the exports of studded jewellery and platinum jewellery. The policies for this sector announced in the Foreign Trade Policy include duty free import of consumables for metals other than gold and platinum up to 2 per cent of f.o.b. value of exports; duty free re-import entitlement for rejected jewellery up to 2 per cent of f.o.b. value of exports; increased duty free import of commercial samples of jewellery to Rs.1 lakh; and import of gold of 18 carat and above under the replenishment scheme.

Electronics and Information Technology

7.14 In information technology (IT), India has built up valuable brand equity in the global markets. In IT-enabled services (ITES), India has emerged as the most preferred destination for business process outsourcing (BPO), a key driver of growth for the software industry and the services sector. The ITES-BPO industry is estimated to have grown by about 54 per cent with export earnings of US\$ 3.6 billion during 2003-04. Output of the Indian electronics and IT industry is estimated to have grown by 18.2 per cent to Rs. 1,14,650 crore in 2003-04 (Table 7.8).

7.15 The share of hardware and non-software services in the IT sector has declined consistently every year in the recent past. The share of software services in electronics and IT sector has gone up from 38.7 per cent in 1998-99 to 61.8 per cent in 2003-04 (Table 7.8). However, there has been some welcome acceleration in the hardware sector with a sharp deceleration in the rate of decline of hardware's share in electronics and IT industry. Output of computers in value terms, for example, increased by 36.0, 19.7 and 57.6 per cent in 2000-01, 2002-03, and 2003-04, respectively. All the sub-sectors of the non-software component of electronic and IT industry grew at over 8 per cent in 2003-04, but this was far below the rate of growth of software services. Overall, after declining precipitously from 61.4 per cent in 1998-99 to 40.9 per cent in 2001-02, the share of hardware in this important industry declined only marginally to 38.2 per cent in the two subsequent years.

7.16 On the demand side of the software section of the industry, export markets continue to dominate the domestic segment. The size of the domestic market in software relative to the export markets for Indian software, which was 45.2 per cent in 1998-99, after declining rapidly to 29.8 per cent in 2001-02, fell only to 29.1 per cent and 27.7 per cent in the two subsequent years. Value of software and services export is estimated to have increased by 30 per cent to US\$12.5

Table : 7.8 Electronics production

(Rs. crore)

Item	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04
Consumer Electronics	9,200	11,200	11,950	12,700	13,800	15,200
Industrial Electronics	3,300	3,750	4,000	4,500	5,550	6,100
Computers	2,300	2,500	3,400	3,550	4,250	6,700
Communication. & Broadcasting Equip.	4,400	4,000	4,500	4,500	4,800	5,200
Strategic Electronics	1,300	1,450	1,750	1,800	2,500	2,700
Components	4,750	5,200	5,500	5,700	6,600	7,900
Sub-total	25,250	28,100	31,100	32,750	37,500	43,800
Software for Exports	10,940	17,150	28,350	36,500	46,100	55,500
Domestic Software	4,950	7,200	9,400	10,874	13,400	15,350
Total	41,140	52,450	68,850	80,124	97,000	114,650

Source: Ministry of Communication and Information Technology (Department of Information Technology).

Item	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04
Electronics hardware	1,800	1,400	4,788	5,800	5,600	7,700
Computer software	10,940	17,150	28,350	36,500	46,100	55,500
Total	12,740	18,550	33,138	42,300	51,700	63,200
Source: Ministry of Communication and Information Technology (Department of Information Technology).						

billion in 2003-04 (Table 7.9). The Software Technology Parks of India have reported software exports of Rs. 31,578 crore (US\$ 6,947 million) during April – December 2004-05 as against Rs. 22,678 crore (US\$ 4,913) during the corresponding period last year.

7.17 The IT-enabled service industry in India began to evolve in the early nineties when companies such as American Express, British Airways, GE and Swissair set up their offshore operations in India. Today a large number of foreign affiliates operate IT-enabled services in India. The different service lines of IT-enabled services offshored to India include customer care, finance, human resources, billing and payment services, administration and content development (Table 7.10).

7.18 The vision of IT policy is to use IT as a tool for raising the living standards of the common man and enriching their lives. Towards this end, the Department of

Information Technology has taken up an ambitious programme of PC and Internet penetration to the rural and underserved urban areas. The Department has also announced a programme to establish State Wide Area Network (SWAN) up to the block level to provide connectivity for e-governance. The Department has also set up Community Information Centres (CICs) in hilly, far-flung areas of the North-East and Jammu and Kashmir to facilitate the spread of benefit of information and communication technology. It is also proposed to set up CICs in other hilly, far-flung areas of the country like Uttaranchal, Andaman & Nicobar and Lakshadweep.

7.19 A number of steps have been taken to meet the challenge of zero duty regime in 2005 under the Information Technology Agreement (ITA-1). Tariffs on raw materials, parts, other inputs and capital goods have been rationalized to make domestic manufacturing viable and competitive (Box 7.2).

Service line	2001-2002		2002-2003		2003-2004	
	Employment	Revenue	Employment	Revenue	Employment	Revenue
Customer care	30, 000	400	65, 000	810	95, 000	1,200
Finance	15, 000	300	24, 000	510	40, 000	820
Human resources	1, 500	30	2,1 00	45	3, 500	70
Payment services	7, 000	110	11, 000	210	21, 000	430
Administration	14, 000	185	25, 000	310	40, 000	540
Content development	39, 000	450	44, 000	465	46, 000	520
Total	1,06, 500	1,475	1,71,100	2,350	2,45, 500	3,580
Source: World Investment Report 2004, UNCTAD.						

Box 7.2 : Policy initiatives taken during 2004-05 for Electronics and IT sector

- Customs duty on parts of computer, static converters for automatic data processing machines and parts thereof has been fully exempted.
- Computers have been exempted from excise duty.
- Import of second-hand capital goods has been permitted without any age restriction.
- The export obligation under EPCG scheme can also be fulfilled by the supply of Information Technology Agreement (ITA-1) items to the DTA provided the realization is in free foreign exchange.

Steel

7.20 The steel industry, in general, is on the upswing, due to strong growth in demand propelled particularly by the demand for steel in China. The world scenario coupled with strong

domestic demand has benefited the Indian steel industry. During April-December 2004-05, production of finished steel recorded a growth of 4 per cent over the corresponding period of the previous year to reach 28.3 million tonnes (Table 7.11). This growth rate, however, was lower than the growth rate in the preceding two years. Consumption of finished steel grew by 5.9 per cent and increased to 24.9 million tonnes, during the same period. The faster growth of domestic consumption relative to production was reflected in a decline in exports of finished steel (2.6 million tonnes) by 18.2 per cent compared to the corresponding period of previous year. Production of pig iron is falling due to the integration of the steel making process with the production of pig iron being consumed as a raw material in the process itself.

7.21 World steel prices rose from December 2001 onwards. The price increase of hot-rolled (HR) coils, during January 2002 to December

Table 7.11 : Production, consumption, export and import of finished carbon steel and pig iron
(in million tonnes)

Item	2001-02	2002-03	2003-04	2003-04 (April-Dec)	2004-05* (April-Dec)
PRODUCTION					
Finished steel					
Main producers	13.05 (4.5)	14.38 (10.2)	15.19 (5.6)	11.15	11.44 (2.7)
Secondary producers	17.58 (4.8)	19.28 (9.7)	21.77 (12.9)	16.12	16.90 (4.9)
Total	30.63 (4.7)	33.67 (9.9)	36.96 (9.7)	27.26.	28.34 (4.0)
Pig iron					
Main producers	1.02 (6.2)	1.11 (8.5)	0.97 (-12.7)	0.81	0.38 (-53.5)
Secondaryproducers	3.06 (26)	4.17 (36.3)	2.80 (-32.9)	2.13	1.73 (-18.8)
Total	4.08 (20.3)	5.28 (29.4)	3.76 (-28.7)	2.94	2.11 (-28.2)
EXPORTS					
Finished steel	2.70 (1.50)	4.51 (66.6)	4.84 (7.3)	3.24.	2.65 (-18.2)
Pig iron	0.31 (34.5)	0.63 (101.6.)	0.52 (-17.6)	0.40	0.13 (-99.7)
IMPORTS					
Finished steel	1.27 (-9.1)	1.51 (18.8)	1.54 (2.0)	1.23	1.45 (17.9)
Pig iron	0.002	0.001 (-50.0)	0.002 (100.0)	0.002	0.003 (50.0)
APPARENT CONSUMPTION					
Finished steel	27.43 (3.4)	28.89 (5.3)	31.17 (7.9)	23.56	24.94 (5.9)
Pig iron	3.79 (17.0)	4.64 (22.4)	3.26 (-29.7)	2.52	1.96 (-22.3)

Source: Joint Plant Committee. Note: Figures in parenthesis indicate variation over the previous year; * Provisional

2004 was from US\$ 140 - 175 per tonne to about US\$ 550 - 600 per tonne. The prices of steel melting scrap rose from a low of US\$ 93 - 94 per tonne to US\$ 275 - 285 per tonne. Domestic steel demand rose due to significant construction activity, particularly the highway construction undertaken by the National Highways Authority of India (NHAI). The increased production of steel has in turn led to rise in prices of raw materials like scrap, coking coal and metallurgical coke.

7.22 The wholesale price index (WPI) for iron and steel, after going up by 5.1 per cent in 2002-03 to 150.2, increased by 35 per cent to 202.1 in 2003-04, and further to 237.8 in the current year up to December 31, 2004. In budget 2004-05, the customs duty on non-alloy steel was reduced from 15 per cent to 10 per cent and on alloy steel from 20 per cent to 15 per cent. In August 2004, the customs duty on non-alloy steel was further reduced from 10 per cent to 5 per cent; on melting scrap from 5 per cent to 'zero' and on ships for breaking from 15 per cent to 5 per cent. Further, customs duty on several raw materials used by the steel sector like non-coking coal, metcoke and nickel has been reduced to 5 per cent and on coking coal to 'zero'.

7.23 To bring down the prices of steel, the excise duty on steel products was reduced from 16 per cent to 8 per cent with effect from February 28, 2004 with a caveat that the duty regime will be reviewed. Budget 2004-05 revised this partially by increasing the duty from 8 per cent to 12 per cent, as the intended impact of duty cut on moderating prices was not achieved.

7.24 While the increase in the domestic prices of steel because of an increase in international demand cannot be avoided, attention needs to be paid to the problem of adequate and reliable supply of coal to the steel industry. Efforts are required for securing assured linkages of coking coal from overseas sources. Furthermore, cross-border investment in captive coal mines, especially for coking coal, in major source countries as well as investment for developing coal mines

in India, need to be encouraged. Further, the movement of raw materials and finished steel would need good rail and road network as well as substantial improvement in port handling, storage and haulage facilities.

Chemical, petrochemical and pharmaceutical industry

Basic chemicals

7.25 The Indian chemical industry comprises both large and small units. The fiscal concessions granted to small scale sector in mid-eighties led to establishment of a large number of units in the small scale industry sector. Currently, the chemical industry is in the midst of a major restructuring and consolidation. During 2003-04, the production of major chemicals increased by 6.8 per cent and reached a record level of 7,062 thousand tonnes. During 2004-05, the production is estimated to grow by 4.8 per cent, to reach a level of 7,403 thousand tonnes. With the shift in emphasis on product innovations, brand building and environmental friendliness, this industry is increasingly moving towards greater consumer orientation.

Petrochemicals

7.26 With growth of about 18 per cent per annum during the 1990s, the Indian petrochemical industry is an established industry today. It comprises of synthetic fibres, polymers, elastomers, synthetic detergents and performance plastics. Production of major petrochemicals in 2003-04 increased by 6.9 per cent over that in the previous year (2002-03) and reached a level of 7,006 thousand tonnes. During 2004-05, production of major petrochemicals is expected to grow by 5.0 per cent and reach a level of 7,355 thousand tonnes. The current basic customs duty on commodity polymers is 15 per cent and excise duty is 16 per cent. The domestic prices of polymers are benchmarked against international prices. During January 2004 and January 2005, the average price of commodity polymers in South East region increased from US\$ 800 per MT to US\$ 1100 per MT. Naphtha and natural gas (C2/C3 fraction) are the basic

feed stocks for petrochemicals and are also used as fuels for power generation. One of the major reasons for the relatively lower growth rate during the current year is the increase in the prices of crude oil from about US\$32.2 per barrel in March 2004 to about US\$50-55 per barrel in October – November 2004, though the prices started coming down thereafter.

7.27 The Government has been taking various policy measures for the growth of the petrochemical industry. Realizing the potential of growth in this sector, the Department of Chemicals and Petrochemicals is considering policy initiatives in the areas of modernisation and upgradation of technology, recycling, exploring the possibility of setting up sub-sector specific studies on the emerging areas of application, setting up a fund for technology upgradation on the lines of the scheme for textiles and rationalisation of tax structure in this sector. A National Policy on Petrochemicals, including the policy initiatives mentioned above, is currently under consideration in the Department.

Pharmaceuticals

7.28 The Indian pharmaceutical industry, with US\$4 billion in domestic sales and over US\$3 billion in exports, is showing satisfactory progress in terms of infrastructure development, technology base and product use. The industry now produces bulk drugs belonging to all major therapeutic groups requiring complicated manufacturing processes and has also developed excellent 'good manufacturing practices' (GMP) compliant facilities for the production of different dosage forms. The strength of the industry is in developing cost-effective technologies in the shortest possible time for drug intermediates and bulk actives without compromising on quality. This is realized through the country's strengths in organic synthesis and process engineering. The country's fame as a low cost producer of antiretroviral and supplier of the same to international organisations and, more importantly, to the needy patients in Africa, is now well known.

7.29 The Department of Chemicals and Petrochemicals is working on issues of price management of drugs, including making life-saving drugs available at reasonable prices, reducing trade margins on generic drugs and data protection. A task force has been constituted to suggest options other than price control for making prices of life saving drugs reasonable.

7.30 The focus under the R&D effort is to encourage development of new molecules. A provision of Rs. 150 crore has been made under the Pharmaceutical Research & Development Support Fund. A Drug Development Promotion Board under the Department of Science & Technology has also been set up for the utilisation of this fund. Feasibility of setting up a Mega Chemical Industrial Estate in the country with world-class infrastructure facilities is also being studied.

7.31 For the first time in many years, the international pharmaceutical industry is finding great opportunities in India. The process of consolidation, which has become a generalised phenomenon in the world pharmaceutical industry, has started taking place in India. The pharmaceutical industry, with its rich scientific talent and research capabilities, supported by Intellectual Property Protection regime, is well set to take a great leap forward. As regards product patents for drugs, an amendment to the Indian Patents Act has been carried out through the Patent (Amendments) Ordinance, 2004 on December 26, 2004. The Ordinance amends the Indian Patents Act, 1970 for the third time with a view to introducing product patents for drugs, food and chemicals (see Box 7.3).

Cement

7.32 The Indian cement industry not only ranks second in the production of cement in the world but also produces quality cement to meet global standards. The induction of advanced technology has helped the industry immensely to conserve energy and fuel and to save materials substantially. Apart from meeting the entire domestic demand, the industry is also exporting cement and clinker.

Box 7.3 : Patents and India

- During 1947 to 1972, with a strong product patent regime under the Indian Patent Act of 1911, most of the effective drugs patented by foreign companies were not produced in India, and the drug prices in the country were the highest in the world. Under the Indian Patent Act, 1970, product patents were not allowed, and only process patents were granted in respect of inventions relating to drugs and medicines. This enabled the indigenous drug industry to manufacture the products patented in other countries by developing and using a different process.
- In 1995, India agreed to adopt the product patents regime by 2005, as a part of its WTO commitments. This has encouraged our pharmaceutical companies to adopt a strategy of R&D based innovative growth. This can transform the Indian chemical and pharmaceutical industry, particularly, the biotech sector, in which it has good prospects.
- Government has issued the Patent (Amendments) Ordinance, 2004 on December 26, 2004 to further amend the Patent Act, 1970. The Ordinance amends the Indian Patents Act, 1970 for the third time (the earlier two amendments were enacted in 1999 and 2002) to introduce product patents for drugs, food and chemicals. With this, Government has adhered to the January 1, 2005 deadline for implementation of the Product Patent Regime, in conformity with the Trade – Related Intellectual Property Rights (TRIPS) Agreement of the World Trade Organisation (WTO).
- The salient features of the third amendment to the Patent Law are as under:
 - a) Extension of product patent protection to all fields of technology, by extending it to drugs, food and chemicals.
 - b) Deletion of the provisions relating to Exclusive Marketing Rights (EMRs) (which would now become redundant), and introduction of a transitional provision for safeguarding EMRs already granted.
 - c) Introduction of a provision for enabling grant of compulsory licence for export of medicines to countries, which have insufficient, or no manufacturing capacity, to meet emergent public health situations (in accordance with the Doha Declaration on TRIPs and Public Health).
 - d) Modification in the provisions relating to opposition procedures with a view to streamlining the system by having both pre-grant and post-grant opposition in the Patent Office.
 - e) Addition of a new proviso to circumscribe rights in respect of mailbox applications so that patent rights in respect of the mailbox shall be available only from the date of grant of patent, and not retrospectively from the date of publication.
 - f) Strengthening the provisions relating to national security and to guard against patenting abroad of dual use technologies.
 - g) Clarification of the provisions relating to patenting of software related inventions when they have technical application to industry or are in combination with hardware.
 - h) Rationalisation of provisions relating to time-lines with a view to introducing flexibility and reducing the processing time for patent applications, and simplifying and rationalizing procedures
- There have been apprehensions from a few quarters that the Patent Amendment will drive up drug prices by ruling out access and availability of medicines at low cost. However, such apprehensions are unfounded. In the first place, the fact remains that 97 per cent of all drugs manufactured in India are off-patents, and so will remain unaffected. These cover most of the life saving drugs, as well as medicines for common ailments. In patented drugs also, in most of the cases there are always alternatives available. Further, the country has 13 Sections under Chapter XVI pertaining to Compulsory Licensing in place; and the Act has strong provisions under Chapter XVII for outright acquisition of patents to meet national requirements. Besides, there is also the Drug Price Control Order administered by the National Pharmaceuticals Price Authority. With such a framework in place, the concerns and fears relating to rise in drug prices are misplaced. Besides, there are adequate safeguards to protect the interests of domestic industry and the common man from any increase in the prices of drugs.
- The important public interest provisions in the Patent Law are as under:
 - a) **Conditional grant of patent (Section 47)** : Empowers the Government to import, make or use any patent for its own purpose. For drugs, it also empowers import for public health distribution.

Contd.....

- b) **Revocation of patent in public interest (Section 66):** Empowers the Government to revoke a patent where it is found to be mischievous to the State or prejudicial to the public.
 - c) **Grant of compulsory licence (Sections 82 to 94):** Chapter XVI deals with the general principles and circumstances for grant of compulsory licences in order to protect public interest particularly public health and nutrition. These provisions check the abuse of patent rights. They can be invoked if the reasonable requirements of the public with respect to patented inventions have not been satisfied, and the patented invention is not available for public at a reasonably affordable price, and if the patented invention is not worked in the territory of India. Section 92 of this law provides for action in case of national emergency, extreme urgency and public non-commercial use, and can be invoked without the grace period of 3 years from grant of patent.
 - d) **Use of invention for the purpose of Government [Sections 100 & 101]:** Compliments Section 47.
 - e) **Acquisition of invention and patent for public purpose [Section 102]:** Empowers the Government to acquire a patent to meet national requirements.
 - f) **Bolar provision [Section 107 (A) (a)]:** Facilitates production and marketing of patented products immediately after expiry of the term of patent protection by permitting preparatory action by non-patentees during the life of the patent.
 - g) **Parallel import [Section 107 (A) (b)]:** Provides for import so that patented product can become available at the lowest international price.
- Apart from manufacture of drugs, the product patent regime will help the pharmaceutical industry to tap outsourcing of clinical research. By participating in the international system of IPR protection, India, with its vast pool of scientific and technical personnel, and well-established expertise in medical treatment and health care, has unlocked vast opportunities in both exports and outsourcing and has the potential to become a global hub in the area of R&D based clinical research. The Patent Ordinance also provides adequate safeguards to protect the interest of the domestic industry, and the citizen from any increase in prices of drugs.

The export of cement during 2002-03 and 2003-04 was 6.92 million tonnes and 9.00 million tonnes, respectively. Export during April-December, 2004-05 was 7.32 million tonnes.

7.33 Growth rate of the cement industry, with 128 large and over 300 mini cement plants with estimated annual installed capacity of 151.69 million tonnes and 11.10 million tonnes, respectively, has been decelerating in recent years (Table 7.12). However, indications for

Year	Production (in lakh tonnes)	Growth rate
1999-2000	982	11.72
2000-01	976	(-) 0.61
2001-02	1,069	9.52
2002-03	1,164	8.88
2003-04	1,235	6.09

Source: Department of Industrial Policy and Promotion.

the current year suggest a better performance by the cement industry.

7.34 Given the enormous need for infrastructure and housing, which require large quantities of cement as a basic building block, the prospects of the industry are bright. This has been endorsed by market developments such as mergers and acquisitions by both domestic and international players. Keeping in view the trend of growth of the industry in previous years, a production target of 1330 lakh tonnes has been fixed for the year 2004-05. During April-December, 2004-05 the production of cement has been 962.95 lakh tonnes, which is 6.81 per cent higher than the production in the corresponding period of last year.

7.35 The Working Group on Cement Industry for the formulation of Tenth Five Year Plan and other studies on global competitiveness of the Indian cement industry highlight constraints such as high cost of power, high freight cost, inadequate

infrastructure and poor quality of coal. As per the 10th Plan, additional capacity creation is being hampered by the lack of long-term coal linkages. In order to utilize the excess production capacity available with the cement industry, the Government has identified the following thrust areas for increasing demand:

- further push to housing development programmes;
- promotion of concrete highways and roads;
- use of ready-mix concrete in large infrastructure projects; and
- construction of concrete roads in rural areas under Prime Minister's Gram Sadak Yojana.

7.36 During the Tenth Five Year Plan, the industry is expected to add capacity of 40-52 million tonnes, mainly through expansion of existing plants and use of more fly ash in the production of cement.

Oil & Gas

7.37 With the hike in international petroleum prices, the oil and gas sector, including the retail price of refined petroleum products has been a matter of public attention. While the country imports 70 per cent of its requirement of crude petroleum, it is not only self-sufficient in refined petroleum products but also has an exportable surplus of such products. The imports of petroleum products were 8.00 million metric ton (MMT) in 2003-04 and 5.61 MMT in April-December, 2004-05. Against this, exports of petroleum products were 14.62 MMT in 2003-04 and 13.03 MMT in April-December 2004-05. Rapid increase in exports contributed to buoyant growth in the output of petroleum products (Table 7.13). With 18 refineries in the country (17 in the public sector and one in the private), the refining capacity during the last two years, since April 1, 2002, has increased from 114.67 MMT per annum (MMTPA) to 127.37 MMTPA as on October 1, 2004. By the end of the Tenth Plan, it is expected to reach 141.7 MMTPA.

7.38 The lack of a well-functioning market-determined pricing system, partly because of

Table 7.13 : Production of petroleum products

Year	Production (MMT)	Growth rate (per cent)
2001-02	104.3	4.8
2002-03	108.7	4.2
2003-04	117.6	8.2
2004-05 (Apr-Dec.)	91.3	6.4

Source : Ministry of Petroleum & Natural Gas.

the lack of vibrant competition among companies with diversified ownership, continues to constrain the industry's performance. Despite the surge in international prices of petroleum (with West Texas International (WTI) touching a record level of US\$ 56 per barrel in the last week of October 2004) moral suasion resulted in the first domestic retail selling price-revision for motor spirit and high speed diesel (HSD) in 2004 being postponed to June 16. Some excise duties were also reduced. There were no price revisions after June 16 until July 31, 2004. Effective August 1, 2004, Government put in a revised methodology allowing oil companies limited freedom to revise the prices of motor spirit and HSD. The methodology consists of allowing oil marketing companies to decide the retail prices of motor spirit and HSD based on the previous fortnight's average international price, provided the exchange rate adjusted Cost and Freight (C&F) inclusive product price was within a band of ± 10 per cent around the mean of (a) preceding three months' rolling average prices, and (b) preceding one year's average prices. Oil companies have to observe the band, and in case of the required adjustment breaching the band, approach the Government for moderation of excise duties.

7.39 Total balance recoverable reserves of the country as on April 1, 2004 was about 1.6 billion tonnes of oil (0.7 billion tonnes) and oil equivalent gas (0.9 billion tonnes). The dependence on imported crude has led to focused attention on energy security (Box 7.4). The New Exploration Licencing

Box 7.4 : Strategies for achieving energy security

- Increasing exploration efforts through the New Exploration Licensing Policy (NELP). Under the four rounds of NELP, Production Sharing Contracts (PSCs) have been signed for 90 blocks.
- Exploring in new areas, especially in deep water and difficult frontier areas; and also exploring in the deeper layers of the producing fields.
- Developing faster the newly discovered fields and stepping up the use of new technologies for seismic surveys, work over, stimulation operations, drilling of wells etc. in producing areas.
- Improving the recovery factor from existing major fields by implementing Enhanced Oil Recovery (EOR)/Improved Oil Recovery (IOR) schemes.
- Acquiring acreages abroad.
- Tapping alternative sources of energy such as Coal Bed Methane (CBM), Underground Coal gasification (UCG) and gas hydrates.
- Substituting fossil fuels in part by blending with hydrogen and bio-fuels like ethanol and bio-diesel.

Policy (NELP), which was approved in 1997 and became effective in February 1999, appears to be bearing good dividends. In the first four rounds of NELP, production sharing contracts (PSCs) for 90 exploration blocks have been signed, and 19 discoveries have already been made so far in Cambay onshore, North East Coast and Krishna-Godavari (KG) deepwater areas. Of these, North Surat (NS) and Bhima fields in Cambay onshore block have been under production since May, 2004 and November, 2004 respectively. Significantly, the reserves of gas, which is an environment friendly fuel, have gone up over 50 per cent in last 2-3 years due to substantial gas finds in KG deepwater as well as in Cambay offshore. The fifth round of NELP was launched in New Delhi on January 4, 2005.

7.40 For enhanced/improved oil recovery schemes, the work programme to increase ultimate recovery on an average by about 4 to 5 per cent in the first stage has been drawn up by Oil and Natural Gas Corporation (ONGC) for its 15 largest fields accounting for 80 per cent of ONGC's reserves and

production. The incremental crude oil anticipated is about 120 MMT up to 2030, half of which would be from Mumbai High. The incremental production over the base case is expected to increase significantly from about 5 MMT in 2002-03 to 10 MMT in 2006-07.

7.41 ONGC's exploration activities have extended beyond India's shores. The ONGC Videsh Limited (OVL) has acquired 25 per cent interest in the Greater Nile Oil Project (GNOP) in Sudan. With the recent acquisition of one Exploration block in Cote d' Ivoire, now OVL has presence in 10 countries, namely, Russia, Sudan, Vietnam, Iran, Libya, Syria, Myanmar, Iraq, Australia and Cote 'd' Ivoire.

7.42 Petronet LNG Limited (PLL), a joint venture formed for the import of Liquefied Natural Gas (LNG) to meet the growing demand of natural gas, has constructed an LNG terminal at Dahej in Gujarat for 5 MMPTA capacity and has planned to construct another at Kochi (Kerala) for 2.5 MMPTA capacity. Further, PLL is considering expansion of the capacity of Dahej Terminal to 10 MMPTA and that of the Kochi Terminal to 5 MMPTA, to cater to the future demand of re-gasified LNG (R-LNG). In addition, Shell India Private Limited is setting up a 2.5 MMPTA LNG terminal at Hazira in Gujarat. Indian Oil Corporation has signed a MoU with Petropars Ltd. of Iran for the joint development of an integrated project consisting of 'upstream facilities' for production of sufficient feed-gas for related 'downstream facilities' for liquefaction of the gas to produce LNG.

7.43 An agreement has been signed on package of LNG imports from Iran and Indian participation in Iranian Oilfields. Indian oil public sector units (PSUs) signed an agreement on January 7, 2005 with M/s. National Iranian Gas Export Corporation (NIGEC), to import 7.5 MMPTA of LNG for a period of 25 years commencing from 2009. A memorandum of understanding (MoU) has also been entered into by OVL with National Iranian Oil Company (NIOC) for Indian oil PSUs, led by OVL, to participate in Yadavaran field (20 per cent participation equivalent to 60,000 barrels per day) and Jufeyr field, (around 30,000 barrels per day) in Iran through service contracts.

7.44 In a tripartite ministerial meeting among the Energy Minister of Myanmar, Minister for Energy and Mineral Resources of Bangladesh and Minister for Petroleum and Natural Gas of India on January 12-13, 2005, it has been agreed that the Government of Myanmar would export natural gas to India through the territory of Bangladesh based upon technical and commercial feasibility. A techno-commercial working committee has been set up for the purpose.

7.45 In a major decision towards deregulation of the oil sector and to attract investment in the petroleum products pipelines, in November 2002, Government had laid down a new Petroleum Product Pipeline Policy for laying pipelines in the country on the common carrier principle. Guidelines for laying petroleum product pipelines were notified on November 20, 2002. Supplementary guidelines in this regard have also been notified on October 26, 2004.

Tourism

7.46 Tourism, which is important for economic development and employment generation, particularly in remote and backward areas, has become the world's largest export industry. According to the World Tourism Organisation, about 694 million tourists travelled internationally in 2003 and

spent about US\$ 514 billion. It is estimated that tourism accounts for 13 per cent of total world export and 8.2 per cent of global employment.

7.47 Tourism is one among India's important export industries. Even with comparatively low levels of international tourist traffic, tourism has already emerged as an important segment of the Indian economy and as an instrument for generating employment opportunities. Apart from its direct contribution to the economy, tourism has significant linkages with several other sectors like agriculture, horticulture, poultry, handicrafts, and construction. The foreign exchange earnings from tourism during 2003 was Rs 16,429 crore (US\$ 3,533 million). As per the estimates of the Department of Tourism, total direct employment in the tourism sector in India was about 20 million during 2003-04, while the indirect employment multiplier in tourism is fairly high and is estimated at 1.36.

7.48 During the year 2003-04, the tourism industry registered a growth of 17.3 per cent in foreign tourist arrivals (Table 7.14) compared to the modest growth of 1.0 per cent registered in 2002-03. Foreign exchange earnings, however, grew at an even higher rate of 30.2 per cent during the year 2003-04 compared to 4.1 per cent during the corresponding period of 2002-03, indicating a step up in the average tourist spending.

Table 7.14 : Foreign tourist arrivals and foreign exchange earnings

Year	Foreign tourists		Estimated foreign exchange earnings	
	Number in lakh	Growth rate	million US\$	Growth rate
1996-97	23.34	6.6	2,878	6.1
1997-98	23.71	1.6	2,914	1.3
1998-99	23.97	1.1	2,993	2.7
1999-00	25.05	4.5	3,036	1.4
2000-01	26.99	7.7	3,168	4.3
2001-02	24.28	-10.0	2,910	-8.1
2002-03	24.54	1.0	3,029	4.1
2003-04	28.79	17.3	3,945	30.2

Source: Ministry of Tourism.