CHAPTER – III
PROFILE AND GROWTH OF INDIAN INDUSTRIES AFTER LIBERALISATION
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AFTER LIBERALISATION

INTRODUCTION

Industrialization is considered to be the panacea for the problems of poverty in the underdeveloped world and planned industrialization forms part of the development strategy in most developing countries. Industrialization depends to a large extent on the infusion of capital, technology and business, organization from outside and carries the risk of dependency. An indigenous process of industrialization under central planning may avoid the problems associated with externally induced industrialization but at the price of limited access. India followed for a long period the latter path to industrialisation¹.

BACKGROUND OF NEW ECONOMIC POLICY

The evolution of the policy environment of Indian industry is a fascinating story. The genesis of industrial policy in independent India can be traced back to the setting up of a National Planning Committee in 1938 under the Chairmanship of Jawaharlal Nehru which emphasized active state planning and control².

The new policy aimed at eliminating barriers to entry and removing restrictions of MRTP Act on the domestic industry to enable it to expand for facing foreign competition, promoting direct foreign investment, restructuring the public sector and integrating the Indian economy with the global economy. Industrial licensing for all industries, except a few, was abolished. Eight major categories of industries were placed in the reserved list for the public sector and 18 industries were listed for which industrial licensing was made compulsory. Of these, nine were subsequently taken out from the purview of industrial licensing by July, 1997. The remaining nine industries for which industrial licensing is necessary are coal and lignite, petroleum (other than crude) and its distillation products, distillation and brewing of alcoholic drinks, sugar, cigars and cigarettes of tobacco and manufactured tobacco substitutes, electronic aerospace and defence equipment of all types, industrial explosives, hazardous chemicals and drugs and pharmaceuticals. The important aspect of the new industrial policy was that FDI was allowed upto 51 percent of equity in priority industries which required high investment and advanced technology. 100 percent equity was allowed if the entire output was to be exported. High priority industries were to be accorded automatic approval for technology agreements with certain
specified parameters. This facility was extended to other industries at least expenditure due to free foreign exchange. The terms of technology transfer were also left to the commercial judgement of individual companies. The Monopolies and Restrictive Trade Practices Act was toned down to allow large companies free rein.

Evaluating the performance of public sector enterprises, the industrial policy noted that these have yielded low rate of return on capital invested and need to be restructured by rehabilitation of loss-making enterprises through the Board for Industrial and Financial Reconstruction (BIFR) and raising resources by dilution of government equity holdings³.

**The Three components of the NEP**

The policies and measures introduced under the new economic programme sought to serve three distinct purposes.

1. Some of them aimed at freeing industry and trade from the vice like grip of control.

2. Some others sought to reform the macro-economy of the country and its economic institutions.
3. Yet others had the objective of changing the structural infirmities which had accumulated over the years and were retarding the economic progress.

**LIBERALIZATION**

Liberalization includes changes in industrial and trade policies, freeing industry from the shackles of the licensing system and restrictions on imports and exports. Economic reforms go beyond liberalization. They include reforms of fiscal and monetary policies besides liberalization of trade and industrial policies. They also encompass reform of the economic institutions.

Structural adjustment is even larger in its sweep. It is an all-encompassing process containing elements of liberalization, economic reforms and other elements having a bearing on employment and income distribution. A structural adjustment amounts to a drastic course correction and therefore, a more painful process for an economy to go through. The role of external agencies by means of conditionalities is also substantive in case of structural adjustments. As an economy moves from liberalization to structural adjustments, the scope, direction and rate of change in the policy parameters also alter drastically.
It should, however, be made clear that liberalization, economic reforms and structural adjustment should not be viewed as watertight and mutually exclusive compartments of the NEP. To a large extent they are overlapping. This division has been made here only because these three elements do represent the three basic dimensions of the changes to which the Indian economy has been subjected since June 1991. The three fold division would facilitate a clear understanding of the multifaceted make-up of the economy brought about by the package of policies and measures.

**OBJECTIVES OF LIBERALISATION**

1. To bring about rapid and substantial improvement in the quality of life of the people of India.

2. Rapid growth in income and productive employment.

3. Promoting the environment which encourages full utilisation of our materials and human resources and ensuring their productive deployment.

4. Fostering maximum flowering of personal initiatives and effort and developing competitive environment.

5. State intervention only when market fails to operate.

6. Improving living standard of the masses rather than of the particular class.
7. A two pronged strategy was adopted, one at demand management front and the other at the supply management front. On the demand management front, reduction in fiscal deficit for price stability was exercised while on the supply management front, policy changes were announced in sections like industry, trade, fiscal management, finance, banking, insurance, agriculture, etc., so as to cover whole economy in liberalization net.

LIBERALISATION OF INDUSTRIAL POLICY

The liberalization exercises began with the introduction of major changes in the industrial policy which amounted to a radical transformation of the entire industrial environment of India. Whole range of industries was liberalized from the clutches of licensing and control. Besides, substantive changes were also introduced in other aspects of industrial policy like foreign investment, import of foreign technology, MRTP, FERA and the role of public sector. Together, they have come to be known as the New Industrial Policy (NIP).
<table>
<thead>
<tr>
<th>ACTION</th>
<th>CONTENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Delicensing</td>
<td>Industrial licensing was abolished by the government except for certain industries.</td>
</tr>
<tr>
<td>2. Trimming the public sector</td>
<td>Number of industries reserved for public sector has been reduced</td>
</tr>
<tr>
<td>3. Abolition of MRTP asset limit</td>
<td>MRTP asset limit of Rs.100 crore has been completely abolished.</td>
</tr>
<tr>
<td>4. Increase in foreign equity</td>
<td>It has been raised from 40 to 51 percent of participation. In case of NRI investment, it has been allowed upto 100 percent in high-tech areas. Ownership may now go in foreign hands. FERA provisions have been liberalized.</td>
</tr>
<tr>
<td>5. Devaluation</td>
<td>Devaluation was taken in order to augment export.</td>
</tr>
<tr>
<td>6. Disinvestment from public sector</td>
<td>Many public sector companies equity was disinvested. Equity varying between 5 to 20 percent was dis-invested. SAIL, BPE, HPC, HZI, RC&amp;F, HMNA &amp; NLC were main among them.</td>
</tr>
<tr>
<td>7. Reference of Sick units of BIFR</td>
<td>The sick Industrial Companies Act was amended. Public sector sick units may now be referred to BIFR.</td>
</tr>
<tr>
<td>8. Rupee convertibility</td>
<td>In March 1991, rupee was made partially convertible. Rupee was made fully convertible on 20 August, 1994. Indian rupee has achieved full convertibility on current account.</td>
</tr>
<tr>
<td>9. Trade policy reforms</td>
<td>Procedures for exports simplified. Banned list pruned. EPZs have been changed to SEZ. Powers to grant EPCG have been decentralized. Concept of Superstar trading house has been introduced.</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>10. Fiscal reforms</td>
<td>On the basis of Chelliah Committee recommendations, tax system has been rationalized and simplified by moderating tax rates, reducing tax brackets and reduced to 11.5 percent in October, 1996. CRR will be reduced to 10 percent by January, 1997. Board of Financial Supervision has been set up. Banking Companies Act, 1943 has been amended.</td>
</tr>
</tbody>
</table>

In order to fulfill the first objective of the study, the profile of the seven major industries has been presented as follows; they are Automobile industry, Cement industry, Chemical industry, Cotton Textile industry, Metal industry, Paper industry and Sugar industry.
1. AUTOMOBILE INDUSTRY

INTRODUCTION

Automobile industry contributes the highest percentage to the development of Indian Economy. It is indicative of the liberalization effort of the government and opening up of economy and also indicative of mobile capital of MNC’s. It is indicative of the industrialisation effort of respective State governments, amount of investment that has flower into the country and structure of economy, socio-psychological aspects of economic behaviour of the people, the health of industrial organization, qualitative improvement in industrial products and its diversification and the availability of cheap labour and its impact on economy.

AN OVERVIEW OF AUTOMOBILE INDUSTRY

The Indian automobile industry is going through a technological change where each firm is engaged in changing its processes and technologies to sustain the competitive advantage and provide customers with the optimized products and services. Starting from the two wheelers, trucks, and tractors to the multi utility vehicles, commercial vehicles and the luxury vehicles, the Indian automobile industry has achieved tremendous amount of success in the recent years.
TABLE No.3.2

AUTOMOBILE PRODUCTS

✓ TWO WHEELERS  ✓ COMMERCIAL VEHICLES
- Motorcycles  - Light commercial vehicles
- Scooters  * Production, Domestic and Exports

✓ PASSENGER CARS  - Medium and Heavy Commercial Vehicles
- Domestic and exports  * Production, Domestic and Exports

✓ 3-WHEELERS  ✓ UTILITY VEHICLES
- Domestic and exports  - Domestic and exports

As per Society of Indian Automobile Manufacturers (SIAM), the market share of each segment of the industry is as follows:-

FIGURE No. 3.1

The market shares of the segments of the automobile industry

The automobile industry had a growth of 15.4 % during April-January 2007 with the average annual growth of 10-15% over the last decade or so.
With the incremental investment of $35-40 billion, the growth is expected to double in the next 10 years. Consistent growth and dedication have made the Indian automobile industry the second-largest tractor and two-wheeler manufacturer in the world. It is also the fifth-largest commercial vehicle manufacturer in the world. The Indian automobile market is among the largest in Asia.

Liberalization

The Government of India has liberalized the foreign exchange and equity regulations and has also reduced the tariff on imports such a step contributes significantly to the growth of the sector. Having firmly established its presence in the domestic markets, the Indian automobile sector is now penetrating the international arena. Vehicle exports from India are at their highest levels. The leaders of the Indian automobile sector such as Tata Motors, Maruti and Mahindra and Mahindra are leading exporters to Europe, Middle East and African and Asian markets. The Ministry of Heavy Industries has released the Automotive Plan 2006-2016 with the motive of making India the most popular manufacturing hub for automobiles and its components in Asia. The plan focuses on the removal of all the bottlenecks that are inhibiting its growth in the domestic as well as international area.
Growth and Development

The component sector which has been the fastest growing in the automobile industry with an average of 28% growth during 1992-97, is expected to grow in future at a CAGR of 22% in nominal terms. Exports were anticipated to emerge as a primary growth area and would rise to Rs.110 bn by 2009-10 or 20% of total sales, from recorded Rs.12 bn. beyond quantum growth. The industry is anticipated to witness technology and product upgradation to world-class standards. Competition will intensify and volatility will persist. India will have to look forward to higher exports. With the decreasing interest of industrial countries in auto industry, conditions are propitious for the shift of production bases to countries like India. The industry needs enormous funds for R&D because of intense competition, continuous advances in technology, need for market adaptation and maintenance costs. The product variation is so wide and competitive that small markets cannot sustain them.

2008 is an important year for the Indian automobile industry because the manufacturing of automobiles commenced in India. Since then, the journey of the Indian Automotive industry can be classified into three main phases. The first phase till mid 1980s could be termed as one of the protection for the Indian automotive industry.
There were restrictions on the manufacturing and import of automobiles and the Indian automobile market was a seller’s market. The second phase, post 1991, could be termed as a phase of liberalization as the Indian automotive market was the beneficiary of the opening up of India’s economy. This phase was marketed by the entry of foreign automobile players and increase in the availability of automotive financing. The Indian automotive market became a buyers’ market during this phase. Coinciding with the second phase of liberalization, the third phase from early 2000 till date could be termed as a phase of globalization of the Indian automotive industry. This phase has been marketed by the removal of most import controls, entry of many more foreign players in the Indian automotive market and Indian companies gaining a global identity and acquiring foreign companies.

Today, the Indian automobile industry is ranked first in the world in the production of three wheelers, second in the production of two wheelers, fourth in the production of commercial vehicles and ninth in the production of passenger vehicles. With a production of nearly 10.8 million vehicles in FY07-08, the Indian automotive industry has shown an outstanding resilience after the last down cycle about a decade back. In the last few years, the Indian automotive industry has grown at a healthy rate by
reducing costs and improving efficiency. With its new found confidence, it has gone beyond the shores of India and is creating a noteworthy footprint in different geographies in the world. For all this growth and development, the auto industry humbly acknowledges the contribution and support of the auto components industry. They were partners and continue to march together for strengthening it is ‘sympathetic’ relationship.\(^9\)

The Indian automotive market with a healthy growth rate of 13\% in the last 7 years was a source of attraction to many foreign automobile companies whose entry in the Indian market not only increased competition but also raised customer expectations about product quality and reliability. This forced the Indian companies to introduce new and interesting products and innovation has become a notable feature of the Indian automotive industry. The innovation story of the Indian automotive industry would not be complete without mentioning the NANO, which has evoked worldwide interest, curiosity and confidence in the competency of Indian talent. It has not only brought the automobile industry but also India into focus. The NANO and other similar products have the potential to change the paradigm of the automotive industry worldwide.\(^{10}\)
Suggestions for Improvement of Automobile Sector

1. Take road building seriously and start massive project for roads in the next 20 years is imperative. The automobile market will stagnate soon if this is not done.

2. Cost of fuel is important in India and at the same time this fuel quality needs to be improved in terms of gumming tendency and dust contamination. Lead free petrol introduced in 1995, is available only in four metros.

3. The prices of cars are high in terms of the purchasing power of the people in spite of finance schemes being available. The customers will prefer scrapping of old vehicles instead of purchasing new ones, since the price of new vehicle is high.

4. The country has already permitted too many companies to come here for the limited market of passenger cars. Therefore, local manufacturer has to be encouraged to create an employment (China had followed this principle to make localization viable). There is local content in automobile policy.95% of production in two years for any model should be insisted upon, irrespective of the size of investment.
5. The inverted duty structure of customs duty on raw materials, components and finished goods needs to be corrected. This is pending for more than 5 years.

6. The government should grant certain funds to leading Indian automobile companies for R & D so that Indian vehicles can really become world class in five years time. Vehicles with 100% local content should be given a concessional excise duty of 50% of the normal rate.

7. All local constraints like the outdated industrial disputes Act, Factories Act and the like which make local manufacturing far more difficult, should be modified without further delay.
2. CEMENT INDUSTRY

INTRODUCTION

The cement industry is a basic or key industry and makes an important contribution to the development of construction industry, to provide maximum employment opportunity in construction industry. In its widest sense, the term cement includes an infinite variety of adhesive building materials ranging from clay upto the rapid hardening substances. In its more restricted sense, particularly, when it is used in connection with building and engineering, the word “cement” refers to “Portland cement,” which constitutes about 98% of the cement produced in the world. This Portland cement, when mixed with gravel, slag, sand and water, allows the entire material to harden and become concrete.11

Characteristics of Indian cement industry

The cement industry is a capital intensive industry. Apart from being capital-intensive, the industry, of late, has also become ‘technology-intensive’. The Indian cement industry has the following characteristics12.

1. Cement consumption in India is equal to the consumption of wheat in a year. This makes cement the second largest consumed commodity in the country after rice. Given that rice is a consumable product, whereas
cement involves one time purchase, the reach and depth of the cement industry in India can be visualized.

2. Both the ownership and production base in the industry are fragmented with about 107 units in the large sector and 180 units in mini sector. Ownership is through 51 corporate entities in the large sector and 180 in the mini sector. The public sector presence in the industry is not significant with about 1.5 percent of the capacity and 8 percent of the production.

3. Man power productivity is low in the industry if they relate the total manpower of the cement industry in India to its installed capacity for a simple comparative appreciation find a figure of approximately 2.5 tonnes per manday while for a country like Japan this figure works out to be 16.5 tonnes per day.

4. According to recently published information, it appears that in India not even one-third of the plants is fully complying with the dust emission limits of 150 mg / Nm$^3$ It is also known that there is need for further downward revision of dust emission levels and for appropriate protection of our environment, it is also necessary to introduce emission limits for NO$_2$ (Nitrogen dioxide) and SO$_2$ (Sulphur dioxide) and then perhaps for heavy metals and noisy levels.
5. The per capita consumption of cement in India is little more than 50 kg per annum. This compares unfavourably with the rest of the world. (Egypt 335 kg, China 167 kg, Brazil 180 kg and Japan 543 kg). Despite immense demand, cement consumption remained static in the financial year 1993 after recovering to reach a steady 6% growth through the previous decade. This was primarily due to cut-back in government spending on infrastructure as a consequence of the economic adjustment programme and increase in excise duty.

**Future of the cement industry**

The performance of the industry in the last decade has been very impressive. The issues of the coming decade, however, will be very different. With increasing capital intensity the economic challenge is to minimize capital outlay per unit production. Given that cement uses no-renewable resources like coal and limestone, a greater thrust has to be given to the manufacture of blended cements like Portland Pozzolana Cement and Portland Blast Furnace Cement etc. These will also solve the problem of waste disposal too. Necessary fiscal incentives to encourage manufacture and use of these cement may be considered.
The second major issue is distribution and delivery systems. With the infrastructure being overloaded, there should be long term investments in bulk handling, ready mix concretes, etc.

The third challenge would be to broaden the demand base in India. Government derived demand has been the driving force behind cement consumption. The vagaries of the economic policy have, therefore, affected cement consumption. The effort would be to tap the potential of the Indian market. This may involve innovative financing structures, delivery systems and grassroots marketing activity.

With the increasing liberalization of the financial sector, easy availability of finance for housing can increase the demand for cement. But until these translate into actual physical investment, improved production levels may not mean much. The cement industry has growth potential not only within the country but also in the neighbouring countries. India enjoys an excellent location and can tap export markets of the Middle East countries, South Africa, Sri Lanka, Indonesia, Bangladesh and Pakistan.
3. CHEMICAL INDUSTRY

INTRODUCTION

The Indian Chemical Industry is maintaining its trend of growth as per indications available and production of chemical industry posted a growth of 4.3% in June 2007. During April-June 2007 the industry witnessed 6.2% growth. Encouraging news about the growth of the chemical industry across the globe is also coming in as most firms reported double-digit growth in earnings in the second quarter. The chemical industry comprises the companies that produce industrial chemicals. It is central to modern world economy converting raw materials (oil, natural gas, air, water, metals, and minerals) into more than 70,000 different products.14

Chemical Products

Organic chemicals can be divided into two groups as commodity and specialty. Commodity chemicals are produced and sold in large quantities and usually are used as feed stocks in the synthesis of other organic chemicals. Some commodity chemicals also are sold to manufacture outside the industry such as those in plastics production. Specialty chemicals are made in much smaller quantities for a whole year will be produced in a few
days. These chemicals are made to individual customers specifications while others are simply low volume stock chemicals.\textsuperscript{15}

Few organic chemicals are direct consumer products. They are purchased by companies in many different industries and have a vast array of end uses. Synthetic acetic acid, for instance, is used by chemical companies as an intermediate to produce other organic chemicals such as vinyl acetate and by industries outside chemicals manufacturing like textile processing. In addition, some acetic acid production processes use other organic chemicals as a feedstock (Such as methanol and acetaldehyde), while ethylene is used only as a feedstock in further chemical processing. Other industries that use organic chemicals include pharmaceuticals, automobiles, synthetic tires, cosmetics, building materials, household appliances and flavorings. The following tabulation shows the volume rank of the industry’s top 13 chemicals.\textsuperscript{16}

1. Ethylene  
2. Propylene  
3. Ethylene dichloride  
4. Vinyl chloride  
5. Terephthalic acid  
6. Methanol  
7. Ethylene oxide  
8. Formaldehyde  
9. Ethylene glycol  
10. Acetic acid  
11. Propylene oxide  
12. Acrylonitrile  
13. Vinyl acetate
Industry segmentation

The chemical industry includes a wide variety of products from commodity chemicals to research-driven specialized products. The characteristics of these products differ across the industry supply chain from sourcing bases to their target markets.

A classification of the industry into three segments of Basic, Specialty and knowledge chemicals facilitates its description and analysis. The common characteristics and constituent industries for each of these segments are shown in the following table\(^\text{17}\).
### TABLE NO. 3.3

**INDUSTRIAL SEGMENTATION**

<table>
<thead>
<tr>
<th>Segments</th>
<th>Characteristics</th>
<th>Constituent industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>• High volume, low value added.</td>
<td>• Petrochemicals</td>
</tr>
<tr>
<td></td>
<td>• Limited product differentiation across manufacturers</td>
<td>• Fertilizers</td>
</tr>
<tr>
<td></td>
<td>• High entry barriers on account of high capital spend and stringent regulations.</td>
<td>• Inorganic chemicals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Other industrial chemicals</td>
</tr>
<tr>
<td>Specialty</td>
<td>• High product differentiation and value added.</td>
<td>• Adhesive sealants</td>
</tr>
<tr>
<td></td>
<td>• Typically smaller production units with more flexibility</td>
<td>• Catalysis</td>
</tr>
<tr>
<td></td>
<td>• Low capital investment levels</td>
<td>• Industrial gases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Plastic additives</td>
</tr>
<tr>
<td>Knowledge</td>
<td>• Differentiated chemical and biological substances used to induce specific outcomes in humans, animals, plants and other life forms.</td>
<td>• Agrochemicals</td>
</tr>
<tr>
<td></td>
<td>• High investments in R&amp;D and marketing</td>
<td>• Pharmaceuticals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Biotechnology</td>
</tr>
</tbody>
</table>
Globally, the basic segment accounts for about 47 percent of the industry, Speciality 25 percent and Knowledge 28 percent. Knowledge is the fastest growing segment growing at more than six times the growth rate of Basic. Speciality has a growth rate faster than Basic but lags behind the Knowledge segment.

Cost structures of the three segments highlight distinct characteristics. Basic has high feedstock and other raw material costs whereas Speciality has very high selling and product development costs. Knowledge segment, on the other hand, is characterized by large expense on advertising and R&D. Basic is the most mature segment with the lowest profitability while Knowledge chemicals have the highest profitability and growth projections.

**Basic Chemicals**

Basic chemicals comprised a $705 Billion industry forming 47 percent of the global chemical industry in 2002. This segment includes organic and inorganic chemicals, chloralkalis, aromatics, thermoplastics, thermosets, petrochemical intermediates and derivatives and fertilizers. Raw material and energy costs form the largest cost components. Therefore, there is a strong emphasis on reducing feedstock usage and costs, energy requirements and labour costs through engineering process improvements.
Speciality Chemicals

Speciality chemicals is a $375 billion industry accounting for 25 percent of the global chemical industry in 2002. This segment includes paints and coatings, adhesives and sealants, additives for pharmaceuticals, lubricants and additives, catalysts, water treatment chemicals and plastic additives. Speciality chemicals are characterised by vastly differentiated products with a high degree of value addition. Production units are typically smaller and Basic chemical units have a greater degree of flexibility in terms of switch capacities as well as fewer imbalances between supply and demand. While capital investment requirements are relatively low, investment in R&D to develop the new products and applications is high.

Knowledge Chemicals

Knowledge chemicals constituted a $420 billion industry accounting for 28 percent of the global chemical industry in 2002. The Knowledge chemicals segment consists of highly differentiated chemical and biological substances used to induce specific outcomes in humans, animals, plants and other life forms. The segment is characterized by a high degree of research, intellectual capital and skilled manpower. The segment comprises agrochemicals, pharmaceuticals and biotechnology sub-segments with pharmaceuticals being the largest. However, in the future, biotechnology is
expected to be the most dominant segment as product applications are being
developed to either substitute or to provide improved manufacturing
processes for each of the chemical segments viz., Basic, Speciality as well as
Knowledge.

The Chemical Industry in India

The Indian chemical industry exhibits several similarities to the global
chemical industry; there are several characteristics specific to the Indian
context across sub-segments. This section introduces the Indian chemical
industry and its sub-segments and elaborates on five key characteristics. The
survey findings help corroborate characteristics and trends and identify
factors critical for success and competitiveness in the industry.

Vision 2010: ripple effects

A facilitative environment and progressive regulatory framework
would encourage entrepreneurs to step into the emerging sectors for the
Indian chemical industry. Strengthening of IP regulations in India would
boost research and innovation. Scientists with entrepreneurial spirit are
expected to play larger roles in their organizations or create new enterprises
that should aim an increased consolidation and bring a new thinking into the
industry. Scientists and entrepreneurs are likely to try and extract greater
value out of R&D programmes. This will lead to enhanced R&D programme efficacy measurement and management. A logical outcome of this change will be the propensity to register intellectual property (IP) as and when it is created and to seek non-strategic markets for it.

As Indian chemical companies expand into global markets, they will need to evaluate various infrastructure creation options through buying out existing players or setting up greenfield ventures. The players will need to focus on establishing either sales, marketing and distribution of assets or manufacturing plants. Growth in the industry would create significant employment opportunities. The chemical industry today provides direct employment to around 0.9 million people. This number is expected to grow upto 1.1 million in the Base case scenario.19
4. COTTON INDUSTRY

INTRODUCTION

The cotton textile industry was the base on which Indian industrialization was built, more than a hundred years ago. This industry was developed by Britishers during colonization in India as its development was entirely due to indigenous efforts. Since ancient times, India was famous for its artistic skills in the weaving of cotton fabrics, particularly for their fine texture and embroidery. The first Indian modernized cotton textile mill was set up in 1818 at Fort Gloster but this mill was not successful. The real beginning was made in 1854 with the establishment of the first mill in Mumbai named Bombay spinning and Weaving company. This development was accentuated due to many factors.

Cotton Area and Production

Cotton often referred as “White Gold”, has been in cultivation in India for more than five thousand years. Though synthetic / man-made fibres have made inroads in many countries in the world, cotton deserves the primary sector. The economic reforms and the trade policy liberalization were carried out during the last decade with a view of globalization.
Cotton is grown over an area of about 9 million hectares in India and it provides livelihood for over 4 million farmers. There are various allied activities like ginning, yarn and fabric production, textile processing, garment manufacture markets. Several ancillary industries like manufacturing fertilizers, pesticide, agro-chemicals and dyeing industry etc., depend on cotton. The value of textile material exported from India during 1998-99 amounted to over Rs.5,27,208 million were comprised. In the last two decades, the production of cotton has gone up from 7.5 million bales in 1983-84 to 16.3 million bales. This is due to the introduction of high yielding varieties, hybrids and proper management of insect pests and diseases.

Cotton is required for manufacturing yarn and it is cultivated in about 9 million hectares of land in India. Yet, in regard to productivity of cotton, they are far behind other cotton producing countries. While per hectare yield of cotton in India is as low as 333 kgs, a small country like Turkey produces 1170 kgs of cotton. The per hectare yield of cotton in USA is 696 kgs and in China it is 1026 kgs. The higher productivity in these countries are mainly due to innovative and modernized method of cultivation. More than 75% of the cotton in India is cultivated either without suitable irrigation facilities or
under rainfed condition. However, the adoption of improved technologies on cotton cultivation in recent times has paved the way.\textsuperscript{21}

**Raw material prospects**

The basic raw material for the cotton textile industry are,

- Cotton fibre
- Viscose staple fibre
- Polyester staple fibre
- Polyester filament yarn
- Acrylic fibre

Cotton is a natural fiber, which can be processed to produce a wide variety of end products. The staple length, fineness, cleanliness and strength determine the method of processing the cotton fiber for various end products. The staple length, fineness and strength drive the yarn count for which a particular variety of cotton is appropriate. The cleanliness of cotton is another parameter that affects the quality of the end product and has an impact on the process irrespective of the count of yarn for which the fiber may be appropriate. For example, longer staple length and finer fiber make it possible to spin high value fine yarns such as 40s. Extra long staple cotton with good fineness and high strength is required to spin extremely fine counts such as 80s and 100s or even higher counts. India has the unique
advantage of producing short length coarse cottons for yarns of counts up to 16 and medium staple cottons for counts of 20s and 36s as well as long staple for counts between 40s and 50s and extra long staple cottons for counts 60s and above.

Though India is the third largest producer of cotton and has probably the widest range, it rates poorly in the quality of cotton and yield per hectare since more than 70% of the crop is in rain-fed areas.

**TABLE NO: 3.4**

**International cotton production**

<table>
<thead>
<tr>
<th>Country</th>
<th>Average (000 hectares)</th>
<th>Production (000 tonnes)</th>
<th>Yield (Kg/hectare)</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>4,753</td>
<td>4,203</td>
<td>884</td>
<td>Clean, uniform</td>
</tr>
<tr>
<td>USA</td>
<td>5,208</td>
<td>4,124</td>
<td>792</td>
<td>Unclean, variable</td>
</tr>
<tr>
<td>India</td>
<td>9,044</td>
<td>2,975</td>
<td>329</td>
<td>Clean, uniform</td>
</tr>
<tr>
<td>Pakistan</td>
<td>3,148</td>
<td>1,615</td>
<td>513</td>
<td>Clean, uniform</td>
</tr>
<tr>
<td>Australia</td>
<td>388</td>
<td>615</td>
<td>1585</td>
<td>Clean, uniform</td>
</tr>
<tr>
<td>Egypt</td>
<td>387</td>
<td>341</td>
<td>881</td>
<td>Clean, uniform</td>
</tr>
</tbody>
</table>
These aspects also determine country specialization and cost advantages for different product groups. Thus, Pakistan primarily produces medium staple cotton and is therefore dominant in the 20s to 36s count range of products. Egypt mainly produces longer and extra long staple cotton and therefore concentrates mainly on fine and extra fine yarn products. India produces a wide variety of cotton in terms of staple length and is therefore in a position to straddle the entire spectrum of textile products.

**Organization**

The cotton textile industry in India can be divided into two broad sectors –Organized sector and decentralized sector. The decentralized sector can be further sub-divided into – (1) Handlooms (ii) Powerlooms and (iii) Khadi. The decentralized sector contributes 70 percent of the cloth produced in the country.

**Growth and Development**

The Indian cotton industry is also largely self sufficient in synthetic fibers. Estimating the cotton crop, fluctuations in its price, and the financial ability to stock cotton are key factors in the success of textile companies in India since futures trading is not permitted. Thus manufacturers have to
physically buy and store cotton for future requirements with no hedge against price fluctuations.

Moreover, the Indian cotton textile industry is unlikely to have a cotton price advantage in the future and would have to compete on its conversion efficiency and marketing capabilities. Till recently, imports were not allowed and cotton exports were highly regulated up to 5% and 10% of the crop, largely insulating Indian prices from the influence of international demand-supply dynamics. However, cotton imports are not allowed under OGL. As a result, it is expected that a similar change in cotton exports is imminent given the GATT agreement and the pressure from the farm lobby since Indian cotton has been cheaper than international cotton.

**Government initiatives**

The major initiatives with respect to the unorganized sector of the industry include introduction of a comprehensive scheme called “Deen Dayal Hathkargha Protsahan Yojana” with effect from April 2000 to provide financial support and assistance to a gamut of handloom activities like basic inputs, product development, infrastructure support, etc. Under the scheme implemented through the state government. Financial assistance will be provided for funding a particular component or combination of components.
included as per the approved funding pattern. The total outlay approved for the scheme is Rs.360 crore and State's Rs.330 crore.

The National Textile policy was announced on 2\textsuperscript{nd} November 2000, the basic objective of which is to take care of the challenges and opportunities presented by the changing global environment to the domestic textile industry, especially, initiation of the process of gradual phasing out of quantitative restrictions on imports and the lowering of tariff levels for integration of the world textile and clothing markets by the end of 2004. The strategic thrust areas identified by the policy are technology upgradation, product diversification, increase in exports, innovative marketing strategies, financing arrangements, maximizing employment opportunities and integrated human development.
5. METAL INDUSTRY

INTRODUCTION

India with its immense natural resources is richly endowed with mineral deposits including iron ore, copper, bauxite, gold, chromite, manganese etc. Consequently, the metal and metal working Industry in India has been interest-bearing for many centuries. However, India’s journey to industrial development commenced wholly subsequent to attaining independence in 1947. The Industrial Policy Resolution of 1948 marked the evolution of the Indian Industrial Policy and the initiative taken by the consecutive governments have been attempts to build on the past industrial achievements and to accelerate the process of making Indian Industry internationally competitive.

But, the year 1991 saw the Government of India changing its macro-economic political conduct and introducing a more liberalized Economy. It departed from the strategy of state intervention and import substitution and liberalised industrial licensing. This course adopted in the new policies gave more thrust towards privatisation, opening up the market by removal of import restrictions and inviting foreign investments. The unfortunate results of these changes resulted namely retrenchment of workers, takeover of
Government owned enterprises by Private entrepreneurs, closure of units and increase in unemployment.

**An Overview of Metal Industry**

Subsequently, the 1990’s has posed grave challenges for the Indian Metal Industry and has left its impact on the metal industry which witnessed the piling up of stocks of finished and semi finished products, industry resorting to lay off and adopting Voluntary Retirement Scheme (VRS) and even contemplating closure. The production structure was also marked with change with units cutting down regular employment and shifting jobs from formal to informal sector to reduce costs and some others adopting sub-contracting of production. 60% of the country’s 186 mini steel producers using electric arc furnace route are on the verge of a possible closure.

**Basic metals**

India has huge deposits of natural resources in the form of minerals like copper, chromite, iron ore, manganese, bauxite and gold. As a result, India’s basic metals industry is one of the many booming industries in India. The Indian basic metals industry is categorized into two main divisions – the iron based and non-iron-based metal industry. The iron-based segment is the manufacturing of three different kinds of steel such as carbon steel,
ferrochrome steel and stainless steel. The non iron–based category includes the production of copper, tin, brass, lead, zine, aluminum, and manganese. The main operations of the basic metal industry in India are mining or ores, refining of the ore, casting, alloying sheet, and rolling into foils.

India’s basic metals industry experienced big changes in the nineties with the onset of the liberalization and open market policies. With the new form and sources of investments, the infrastructure pertaining to the industries was altered. More and more efficient and technologically advanced methods improved the production processes and in turn the output of the industry increased along with the quality of the products. Thus India’s basic metal industry is growing up with the innovative techniques as it is helping the product market to enlarge. Some of the popular methods used for the production of basic metals are open earth, oxygen furnaces, blast furnaces, electric arc furnaces etc.\(^2\)

**Metal manufacturing**

The Indian metal industry, both ferrous and non-ferrous, are exploring opportunities in South America with a thrust on copper, iron ore deposits and steel manufacturing. There are three major reasons behind this sudden interest in that part of the world. The first being the high growth rate projections for the steel and metal sector in the region and the proximity to
the US, which is the most lucrative market for metal manufacturers. South American countries provide an ideal environment for servicing US markets. Besides, the region is rich in iron ore and non-ferrous ore deposits. Growth rates in South America have also encouraged Indian companies to scout for business in the continent.

The non-ferrous metals industry is also catching up on opportunities in South America. Hindalco had pitched for a strategic stake in Cerro Casale mines in Chile. London listed Vedanta Resources is also scouting for gold and copper in Latin America.

**Metal industry in India**

Metal industry is the indispensable part of an economy; they form the backbone of industrial development of any country. In India the industrial development began with the setting up of Tata iron and Steel Company (TISCO) at Jamshedpur in 1907. It started its production in 1912. Then came up Burnpur and Bhadrawat Steel plants in 1919 and 1923 respectively. It was, however, only after the independence that the steel industry has been able to find its feet. Barring the Jamshedpur plant of the Tatas, all are in public sector and looked after by the Steel Authority of India Ltd. (SAIL).
Bhilai and Bokaro plants were set up with the Soviet collaboration. Durgapur and Rourkela came up with British and German technology know-how respectively. Iron and steel industry is by nature a heavy industry. Proximity of raw materials and access to efficient transportation network are crucial to this industry. Therefore, the Chhotanagpur plateau bordering West Bengal, Bihar, Orissa and Madhya Pradesh, therefore has been the natural core of this industry.

Besides, iron and steel industry, heavy engineering and machine tools industries are the main dealers of metals. These industries have witnessed a phenomenal growth and produces a whole range of capital goods and consumer durables. The capital goods required for textile industry, fertilizer plants power projects, cements, steel and petro-chemical plants, mining, construction and agricultural machineries such as equipment for irrigation project, diesel engines, pumps and tractors, transport vehicles, etc are being produced indigenously.  

**Growth and development**

The Indian metal industry is growing at a pace as fast as India’s industrial economy offering one of the steepest returns in the Asia-Pacific region. The metal scrap recycling industry in India is also growing at a rapid pace. As there is less domestic scrap generated then demand, India imports
about half of the 1.2 million metric tons of scrap metal consumed annually in the country. The United States is a major exporter of ferrous and non-ferrous scrap into India.

According to the U.S. Institute of Scrap Recycling Industries Inc. (ISRI), the U.S. based scrap industry is a significant exporter of high quality scrap commodities to industrial consumers worldwide. Asia, and India in particular, is one of the fastest growing markets in the world for scrap metal.

Though the opportunities in the Indian scrap sector are large, the industry is unorganized. Thus, U.S. companies are encouraged to be careful in all of their deals. Many Indian scrap importers are small and it is important for U.S. exporters to check the credentials of an Indian company. ISRI’s specifications should be used at all times to eliminate any possible discrepancies. U.S. exporters must insist on inspections to avoid disputes before shipping the products. In addition, U.S. exporters must adhere to the Indian government regulations related to scrap metal exports including registration with India’s Director General of Foreign Trade. Disputes can be reduced by adhering to the critical aspects of procedures for exporting cargo of scrap containers to India.²⁵
6. PAPER INDUSTRY

INTRODUCTION

Paper is an essential requirement of modern life. The amount of paper consumed is one of the yardsticks of economic development. This is because the demand for paper increases with the literacy rate of a country. Paper has many other uses as well. Paper is fast replacing many commodities and is now being used on a large scale as a packaging material.

The generic term ‘Paper’ also includes ‘paper boards’ as well. All varieties of paper and paperboards are historically classified as ‘Paper’ only and are grouped under Chapter 48 of the Central Excise Tariff. As before, no differentiation between paper and paperboard should be made either in the matter of levy of customs and central excise duties or while extending fiscal concessions to these segments of the industry. Paper is a medium of ‘education’, communication and information. Alike other competitive products viz. newsprint, IT related products, etc, ‘paper’ too describes a special dispensation to augment its demand in the country.

Paper industry in India

The new millennium is going to be the millennium of knowledge. So demand for paper would go on increasing in times to come. In view of paper
industry's strategic role for the society and also for the overall industrial growth it is necessary that the paper industry performs well. Government has completely delicensed the paper industry with effect from 17th July, 1997. The entrepreneurs are now required to file an Industrial Entrepreneur Memorandum with the Secretariat for Industrial Assistance for setting up a new paper mill or substantial expansion of the existing mill in permissible locations.

The Paper industry is a priority sector for foreign collaboration and foreign equity participation upto 100% receives automatic approval by Reserve Bank of India. Several fiscal incentives have also been provided to the paper industry, particularly, to those mills which are based on non-conventional raw material.\textsuperscript{26}

**Need of Indian paper industry for Global competition**

i. Sustained availability of good quality of raw materials (forest based) and bulk import of waste paper to supplement the availability of raw materials.

ii. Adequate modernization of the manufacturing assets.

iii. Improvement of the infrastructure.

iv. Quality improvements and reduction in cost of production
v. Import policy conducive for import of material, equipment, instruments, raw materials & technologies which have bearing on the quality and environment.

Based on the recommendations made in the Report and in consultation with the industry Associations, action plans are being finalized in consultation with other Ministries/Departments concerned.

Role of the Paper Industry in India’s Economic Growth

Indian economy has experienced healthy GDP growth during recent years and the perspectives are positive for the future also. The paper industry has a crucial role to play for economic growth of the country as paper consumption is considered as one of most important indices of educational and cultural growth of a nation. Nevertheless, despite the fact that the Government of India’s major concern is removal of illiteracy from our country and providing impetus to spreading and disseminating information, the last budget pronouncements fell short of industry’s expectation.

The output of the Indian Paper Industry is around six million tons per annum with a turn over of about of Rs. 15000 crores contributing over Rs. 2500 crores annually to the exchequer by way of various fiscal duties and taxes. It employs nearly 300000 people directly and 1000000 people
indirectly. It has ample potential to create more avenues for employment and rural development through backward and forward linkages to which the Union Government is fully committed.

Present position

At present, there are about 515 paper mills (including newsprint) with an annual installed capacity of around 49 lakh tones. A significant aspect of the paper industry is the strong presence of smaller paper mills with an installed capacity of 33,000 tonnes per annum which account for nearly 50 per cent of the total installed capacity and contribute about 50 percent to the production of paper and paper board in the country.

Capacity utilization of paper industries has declined from 96.35 percent in 1952 to about 70 percent in 1999. Various reliefs and concessions have been extended in recent years to help the industry to improve its capacity utilization and financial viability. These include liberalization facility for import of raw materials, low excise on use of minimum 75 per cent non-conventional raw materials, delicensing the manufacture of certain varieties of paper, etc.

The present capacity utilization in the paper industry is about 60 percent as 194 paper mills particularly small mills are sick and / or lying
closed. The increased requirement of paper and paper board up to the end of the Eighth plan is likely to be met by some new mills, revival of some of the closed mills and modernization and expansion of some of the existing units. In order to encourage the use of non-conventional raw materials, paper units based on use of minimum 75 per cent pulp derived from bagasse, agricultural residues and other non-conventional raw materials have been exempted from industrial licensing subject to locational policy.

Future of the Paper Industry

In no other region of the world shall so much potential and necessity exist for a significant growth of the pulp and paper industry during the next one decade as in Asia. In fact, there is a distinct scope for doubling of demand and production for paper and paper board in this region. India can legitimately expect to have a large slice of this cake if the revamping and growth of its paper industry are planned imaginatively and with our efforts firmly tagged to the task of ensuring its competitive strength vis-à-vis those of the developed and newly industrialised nations.
7. SUGAR INDUSTRY

INTRODUCTION

The sugar industry is amongst the largest agriculture based processing industry in India with a 2.5 percent and it occupies the eighth position in the index of industrial production. Sugarcane farmers and their families, numbering over 35 millions who, as raw material suppliers are intimately involved with the sugar industry, constitute over 7 percent of the rural population.

Sugar mills are the largest employers in rural areas while substantial indirect employment is provided by various ancillary activities. There is no other example where the contact between the industry and agriculture is so direct and so intimate as in the case of sugar industry.

Sugar is one of the oldest commodities in the world and to trace out its origin in 4th century AD in India and China. In those days sugar was manufactured only from sugarcane. But both countries lost their initiatives to the European, American and Oceanic countries as the eighteenth century witnessed the development of new technology to manufacture sugar from sugar beet. However, India is presently a dominant player in the global sugar industry along with Brazil in terms of production. Given the growing sugar
production and the structural changes witnessed in Indian sugar industry, India is all set to continue its domination at the global level\textsuperscript{29}. Sugars are a major form of carbohydrates and are found probably in all green plants. They occur in significant amounts in most fruits and vegetables. There are three main simple sugars known as sucrose, fructose and glucose. Sucrose is in fact a combination of fructose and glucose and the body quickly breaks this down into these separate substances.

\textbf{Historical background}

History of sugar and sugarcane in India goes back to several thousands years BC. Indian mythology vouches for this since it contains some legends depicting origin of sugar cane\textsuperscript{30}. It was sometimes in the 4/6\textsuperscript{th} century that the art of sugar making was discovered. The method was crude beyond imagination. Cane was cut in pieces, crushed under heavy weight and the juice thus obtained was boiled and stirred till it turns solid. The industry not only generates power for its own requirement but also surplus power for export to the grid based on byproduct bagasse. It also produces ethanol, an ecology friendly and renewable energy for blending with petrol.

Indian sugar industry has grown horizontally with large number of small sized sugar plants set up throughout the country as opposed to the consolidation of capacity in the rest of the important sugar producing
countries where greater emphasis has been laid on larger capacity of sugar plants.

Sugar Industry in India is well developed with a consumer base of more than billions of people. It is also the second largest producer of sugar in the world. There are around 45 millions of sugar cane growers in India and a larger portion of rural labourers in the country largely relies upon this industry. Sugar Industry is one of the agricultural based industries, in India. It is the second largest agricultural industry in India after textile industry.

**Statistics on Sugar Production**

As to the statistics there were a total number of 571 sugar factories in India as on March 31, 2005 compared to 138 during 1950-51. These 571 sugar mills produce a total quantity of 19.2 million tones (MT). Sugar production in India increased from 15.5 MT in 1998-99 to 20.1 MT in 2002-03 as per the data furnished by the Department of Agriculture and Co-operation, sugarcane production in 2004-05 is estimated as 232.3 MT from 237.3 MT in 2003-04. Sugarcane production is expected to reach 257.7 MT in 2005-06.
Growth of Sugar Industry

At present, there are 553 registered sugar factories having capital investment of Rs. 50,000 crores and annual production capacity of 180 lakh metric tonnes (ISMA Report, 2004). The annual turnover of industry is to the tune of Rs. 25,000 crores. The central and state governments receive annually Rs. 2500 crore as excise duty, purchase tax and cess.

More than 4.50 core farmers are engaged in sugarcane cultivation and about 5 lakhs rural people have got direct employment in the industry. Sugar industry has brought socio-economic changes in rural India by way of facilitating entrepreneurial activities such as dairies, poultries, fruits and vegetable processing and providing educational, health and credit facilities.

Challenges for Sugar Industry

India ranks first in sugar consumption and second in sugar production in the world but its share in global sugar trade is below 3%. Indian sugar industry has been facing the problem of selling raw material, resource as well as infrastructural facilities. Globalization has brought a number of opportunities but at the same time posed certain challenges before sugar industry. Most of sugar units in India utilize production capacity below 50%. Low capacity utilization and inadequacy of raw material led to closer of 100
sugar factories in India. Mounting losses and decreasing networth of sugar factories have been responsible for sickness of sugar industry. Sickness in sugar industry has reached an alarming proportion.

Indian sugar industry has been cash striven for decades. Low cash inflow due to piling stocks leads to serious financial crisis and finally to closing sugar factories. Sugar prices have been a political issue rather than economical issue. It worsens the economy of sugar factories many a times. The main concern of sugar industry in India is fluctuations in sugarcane production owing to inadequate irrigation facilities, lower sugarcane yield and frequent droughts in tropical and sub-tropical areas where sugarcane is grown on a large scale.

Obviously, industry has a great challenge of existence in global market. Sugarcane production in India has decelerated to a great extent in recent years due to water and power shortage. Special attention is needed to be given on water resource management. All the area under sugar cultivation should be brought under drip irrigation to conserve water as well as fertilizers. Adequate and regular power supply to sugarcane growers and sugar factories would increase production and productivity. Quality and quantity of sugar needs to be enhanced in order to enhance the share of Indian sugar Industry in global trade.
India has been known as the original home of sugarcane and sugar. Indians knew the art of making sugar since the fourth century. However, the advent of modern sugar industry in India dates back to mid 1930s when a few vacuum pan units were established in the sub-tropical belts of Uttar Pradesh and Bihar. Until the mid 50s, the sugar industry was almost wholly confined to the states of Uttar Pradesh and Bihar. After late fifties or early sixties the industry dispersed into Southern India, Western India and other parts of Northern India.

Most of sugar mills in India are having daily sugarcane crushing capacity of 1250 tonnes. These mills cannot have economies of scale and so they have to incur high production costs. Indian sugar industry is characterized by high production costs. Therefore, daily crushing capacity should be extended upto 2500 tonnes.
SUMMARY

The above selected sectors play an important role in the economic development of a nation. The growth and efficiency of the manufacturing sector enables creation of a base for a nation to grow fast, expand and remain competitive. During this time in India the growing fiscal gap and sudden depletion in foreign exchange resources created a seven strain on the economy. These domestic compulsions and the happenings in the international environment led to rethinking about the economic strategies. Based on these, Indian government launches a major programme of economic liberalization in July 1991.

The profile of the sample companies vary from one sector to another sector. The Trend analysis, Profitability analysis and Productivity analysis has been carried out for the sample seven sectors in order to fulfill the primary objective of the research study. By this analysis, it is easy to understand the direction in which the business is going and take proper future decision.
REFERENCES


7. BBC Timeline Indian Auto Industry.


10. www.economywatch.com


22. www.indiainfoline.com


