GLOBAL / COUNTRY STUDY AND REPORT

ON

“CHINA”

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**PREFACE**

The Global Country Study and Report on “CHINA” is an attempt to study various aspects of this selected country and Industrial scenario existing in the country. This report is a part of a comprehensive study done by MBA students to explore Export-import opportunities with respect to various industries selected by them.

Due to increased integration and globalisation of world economies, business activities across the globe has increased. Students have been able to acquire the knowledge of the Global / Country Markets, which would help them do business or manage investments successfully across national boundaries.

This report also serves a purpose of knowledge resource on one country and helps many researchers, academicians, industry persons to draw conclusion on global trade and commerce.
# Report of Entire China country
## MBA Semester III – IV (Section A students) work

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Part I
Bilateral Trade

India-China Bilateral Relations

In the past few years, India-China bilateral trade has revealed a sustained pattern of growth. The potential to enhance trade is even higher, given the complementarities based on comparative and competitive advantages.

China and India established diplomatic relations on 1 April 1950. India was the second country to establish diplomatic relations with China among the non-socialist countries. In 1954, Chinese Premier Zhou Inlay and Indian Prime Minister Nehru exchanged visits and jointly initiated the famous Five Principles of Peaceful Coexistence.

In 1988 Indian Prime Minister Rajiv Gandhi visited China. His visit brought the relations of the two countries into a new stage of development as the two sides agreed to maintain peace and tranquility along the line of actual control and make efforts to improve and develop bilateral relations prior to finding a solution of the boundary questions. The two countries decided to establish Joint Working Groups on boundary questions, Trade, Science & Technology. India and China have also signed an Agreement on issues relating to the World Trade Organization (WTO) and MOUs on setting up a Joint Working Group on Steel and for cooperation in the IT Sector, in 2000.

In 1984 India & China signed a Trade Agreement, providing for Most Favored Nation Treatment. In 1994 the two countries signed the agreements on avoiding double taxation. Agreements for cooperation on health and medical science, MOUs on simplifying the procedure for visa application and on banking cooperation between the two countries have also been signed.

Developing border trade between North-Eastern India and Western China is being seen as important for increasing bilateral trade, especially with Chinese Government announcing Preferential Investment Policies for its western provinces. India could work towards developing infrastructure to facilitate such trade. Developing infrastructure for creating trade routes (Highways & Railways) between China – Myanmar – India is being considered as being of strategic importance in developing a unified growth area.

India-China bilateral trade reached US$ 3 billion according to Indian official statistics in the year 2001-2002. According to Chinese Customs Statistics, however, bilateral trade reached US$ 5 billion in calendar year 2002. While India is among China’s top 20 trading partners, China’s trade with India accounted for only 0.8% of its total external trade in 2001-02. The share of China in India’s total trade was also small, at 3% approximately.

Indian Exports To China

Major items of India’s export to China are iron ore and other mineral ores; marine products; drugs and pharmaceuticals; inorganic, organic, agro and fine chemicals; cotton yarn, fabrics & made ups; castor oil, plastic & linoleum products; garugum meals, etc.

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Top five items of exports to China which include iron ore, other ores & minerals, plastic & linoleum, marine products and drugs & pharmaceuticals, accounted for a share of 65.98 per cent in India’s total exports to China and have had similar proportions in previous years as well (57.6 per cent and 51.7 per cent in 2000-01 and 1999-2000 respectively). Indian exports to China are largely concentrated to primary products; while higher value added manufactured items are gradually making their presence in the export basket.

Exports of iron ore, slag, ash, plastic & linoleum to China increased substantially, indicating enhanced capacity of Indian goods to cater to the growing demand of Construction Industry in China. While the demand for specialty steel is strong in China, both due to the booming housing and industry construction, China is also emerging as a big importer of aluminum, especially for its communication and transport infrastructure.

Though India is the third largest exporter of seafood and fish to China, immense potential lies in exploiting high quality fish market e.g. prawn, shellfish etc. as well as frozen marine products.

The restructuring of China’s textile sector could result in new opportunities for increasing exports of cotton yarn/fabrics to China. East China possesses the ability to compete in market for international high quality textile garment and middle processing technology; textile industry in West China seeks opportunities in low and medium quality textile market. Indian companies could accordingly develop win-win partnerships in different provinces and regions of China.

**India's Imports from China**

India’s major imports from China include chemicals, mechanical and electronic goods, silk, pharmaceuticals, machinery, minerals, iron and steel etc. Among the fastest growing Chinese exports to India are artificial resins, plastics, and manufactures of metals, electrical machinery and equipment, project goods, crude minerals and professional instruments.

With China's entry into the WTO, immense opportunities have opened for setting up joint ventures and business collaborations between Indian & Chinese Industry. Total Chinese investments in India amounted to about US$148.5 million by November 2002, whereas total Indian investments in China are estimated to be about US$28.4 million. Though there has not been significant transfer of technology between the two countries, many Chinese conglomerates are looking keenly at the Indian market as part of the "go-out" strategy and have plans to enter the Indian market. Major Chinese companies have set up offices in India in sectors such as machinery, metallurgical equipment, chemicals, automobiles, silk, engineering, and IT.

**Political Highlights of China**

**Government type:** Communist state

**Political pressure groups and leaders:** no substantial political opposition groups exist

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**Political parties and leaders:** Communist Party of China or CPC [HU Jintao]; eight registered small parties controlled by CCP

**Constitution:** most recent declaration 4 December 1982; amended several times

- **The Central Organizations of the CPC**

1. **The National Party Congress**

The CPC's organ of supreme power, the National Party Congress, held once every five years, is convened by the Central Committee.

2. **The Central Committee**

It is elected by the National Party Congress. When the National Party Congress is not in session, the Central Committee leads all the work of the Party and represents the CPC outside the Party. It is elected for a term of five years.

3. **The Political Bureau, Its Standing Committee and the General Secretary**

They are all elected by the plenary session of the Central Committee. When the plenum of the Central Committee is not in session, the Political Bureau and its Standing Committee exercise the functions and powers of the Central Committee. The Secretariat of the Central Committee is the administrative body of the Political Bureau and its Standing Committee.

**The Head of the State**

The presidency of the People's Republic of China, as the head of the state, is an independent organ of the state which as an office of state power itself does not decide on state affairs, but exercises its power according to decisions of the National People's Congress and its Standing Committee.

**The Organ of State Power**

The National People's Congress (NPC) of the People's Republic of China is the highest organ of state power.
The State Administrative Organ

The state administrative organs of the People's Republic of China include the central and local administrative organs. The central administrative organ is the Central People's Government, better known as the State Council. Local administrative organs are local people's governments at four levels: the provinces (autonomous regions and centrally administered municipalities), cities and prefectures, counties and townships.

Status of the President

The president exercises the power of the head of the state, according to decisions of the National People’s Congress and its Standing Committee.

Economic Analysis of China


3. Human Development Index: China's HDI is 0.687, which gives the country a rank of 101 out of 187 countries with comparable data. The HDI of East Asia and the Pacific as a region increased from 0.428 in 1980 to 0.671 today, placing China above the regional average.

4. Inflation: By November 2010, the inflation rate rose up to 5.1%, driven by 11.7% increase in food prices year on year. According to the bureau, industrial output went up 13.3 percent. As supplies have run short, prices for fuel and other commodities have risen up.

5. Unemployment: According to the 2008 estimates by China’s National Bureau of Statistic, the total number of the urban unemployed was 8.30 million. The country’s total unemployment rate stood at 4.0%.

6. Debt: On paper, China’s debt to GDP ratio is under 20 percent. However, if we factor in various government obligations that are typically counted as public debt, the picture
doesn’t look pretty for China. Once local government debts, costs of re-capitalizing state-owned banks, bonds issued by state-owned banks, and railway bonds are included, China’s total debt amounts to 70 to 80 percent of GDP.

7. **Income distribution:** A Gini index of 0 represents perfect equality, while an index of 100 implies perfect inequality. China’s GINI is 41.53. In looking at China one could speculate that the elite are capturing a bigger share of income. Private business owners are definitely becoming an increasingly important part of the economy, which would also explain the trend for greater income concentration.

**SOCIAL, TECHNOLOGICAL, ENVIRONMENTAL AND LEGAL ANALYSIS OF CHINA³**

**SOCIAL ASPECTS IN CHINA**

Chinese culture is one of the world's oldest and most complex. The area in which the culture is dominant covers a large geographical region in eastern Asia with customs and traditions varying greatly between towns, cities and provinces.

**Ethnic Groups:** Han Chinese 91.9%, Zhuang, Uygur, Hui, Yi, Tibetan, Miao, Manchu, Mongol, Buyi, Korean, and other nationalities 8.1%.

**Spoken And Written Languages:** Standard Chinese or Mandarin (Putonghua, based on the Beijing dialect), Yue (Cantonese), Wu (Shanghaiese), Minbei (Fuzhou), Minnan (Hokkien-Taiwanese), Xiang, Gan, Hakka dialects, minority languages

**Social Change:** More and more people are moving to the cities, giving up their traditional lifestyles. **Religious Belief:** Daoism (Taoist), Buddhist, Muslim 1%-2%, Christian 3%-4%. The main religions are Buddhism, Islam, Catholicism and Christianity, China's indigenous Taoism, along with Shamanism, Eastern Orthodox Christianity and the Naxi people's Dongba religion.

**Social Customs:** China's different peoples have developed individual customs regarding food, clothing and etiquette, in response to their own particular environments, social conditions and levels of economic development.

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³ *U.S. Department of State, Bureau of East Asian and Pacific Affairs, Background Note: China, September 6, 2011*
**Consumer Attitude:** In terms of housing, transportation and telecommunications — people are buying and replacing old household items and appliances with large-screen, high-definition color TV, refrigerators with freezers and other components, and the latest in washing machines.

**Music:** The development of Chinese music is strongly influenced by foreign music, especially that of Central Asia.

**The Education System:** Today illiteracy among the young and middle-aged population has decreased to less than 5 percent, and the nine-year compulsory education basically has been established in the areas where 90 percent of the country's population live.

**Folk and Variety Arts:** Troupes have been established in the provinces, autonomous regions, and special municipalities, and theaters specifically dedicated to the variety arts have been built in major cities.

**TECHNOLOGICAL ANALYSIS**

**Aerospace:** China is devoting large resources to develop advanced technology aerospace programs, with extensive overlap between commercial and military objectives.

**Nanotechnology:** China is already a world leader in nanomaterials application, such as coatings, composites and commercial applications.

**Biotech:** The two subsectors involved are agro-biotech, principally genetically modified (GM) crops, and medical science. The major obstacle to innovation by Chinese firms in the medical science sector is weakness in regulatory procedures for quality standards.

**Automotive:** Chinese vehicle and automotive parts producers are becoming more engaged in innovation, but R&D expenditures remain well below those of the multinational foreign companies. Hybrid and other new engines are under development within Chinese companies.

**Information Technology And Telecommunications:** Principal specific areas for investigation include semiconductor design, high performance computers, telecommunications equipment, and software application.

**Pharmaceuticals:** Chinese development and innovation in the pharmaceutical sector has been expanding rapidly, principally through collaboration between Chinese and foreign firms.

**ENVIRONMENTAL ANALYSIS**

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Terrain: Plains, deltas, and hills in east; mountains, high plateaus, deserts in west.

Climate: Tropical in south to subarctic in north

China weather: The most popular time to visit China is generally during the spring months (March to May) or the autumn months of September and October.

Current Scenario: Negative consequences of China's rapid industrial development, increased pollution and degradation of natural resources.

LEGAL ANALYSIS

The Legislation System is the general term for the activities and principles to be followed during the process of legislation and regulation making. It is an important part of state laws and regulations.

A contemporary legislative system consists of:

Legislation Structure: Legislation structure means a concept representing history and national conditions. Its distinctive characteristics: legislative power-division, is its centralization and division of power, or a certain degree of decentralization

A main organ of legislation: In China, the power of legislation is not held by a single power organ or one particular person. Legislative power is carried out by two or more power organs, has multi legislative powers.

A legislative right: China’s president and premier of the State Council both come from the National People’s Congress. The president, following the decision of the NPC, publicizes laws.

A legislative operation: The country’s legislative power is conducted by multiple sections of both central and local organizations. It reflects the most profound progress

The supervision of legislation: In terms of legal authenticity, administrative laws and regulations are usually effective nationwide, but regulatory documents formulated by special administrative regions do not work in other parts of the country.

Opportunities and Threats of Chinese Economy

OPPORTUNITY

To Become Economic Leader of the Pacific Rim

In 2009, there were ten strategic sectors that created job opportunities: automotive, machinery manufacturing, non-ferrous metals, IT/electronics, light industry, logistics, petrochemical, shipbuilding, steel, and textiles. In 2010, there was a shift from job creation to taking global leadership by concentrating on "green" areas, such as alternative energy, biotechnology, information technology, high-end equipment manufacturing, advanced materials, alternative fuel cars, and environmental protection. These seven sectors are the industries that have the highest growth rate and present huge opportunities.

**Buy up the Reserves of the World’s Natural Resources While Prosperous**

China has an opportunity, which it seems to be intelligently seizing, of buying up as much of the world’s natural resources reserves while they are still one of the few prosperous economies in the world. Most of the other country economies are depressed right now, which makes them easy targets for China’s cash-heavy buyers. This opportunity will not last forever, and China realizes this. They must buy as much as they can while they can afford it. Prosperity never lasts forever.

**Make Political and Economic Gains While Prosperous**

China has pursued a peaceful coexistence policy with over 100 countries for political and economic cooperation, including with the United States. It has normalized relations with the Mideast, something the United States can only dream about. China literally has no enemies in the world Hu and Wen are master negotiators and have done more export business in the world than the last three American presidents combined.

**THREATS**

**Inflation**

Having risen to worrying levels – and though it remains uncomfortably high for the authorities – consumer prices inflation (CPI) appears to have peaked at 6.5% in July (and fell to 6.1% in September).

**Europe and the US in crisis**

How much of a threat does the growing economic downturn in Europe and US pose to China? While the threat of a further weakening in Western demand was enough for the International Monetary Fund to downgrade China’s growth prospects, opinions over the future impact of a global slowdown diverge sharply.
Reliance on spending
Here we see a clash between China’s long-term aims of shifting towards a consumer-fuelled economy, which requires less dependence on investment spending, and the shorter term need to avert a ‘hard-landing’, which currently requires investment spending - or at least a well-managed slowdown.

Local government debt
Some are waiting patiently for bad debts held by local governments in China to explode. But this doesn’t make it to the top of economists’ worry list; they say the authorities will muddle through what is not a systemic economic risk.

Property bubbles
China’s frothy property market is central to its economy. Housing investment accounts for about 10% of GDP, and is crucial for economic growth.

Unhealthy banks
…which makes the prospects for China’s banks difficult to gauge. In fact, there has been widespread concern about China’s banks, not just because of their exposure to its property market. There is also a lack of transparency and concerns over governance, as well as the risks over losses they may face.

Social unrest
Inflation rears its ugly head again. China’s growth success is not shared equally among its huge population, with rising food and property prices among the conditions making life difficult for China’s poor and leading to growing social tension and protests against the government.

Change of leadership
Added to all this uncertainty, next year succession plans will be put into place when China’s current crop of leaders, including president Hu Jintao and premier Wen Jiabao, will begin to hand over power.

Strengths and Weaknesses  China⁶.

**STRENGTHS**

China is the fastest developing country in Asia, but like other countries and companies in the world, it has strengths and it has weaknesses.

1] **Population**

With a population in excess of 1.2 billion, it has the largest workforce in the world and one of the best educated. This enormous population is a potential economic weapon of considerable proportions. The country with the most people who can contribute to the economy is the country that charge the lowest prices for every product made in that country. China - a huge country with a population excess of 1.2 billion - greatly magnifies the advantages of effective state-led growth and sophisticated manufacturing. It produces the benefit of economy of scale. She builds huge EPZs out of nothing; now China houses two-thirds of the world’s total number of EPZs workers.

2] ** Tradition of Confucianism**

The tradition of Confucianism is a vastly underrated economic advantage for China. The sense of order and understanding of one’s place in society is no greater in any country. This spirit of cooperation allows for enormous economic development and combined with the Western model of pure aggressive capitalism, then becomes a potent economic force.

3] ** Political Homogeneity**

Many observers find that a one-party system has numerous advantages. The key, of course, is whether or not the one party system is responsive to the needs of the majority of its population. There are a number of two-party governments in the West that could learn a thing or two from the behaviour of China’s one party government.

4] ** Man Power**

Cheap labour rates are the keystone to the Chinese economic boom. An incredibly large population of relatively well-educated workers has kept the labor supply abundant and wages low. The resulting reduction in variable costs is a huge incentive for manufacturers to shift their production facilities to China, where overhead is significantly less than their country of origin.

5] **Technology Strengths**
The technological products behind China’s tremendous growth are largely developed incrementally, as refinements of imported pre-existing technologies. This “import/assimilate/re-innovate” model has proven to be a successful strategy, as China courts foreign companies to move their manufacturing facilities, then coerces those companies to share their technology with the state.

**WEAKNESS**

1) **Population**

China requires more food and living space than any other country in the world. It has the food, but the living space is cramped and crowded. There are too many people in too small a country. Cities are overcrowded and only the middle classes and above live comfortably in them.

2) **Income Distribution**

Distribution of income is a major problem in China. The second difficulty is the preponderance of wealth in the cities in relation to the countryside. Per capita income is harshly low in the countryside compared to the cities. This is why so many millions of migrant workers come to Beijing, Shanghai and Hong Kong; they can make three or four times as much money as they can make in their home towns.

3) **Technological Growth**

Technological growth in China is currently stunted for primarily one reason; the lack of enforcement of intellectual property rights. The real problem, however, is the brain drain that this situation contributes to. Highly-skilled and talented Chinese student software developers are staying in countries where they have protection of their property. China is investing in science and technology but lacks high standards and integrity: - Many of institutions of higher education receiving governmental R&D grant money experience alarmingly high rates of academic dishonesty.
Economic Overview/Profile Of China

GDP (Gross Domestic Product)
A nation's GDP at purchasing power parity (PPP) exchange rates is the sum value of all goods and services produced within the country in a given year and valued at prices prevailing in the United States. This is the measure most economists prefer when looking at per-capita welfare and when comparing living conditions or use of resources across countries. For the year 2010, agriculture contributes 10.2%; Industry contributes 46.9% and service sector contributes 43% of GDP (10.12 trillion $ in 2010).

National Income
Gross national income (GNI) comprises the value of all products and services generated within a country in one year (i.e., its gross domestic product), together with its net income received from other countries (notably interest and dividends). China’s gross national income is 5,700,018 million $ for year 2010.

Per Capita Income
Per capita income is a measure of mean income within an economic aggregate, such as a country or city. It is calculated by taking a measure of all sources of income in the aggregate (such as GDP or Gross National Income) and dividing it by the total population. It does not attempt to reflect the distribution of income or wealth. Per capita income is $7544.202 based on GDP in 2010.

Employment
From 1990 to 2003 the proportion of those employed in tertiary industry rose steadily from 18.5% to 29.3%, with the number of employees reaching 218.09 million. In terms of employment structure by urban and rural areas, from 1990 to 2003, the ratio of the employed in rural areas dropped from 73.7% to 65.6%. New forms of employment mushroomed, such as jobs

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in foreign-invested firms and economic entities of diverse forms, part-time jobs, temporary jobs, seasonal jobs etc. became important avenues for the expansion of employment. Unemployment rate was 4.3% during July 2011 and 4.10% in Jan 2011.

**Poverty**

Poverty" defined as an economic condition of lacking both money and basic necessities needed to successfully live, such as food, water, education, healthcare, and shelter. Between 1981 and 2005, the proportion of China's population living on less than $1.25/day is estimated to have fallen from 85% to 15%, meaning that roughly 600 million people were taken out of poverty. Currently gini index measure for china is around 45.

**Urbanization**

Urbanization is the physical growth of urban areas as a result of global change. It is closely linked to modernization and industrialization. Urbanization can describe a specific condition at a set time, i.e. the proportion of total population or area in cities or towns, or the term can describe the increase of this proportion over time. 47% of total population counts for urbanization and growth rate is 2.3% annually for the year 2010.

**Foreign Direct Investment**

Foreign direct investment (at home) indicates the cumulative US dollar value of all investments in the home country made directly by residents - primarily companies - of other countries as of the end of the time period indicated. FDI (at home) is 658.1 billion US dollar for 2010. Foreign direct investment (abroad) indicates the cumulative US dollar value of all investments in foreign countries made directly by residents - primarily companies - of the home country, as of the end of the time period indicated. FDI (abroad) is 278.9 billion US dollar for 2010.
OVERVIEW OF BUSINESS AND TRADE OF CHINA AT INTERNATIONAL LEVEL

The effect of foreign trade on economic growth has been an important subject of debate for several decades. Many prior studies have found a positive relationship between the growth rate of trade and the growth rate of output.

For a long time in recent history, China adopted a close-door and isolation policy. In 1949, the People’s Republic of China was founded. In the early 1950s, trade with the other socialist countries expanded rapidly.

But the expansion of trade stopped due to the deterioration of the relationship with the Soviet Union. From the end of 1950s to the end of 1970s, China experienced continuous domestic political movements (e.g., the Great Leap Professor, Department of Economics, CBA 512, University of Nebraska, Omaha, and NE68182.

SECTOR WISE IMPORTS AND EXPORTS

The exports of china are high for manufactured products. Moreover china’s imports for manufactured products are high compared to primary products and machinery and transportation equipment.

EXPORTS AND IMPORTS WITH WORLD

The percentage change in imports as well as exports from year 2001 to 2002 is very high. The percentage change in imports and exports from the year 2008 to 2009 is showing a downward trend.

China's Top Exports, 2010:

China’s exports in electrical machinery and equipment are highest among all the other products followed by power generation equipment and apparel.

China's Top Imports, 2010:

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The import of china from the world in terms of volume is highest in case of electrical machinery and equipment. However the important factor to be noticed is that the percentage change in the year 2009 of iron and steel has decreased to a great extent and has become negative.

**China's Top Trade Partners, 2010:**

United States ranks the highest while India stands 10th in terms of trade business with china.

**China's Top Export Destinations, 2010:**

China exports highest to U.S while Italy ranks 10th in case of exports to china.

**China's Top Import Suppliers, 2010:**

China imports highest from Japan while Saudi Arabia ranks 10th in case of imports from china.

**TRADE DEFICITS**

The trade deficit of china is showing an increasing trend. This means that the imports of china in greater than the exports to other countries. Instead of controlling this deficit, china is continuing its imports from other country which means that the deficit is increase.

**An Overview of Different Economic Sectors in China**

A nation’s economy can be divided into various sectors to define the proportion of the population engaged in the activity sector. This categorization is seen as a continuum of distance from the natural environment.

**Types of Economic Sectors:**

1) **Primary Sector:** It is mainly engaged in agriculture, mining, forestry, farming, grazing, hunting, and fishing.

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2) **Secondary Sector**: It deals in manufacturing of finished goods, includes metal working and smelting, automobile production, textile production, chemical and engineering industries, etc.

3) **Tertiary Sector**: It includes service industry i.e. retail and wholesale sales, transportation and distribution media, tourism, insurance, banking, healthcare etc.

1) **Agricultural sector**:

Only 10% of China's land is suitable for agriculture, & farming efficiency has been a concern as population increases. Today, China is both the world's largest producer and consumer of agricultural products. China has increased the budget for agriculture by 20% in 2009 and continues to support for energy efficiency measures, renewable technology and other efforts with investments. Rice is China's most important crop, raised on about 25% of the cultivated area. Wheat is the second most-prevalent grain crop and other crops include sweet potatoes, oil seeds, green and jasmine teas, black tea, sugarcane & Lotus.

China's inclusion in the World Trade Organization (WTO) on December 11, 2001 increased motivation for exports, leading to reduced or eliminated tariffs on much of China's agricultural exports. It is the largest importer of soybeans & expected to become the top importer of farm products within the next decade. Despite heavy restrictions on crop production, China's agricultural exports have greatly increased in recent years. China will be in a stage of accelerated industrialization, urbanization, and internationalization in the coming future.

2) **Manufacturing sector**:

Chinese industry moved from the intermediate to the final stages of production processes. Overall manufacturing labor compensation costs have risen every year, affecting China’s global competitiveness in manufacturing. Even as China ascends as a major economic player in the global economy, its position in the international landscape of labor costs has not changed dramatically. As measured in U.S. dollars, Chinese hourly labor compensation costs in manufacturing - 4% of those in the United States and about 3% of those in the Euro Area in 2008.

**GDP - composition by sector**: 
3) Service sector:

Since the beginning of reform and opening up, China’s service sector has developed rapidly. From 1978 to 2007, the annual average growth rate of the tertiary industry’s value added reached 10.8 per cent. The tertiary industry’s proportion of GDP rose to around 40 per cent from over 20 per cent becoming an important determinant of national economic growth.

Since the end of the 1970s, China's service industry has developed rapidly reflecting two aspects. First, the scale of service industry is expanding. Second, China's service industry has become a main channel to attract social employment. The rapid development of China’s tertiary industry employs a large number of workers. By the end of 2007, 250 million people were employed in the tertiary industry, a number that accounted for 32.4 per cent of the total employed people. Currently, service industry includes business on food and drink, tourism, finance, insurance, transportation, advertisement, law, accounting, etc. Software is one of China’s fastest growing service industries. Software industry is in high demand, however the drawback is constant threat of intellectual property rights violation. By 2020, service industry will account for more than 50% of GDP instead of the present one third - China's development.
China's spectacular economic growth-averaging 8% or more annually over the past two decades-has produced an impressive increase in the standard of living for hundreds of millions of Chinese citizens. China bears several indirect and growing costs from its resources pressures: migration, public health, social unrest, and declining economic productivity.

The various aspects covered in Demographic Profile of China are:

- Population: 1,336,718,015 (July 2011 est.) and population growth rate is 0.493% which is reduced after China adopted One Child Policy.
- Age structure: 0-14: 17.6%, 15-64: 73.6% and 65 years and above: 8.9% which brings to conclusion that population of China is facing problem of ageing.
- Birth Rate: 12.29 births/1000 Population.
- Death rate: 7.03 deaths/1000 Population.
- Infant Mortality Rate: 16.06 deaths/1000 live births.
- Life Expectancy: 74.68 years.
- Fertility Rate: 1.54 Children born/woman.
- Ethnic Groups: Han Chinese, Zhuang, Manchu, Hui, Miao, Uighur, Tujia, Yi, Mongol, Tibetan, Buyi, Dong, Yao, Korean and other nationalities.
- Religions: Daoist (Taoist), Buddhist, Christian, and Muslim.
- Health expenditures: 4.6% GDP.
- Physicians Density: 1.415 physicians/1,000 population.
- Literacy Ratio: 99.3%.

**Migration:** Twenty to thirty million peasants were displaced by environmental degradation, and that by 2025, at least 30-40 million more may need to relocate.

**Public Health:** The Ministry of Agriculture reported that almost 20% of agricultural and poultry products in major industrial and mining districts and in areas irrigated with contaminated water contained excessive levels of contamination.

**Economic Productivity:** The total cost to the Chinese economy of environmental degradation and resource scarcity is 8%-12% of GDP annually and $24 billion annually.

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Predicted age and sex distribution for the year 2050

How Demographic Change Transforms China?

- Population Growth is one of the reasons of demographic change which has transformed China, and which as resulted in under developed rural areas where employment is very difficult to find.

- Reduced Fertility and Increased Aging: Fertility has plummeted to a record low of 1.7 children per woman. This is due to the One Child Policy that is being implemented by China in order to control the population of China, but the adverse effect is life expectancy of citizens has increased to 74 years due to which there is an increase in the older population as in comparison with younger people.

  Smaller Families

- Smaller Families: Chinese cities will be the first in the world where the majority grows up without brothers and sisters. There are an estimated 90 million only children in China today.

- Fewer Girls: The most ominous impact of the shift towards smaller families is the high numbers of boys born compared to girls. Programs implanted to population growth has resulted into abortion of female fetus in order to avoid this government has declared abortion of female fetus illegal.

- Human Development Index: China’s rank of 101 out of 187 and China had made progress in the last 30 years to improve its HDI but challenges exist in the development of rural areas, reduction of poverty and reduction of gender differences.
Infrastructure of China

China is the fastest developing country in Asia. As a part of Global Country Study, a report on Infrastructure of China is prepared where a major focus will be on five things Roads, Railways, Airports, Power, and Banking.

1. **ROADS:**
   - China’s expressway network of 65,000 kilometers (40,389 miles) is the second largest in the world, next only to the U.S.
   - By 2020 the government plans to reach three million kilometers (1.86 million miles) of expressways and highways, up from two million kilometers (1.24 million miles) in 2008.
   - China houses more toll roads than any other country, with Chinese toll roads representing more than 70% of the world’s total toll roads.
   - The government finances the majority of the road projects through its own budget and debt, while the private sector plays a limited role.
   - The toll road sector was one of the three most profitable businesses in China for 2009, along with real estate and finance.

2. **RAILWAYS:**

   China has 46,875 miles of railroads across the country. China is planning a high-speed train system that will link London to Beijing...in only 48 hours. Capable of traveling at over 200mph, the new system could make the 5,070-mile trip—which currently takes a week or more and several changes of service—in just two days. In 2008, China had only 649 km of high-speed railway. By 2014, China will have about 19,000 km of high-speed railway, which will be ten

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times as extensive as Japan’s. Estimates for total costs range from US$530 to $750 billion—which is comparable to America’s interstate system, which cost over $400 billion in 2006 dollars. Based on the recent urban rail (metro/LRT) development plan of various cities, there will be over 3,000km in China by 2020. By 2012, the operating lines in Beijing will be 440km, and 400km for Shanghai with 13 lines of 300 or more stations.

3. AIRPORTS:

China had 467 airports in 2007. Beijing Capital International Airport (PEK), Shanghai Pudong International Airport (PVG), Shanghai Hongqiao International Airport (SHA), and Guangzhou Baiyun International Airport (CAN) are the major international airports in the country.

China is planning on building 97 new airports in 12 years, including a second international airport in Beijing. At the end of 2006, there were 147, including 45 used for both civilian and military purposes. By 2030, China will become the world’s second largest airliner market, requiring 4,330 new commercial airplanes valued at $480 billion in the next two decades.

4. POWER:

The China's electric power industry has changed dramatically since the early 1990s to become the world's second-largest electricity consumer, after the United States. China's power industry has become increasingly competitive over the past three years as a result of government-initiated structural reforms and China's entry into the World Trade Organization (WTO). The structure of China's power industry is expected to remain unchanged for a long time. At present, China's hydropower output amounts to 13.88 percent of the national total, nuclear power output accounts for 1.94 percent and wind power output amounts to 0.26 percent, while coal-fired power output amounts to at least 78% of the national total. China's coal-fired power generation will be in a stage of stable development until at least 2020, and China's installed capacity of coal-fired power generating units will remain at more than 70 percent.

Nuclear power will play an even more important role in China's future power development. China has planned to build up another 30 sets of nuclear power generator within 15 years with total installed capacity of 80 GWs by 2020, accounting for about 4% of China's total installed
capacity of the electric power industry. China now has the world's largest hydro power capacity of about 200 million kilowatts, and 22 million kilowatts of wind power capacity. With 10 million kilowatts of capacity at six nuclear power plants, China plans to raise its nuclear power capacity to 60 million kilowatts by 2020, Zhang Guobao, director of the National Energy Administration (NEA), said in an interview last month.

5. BANKING:

China's banking system has undergone significant changes in the last two decades: banks are now functioning more like banks than before. Nevertheless, China's banking industry has remained in the government's hands even though banks have gained more autonomy. WTO has accepted China. The central bank of the People's Republic of China is the People's Bank of China. The People's Bank of China (PBOC) is China’s central bank, which formulates and implements monetary policy. The PBOC maintains the banking sector's payment, clearing and settlement systems, and manages official foreign exchange and gold reserves.

China’s entry into the WTO is expected to create opportunities for foreign banks. As a milestone move to honor its WTO commitments, China released the Rules for Implementing the Regulations Governing Foreign Financial Institutions in the People’s Republic of China in January 2002. In 1994, China started the "Golden Card Project," enabling cards issued by banks to be used all over the country through a network. The establishment of the China Association of Banks rapidly promoted the inter-bank card network and by the end of 2004, the inter-region-inter-bank network had reached 600 cities, including all prefecture-level cities and more than 300 economically developed county-level cities.

Conclusion

China has moved from a closed, centrally planned system to a more market-oriented one that plays a major global role. In 2010 China became the world's largest exporter. Reforms began with the phasing out of collectivized agriculture, gradual liberalization of prices, fiscal decentralization, increased autonomy for state enterprises, creation of a diversified banking
system, development of stock markets, rapid growth of the private sector, and opening to foreign trade and investment.

China has implemented reforms in a gradualist fashion. Reserve of foreign exchange and gold are $2.876 trillion as on 31 December 2010. High employment rate, consistent GDP growth around 10%, drastic reduction in poverty rate, increased per capita income, higher urbanization rate, increasing FDI flows etc. are the factors which trigger the growth of china economy. The dollar values of China's agricultural and industrial output each exceed those of the US. China is second to the US in the value of services it produces. Still, per capita income is below the world average. The Chinese government faces numerous economic challenges, including: (a) reducing its high domestic savings rate and correspondingly low domestic demand; (b) sustaining adequate job growth for millions of migrants and new entrants (c) reducing corruption and other economic crimes; and (d) containing environmental damage and social strife related to the economy's rapid transformation.

As per the one of the famous statements “Each coin has two sides”; population of China is its strength as well as weakness. Having the largest population it has lower labour rates but at the same time it faces the problem of scarcity of land and food. The “import/assimilate/re-innovate” model has proven to be a successful strategy, as China courts foreign companies to move their manufacturing facilities, then coerces those companies to share their technology with the state. But because of the lack of enforcement of intellectual property rights, technological growth in China is currently stunted.
Part II
Study of Banking Industry:

Introduction of Banking Sector in China

2.1 Introduction to the Banking System
Comprehending China’s banking sector is essential in understanding its corporate governance and economic future. The banking sector dominates China’s financial system, is very important to its overall economy, and will be a role model for other Chinese industries to follow in improving corporate governance. China’s bank deposits are massive at $3.5 trillion and represent 160 % of gross domestic product (GDP)—the highest in the world. As a comparison, Japan stands at 145 %, the United Kingdom at 107 %, the United States at 77 %, and India at 68 %.

China’s desire to meet the Basel II requirements may offer the best hope of bringing China’s banking sector up to international standards. It is only because of the sustained high growth rates of the Chinese economy that its banking sector has been able to avoid a financial crisis over its systemic weaknesses and inefficiencies. These problems stifle economic growth by propping up inefficient enterprises and denying funds to the most efficient enterprises. McKinsey and Company estimates that fixing these shortcomings would raise GDP by 13 % or over $250 billion.

2.2 Restructuring China Banking Sector

China’s banking sector, especially the Big Four, used to be debt-laden. This stems from the fact that in the past, the Big Four were not truly independent commercial banks and were influenced greatly by the central and local government. According to official figures, by the end of 2003, the non-performing loans (NPL) ratio of the Big Four was above 20%. Understanding the importance of a healthy banking system to China’s growth, China has made considerable achievements in restructuring its banking sector. The first step is to recapitalize and restructure the Big Four into joint-stock banks. After disposing of billions of dollars in bad debts, China further injected a large sum of foreign reserves (mainly through the newly established China Huijin Investment) to boost the capital of state-owned banks. At the end of 2003, CCB and BOC each received a US$22.5 billion capital injection. In April 2005, ICBC received US$15 billion worth of capital injection.
The third step was to become publicly listed. The rationale behind turning state-owned banks into public banks was that besides capital, the Chinese government believed it was better to let the public supervise these banks in order to encourage greater transparency and increase their efficiency. Ironically, while the Chinese banks’ un-sophisticated business model gives them far less exposure to complex structured products, foreign banks are suffering from huge losses stemming from a variety of structured products. As a result, the shares of many foreign banks have plunged. At the end of January 2008, three of the top five biggest banks (measured by market cap) were from China. By the end of February 2008, ABC was the only bank among the Big Four that was not restructured and listed. After the restructuring, China’s banking sector (in particular, the three publicly listed state-owned banks) became much healthier. As of June 30, 2007, their NPL ratios were all below 4%.

2.3 Foreign Banks in China

Foreign banks incorporated in China were now given access to the lucrative bank card business and were able to provide RMB services to Chinese individuals.

Currently, foreign banks have been playing a rather small role in China’s banking sector. By the end of 2007, the market share of foreign banks measured by total assets was only 2%. Seeing no way to compete with Chinese banks in terms of the number of branches nationwide, foreign banks often choose to be geographically focused.

For late-comers into the banking industry, the expansion of foreign banks with a greater presence in China (such as Citibank, Bank of East Asia, HSBC and Standard Chartered Bank) might provide some regarding the locations of the next key markets beyond Beijing and Shanghai.

2.4 CHINA’S BANKING REGULATORY ENVIRONMENT

When China entered the 1980s and embraced Western-style corporations, it had only three banks: the People’s Bank of China (PBC), the Bank of China (BOC), and the China Construction Bank (CCB).

In the 1980s a series of reforms resulted in the following changes:

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• The BOC and CCB statuses were upgraded.
• The Agricultural Bank of China was formed.
• The Industrial and Commercial Bank of China (ICBC), which is now the largest of the state-owned banks, took on the commercial banking functions of the PBC.
• The PBC has become China’s central bank.
• New commercial banks were formed, almost all state-owned.

The Big Four banks (BOC, CCB, Agricultural Bank of China, and ICBC) dominate China’s banking sector and account for over half of banking assets. There has been a reduction in government interference in making loan decisions and support for reducing nonperforming loans (NPLs) by recapitalizing state-owned banks. This has resulted in removing over $330 billion in NPLs. The government is also encouraging internal reforms to reduce operating costs. Foreign bank investment hit about $18 billion in 2005 with Bank of America, Goldman Sachs, HSBC, and Royal Bank of Scotland taking leading roles. Regulations currently restrict foreign ownership to 20% of assets.

CHINA’S BANKING REGULATORY AGENCIES

Three government agencies have oversight over the banking industry: the People’s Bank of China (PBC), the China Banking Regulatory Commission (CBRC), and the China Securities Regulatory Commission (CSRC).

These agencies administer the following laws and regulations:
• Administrative Rules for Financial Statistics
• Administrative Rules for RMB Bank Settlement Accounts
• Administrative Rules for the Reporting by Financial Institutions of Large-Value and Suspicious Foreign Exchange Transactions
• Insurance Law of the People’s Republic of China
• Law of the People’s Republic of China on Banking Regulation and Supervision
• Law of the People’s Republic of China on Commercial Banks
• Measures Governing the Statistics and Declaration of International Receipts and Payments
• Provisional Administrative Rules Governing Derivatives Activities of Financial Institutions
• Provisional Procedures for Designated Bank’s Purchase and Sale of Foreign Exchange
• Regulation Governing Capital Adequacy of Commercial Banks
• Regulations on Closure of Financial Institutions
• Rules for Anti-Money Laundering by Financial Institutions
• Securities Law of the People’s Republic of China

2.5 The Role of the Banking Sector in China

Although banks share many common features with other profit-seeking businesses, they play a unique role in the economy through mobilizing savings, allocating capital funds to finance productive investment, transmitting momentary policy, providing a payment system and transforming risks.

First, banks serve as a principal repository of liquid funds for the public. The safety and availability of such funds for transactions and other purposes are essential to the stability and efficiency of the financial system.

Second, by channeling savings to productive investments, banks play a key role in facilitating efficient allocation of scarce financial resources.

Third, banks serve to transmit the impulses of monetary policy to the whole financial system and ultimately to the real economy.

Fourth, the banking sector provides the indispensable national payments mechanism for the development of modern financial and business systems.

Fifth, the banking system as a whole reduces risks through aggregation and enables them to be carried by those more willing to bear them.

The second phase began in 1984 when the State Council decided to make the PBC Junction as a central bank. The decision, which was made in response to the increased role of market forces in the economy, promoted diversification of financial institutions with the establishment of the four specialized banks (the Industrial and Commercial Bank of China, the Agricultural Bank of China, the Bank of China, and the China Construction Bank), now known as wholly state-owned commercial banks.

The third phase began in 1993 when the State Council issued the Decision on Financial Reform, recognizing the urgent need for developing new financial markets, institutions and
instruments. The government introduced a comprehensive package of measures aimed at restoring financial order as well as addressing the inflationary pressure and signs of overheating, particularly in the real estate sector and the stock markets.

The stabilization and adjustment efforts that began in 1993 brought the economy to a soft landing. Inflation measured by retail price index declined from the peak of 21.7% in 1994 to 0.8% in 1997 and remained subdued in the following years while real GDP growth moderated gradually from 13.5% in 1993 to a more sustainable rate.

The robust macroeconomic growth has been sustained since then despite the negative impact of the Asian financial crisis. The external sector performance also improved significantly during the period.

The strong export performance and capital inflow resulted in the increase of official foreign exchange reserves, from USD 51.6 billion at the end of 1994 to nearly USD 166 billion at the end of 2000.

The RMB exchange rate has remained stable. The implementation of the stabilization and structural measures has been a major factor underlying the resilience of the Chinese economy in the context of the crisis in Asian financial markets and the recent weakening of global economic activity.

The banking sector has played an important role in facilitating the implementation of the stabilization and structural measures as well sustaining strong economic growth.

The macroeconomic stability and structural improvement in turn have enabled the banking sector to develop vigorously. Although capital market development is expected to speed up, banks in China, which currently provide about 75% of aggregate, financing in the economy, are likely to continue playing a dominant role in financing economic and technological development as well as the economic reform in the foreseeable future.

3. Comparison of Banking Sector

3.1 Comparative Position of Banking Sector China and India

India's largest bank, SBI, got a credit rating downgrade this week from Moody's. This comes on top of worries about the quality of bank assets in India in a slowdown. China's banks are not having a great time either. Here's a head-to-head comparison of the banking sectors of the world's fastest growing major economies. India's banks are smaller, more conservative and potentially in much less trouble than China's.
Size Stack

Chinese banks trump Indian counterparts in number and scale. China had 3,769 banking institutions in 2010, with more than 250 commercial banks, 196,000 business outlets and 2.991 million employees. India pales in comparison, with 167 commercial banks, 87,768 business offices and 0.8 million employees.

In asset size At least 11 Chinese banks are perched in the top 100 category based in terms of market size while only three Indian banks make the cut here. To get an idea of the scale difference, consider this: Industrial and Commercial Bank of China, the largest Chinese bank, boasts of a market size of $201 billion while its Indian counterpart SBI's market size is only a fifth at $40 billion.

Power Performance

Banks from both sides have recorded high revenue growth, unlike counterparts of developed countries. For instance, McKinsey data show revenues of Indian and Chinese banks grew 19.8% and 13.7% in 2007-10, respectively. The non-performing asset ratio of the countries' banks too is comparable. NPAs of Indian banks stood at 2.5% in 2010 while those of the Chinese were 1.7%. Likewise, the cost to income ratio, another measure of banking efficiency, is only a tad different. Indian banks: 42% and Chinese banks: 39%.

Cyclical vs. Structural

In contrast, Indian banks are far more conservative than their Chinese counterparts, even more so during global crises. Not surprisingly, the scale of credit expansion in India was much smaller. Yet the balance sheet of Indian banks' is weaker than in 2008 as "the impaired loan ratio is closer to 6% as against 3.5% in 2008", according to Morgan Stanley analysts. The gross NPA ratio of scheduled commercial banks in India increased marginally to 2.52% in June 2011 from 2.35% in March 2011.

Comparison of Reform progress in Banking sector in China and India

Banking sector reforms are no means by themselves, but should contribute to a better functioning of the sector. Therefore, it is necessary not only to evaluate the reform process, but also the performance effects of banking sector liberalization. This is done with the indicators of the CAMEL framework that analyzes capital adequacy, asset quality management soundness,  

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earnings and profitability, and liquidity. To provide a more holistic view of the reforms, indicators for financial development and sectoral concentration are included in the analysis

4. Policies & Norms of Banking Sector

4.1 Tax policies:
At the present, commercial banks are subject to two main forms of taxation:
- Business tax, based on revenue, is currently 5 percent.
- Income tax, based on profit, is set at 33 percent for domestic commercial banks

The level of corporate income tax levied on commercial banks is high and it makes it difficult for commercial bank to operate on a sound and commercial basis. Further, it compares unfavorably with the tax rate for foreign banks. In terms of foreign currency operations, foreign banks are subject to a tax rate of 15 percent, with a full tax holiday for the first year of operation and a 50 percent tax holiday for the second year (15 percent is applied from the third year onwards).

4.2 Licensing of New Institutions

[a] Application Process and Agencies Involved
14 As noted, the commercial banking sector comprises four categories of banks. Also to be considered are four forms of cooperative. Basically, the application process for the de novo establishment of these different categories of financial institutions is similar. The principal differences are the amount of start up capital that is required and the number of promoters.

[b] Corporate Law Requirements
The Commercial Banking Law111 provides that the establishment of a commercial bank must conform to the requirements of the Company Law. This means that, subject to approval, a commercial bank may be formed as either a limited liability company (which has registered capital) or a company limited by shares.

[c] Restrictions on Ownership
[i] Restrictions Based on Nationality, Business or Activities of Owners
[ii] Fitness Requirements Applied to Owners

[d] **Fit and Proper Requirements of Directors and Senior Officers**

None of the following persons may serve as directors or senior officers:

- Criminals guilty of corruption or other serious offences;
- Directors or managers of companies bankrupt as a result of mismanagement;
- Legal representatives of companies that have had their business license revoked for breaking the law; and
- Persons with heavy unsatisfied individual debts.

The Guidance on Corporate Governance of Joint Stock Commercial Banks sets out additional persons who may not serve as a director:

4.3 **Special Rules Governing Foreign Bank Entry and Establishment**

China's formal accession to membership in the WTO on December 11, 2001, carried with it substantial concessions for the liberalization of the financial services sector. Some of these market-opening commitments have been in effect since the date of accession, while others are being phased in over a five-year period.

[a] **Definition of Foreign Banks and Permissible Forms of Doing Business**
[b] **Establishment of Subsidiaries**
[i] **WFOE Banks and WFOE Finance Companies**
[ii] **Joint Venture Banks and Joint Venture Finance Companies**
[iii] **Approval Process**
[c] **Acquisition of Existing Bank Entities**

In the past, the PBOC selectively approved strategic acquisitions on a case-by-case basis. In December 2003, the CBRC promulgated the long-awaited regulation, the Administration of Equity Investment of Overseas Financial Institutions in Chinese-funded Financial Institutions Procedures. The regulation, for the first time, provides a clear regulatory basis for foreign investment in China's banks. Under the regulation, any single foreign investor may not hold an equity share of more than 20 percent of the registered capital of the bank. The aggregate size of all foreign strategic investments in a bank will effectively be capped at 25 percent. Any investment at or above 25 percent in a nonlisted Chinese financial institution must take the form of a Chinese foreign joint venture bank.
[d] Licensing of Branches of Foreign Banks

Previously, regulations limited foreign banks to the establishment of only one branch. However, under recently announced rules, overseas banks are eligible to apply for more than one branch. Also, the restriction that not more than one branch a year could be opened has now been removed. Application for the establishment of a branch of a foreign bank should be directed by the foreign parent bank to the CBRC.

[e] Licensing of Representative Offices

While the approval authority for foreign bank representative offices is the CBRC, once established, representative offices will also be subject to other national and local regulatory bodies, including the local AIC, the local labor bureau, the local tax authorities, the SAFE and the Ministry of Public Security.

[f] Special Rules for Hong Kong Banks

The Mainland and Hong Kong Closer Economic Partnership Agreement [herein CEPA] was signed in June 2003. A number of restrictions under the WTO framework have been relaxed for qualified Hong Kong banks.

4.4 Policy of issuing license to banks in India

The policy framework for issuing licences to private sector and foreign banks are discussed below:

4.4.1 Private sector banks

The guidelines for licensing of new banks in the private sector were issued by the Reserve Bank of India (RBI) on January 22, 1993. The revised guidelines for entry of new banks in private sector were issued on January 3, 2001. The foreign investment limit from all the sources in private banks was raised from a maximum of 49 per cent to 74 per cent in March 2004. In consultation with the Government of India, the Reserve Bank released a roadmap on February 28, 2005, detailing the norms for the presence of foreign banks in India. The Reserve Bank also issued comprehensive guidelines on Ownership and Governance in private sector banks.

The initial minimum paid-up capital for a new bank was kept at Rs. 200 crore. The initial capital was required to be to Rs.300 crore within three years of commencement of business. The aggregate foreign investment in private banks from all sources (FDI, FII, NRI) cannot exceed 74 per cent.
Mergers and amalgamations are a common strategy adopted for restructuring and strengthening banks internationally. Although the consolidation process through mergers and acquisitions of banks in India has been going for several years it gained momentum in late 1990s. With increased liberalisation, globalisation and technological advancement, the consolidation process of Indian banking sector is likely to intensify in the future, thereby imparting greater resilience to the financial system. The Reserve Bank ensures that mergers and amalgamation enhance the stability of the banking system. Thus, the guidelines issued by RBI on May 11, 2005 laid down the process of merger and determination of swap ratio.

4.4.1.2 Licensing of foreign banks

India issues a single class of banking licence to banks and hence does not place any undue restrictions on their operations merely on the ground that in some countries there are requirements of multiple licences for dealing in local currency and foreign currencies with different categories of clientele. Banks in India, both Indian and foreign, enjoy full and equal access to the payments and settlement systems and are full members of the clearing houses and payments system.

Procedurally, foreign banks are required to apply to RBI for opening their branches in India. Foreign banks’ application for opening their maiden branch is considered under the provisions of Sec 22 of the BR Act, 1949. Before granting any licence under this section, RBI may require to be satisfied that the Government or the law of the country in which it is incorporated does not discriminate in any way against banks from India.

Unlike the restrictive practices of certain foreign countries, India is liberal in respect of the licensing and operation of the foreign bank branches as illustrated by the following:

- India issues a single class of banking licence to foreign banks and does not place any limitations on their operations. All banks can carry on both retail and wholesale banking.
- Deposit insurance cover is uniformly available to all foreign banks at a non-discriminatory rate of premium.
- The norms for capital adequacy, income recognition and asset classification are by and large the same. Other prudential norms such as exposure limits are the same as those applicable to Indian banks.

4.4.1.3 Opening of branches in India by Foreign banks
The policy for approving foreign banks applications to open maiden branch and further expand their branch presence has been incorporated in the ‘Roadmap for presence of Foreign banks in India’ indicated in the Press Release dated February 28, 2005 as well as in the liberalized branch authorisation policy issued on September 8, 2005. The branch authorisation policy for Indian banks has been made applicable to foreign banks subject to the following:

4.4.2 Proposed Framework for Presence of foreign banks in India

- There are currently 34 foreign banks operating in India as branches. Their balance sheet assets, accounted for about 7.65 percent of the total assets of the scheduled commercial banks as on March 31, 2010 as against 9.03 per cent as on March 31, 2009. In case, the credit equivalent of off balance sheet assets are included, the share of foreign banks was 10.52 per cent of the total assets of the scheduled commercial banks as on March 31, 2010, out of this, the share of top five foreign banks alone was 7.12 per cent.

4.4.3 Entry Norms for new players

Following category of banks can undertake banking operations only by way of setting up a Wholly Owned Subsidiary (WOS):

(i) Banks coming from jurisdictions where deposits enjoy a preferential claim in a winding up scenario

(ii) Banks which do not provide adequate disclosure in the home country

(iii) Banks with complex structures

(iv) Banks which are not widely held, and

(v) RBI may require banks to incorporate locally, if the former is not satisfied with the degree of supervision in the home country. RBI at its discretion, may require banks to incorporate locally, it has any reason to do so.

5. Potential of Banking Sector

5.1 India’s potential in the banking and financial sector

- The Indian financial sector reforms launched a decade ago have transformed the operating environment of the financial sector from an administered regime to a competitive market
based system. The reforms are an on-going process. There is increasing evidence of strong inter-linkages between markets.

- In the macro economic and financial spheres, inflation has been contained, external debt indicators have vastly improved, the exchange rate is flexible and the country is free of financial repression.
- The trade account is open and India has become much more integrated with the world economy. The economy has also become more resilient to shocks, both domestic and external.
- The Indian economy has emerged as one of the fastest growing emerging market economies and the Indian banking sector is perceived, as being the best performer in Asia. The RBI has been at the forefront of upgrading the risk systems of the Indian banking system. The Reserve Bank has initiated a host of measures for the creation of a competitive environment and improve efficiency in the process of financial intermediation.
- The Reserve Bank’s Standing Committee on International Financial Standards and Codes (Chairman: Dr. Y.V. Reddy) has assessed Indian regulations against international best practices in order to facilitate positioning of international financial standards and codes in relevant areas of the financial system in India and to guide the overall process of implementation of appropriate changes in respect of various segments of the financial system.
- At present, exporters have the option to avail of pre-shipment and post-shipment credit in foreign currency from banks in India. In order to encourage competition among banks and also to increase flow of credit to the export sector, the Reserve Bank of India has liberalized interest rates on local currency export credit effective May 1, 2003 for pre-shipment credit above 180 days and post-shipment credit above 90 days.
- In another initiative, Standing Committee on Procedures and Performance Audit on Public Services provided by the RBI is being set up to bench mark the current level of service and to enhance the timeliness and quality of these services.
- The Committee will also coordinate with the Ad hoc Committee on Customer Services being set up by each bank. These initiatives would, it is expected, bring about a significant improvement in customer service in the financial sector.
• The central objective of financial reforms is to attain a significant improvement in the efficiency of financial intermediation and the endeavour of the RBI would be to provide a regulatory framework in which economic agents can perform their activities in an optimal manner.

5.2 China’s potential in the banking and financial sector

The growth of foreign banks in the Chinese market has continued to accelerate with the recent announcements of local incorporation marking another key stage in the development of the sector. The strong economy and a growing middle class, together with the continued opening up of the banking sector under the terms of China's WTO accession, has led many foreign banks to continue to invest in China's financial sector. 2006 saw an influx of foreign institutions buying into Chinese retail banks in advance of the new WTO measures to allow foreign banks to compete on more equal terms with local institutions.

Number of Employees

The 40 banks interviewed employ 16,752 people and this total is forecasted to expand by 113% to 35,685 people by 2010. In 2005, 35 banks predicted a growth of 154% to 16,910 by 2008. This former prediction is in line with the 2007 number that includes one large foreign bank not surveyed in 2005.

The strong growth predicted is assisted by six banks that plan to add over 1,000 new employees over the next three years. Three banks in this group will add 3,000 or more new employees.

The percentage increases also show impressive employment growth. For instance, 21 banks will more than double their existing personnel and four banks anticipate growth above 200% by 2010.

At present, the 40 foreign banks employ 2,872 expatriates. This is a significant jump from 2005 when the 35 banks surveyed employed 475 expatriates. As a result, one can conclude that many of the banks are supporting their expansion by importing trained personnel from within their banks. Over the next three years, they plan to add another 639 expatriates to produce

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a total of 3,511. The overall employment growth will, however, reduce the expatriate percentage from 17% in 2007 to 9.8% in 2010.

**Assets and onshore loans**

Thirty one of the 40 participants provided information on their assets in 2007 and projections for 2010. The total assets in 2007 were US$51bn increasing by 111% to US$108bn in 2010. This total excluded data for one large foreign bank. Those larger foreign banks that provided individual data estimated that they may reach US$15-20bn in assets by 2010.

**Net income**

Twenty-four participants estimated a combined net income of US$328m in 2007 rising to US$940m by 2010. This figure excludes three large foreign banks. In addition to the 24 respondents, another four banks confirmed that they were profitable. Twenty banks recorded net income of US$10m or less in 2007. Within this group, 13 banks are generating small profits.

**Money markets**

Only 27% of the 34 banks that responded to this question suggested that competition was intensive. A higher percentage - 33% - indicated that it was minimal. Almost 60% of banks have made either no change or minor change to developments in the money market. There has been little change in this market since 2005.

**Foreign exchange and derivatives**

The opinion on the degree of competition in foreign exchange and derivatives remains similar to 2005 although a higher percentage of respondents suggested that they had made minor or no change to strategy - 50% in 2007 compared to 43% in 2005.

**Trade finance**

In 2005, trade finance represented the most competitive market for foreign banks in China. Ninety per cent believed it to be intensively competitive while over half had made significant or fundamental changes. In 2007, the level of competition has been scaled back to 64% and 61% of the banks have made no change or minor change.

**Treasury**

The treasury market continues to be relatively underdeveloped. Although a third of the 33 respondents believed the market was intensively competitive, only two banks have made fundamental changes.
Investment banking

The investment banking market has become marginally more competitive than in 2005. However, seven of the 21 respondents said they had not altered the strategy while five banks indicated they had made a minor change.

Credit cards

Only four banks responded to this question and three of them said the market was intensively competitive. In 2005, five banks unanimously recorded an intensive market. The market will become more competitive with the local incorporation of foreign banks. The media has reported that three banks already plan to launch local cards while Citi plans to issue debit cards and continue to issue credit cards through its local partners, Shanghai Pudong Development Bank and Guangdong Development Bank.

5.3 Business Opportunities in future

The banking industry has to live up to a range of high expectations from several stakeholders. The Indian economy stands at a critical juncture of its evolution. Indians look at the next decade with a lot of hope.

Ten Major Trends that will Shape the Indian Banking Industry

1. Mortgages to cross Rs 40 trillion by 2020:

Mortgages typify the retail banking opportunity in an economy. The total mortgages in the books of the banks have grown from 1.5 percent to 10 percent of the total bank advances, in a period of ten years. The ratio of total outstanding mortgages, including the Housing Finance Companies (HFCs) to the GDP is currently 7.7 percent. If by 2020, this ratio were to reach 20 percent, a number similar to that of China, we could expect the mortgage industry growing at an average rate of over 20 percent during the next decade. The outstanding mortgages are expected to cross Rs 40 trillion which is higher than the entire loan book of the banking industry pegged at Rs 30 trillion

2. Wealth management will be big business with 10X growth:

Going forward, wealth is expected to get further concentrated in the hands of a few. As illustrated in Exhibit 1d, the top band of income distribution is expected to grow most rapidly over the next decade. By 2020, the top 5 percent house holds, predominantly residing in the
metros and Tier I cities, will account for 30 percent of the total disposable income. Wealth management services will be demanded by the nouveau rich and will be an integral part of the product portfolio for both, private as well as public sector banks.

3. “The Next Billion” will be the largest segment:

Also illustrated in Exhibit 1d is the fact that the income group right below the middle class in the annual household income range of Rs 90,000 to Rs 200,000 per annum will be the largest group of customers. These customers will be profitably served only with low cost business models having low break even ticket size of business. The next decade would witness banks experimenting with different low cost business models, smaller cost effective branches and new use of technology to serve this segment profitably.

4. The number of branches to grow 2X; ATMs to grow 5X:

India has a very low penetration of branches and ATMs as compared to some of the other developed and developing nations as illustrated in Exhibit 1e. Exhibit 1f highlights the usage pattern of various banking channels in terms of number of visits. It is evident that the bank branches and ATMs are by far the most popular channels, despite a decade of promotion of alternate channels. The experience in developed economies also corroborates that branches and ATMs continue to be the critical channels, although certain transactions have shifted to alternate channels. As such, there is a requirement of at least 40,000–50,000 additional branches and 160,000–190,000 additional ATMs in the coming decade. This will be 3 times more than the branches and ATMs launched in the last decade.

5. Mobile banking to see huge growth and will redefine transaction banking paradigm:

As illustrated in Exhibit 1f, the uptake of internet and call centers is low in all segments other than foreign banks. Comparing with usage pattern in US, the significant potential in online and phone channels is apparent. However, India may evolve differently. The penetration of internet and broadband access in India has been low so far.

6. Customer Relationship Management (CRM) and data warehousing will drive the next wave of technology in banks:

Exhibit 1h illustrates that the average number of banking products per customer in India is significantly lesser than the global benchmarks. There is a significant potential for cross selling amongst all categories of banks in India. Given that cross selling is highly cost-effective
as compared to all other means of customer acquisition, banks will adopt CRM strategies aggressively in pursuit of cost–effective business models described in point 3 above.

7. Banking margins will come under pressure:

The next decade will see a dramatic change in margins as the wholesale debt markets deepen and corporate customers access the whole sale markets directly. Further, should the savings bank rate be liberalized, banks will move to a regime of low margins. Exhibit 1i illustrates the findings of a recent IBA survey conducted across banks to understand their perception of the future trends. The public sector banks expect to see their margins squeeze with a much higher likelihood as compared to the private sector / foreign banks. Exhibit 1j illustrates the actual NIM of the public sector banks and private sector banks over the last 5 years. The NIM of the public sector banks has consistently declined and this perhaps reflects in the pessimistic view on future margins adopted by the public sector.

8. New models to serve the Small and Medium Enterprises (SME):

Exhibit 1k illustrates the results of a survey conducted by FICCI to gauge the level of satisfaction among large, medium and small business customers with regard to banking services. The large customers are more satisfied across all dimensions as compared to the medium and small sized ones. The smallest businesses are most dissatisfied. Due to higher risk and lower ticket size, the SME typically get less attention. Banks are yet to create innovative models to serve SMEs with sufficient and timely credit at the right price.

9. Investment banking will grow over ten–fold:

Investment banking will be among the fastest growing segments in the banking industry rising from 4 percent to 7 percent of the entire corporate banking revenue pool. The larger corporate customers expect to demand higher support for international expansion and mergers and acquisitions over next decade as shown in Exhibit 1l. Further, as the wholesale debt markets deepen, the larger corporates would avail of advisory and capital market services from banks to access capital markets. The revenue pool will shift from traditional corporate banking to investment banking and advisory. Banks with international presence stand to benefit.

10. Infrastructure financing to hit over Rs 20 trillion on commercial banks books:

As India continues to rely on private funding for infrastructure development, infrastructure will occupy a larger share of the balance sheets. Half of the debt finance for infrastructure today comes from banks. As illustrated in Exhibit 1m, by 2020 banks would have
accumulated infrastructure assets worth Rs 20–25 trillion on their books. This would touch 12–15 percent of the total advances. Infrastructure loans coupled with home loans would together account for about 25–30 percent of the total advances of the banking industry. This would be the limit to which banks will be comfortable taking long term assets on their books. Even as the asset liability mismatch issues are resolved by IIFCL and the government, the real challenge for banks would be to develop skills to undertake the risks of long gestation infrastructure projects and manage concentration risk in infrastructure.

Conclusion

China has moved from a closed, centrally planned system to a more market-oriented one that plays a major global role. In 2010 China became the world's largest exporter. Reforms began with the phasing out of collectivized agriculture, gradual liberalization of prices, fiscal decentralization, increased autonomy for state enterprises, creation of a diversified banking system, development of stock markets, rapid growth of the private sector, and opening to foreign trade and investment. China has implemented reforms in a gradualist fashion. Reserve of foreign exchange and gold are $2.876 trillion as on 31 December 2010. High employment rate, consistent GDP growth around 10%, drastic reduction in poverty rate, increased per capita income, higher urbanization rate, increasing FDI flows etc. are the factors which trigger the growth of china economy. The dollar values of China's agricultural and industrial output each exceed those of the US. China is second to the US in the value of services it produces. Still, per capita income is below the world average. The Chinese government faces numerous economic challenges, including: (a) reducing its high domestic savings rate and correspondingly low domestic demand; (b) sustaining adequate job growth for millions of migrants and new entrants (c) reducing corruption and other economic crimes; and (d) containing environmental damage and social strife related to the economy's rapid transformation.
INTRODUCTION TO THE CEMENT INDUSTRY & ITS ROLE IN THE ECONOMY OF CHINA

INTRODUCTION:
Cement is one of the basic ingredients in the construction industry. The global cement industry is highly fragmented with many international, regional and local players competing in the market. The global majors account for only about one-fourth of the market. Cement is an essential component of infrastructure development and most important input of construction industry, particularly in the government’s infrastructure and housing programs, which are necessary for the country’s socioeconomic growth and development. Due to increasing infrastructure and real estate development in emerging markets the cement industry is experiencing strong growth in the past few years. It is also the second most consumed material on the planet.\(^{16}\)

Cement Process
Cement acts as a bonding agent, holding particles of aggregate together to form concrete. Cement production is highly energy intensive and involves the chemical combination of calcium carbonate (limestone), silica, alumina, iron ore, and small amounts of other materials. Cement is produced by burning limestone to make clinker, and the clinker is blended with additives and then finely ground to produce different cement types. Desired physical and chemical properties of cement can be obtained by changing the percentages of the basic chemical components (CaO, Al2O3, Fe2O3, MgO, SO3, etc.).

Type of cement\(^{17}\):-
The basic difference lies in the percentage of clinker used.

1. **Ordinary Portland Cement (OPC):** OPC, commonly known as grey cement, has 95 % clinker and 5 per cent gypsum and other materials. It account for 70 % of the total use.

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2. **Portland Pozolana Cement (PPC):** PPC has 80% clinker, 15% pozzolona and 5 per cent gypsum and accounts for 18 per cent of the total cement consumption. It is manufactured because it uses fly ash/burnt clay/coal waste as the main ingredient.

3. **White Cement:** White cement is basically OPC - clinker using fuel oil with iron oxide content below 0.4% to ensure whiteness. A special cooling system is used in its production. It is used to improve aesthetic value in tiles and flooring. White cement is much more costly than grey cement.

4. **Portland Blast Furnace Slag Cement (PBFSC):** PBFSC consists of 45% clinker, 50% blast furnace slag and 5 per cent gypsum and accounts for 10% of the total cement consumed. It has a heat of hydration still lower than PPC and is generally used in the construction of dams and similar massive constructions.

5. **Specialized Cement:** Oil Well Cement is made from clinker with special additives to prevent any porosity.

6. **Rapid Hardening Portland cement:** Rapid Hardening Portland Cement is similar to OPC, except that it is ground much finer, so that on casting, the compressible strength increases rapidly.

7. **Water Proof Cement:** Water Proof Cement is similar to OPC, with a small portion of calcium stearate or non-saponifiable oil to impart waterproofing properties.

**Role of Cement Industry in CHINA’s Economy**

**China’s Cement Sector in a Changing Economic Landscape**

Much of China’s remarkable development over the past few decades rests on cement—the primary ingredient in concrete. The country has constructed millions of new houses and buildings, paved thousands of kilometres of new highways, and built hundreds of large powerplants, all requiring enormous quantities of cement. China’s cement industry has grown remarkably since economic reforms began in the late 1970s. At the start of reforms in 1978, China ranked fourth in world cement output and produced about 65 million tonnes of cement a year. By 1985, China had become the world’s largest producer. A thriving construction industry promoted continued strong growth for cement and by 1998 China’s cement output was twice as much as the next three largest producing countries combined. While growth in China’s cement
industry has been impressive, the sector remains plagued by structural, institutional, financial, and environmental problems. Two-thirds of China’s cement, for example, is produced in small, inefficient plants that consume far more fuel and emit far more pollution than international norms. Further, very low quality cement accounts for as much as one-quarter of all production. China initiated economic reforms in 1978 in an attempt to move away from sluggish central planning and toward a market-oriented system. Unique to the Chinese transitional experiment was continuation of the rigid political framework of the Communist Party. Reforms began in the agricultural sector but quickly moved into industrial sectors. Changes included:

- Opening the economy to increased foreign trade and investment
- Increasing the authority of plant managers and local officials
- Permitting a wide variety of small-scale enterprises in light manufacturing and services

Collectively-owned plants, including township and village enterprises, grew fastest and now account for over half of total output. State-owned plants, which until recently had used the most modern and efficient equipment, now account for about one-quarter of the country’s output. Privately owned plants have also grown rapidly and now account for one-tenth of all production. The number of foreign invested enterprises (FIEs) also grew rapidly during the 1990s, although these plants still produce only a small fraction of China’s total output.

**STRUCTURE, FUNCTIONS AND BUSINESS ACTIVITIES OF CEMENT INDUSTRY**

The cement industry presents one of the most energy-intensive sectors within the Chinese Economy and is therefore of particular interest in the context of both local and global environmental discussions. Increases in productivity through the adoption of more efficient and cleaner technologies in the manufacturing sector will be effective in merging economic, environmental, and social development objectives. A historical examination of Productivity growth in China’s industries embedded into a broader analysis of structural composition and policy changes will help identify potential future development strategies that lead towards a more sustainable development path. "For the past 18 years, China consistently has produced more cement than any other country in the world. With the increase in Chinese fixed investment, the demand for cement in China maintained high since 2005, raising the cement price and
encouraging numerous enterprises to expand the production scale. As a result, the industrial scale was excessively large. In 2006, the demand for cement was further enlarged owing to the rapid development of the real estate industry and other concerned industries, stimulating the development of the cement industry.\textsuperscript{18}

Thanks to Chinese domestic high demand for cement and robust profitability of cement enterprises, Chinese cement industry continued the high-speed expansion in 2009. In 2009, the investment in Chinese cement industry came up to CNY 170.07 billion, rising by 61.75\% YOY. By the end of 2009, there were about 420 cement production lines under construction and over 140 production lines remaining to be started in China. After the completion of all these production lines, Chinese cement production capacity will be increased by 800 million tons and the annual cement production capacity will be 2.7 billion tons. However, the annual demand for cement in China is only 1.6-1.7 billion tons, leaving the severe surplus of about 1 billion tons.

In 2010 the world production of hydraulic cement was 3,300 million tonnes. The top three producers were China with 1,800, India with 220 and USA with 63.5 million tonnes for a combined total of over half the world total by the world's three most populated states. In 2010, 3.3 billion tonnes of cement was consumed globally. Of this, China accounted for 1.8 billion tonnes. Reports from China Customs covering Q1 2011 indicate that the country exported 2.914 million t of cement and clinker, down 31.9\% year-on-year. The average export price was US$55.50/t, an increase of 33.50\% year-on-year. As part of the 12\textsuperscript{th} five year plan, the Chinese government also plans to build or renovate 10 million low-income apartments over the next year. As discuss above 2000-2010: cement industry listed as key regulated industry in China and a series of policies and regulations were issued. Growth of cement demand: rapid development of national economy “Eleventh Five Year Plan” period (2006-2010): speedy industrial restructuring in the cement industry. There is Continuous Growth in Cement Output In 2010. Cement output was 1.87 billion tons.

During 2006-2010, 7.5 billion tons of cement produced, average growth rate 11.7\%.

\textsuperscript{18}Qianzhi, L : President, China Cement Association (2011). Development of China Cement Industry

Global Consumption

The demand for cement consumption per capita tends to follow a bell-shaped curve. This is because, emerging economies, during their high growth phase, tend to consume large quantities of cement to meet their infrastructure and housing needs. In figure I below, X-Axis represents the GDP per capita of a country and the Y-Axis represents the cement consumption per capita. The size of the bubble on the other hand represents the country’s total consumption.

As visible in figure I, countries with large per capita GDP numbers consume smaller quantities of cement, while countries with the highest per capita cement consumption are part of the emerging economies group.

Interestingly, amongst all the economies under consideration, India has the lowest level of per capita cement consumption. Even though, the per capita cement consumption in the country has increased from 28 kg in 1980-81 to around 147 kg in 2008-09, it is still relatively low compared to other majors economies. Average cement consumption in Saudi Arabia is around 1,245 Kg, in Japan at 491 Kg, and in United States at around 285 Kg. Even amongst the BRIC economies...
India has the lowest level of per capita cement consumption, with China’s per capita consumption at around 1,040 Kg, 271 Kg in Brazil and 378 Kg in Russia.

**COMPARATIVE POSITION OF CEMENT INDUSTRY IN INDIA AGAINST CHINA**

**Cement Industry in CHINA**

**Growth**\(^{19}\):

From the time when 2011, even if the growth of infrastructure investment represented by transport, water conservancy and public facility investment in China has declined, venture in real estate maintained continuously high growth and production and sales of China's Cement continued to maintain the impetus of rapid growth. In 2011 H1, the production and marketing of China's cement realize more-expected growth. In Jan-Jun 2011, the collective output of China's cement was 950 million tons, increasing by 19.57% annually, which presented strong development momentum in the industry.

In 2011 H2, China silent implemented severe adjustment and control policies in industries confront overcapacity, speed up eliminate reluctant production capacity and carried out harsh credit policies, which would have complete the cement industry go into tight policy environment. However, seen from domestic demand for China's cement, the national economy still maintain rapid growth, and fixed assets investment was accepted to continue its high growth thrust. In particular, the construction progress of indemnificatory housing was slow in 2011 H1, and the construction progress was expected to accelerate in 2011 H2, which would prompt rapid growth of cement production and marketing.

China's cement industry also encounter the influence of unexpected rises in prices of such raw materials as coal, soda ash, heavy oil and intensify competitiveness in the industry.

**Companies Mentioned:**

- Jiangxi Wannianqing Cement Co., Ltd.
- Tangshan Jidong Cement Co., Ltd.
- Anhui Conch Cement Company Limited
- Xinjiang Tianshan Cement Co., Ltd.
- Gansu Qilian Mountain Group Co., Ltd.

\(^{19}\)Tsinghua University of China (2011). Growth of cement industry in china. *Analysis in China Cement Industry*, 44
Huaxin Cement Co., Ltd.
Ningxia SaiMa Industrial Co., Ltd.

Review of China Cement Industry’s Development in the Last Decade-Great Achievements:

- **In the end of 2000:** China’s total cement output 595 million tons
  Production process: mainly shaft kilns and wet kilns, NSP cement only 11%;
  Technical and economic index: below global average level.
- **2000-2010:** cement industry listed as key regulated industry in China and a series of policies and regulations were issued;
  Growth of cement demand: rapid development of national economy

- **Cement Markets**
  China consumes about 35 percent of the world’s cement, a figure expected to rise to about 40 percent by 2010.

- **Domestic Demand**
  Growth in Chinese cement production is due to the construction boom accompanying high GDP growth rates. Only rotary kiln cement can be used legally to build high-rise buildings in China, and demand for the higher grade #425 and #525 cements was estimated at about 170 million tonnes in 2000 and projected at 250 million tonnes by 2005. Forty percent of China’s cement is now used for basic infrastructure construction (an area regularly neglected during the period of heavy central planning), with about one-third of that used in rural areas. Twenty-five percent is used for maintenance activities. China’s transport sector uses cement in road construction rather than asphalt. As China lacks an adequate national highway system and its rail network is so overburdened, investment can be expected in highways over the medium term.

- **Trade**
  China is the second leading cement exporter in the world, accounting for about 17 percent of total world cement trade. Exports of cement dramatically exceed imports, about 5 million tonnes vs. 200 thousand tonnes, respectively in 2000. Shaft kiln cements comprise 60–70 percent of total exports. A share of this is from foreign owned companies or joint ventures, which themselves account for about 25 percent of exported cement. Major exporting regions include Shandong,
Jiangsu, Guangdong, Liaoning, Guangxi, and Hebei provinces. The largest exporting companies include Daewoo Shandong Metal and Minerals Import/Export (with sales of about 2 million tonnes); and Taiheiyo Cement (with sales of about 1.8 million tonnes). The United States is the largest market for Chinese cement, accounting for 42 percent of trade in 1998.

**Cement Industry in INDIA**

- **CURRENT SCENARIO**

  The Indian cement industry is the 2nd largest producer of good cement. Indian Cement sector is engaged in the production of several varieties of cement such as Ordinary Portland Cement (OPC), Sulphate Resisting Portland Cement, White Cement, Rapid Hardening Portland Cement, Portland Blast Furnace Slag Cement (PBFS), Portland Pozzolana Cement (PPC), Oil Well Cement, etc.

  The Indian cement industry is the 2nd largest in the world. It comprises of 140 large and more than 365 mini cement plants. The industry's capacity at the starting of the year 2009-10 was 217.80 million tonnes. In 2008-09, total cement consumption in India stood at 178 million tonnes while exports of cement and clinker amounted to approx 3 million tonnes. The industry occupies an important place in the national economy because of its strong linkages to other sectors such as construction, transportation, coal and power.

  Cement production during April to January 2009-10 was 130.67 million tonnes as compared to 115.52 million tonnes during the same period for the year 2008-09. Despatches were estimated at 129.97 million tonnes during April to January 2009-10 whereas during the same period for the year 2008-09, it stood at 115.07 million tonnes.

  Over the last few years, the Indian cement industry witnessed strong growth, with demand reporting a compounded annual growth rate (CAGR) of 9.3% and capacity addition a CAGR of 5.6% between 2004-05 and 2008-09. The main factors prompting this growth in demand include the real estate boom during 2004-08, increased investments in infrastructure by both the private sector and Government, and higher Governmental spending under various social programmes. With demand growth being buoyant and capacity addition limited, the industry posted capacity utilisation levels of around 93% during the last five years. Improved prices in conjunction with

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volume growth led to the domestic cement industry reporting robust growth in turnover and profitability during the period 2005-09.

- **Major Cement Companies in INDIA**
  - Gujarat Ambuja Cement Limited
  - India Cements Limited
  - Jaiprakash Associates
  - Grasim Industries
  - Ultratech Cement
  - ACC

- **Consumption Growth during 2008-09**

  Even during the economic slowdown in 2008-09, growth in cement demand remained at a healthy 8.4%. In the current fiscal (2009-10) cement consumption has shot up, reporting, on an average, 12.5% growth in consumption during the first eight months with the growth being aided by strong infrastructure spending, especially from the govt sector. The trends in all-India consumption and the growth in consumption in the major cement-consuming States over the last five years are presented in below table:

**Growth in Cement Demand**

<table>
<thead>
<tr>
<th>Figures in Million Tonnes</th>
<th>2008-09</th>
<th>Apr-Nov 09</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Consumption</td>
<td>178</td>
<td>100</td>
</tr>
<tr>
<td>Year-on-Year Growth (%)</td>
<td>8.4</td>
<td>12.5</td>
</tr>
</tbody>
</table>

*Source: Cement Manufacturers Association (CMA), ICRA Research*

Comparison between India and China cement Industry

<table>
<thead>
<tr>
<th>particulars</th>
<th>India</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment of cement industry</td>
<td>1982</td>
<td>1970</td>
</tr>
<tr>
<td>World rank in cement production</td>
<td>Second</td>
<td>First</td>
</tr>
<tr>
<td>Total cement production in 2011</td>
<td>251 million tones</td>
<td>2.2 billion tones</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>No. Of large &amp; medium cement company</th>
<th>154</th>
<th>970</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of total world production</td>
<td>7%</td>
<td>54%</td>
</tr>
<tr>
<td>Growth of industry</td>
<td>12%</td>
<td>19%</td>
</tr>
</tbody>
</table>

**PRESENT POSITION AND TREND OF BUSINESS (IMPORT / EXPORT) WITH INDIA DURING LAST 3 TO 5 YEARS**

India China trade relations are the most important part of bilateral relations between India and China. From a temporary decline in the influx of Chinese imports in the Indian markets, the scenario seems to have changed - India is enjoying a positive balance of trade with China. The India China trade relations are regulated by the India China JBC, which ensures a free exchange of products and services between the two nations.

**Chinese Exports to India under the India China Trade Relations**

The main items that comprise Chinese exports to India are electrical machinery and equipment, cement, organic chemicals, nuclear reactors, boilers, machinery, silk, mineral fuels, and oils. Value added items like electrical machinery dominates Chinese exports to India. This exhibits that Chinese exports to India are fairly diversified and includes resource-based products, manufactured items, and low and medium technology products. It is said that if India is to capture the markets of China and enjoy profits, then it would have to discover new merchandise and branch out its exports to China.

**China's import and exports for the year 2010**

<table>
<thead>
<tr>
<th></th>
<th>Absolute Value for November</th>
<th>Year-on-year growth % for November</th>
<th>Absolute Value for first 11 months</th>
<th>Year-on-year growth % for first 11 months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export Value</td>
<td>1533.3</td>
<td>34.9</td>
<td>14238.4</td>
<td>33.0</td>
</tr>
<tr>
<td>Import Value</td>
<td>1304.4</td>
<td>37.7</td>
<td>12534.3</td>
<td>40.3</td>
</tr>
<tr>
<td>--------------</td>
<td>--------</td>
<td>------</td>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>Total Import and Export Value</td>
<td>2837.6</td>
<td>36.2</td>
<td>26772.8</td>
<td>36.3</td>
</tr>
<tr>
<td>Import and Export Balance</td>
<td>228.9</td>
<td>20.7</td>
<td>1704.1</td>
<td>-3.9</td>
</tr>
</tbody>
</table>

**POLICIES AND NORMS OF INDIA FOR IMPORT-EXPORT TO THE CHINA INCLUDING LICENSING, PERMISSION, TAXATION ETC**

Foreign Trade Policy (FTP) for 2004-09 was notified on 31<sup>st</sup> August 2004 and made effective from 1<sup>st</sup> September 2004. The amended Export and Import Policy incorporated in the FTP and effective from 1<sup>st</sup> April 2008, freely allows the import of cement clinkers, ordinary Portland cements, Portland pozzolana cement, Portland slag cement, white and colored cements, aluminous cement, etc. However, the exports of the cements, clinkers, etc. under the said heading are prohibited, i.e. not permitted to be exported, vide Notification dated 11<sup>th</sup> April 2008.  

In India, the foundation of a stable Indian cement industry was laid in 1914 when the Indian Cement Company Ltd. manufactured cement at Porbandar in Gujarat. In the initial stages, particularly during the period before Independence, the growth of the sector had been very slow. The indigenous production of cement was not sufficient to meet the entire domestic demand and accordingly, the Government had to control its price and distribution statutorily. Also, the large quantities of cement had to be imported for meeting the deficit in the economy. However, with liberalization and introduction of several policy reforms, the cement industry has been decontrolled which gave impetus to its pace of growth. It has made rapid strides both in capacity/production and process technology terms. Today, it is one of the most advanced and pioneering sectors in the country. Cement is a basic material input which facilitates the promotional and developmental efforts, at a fast pace, in the areas of infrastructural set up and other construction

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<sup>22</sup>PARLIAMENT OF INDIA RAJYA SABHA (2011). *PERFORMANCE OF CEMENT INDUSTRY*, 95, 117
related works. Since it is a decontrolled commodity, its production and prices are largely governed by economic factors, like, demand and supply, cost of raw materials and other inputs, production as well as distribution costs.

The Indian cement industry is extremely energy intensive and is the third largest user of coal in the country. It is modern and uses latest technology, which is among the best in the world. Only a small segment of industry is using old technology based on wet and semi-dry process. Also, the industry has tremendous potential for development as limestone of excellent quality is found almost throughout the country. In other words, it is experiencing a boom on account of overall growth of the Indian economy, cost control continuous technology upgradation, etc. This has immensely helped it to conserve energy and fuel as well as to save materials substantially.

In India, the Department of Industrial Policy and Promotion (DIPP), under the Ministry of Commerce and Industry, is the nodal agency for the development of cement industries, that is, it is involved in monitoring their performance at regular intervals and suggesting suitable policy incentives, as per the requirement. The Department is responsible for formulation and implementation of promotional and developmental measures for growth of entire industrial sector in general and of some selected industries like cement, light engineering, leather, rubber, light machine tools, etc. in particular. It is involved in framing and administering overall industrial policy and foreign direct investment (FDI) policy as well as promoting FDI inflow into the country. It plays an active role in investment promotion through dissemination of information on investment climate and opportunities in India as well as by advising prospective investors about various policies and procedures.

Some of the rules and orders, administered by DIPP, relating to the cement industry are:

- Cement Control Order, 1967
- Cement Cess Rule, 1993
- Cement (Quality Control) Order, 1995
- Cement (Quality Control) Order, 2003

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23PARLIAMENT OF INDIA RAJYA SABHA (2011). PERFORMANCE OF CEMENT INDUSTRY, 95, 117
India is the second largest manufacturer of cement in the world. It is engaged in the production of several varieties of cement such as Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC), Portland Blast Furnace Slag Cement (PBFS), Oil Well Cement, Rapid Hardening Portland Cement, Sulphate Resisting Portland Cement, White Cement, etc. They are produced strictly as per the Bureau of Indian Standards (BIS) specifications and their quality is comparable with the best in the world. At present, the Indian cement industry comprises 134 large cement plants with an installed capacity of 173.08 million tonnes and more than 350 operating mini cement plants with an estimated capacity of 11.10 million tonnes per annum, making a total installed capacity of 184.18 million tonnes.

**POLICY**

**Easing environment norms**

To set up a cement plant in India, with an investment of over US$ 22 million entrepreneurs are required to obtain environmental clearance from the Ministry of Environment. 100 per cent FDI is also allowed for private cement companies to set up power projects as well as coal or lignite mines for captive consumption. State policies and export norms to encourage investment both the state and export policies promote cement production.

Exporters can claim duty drawbacks on imports of coal and furnace oil up to 20 per cent of the total value of imports. Most state governments offer fiscal incentives in the form of sales tax exemptions/deferrals in order to attract investment. In some states, this applies only to intra-state sales, like Madhya Pradesh and Rajasthan. States like Haryana offer a freeze on the power tariff for 5 years, while Gujarat offers exemption from duty on electricity.

**FOREIGN TRADE**

Exports of cement (total) decreased to 3.42 million tonnes in 2007-08 from 4.82 million tonnes in 2006-07. Portland grey cement had a share of 82% and cement clinker 12% in the total cement exports. Portland white cement and other cements together had a 6% share. Exports of cement in 2007-08 were mainly to Qatar (30%), Nepal (21%), Iraq (20%) and Yemen Republic (12%).
Cement imports in 2007-08 increased to 6.2 lakh tonnes from 2.12 lakh tonnes in 2006-07. Grey cement had a share of 61% in the total cement imports in 2007-08 followed by cement clinker (28%), other cements 10% and white cement (<1%). Main suppliers in 2007-08 were Pakistan (61%), Bangladesh (9%), Indonesia (8%), China and Japan (6% each).

**POTENTIAL FOR IMPORT / EXPORT IN INDIA**

The cement industry is vital for the development of infrastructure all over the world as no other material is likely to be its substitute in the near future. Infrastructure and industrial activity, real estate business and investment in core sectors mainly drive the demand for cement.

Some emerging markets for cement demand are concrete roads, concrete canal lining and rural construction (housing). Over 65% demand for cement arises from construction sector. The country is self-sufficient in cement. Most of the cement plants in India have the state-of-the-art technology and production facilities. The liberalization policies for cement industry have helped in achieving the strong growth of the cement sector. Cement industry is going ahead with a modification and upgradation of technology particularly in energy conservation.

The Working Group on Cement Industry constituted by the Planning Commission for the 11th Five-Year Plan period has projected a demand growth at the rate of 11.5% per annum during the plan period at an expected 9% GDP growth rate. The cement capacity during 11th plan period is projected as additional 112 million: 80 million from Greenfield plants and 32 million through brownfield expansion and technology upgradation. As per the report of the Working Group, the cement capacity and production by the end of 11th Plan are estimated at 320 million tonnes and 269 million tonnes per annum, respectively, with a capacity utilization of 90 percent. An investment of Rs. 52,400 crore would be required to attain the targeted capacity addition. The Working Group report also seeks regulatory support for creating framework for co-processing of wastes, co-generation of power and enhanced support to R & D activities to align the technology regime with the best of the world. The report also emphasizes the importance of bulk transportation of cement, use of ready-mix concrete and reduction of taxes and levies on cement.
Transportation of cement in bulk is devoid of pilferage and is environment-friendly. Only two rail bulk cement terminals (Kalamboli and Bangalore) and three port-based bulk cement terminals (Mumbai, Surat and New Mangalore) have been set up. In India, only 5% production accounts for bulk transport against 70% world over.

The Government has identified following thrust areas for improving demand for cement:

I. Further push to housing development programs;
II. Promotion of concrete highways and roads;
III. Use of ready-mix concrete in large infrastructure projects and;
IV. Construction of concrete roads in rural areas under Prime Minister's Gram Sadak Yojana

The housing sector, by a rough estimate, can consume over 50 million tonnes cement to help clear the backlog. The rural infrastructure that includes irrigation facilities, storage, market yards & mandies, telecommunications and rural electrification would also demand substantial quantity of cement. As compared to many other sectors of the national economy, the cement industry is thus favorably placed for a bright future.

BUSINESS OPPORTUNITIES IN FUTURE

According to CRISIL estimates, given the demand-supply gap of roughly 40 million tonnes, capacity addition is expected over the next five years. Of this, almost 30 million tonnes will be met through greenfield/brownfield expansions and 10 million tonnes through blending. The capacity addition of 30 million tonnes would require an investment of around US$ 2.2 billion.

Consolidation is expected to increase further in the cement industry. Around 23 million tonnes of additional capacity could be sold simply because on a stand-alone basis these units are unviable. As part of a larger group, their operations could be cost effective. This opens up a number of possibilities for acquisitions and mergers. The infrastructure opportunity

The National Highways Development Project (NHDP) includes the 5,846 km Golden Quadrilateral (GQ) and the 7,300 km North-South, East-West (NS-EW) corridor. In addition to it, upgradation of rural roads, upgradation to four/six lanes of about 13,000 km of National Highways and 10,000 km of additional highways have also been initiated.
The NHDP is expected to lay a significant part of the roads in cement concrete. Thus, if 25 per cent of the roads of East-West corridors are laid by concrete, it is likely to lead to an incremental demand of 5-6 million tonnes of cement per annum. Likewise, the Golden Quadrilateral is expected to add 4-5 million tonnes of demand per annum. The total demand from these road projects is expected to generate an incremental growth of 4-5 per cent per annum over the next 2-3 years.

Among other infrastructure sectors, construction and modernization of four airports and two seaports, railroad, power plants and water management systems are also likely to boost the demand for cement, in particular the ready-mix cement.

**Push from housing**

Over the next five years, the numbers of households are expected to increase at a CAGR of 2.3 per cent, against a population growth rate of over 1.7 per cent. The growth in urban households will be higher than rural households, shifting the rural-urban household ratio from 70:30 to 67:33. As the growth in households is higher than the population growth, it will accelerate the demand for new houses.

Higher demand and greater affordability due to lower interest rates and tax breaks is expected to trigger an unprecedented housing boom. The housing finance industry has estimated a latent demand of 33 million houses and forecasts a growth of 50 per cent per annum till 2007. With the housing sector accounting for 50 per cent of the current cement demand, this boom is expected to propel even higher cement demand. Commercial structures and corporate projects With most industries like textiles, chemicals and plastics, ferrous and non-ferrous metals and non-metallic and mineral products operating at close to full capacity, large investment in capacity expansions across sectors is likely to boost cement demand. Strong off take is also expected from select segments such as commercial complexes and multiplexes in important centres such as Bangalore, Hyderabad and Ahmedabad.
A study of Agriculture sector of China:

Introduction of the agriculture sector and its role in the economy of china.

• Agriculture sector in china

China is the world’s largest agricultural economy and the leading producer and consumer of many agricultural commodities. In recent years, its massive population and tremendous income growth have fueled a rapid increase in both the quantity and quality of food and fiber consumed. While China has met much of its needs by increasing domestic production, it has also emerged as a leading global importer of several agricultural commodities, including cotton, soybeans, vegetable oils, and hides and skins.

Although China's agricultural output is the largest in the world, only about 15% of its total land area can be cultivated. China's arable land, which represents 10% of the total arable land in the world, supports over 20% of the world's population. Of this approximately 1.4 million square kilometers of arable land, only about 1.2% (116,580 square kilometers) permanently supports crops and 525,800 square kilometers are irrigated. The land is divided into approximately 200 million households, with an average land allocation of just 0.65 hectares (1.6 acres). China's limited space for farming has been a problem throughout its history, leading to chronic food shortage. While the production efficiency of farmland has grown over time, efforts to expand to the west and the north have held limited success, as such land is generally colder and drier than traditional farmlands to the east. Since the 1950s, farm space has also been pressured by the increasing land needs of industry and cities.

In 1997, the total output of grain, cotton and edible oil came to 490 million tons, 4.6 million tons and 21.57 million tons, increasing respectively by 62.1 percent, 112.4 percent and 313.5 percent over 1978. The output of milk and eggs was 4.5 times and 2.7 times as much as those in the early 1980s. The output of grain and cotton jumped to No.1 in the world. The total output value of agriculture, forestry, husbandry and fishery reached 2.4709 trillion yuan, 2.4-fold increase over

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24 Howard Schneider, Agriculture in China, Washington Post May 22, 2011
1978 after adjustment for price factors with an average annual increase of 6.6 percent which is 2.8 times as much as that before the initiation of reform and opening to the outside world. China ranked as the world’s second-largest agricultural importing country behind the United States in 2009. China became a net importer of agricultural products in 2003, and this trade deficit is likely to persist as future growth in food demand, driven by rapidly rising per capita income, is expected to outpace increases in domestic production. China’s agricultural imports from the world grew at an average annual rate of 24 percent during 2005–10, reaching $66.4 billion in 2010. In 2010, China’s main agricultural imports were soybeans and cotton, primarily from the United States, which together accounted for about one-half of all imported agricultural products in that year. After soybeans and cotton, leading imports were palm oil (8 percent), hides and skins (4 percent), dairy (4 percent), and wool (3 percent). During 2005–10, China imported very small volumes of beef, pork, and grains.

- **Crops in China and their impact on overall agriculture of China**

  Major crops: rice, wheat, potatoes, corn, peanuts, tea, millet, barley, apples, cotton, oilseed. Wheat, kaoliang (sorghum), millet, barley, soy beans and corn are grown in the north. Rice is the dominate crop in the south. Wheat and corn are summer crops, potatoes and radishes are autumn crops. China some years produces more than a third of the world's rice. China is also the world's leading producer of raw cotton, and a leading exporter of wheat and oilseeds (crushed to make cooking oil). Corn is grown for food, fodder and export.” Other important crops include cabbage, celery, peas, beans, lettuce, leks, and onions. China had its forth consecutive year of bumper harvests in 2009 with a grain output at a record 528.2 million tons. The harvest was about 510 million tons in 2007. Grain production dropped from 512 million tons in 1998 to 430 million tons in 2003 and increased to 470 million tons in 2004 and 484 million tons in 2005 thanks to favorable weather and incentive to farmers. In 1993 China produced 440 million tons of wheat, rice and other grains.

China is now virtually self sufficient in wheat, rice and corn. Howard Schneider wrote in the Washington Post, “The government has encouraged production of these crops through measures such as setting base-line prices for farmers. To see how much longer China can remain self-sufficient, the markets for these staples are being watched closely by commodity trading
companies, U.S. farmers, the World Bank and other organizations concerned with global food security.

**Comparative Position of Agriculture Sector with India and Gujarat**

According to a 2007 EU report, in the 1990s and early 2000s, Indian agriculture policy aimed to improve food self-sufficiency and alleviate hunger through food distribution. Aside from investing in infrastructure, the government supports agriculture through minimum support prices (MSP) for the major agricultural crops, farm input subsidies and preferential credit schemes. Under the price support policy, MSPs are set annually for basic staples to protect producers from sharp price falls, to stabilise prices and to ensure adequate food stocks for public distribution. India's agricultural economy is undergoing structural changes. Between 1970 and 2011, the GDP share of agriculture has fallen from 43 to 16 percent. This isn't because of reduced importance of agriculture, or a consequence of agricultural policy. This is largely because of the rapid economic growth in services, industrial output, and non-agricultural sectors in India between 2000 to 2010. Key products at the sub-heading level (HS2) imported by India from China during 2004-10. Raw silk dominates the import basket, accounting for 50 percent or more of the total in each year (indeed over 60 percent, except in 2007 and 2010). Next in importance was edible vegetables (HS07) accounting for about 14 percent of the total in recent years but with considerable fluctuations in value. About 20 percent of the vegetables imported from China are onions, shallots and garlic (HS0703) and 77 percent are dried leguminous vegetables (HS0713), namely beans and peas. The data also show increasing product diversity: in 2007, only three products exceeded US$10 million (raw silk, vegetables and wool); in 2010, there were three additional products exceeding US$10 million (beverages/spirits, products of animal origin and coffee, tea etc.). In addition, there were significant imports of fruits, vegetable preparations and residues/wastes. Thus, overall, there has been both growth and product diversification.

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### Table 3 - India's imports of agricultural products from China (million $)

<table>
<thead>
<tr>
<th>Product</th>
<th>HS</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products of animal origin</td>
<td>05</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Edible vegetables, roots</td>
<td>07</td>
<td>3</td>
<td>30</td>
<td>44</td>
<td>24</td>
<td>16</td>
<td>22</td>
<td>42</td>
</tr>
<tr>
<td>Edible fruit and nuts</td>
<td>08</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Coffee, tea, mate, spices</td>
<td>09</td>
<td>6</td>
<td>11</td>
<td>13</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>Oil seeds, oleagifruits ..</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Prep of vegetable, fruit..</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Beverages, spirits and vinegar</td>
<td>22</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>Residues from food industry</td>
<td>23</td>
<td>2</td>
<td>8</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>Raw silk</td>
<td>5002</td>
<td>98</td>
<td>124</td>
<td>106</td>
<td>112</td>
<td>123</td>
<td>173</td>
<td>143</td>
</tr>
<tr>
<td>Silk waste (incl. cocoons)</td>
<td>5003</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Wool, not carded or combed</td>
<td>5101</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>13</td>
<td>15</td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td>Rest of the products</td>
<td>-</td>
<td>21</td>
<td>4</td>
<td>10</td>
<td>5</td>
<td>10</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>All total</td>
<td>137</td>
<td>189</td>
<td>194</td>
<td>183</td>
<td>195</td>
<td>264</td>
<td>293</td>
<td></td>
</tr>
</tbody>
</table>

Source: COMTRADE.

As above, Table shows key products (at HS2 level) imported by China from India. The data do not show consistent import trend except for the last three years. In 2006, oils and fats and food industry residues were prominent but their share fell markedly in the next 2-3 years, and picked up again. From 2008, cotton emerged as the most important traded product, accounting for 46 percent of the total in 2009 and 73 percent in 2010 (for a value of US$765 million). There was no trade in cotton in the previous years. Residues from food industry (oil meals) were another surge item beginning in 2008, followed by oils and fats. The only product that has featured prominently in all the years and seems to be picking up in recent years is edible vegetables, almost 100 percent being dried leguminous vegetables (HS0713). Aside from the seven products
shown in the table, the rest together accounted for a very small share, only 4-5 percent of the total, except during 2005-07 when their combined share was 10-20 percent.

Present Position and Trend of Business (import / export) with India during last 3 to 5 years

- India’s Exports to China

<table>
<thead>
<tr>
<th>HS Code</th>
<th>Product label</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bulbs, tubers, corms, etc</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>plants, live, nes (incl their roots), cuttings &amp; slips; mushroom spawn</td>
<td>256</td>
<td>489</td>
<td>455</td>
<td>128</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>cut flowers and flower buds for bouquets, fresh or dried</td>
<td>209</td>
<td>115</td>
<td>56</td>
<td>39</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>foliage, branches etc</td>
<td>63</td>
<td>106</td>
<td>152</td>
<td>188</td>
<td>245</td>
</tr>
<tr>
<td>5</td>
<td>onions, garlic and leeks, fresh or chilled</td>
<td>467</td>
<td>47</td>
<td>257</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>vegetables, provisionally preserved (unfit for immediate consumption)</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>27</td>
</tr>
<tr>
<td>7</td>
<td>dried vegetables</td>
<td>269</td>
<td>179</td>
<td>130</td>
<td>150</td>
<td>65</td>
</tr>
<tr>
<td>8</td>
<td>dried vegetables, shelled</td>
<td>25,901</td>
<td>26,368</td>
<td>34,546</td>
<td>19,086</td>
<td>28,763</td>
</tr>
<tr>
<td>9</td>
<td>brazil nuts, cashew nuts &amp; coconuts</td>
<td>73</td>
<td>72</td>
<td>231</td>
<td>47</td>
<td>189</td>
</tr>
<tr>
<td>10</td>
<td>nuts nes</td>
<td>0</td>
<td>16</td>
<td>0</td>
<td>2,060</td>
<td>2,796</td>
</tr>
<tr>
<td>11</td>
<td>dates, figs, pineapples, mangoes, avocados, guavas</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>frozen fruits &amp; nuts</td>
<td>0</td>
<td>12</td>
<td>20</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>provisionally preserved fruits &amp; nuts (unfit for immediate consumption)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>14</td>
<td>dried fruit</td>
<td>2</td>
<td>0</td>
<td>7</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>Coffee</td>
<td>33</td>
<td>191</td>
<td>264</td>
<td>145</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>Tea</td>
<td>539</td>
<td>997</td>
<td>1,116</td>
<td>1,951</td>
<td>7,237</td>
</tr>
<tr>
<td>17</td>
<td>pepper, peppers and capsicum</td>
<td>284</td>
<td>3,228</td>
<td>1,040</td>
<td>1,905</td>
<td>9,271</td>
</tr>
<tr>
<td>18</td>
<td>Vanilla</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>19</td>
<td>cinnamon and cinnamon-tree flowers</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>nutmeg, mace and cardamons</td>
<td>19</td>
<td>2</td>
<td>3</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>21</td>
<td>seeds of anise, badian, fennel, coriander, cumin, etc.</td>
<td>66</td>
<td>22</td>
<td>102</td>
<td>29</td>
<td>29</td>
</tr>
</tbody>
</table>

- **China’s Imports from India**

<table>
<thead>
<tr>
<th>SR</th>
<th>NN</th>
<th>Product label</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O.</td>
<td>bulbs, tubers, corms, etc</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>plants, live, nes (incl their roots), cuttings &amp; slips; mushroom spawn</td>
<td>5</td>
<td>12</td>
<td>175</td>
<td>650</td>
<td>764</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>cut flowers and flower buds for bouquets, fresh or dried</td>
<td>18</td>
<td>55</td>
<td>38</td>
<td>18</td>
<td>99</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>foliage, branch etc</td>
<td>287</td>
<td>581</td>
<td>831</td>
<td>183</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>onions, garlic and leeks, fresh or chilled</td>
<td>158</td>
<td>392</td>
<td>233</td>
<td>817</td>
<td>110</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>cabbages and cauliflowers, fresh or chilled</td>
<td>0</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>carrots, turnips and salad beetroot, fresh or chilled</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>86</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>leguminous vegetables, shelled or unshelled, fresh or chilled</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>frozen vegetables</td>
<td>27</td>
<td>80</td>
<td>61</td>
<td>444</td>
<td>56</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>vegetables, provisionally preserved (unfit for immediate consumption)</td>
<td>2</td>
<td>0</td>
<td>364</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>dried vegetables</td>
<td>1,180</td>
<td>1,347</td>
<td>1,308</td>
<td>852</td>
<td>1,934</td>
<td></td>
</tr>
</tbody>
</table>
### Trends in global total imports and exports of China and India

(billion $)

<table>
<thead>
<tr>
<th>Country/region</th>
<th>Flow Products</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>Growth rate per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Agriculture</td>
<td>13</td>
<td>13</td>
<td>15</td>
<td>18</td>
<td>22</td>
<td>26</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Non-agriculture</td>
<td>234</td>
<td>250</td>
<td>308</td>
<td>417</td>
<td>735</td>
<td>938</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>247</td>
<td>264</td>
<td>323</td>
<td>4358</td>
<td>758</td>
<td>964</td>
<td></td>
<td>26</td>
</tr>
</tbody>
</table>

| 12 | dried vegetables, shelled | 34,599 | 23,004 | 33,181 | 129,021 | 61,811 |
| 13 | nuts nes                  | 0      | 0      | 69      | 1        |        |
| 14 | citrus fruit, fresh or dried | 0     | 2      | 11      | 151      | 548    |
| 15 | grapes, fresh or dried    | 371    | 712    | 823     | 1,365    | 2,351  |
| 16 | apples, pears and quinces, fresh | 6,301 | 17,293 | 22,283 | 37,680    | 62,197 |
| 17 | apricots, cherries, peaches, nectarines, plums & sloes, fresh | 0 | 4 | 115 | 139 | 30 |
| 18 | fruits nes, fresh         | 11     | 0      | 29      | 0        |        |
| 19 | frozen fruits & nuts      | 24     | 0      | 0       | 221      | 117    |
| 20 | citrus fruit and melon peel | 0   | 0      | 0       | 0       | 1      |
| 21 | Coffee                     | 0      | 313    | 0      | 0       | 0      |
Second, the data show that agricultural trade is a small share of total trade for all three blocks. For 2004-06, these are about 5-6 percent for AFTA and India, and just over 3 percent for China. The shares are fairly similar for both exports and imports, except for India for which agricultural export is 9 percent of the total versus 4 percent for agricultural import. Furthermore, as non-agricultural trade expanded relatively rapidly, the share of agriculture trade in the total has tended to fall, especially for China and India on the export side.

<table>
<thead>
<tr>
<th></th>
<th>Import</th>
<th>Agriculture</th>
<th>Non-agriculture</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>10</td>
<td>10</td>
<td>11</td>
<td>175</td>
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<tr>
<td></td>
<td>2</td>
<td>25</td>
<td>29</td>
<td>22</td>
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<tr>
<td></td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>6</td>
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<td></td>
<td>215</td>
<td>233</td>
<td>285</td>
<td>3966</td>
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<td></td>
<td>634</td>
<td>24</td>
<td></td>
<td>4131</td>
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<tr>
<td></td>
<td>763</td>
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<td>660</td>
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<td></td>
<td>24</td>
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<td>791</td>
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<tr>
<td></td>
<td>24</td>
<td>24</td>
<td></td>
<td>24</td>
</tr>
<tr>
<td>India</td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>77</td>
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<tr>
<td></td>
<td>9</td>
<td>11</td>
<td>15</td>
<td>9</td>
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<tr>
<td></td>
<td>103</td>
<td>126</td>
<td></td>
<td>20</td>
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<td>39</td>
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<td>563</td>
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<tr>
<td></td>
<td>94</td>
<td>115</td>
<td></td>
<td>20</td>
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<td></td>
<td>103</td>
<td>126</td>
<td></td>
<td>19</td>
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<tr>
<td></td>
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<td>103</td>
<td>126</td>
<td></td>
<td>19</td>
</tr>
<tr>
<td>India</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>55</td>
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<td>49</td>
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<td>144</td>
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<td>1</td>
<td>1</td>
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<td>1</td>
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<td>10</td>
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<tr>
<td></td>
<td>51</td>
<td>52</td>
<td>61</td>
<td>778</td>
</tr>
<tr>
<td></td>
<td>150</td>
<td>185</td>
<td></td>
<td>25</td>
</tr>
</tbody>
</table>

Source: COMTRADE.
Policies and Norms of China for Agriculture Sector for import / export

• TRADE BARRIERS

1) Tariffs
As a condition of its WTO accession, China reduced its agricultural tariffs to a simple average of 15 percent ad valorem. Most tariff reductions occurred by January 1, 2004, with the remainder completed no later than January 1, 2010. Only a few agricultural products ended their staged reductions in 2010, including fresh strawberries (under subheading 0810.10 in the worldwide Harmonized System [HS]), certain provisionally preserved fruits and nuts (HS0812.90), and certain other fermented beverages and mixtures (HS2206.00). By 2007, China’s trade-weighted average tariff had fallen to 12 percent ad valorem for agricultural products.

Average Tariffs
Average tariffs are the highest and the ranges the greatest for products like grains, milled grain products, sugar, beverages, and tobacco. Many products are the subject of domestic food security concerns (wheat, corn, rice) or are highly regulated and subject to supplementary consumption taxes (alcohol, tobacco).

Tariff Peaks
With respect to individual agricultural products, China’s applied tariffs are highest for corn, wheat, and rice (65 percent ad valorem for over-quota imports); tobacco (57 percent); and raw cane and refined sugar (50 percent for over-quota imports). Other products with high tariffs include cotton (40 percent for over-quota imports), certain fermented beverages (40 percent), beverage bases (35 percent), and a variety of nuts (30 percent).

2) Tariff-Rate Quotas
China converted absolute quotas to TRQs as a condition of its WTO accession. The main regulation guiding the administration of TRQs is the Interim Measures for the Administration of

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27 http://agro.indiamart.com/export-import-policies/
Import Tariff Quotas of Agricultural Products. TRQ amounts, conditions, and requirements are announced annually, and China notifies the WTO annually regarding its TRQ administration.

3) Licensing and Certification
The Chinese government has established a monitoring mechanism for some imports, in the form of an automatic registration form (ARF). The ARF was first applied to poultry imports. More recently, imports of soybeans, soybean oil, and pork have been subject to ARF requirements. For these products, an importer must obtain an ARF from the Ministry of Commerce (MOFCOM), and only certain entities in China are eligible to apply for an ARF. These entities can then either import the product themselves or sell the ARF to an importer.

In addition to the ARF system, trading with China requires a wide array of licenses and certifications. Imports of cotton, for instance, require an invoice, a bill of lading, a plant quarantine certificate, a quality certificate, a certificate of origin, a packing list, a specification of weight, and a nonwood packing certificate. As discussed above, U.S. producers wishing to export pet food to China must receive certification from the USDA that products meet the requirements of a protocol negotiated between the USDA and China’s MOA, and then obtain a separate license from the MOA.

4) Antidumping and Countervailing Duties
In August and September 2010, China announced final countervailing duty (CVD) and antidumping (AD) determinations, respectively, on imports of certain U.S. poultry products. Actions related to these determinations have adversely affected U.S. poultry exports to China. CVD and AD duties are not traditional tariffs; rather, they are duties to offset foreign subsidies and dumping margins. These determinations resulted in the imposition of CVD rates of between 5.1 percent and 30.3 percent, and AD rates of between 50.3 percent and 105.4 percent, on imports of the subject U.S. poultry into China.

5) Tax Treatment
China’s farmers and other agricultural producers are exempt from paying China’s value-added tax (VAT) on sales of their agricultural products. In contrast, the VAT must be paid on the full
import value of the vast majority of imported agricultural goods. In China, a VAT is assessed on each transaction; it is recorded by the seller as a sales VAT and by the purchaser as a purchase VAT. When selling a processed agricultural product, a processor is liable for the VAT on its sales (typically 17 percent of the value), less the purchase VAT paid on inputs. Although no VAT is actually paid on domestically produced agricultural inputs, agricultural processors are still able to deduct 13 percent of the purchase price of the raw agricultural inputs when calculating the VAT to be paid on the processed product.

6) Labeling and Quality Standards
Labeling requirements in China are established by the central government and may involve several ministries and agencies. Some labeling requirements, such as those that require that labels be placed on individual containers within bulk packages, that labels be only in Mandarin, and that notices be integrated with the packaging as opposed to being affixed with a sticker, add to producers’ cost of delivery. Labels in China must also identify the distributor or distributors. Labels for bottled wine and spirits sold in China are required to indicate a bottling date. This is not the industry standard, and is an additional expense for U.S. exporters who must handle exports to China separately from product bound for other destinations, or may face delays while the product’s label is brought into compliance.

The Standardization Administration of China (SAC), a government body administered under AQSIQ, is responsible for setting national standards, administering the standards system, and ensuring that China’s standards conform with international standards and fulfill China’s commitments under the TBT Agreement. Additionally, the Certification and Accreditation Administration of China (CNCA), also under AQSIQ, is responsible for administering and implementing China’s conformity assessment regime. Since 2002, China has been in the process of reviewing its technical regulations to ensure that deviations from international standards are justified. China’s national standards, which are developed by the SAC, are known as “GB” standards. According to the WTO, only about 46 percent of China’s national standards are equivalent to international standards. The SAC has not established national standards for all products in all applications. Where no national standard exists, relevant authorities are permitted to develop sectoral or local standards.
7) Customs Procedures

Generally, Chinese duties on imports are based on the actual transaction value, including insurance and freight. However, the Customs Administration audits the reported transaction value of every shipment in order to evaluate the accuracy of declared transaction values.

China’s customs officials apparently have wide latitude in determining the customs classification of imported products, which may have a significant effect on the level of tariff. Problems with customs classification add to the uncertainty of trade with China and increase risks for traders. As with customs valuations, customs classifications can vary by port. Reportedly, the difficulty stems from a lack of expertise with specific products in some ports, as well as the lack of national classification standards for these products.

8) Tariff-Rate Quota Administration

China maintains TRQs on wheat, cotton, corn, rice, wool, and sugar. A low fill rate is an indication that such an NTM may exist. According to industry representatives, China has not been a consistent market for U.S. wheat, partly because of the administration of the wheat TRQ. China’s TRQ for wheat has a very low fill rate in most years. Under the terms of its WTO accession, China agreed to open its market to a TRQ of 9.64 million metric tons of wheat per year from all import sources, with an in-quota duty rate of 1 percent ad valorem and an out-of-quota duty rate of 65 percent ad valorem. The volumes of wheat that may be imported under China’s TRQ are divided between COFCO, a state trading enterprise, and multiple private traders. Since the information on specific allocation volumes is not public, it is difficult for traders to pool within-quota volumes.

9) Transparency

Article X of the GATT 1994 requires that laws and regulations that affect trade be administered in “a uniform, impartial, and reasonable manner.” A consistent, clearly understandable, and fully

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participatory system of regulations affecting international trade encourages increased trade by, among other things, removing the risk of unexpected or unexplained government action. Both the SPS Agreement and the TBT Agreement use the term “transparency” in describing requirements for regulatory systems put in place by member countries. Within the SPS Agreement, the basic requirements for transparency are spelled out in Annex B, “Transparency of Sanitary and Phytosanitary Regulations.” In the TBT Agreement, the requirements for transparency are found throughout the document, including in Annex 3 the “Code of Good Practice for the Preparation, Adoption, and Application of Standards.”

Policies and Norms of India for Agriculture Sector for import / export

Export Procedure
A successful exporter should thoroughly research the markets. The first thing you need to do is set up a business organization depending on your export needs. If you decide to incorporate a private limited company, then you have to register the same with the Registrar of Companies.

The second thing you need to do is to open a current account in the name of the organization in whose name you intend to export, at a bank that is authorized to deal in foreign exchange. Carefully select the products you wish to export and study current export trends. Also, find out about the import regulations of the commodity in the importing countries. Send export letters to targeted companies with information about your company, product, pricing and other services offered. Negotiate with buyers for a good deal. Once an export order is received it must be processed and a contract that lists item specifications, payment conditions, marketing requirements, arbitration, shipping and insurance must be drawn out.

All exporters have to register with a regional licensing authority that provides them with an Import Export Code (IEC) number. To get benefits and concessions under the export-import policy, exporters should register with an appropriate export promotion agency by obtaining a registration-cum-membership certificate. Goods that are exported are eligible for exemption from both Sales Tax and Central Sales Tax. For this purpose, you should get yourself registered with the Sales Tax Authority of your State.
Agricultural products have to go through quality control and pre-shipment inspections before export. Under the Export (Quality Control and Inspection) Act, 1963, about 1,000 commodities under the major groups of food and agriculture, fishery, minerals, organic and inorganic chemicals, rubber products, jute products and coir are subject to compulsory pre-shipment inspection. However, products that have an ISI Certification Mark or Agmark do not need to be inspected by any agency. All goods should be labelled, packaged, packed and marked before export.

Import Procedure
Imports to India are governed by the Foreign Trade (Development and Regulation) Act 1992. Under this Act, imports of all goods are free except for the items regulated by the policy or any other law in force. The present, foreign trade arrangements for different commodities are stated in the EXIM Policy of 2004-2009. This policy is announced once every five years with annual supplements coming out every year. It is also known as the Foreign Trade Policy or Export Import Policy.

Registration with a regional licensing authority is a precondition for the import of goods. Customs officials will not permit clearance of goods unless the importer gets an Import Export Code (IEC) number from the regional licensing authority.

GOVERNMENT POLICIES:
- EXIM Policy
- Price Policy
- Marketing Policy
- Management Policy

EXIM Policy: EXIM Policy is the export import policy of the government that is announced every five years. It is also known as the Foreign Trade Policy. This policy consists of general provisions regarding exports and imports, promotional measures, duty exemption schemes, export promotion schemes, special economic zone programs and other details for different sectors. Every year the government announces a supplement to this policy.
**Price Policy:** The government has formulated a price policy for agricultural produce that aims at securing remunerative prices to farmers to encourage them to invest more in agricultural production. Keeping this in mind, the government announces minimum support prices for major agricultural products every year. These prices are fixed after taking into account the recommendations of the Commission for Agricultural Costs and Prices (CACP).

**Marketing Policy:** The Agricultural Marketing Policy is governed by the Agricultural Produce (Grading and Marketing) Act of 1937. The Directorate of Marketing and Inspection of the Ministry of Agriculture is responsible for administering federal statutes concerned with the marketing of agricultural produce. Other Central Government organizations that are involved in agricultural marketing and promotion of exports are the Commission for Agricultural Costs and Prices, the Food Corporation of India, the Cotton Corporation of India and the Jute Corporation of India.

**Management Policy:** The first National Agriculture Policy was announced in the year 2000. It aimed at tapping the vast potential of the agriculture sector by achieving a growth rate in excess of 4 per cent per annum in the agriculture sector, cater to domestic markets and maximize benefits from exports. Measures taken to implement this policy include creation of national policies on agricultural sectors such as cooperation, seeds and extension. Also, new schemes such as Kisan Call Centres, Agri Clinics, Agri Business Centres, National Agricultural Insurance Scheme and Grameen Bhandaran Yojana have been launched.

**Agribusiness Opportunities**

With nearly 12% of the global arable land, Indian Agriculture enjoys an enviable position. This is further reinforced with the following:

- 3rd largest producer of food grains
- 2nd largest producer of fruits
- 2nd largest producer of vegetables
- Largest producer of milk
- Largest number of livestock
This enviable position is based on:

- Growing economy with strong fundamentals
- Predominantly agrarian society
- Large arable land
- Favorable tropical climatic conditions
- Enterprising farming community
- Skilled workforce for traditional agriculture
- State commitment
- Small land holdings facilitating close supervision and operational flexibility
- Thrust on diversifications

Factors that enhance agribusiness opportunities:

- Strong agriculture - State support
- Multi product environment - Vibrant economy
- Product availability throughout the year - Strong domestic market
- Land area not a constraint - Products for global markets
- Wealth of human resources - Presence of global MNCs
- Exportable surplus - Processing capability

Business opportunities

There exists innumerable business opportunities in the agriculture and allied sectors. Investors from all over the world are making more and more investments into the sector for unleashing its existing potentialities as well as for exploring the untapped areas. Fisheries sector occupies a very important place in the socio-economic development of the country. It is a big source of employment opportunities for the large number of people in the country, especially rural population. It has a huge export potential.

The various technical measures employed to develop agriculture are as under:

1. Multiple Cropping:

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2. Expansion of Irrigation Facilities:
3. Use of HYV Seeds:
4. Plant Protection:
5. Scientific Methods of Cultivation:
6. Use of Mechanization:
7. More Use of Chemical Fertilizers:
8. Development of Agricultural Land:
9. Animal Husbandry:
10. Land Reforms:

Conclusion

China is the world’s largest agricultural economy and the leading producer and consumer of many agricultural commodities. In recent years, its massive population and tremendous income growth have fueled a rapid increase in both the quantity and quality of food and fiber consumed. China has moved from a closed, centrally planned system to a more market-oriented one that plays a major global role. In 2010 China became the world's largest exporter. Reforms began with the phasing out of collectivized agriculture, gradual liberalization of prices, fiscal decentralization, increased autonomy for state enterprises, creation of a diversified banking system, development of stock markets, rapid growth of the private sector, and opening to foreign trade and investment. High employment rate, consistent GDP growth around 10%, drastic reduction in poverty rate, increased per capita income, higher urbanization rate, increasing FDI flows etc. are the factors which trigger the growth of china economy. The Chinese government faces numerous economic challenges, including: (a) reducing its high domestic savings rate and correspondingly low domestic demand; (b) sustaining adequate job growth for millions of migrants and new entrants (c) reducing corruption and other economic crimes; and (d) containing environmental damage and social strife related to the economy's rapid transformation. As per the one of the famous statements “Each coin has two sides”; population of China is its strength as well as weakness. Having the largest population it has lower labour rates but at the same time it faces the problem of scarcity of land and food.
WHAT IS IRON ORE?
Iron ores are rocks and minerals from which metallic iron can be economically extracted. Iron Ore Industry is a concept that contains iron ore mining, quarrying, crushing, grinding, iron ore beneficiation, ore reduction, iron ore transporting, trading, primary production, iron ore prices, iron ore production plant, wholesale, iron ore shipping, ore slag recycling, pollution solution, iron ore specific solution, etc. The total iron ore production of the world was 2177 million metric ton in the year 2010. The production was dominated by three main producers: Vale Group contributing 417,000 metric tons or 18% of the total production, Rio Tinto Group as much as 271,000 metric tons (13%) and BHP Biliton as much as 189,000 metric tons (9%).

THE IRON ORE INDUSTRY CHINA
Iron ore is the major component in the manufacturing of steel. In the last several years, China has continued to become the largest consumer of steel in the world, consuming around 2/3 of the total production. In 2009, China demanded almost 60% of the world's iron ore to produce 47% of world's steel production. Despite China's massive production, it is a net importer of iron ore, a testament to the country's strong demand. As the world's largest buyer of iron ore, China is attempting to leverage its position to resist shorter-term contracts. China's long-term strategy is to reduce dependency on iron ore from the "big three".

INDIAN IRON ORE INDUSTRY - KEY FACTS
India is the world's third-biggest supplier of iron ore after Australia and Brazil.

Production:
India produced 226 million tones of iron ore in 2009/10 and exported 117.37 million tones. There are about 500 mines, half of which are operational. These mines are held by about 80 companies. The largest mining firm is state-run NMDC, which produces about 29 million tones annually, mostly for local sales.

Exports:
China is India’s biggest buyer, with its proximity helping it secure ores with low freight costs. The largest exporter is Sesa Goa, a unit of London-listed Vedanta Resources.  

FORMS OF IRON ORE

While nearly 98 per cent of iron goes towards producing steel products to be used in the above ways, iron has an even wider range of uses in different forms:

- Black Iron Oxide – metallurgy, medicine, polishing compounds, magnetic inks, pigment.
- Iron Blue – cosmetics such as eye shadows, ingredients in fertilizer, industrial finishes, enamel finishes on appliances and automobiles, paper dyes
- Powered Iron – magnets, high-frequency cores, magnets
- Radioactive Iron – biochemical and metallurgic research, medical purposes

STRUCTURE OF IRON ORE

Iron ores are rocks and minerals from which metallic iron can be economically extracted. The ores are usually rich in iron oxides and vary in colour from dark grey, bright yellow, deep purple, to rusty red. The iron itself is usually found in the form of magnetite (Fe3O4), hematite (Fe2O3), goethite, limonite or siderite. Hematite is also known as "natural ore". Certain hematite ores contained 66% iron and could be fed directly into blast furnaces. Iron ore is the raw material used to make pig iron, which is the main raw materials to make steel, 98% of mined iron ore is used to make steel.

Iron ore mining methods vary by the type of ore being mined. There are four main types of iron ore deposits worked currently, depending on the mineralogy and geology of the ore deposits. These are magnetite, titanomagnetite, massive hematite and pisolitic ironstone deposits.

FUNCTIONS OF IRON ORE INDUSTRY

Iron ore is iron dug from the ground. At this stage it is just earth that has a lot of iron in it. It still has to be purified because it has all sorts of other minerals and stuff mixed in with. The process of extracting the iron from everything else is called smelting.

Iron ore is the raw material used to make pig iron, which is one of the main raw materials to make steel. 98% of the mined iron ore is used to make steel. Iron (Fe) is a metallic element and composes about 5% of the Earth’s crust. When pure it is a dark, silvery-gray metal. It is a very reactive element and oxidizes (rusts) very easily. The reds, oranges and yellows seen in some soils and on rocks are probably iron oxides. The inner core of the Earth is believed to be a solid iron-nickel alloy.

The primary use of iron ore is in the production of iron. Most of the iron produced is then used to make steel. Raw iron by itself is not as strong and hard as needed for construction and other purposes. 31

BUSINESS ACTIVITIES OF IRON ORE INDUSTRY

Primary Activities
- Supply

According to China Geological Survey's report on Achievements of Mineral Resources Survey 2009, China's proven iron ore reserves totaled 62.4 billion tonnes and recoverable deposits amounted to 57.8 billion tonnes. Although China's iron ore reserves ranked third in world, the total resources mainly focused on low-grade iron ore. According to authoritative figures, China's average iron ore grade only stays at 30-33%.

- Operations
  
  • Drilling

As a universal practice, iron ore is dislodged by drilling blast holes according to a particular pattern. Generally two types of drills are being deployed for open cast iron ore mining i.e. down the hole percussive drills & Rotary drills.

  • Blasting

Iron Ore blasting is the controlled use of explosives (or other methods such as gas pressure pyrotechnics or plasma processes) to excavate, break down or remove rock.

• **Excavation**
  As the quantum of excavation in iron ore mining has increased year by year the technology has undergone a sea change in all aspects of mining activity like loading, hauling and transportation.

• **Iron Ore Crushing & Screening**
  In earlier mechanized opencast mines, processing involved was crushing to required size and separation of various products by dry screening.

• **Iron Ore Grinding**
  Iron Ore Grinding Process is an optional process which makes preparation for the iron ore beneficiation.

• **Iron Ore Beneficiation**
  Very low grade Iron ore cannot be used in metallurgical plants and needs to be upgraded to increase the iron content and reduce the gangue content. A process adopted to upgrade ore is called Beneficiation.

• **Sintering and Pelletizing**
  Iron Ore Fines/blue dust cannot be charged in the blast furnace directly since they block the passage for ascending gas inside the fee. Accordingly the processes are known as Sintering and pelletizing respectively.

• **Iron Slag Recycling**
  During washing and sizing of the ore, slimes with less than 0.21 mm size are generated and discarded into the tailing pond.

- **Distribution**
  According to the investment of world minerals, the main iron ores are distributed in the following countries: Brazil, Australia, Russia, Ukraine, China, India, Venezuela, Canada, Sweden, USA, Iran, Mauritania, South Africa, Mexico, etc.11

- **Sales & Marketing**
  Mining iron ore is a high volume low margin business, as the value of iron is significantly lower than base metals. It is highly capital intensive, and requires significant investment in infrastructure such as rail in order to transport the ore from the mine to a freight ship. For these reasons, iron ore production is concentrated in the hands of a few major players. Over the last 40 years, iron ore prices have been decided in closed-door negotiations between the
small handful of miners and steelmakers which dominate both spot and contract markets. This benchmark system has however in recent years begun to break down, with participants along both demand and supply chains calling for a shift to short term pricing.

Support Activities:

- **Technology & System Development**
  As the quantum of excavation in iron ore mining has increased year by year the technology has undergone a sea change in all aspects of mining activity like loading, hauling and transportation.

- **Firm Infrastructure**
  Services and infrastructure necessary for the firms in iron ore industry are water, sewerage, power, telecommunications, housing, airports, roads, drainage.

3: PRESENT & COMPARATIVE POSITION OF IRON ORE INDUSTRY

CHINA AND THE GLOBAL IRON ORE MARKET:

Iron ore is the world’s second-largest commodity market by value, after only crude oil. The way iron ore is traded has a huge impact on the global economy because any changes in the cost of ore are passed through to the price of steel and then to consumer products from cars to washing machines. On the other hand, ore price is critical too, for the profitability of the world’s major mining companies such as Rio Tinto and BHP Billiton and leading steelmakers such as Arcelor Mittal and Bao steel.

Among the iron ore producing countries, are the principal producers constituting about 70% of the world the production.

**Countries producing percentage of Iron Ore**

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>(25%)</td>
</tr>
<tr>
<td>Brazil</td>
<td>(18%)</td>
</tr>
<tr>
<td>Australia</td>
<td>(14.5%)</td>
</tr>
<tr>
<td>India</td>
<td>(7%)</td>
</tr>
<tr>
<td>USA</td>
<td>(6%)</td>
</tr>
</tbody>
</table>

**Percentage of Total World Iron Ore Production:**

<table>
<thead>
<tr>
<th>Years</th>
<th>Market economies</th>
<th>CIS</th>
<th>China</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>11</td>
<td>7</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>2008</td>
<td>11</td>
<td>5</td>
<td>4</td>
<td>20</td>
</tr>
</tbody>
</table>
World production of iron ore fell by 6.2% in 2009 to 1.6 billion tons. This was the first fall in production after seven years’ consecutive growth period. Output decreased in most countries, with a few notable exceptions such as Australia and South Africa but this was not enough to stop the fall. China which used to be the largest producer has now been pushed down (on the converted iron ore content basis) to fourth place at 234 Mt, after Australia at 394 Mt, Brazil at 300 Mt, and India at 257 Mt.3

World crude steel production decreased from 1326.6 Mt in 2008 to 1219.0 Mt in 2009, a dramatic fall of -8.1%. But while most of the world saw falling production, crude steel production in China increased by 13.5%, compared to the 2.3% growth the year before. China now accounts for almost half of the world production of crude steel (47%). In 2010, Chinese steel production drives growth, but there has been some growth in most other large producing countries as well, compared to 2009. If the production rate of the first four months of 2010 continues, the total output of crude steel in 2010 will be somewhere around 1410 Mt (similar to the record year of 2007). The latest World Steel Association’s short term forecast for world steel use anticipates a rise in steel use by 10.7% in 2010.

The Chinese steel industry, from iron and steel production to distribution channels and service centers, remains highly fragmented. Such a disaggregated structure, according to Chinese steel experts at China Iron & Steel Association, (CISA), has forced bigger steel manufacturers to expand production, often irrationally, to outweigh smaller competitors. Moreover, because steel companies tend to look after their own business interests, it has been difficult for large and small steel companies to form a united front and leverage bargaining power when negotiating price with international iron ore miners.

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>12</td>
<td>9</td>
<td>5</td>
<td>24</td>
</tr>
<tr>
<td>2006</td>
<td>12</td>
<td>12</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td>2005</td>
<td>12</td>
<td>12</td>
<td>6</td>
<td>28</td>
</tr>
</tbody>
</table>

Three leading Asian producers outside China (Japan, South Korea, and Taiwan) had export ratios as high as 38%, 41%, and 62% of their respective production in 2009. Russia and Canada exported about half of their output, Germany 63.5%, and Ukraine over 80%.

China’s emergence as the world’s largest steel producer and major manufacturing base has multiple ramifications to the United States and other countries. Its rapid growth in steel production requires an adequate and steady supply of raw materials. This means China will continue to have substantial influence over the global supply and price of raw materials and indirectly, affect the production costs and profitability of its competitors.

Iron ore is a raw material critical to steel production. As such, maintaining stable iron-ore prices is vital to economic growth, essentially giving stability to the cost of building a modern economy. However, in recent years, China has struggled to maintain stable iron-ore prices, as increasing demand for ore from abroad has made China vulnerable to shifts in the global marketplace. However, in recent years, increasing steel production in China has driven up demand for iron ore, leading suppliers to consider changing the system to shorter contracts based more closely on market prices. In 2009, China demanded almost 60% of world's iron ore to produce 47% of world's steel production.

Presently, more than half of China's iron-ore demand is met through imports, primarily from Brazil and Australia. Brazil, Australia, and China are the world's largest producers of iron ore. Despite China's massive production, it is a net importer of iron ore, a testament to the country's strong demand. On the other hand, Brazil and Australia have comparatively low domestic demand for iron ore, allowing them to dominate global exports of the commodity. Moreover, Brazil and Australia are producers of a high grade iron ore, with over 50% of it being iron, whereas only 32% of Chinese ore is iron. This has allowed the "big three" iron-ore suppliers, Brazil's Vale and Australia's Rio Tinto and BHP Billiton, to gain a dominant stake in the marketplace of 68.5% of global iron-ore shipments. China will not have any leverage in price negotiations until it can wean itself from fast-growing demand for iron ore.

India’s exports of iron ore in 2005-06, as may be seen from Table 3, shot up to Rs.16,828.81 crore as against Rs.13,948.87 crore in the previous year thereby registering a growth of 20.65%. Segment wise export trends reveal that the segment “Iron ores & concentrates non-agglomerated other than roasted iron pyrites” continues to dominate exports.
Its exports in 2005-06 registered a steep growth of 27.82% when the same reached a level of Rs.15,52,352 crore as against Rs.12,144.53 crore. On the other, other two segments, as may be seen from the table, registered a negative growth. Of the two, the 5 segment “Iron ore & concentrates agglomerated” showed a decline of 26.44% when its exports nosedived to Rs.1305.26 crore as against Rs.11,774.48 crore. However, exports of “Roasted iron pyrites” during the period drastically declined to 99.90% when the same declined to Rs.3 lakh as against Rs.29.86 crore.

China alone continue to account for a lion’s share of India’s total exports of iron ore, which being (73.15% in 2003-04), (81.90% in 2004-05) and (86.38% in 2005-06) ---its share during the period continue to rise from 73.15% in 2003-04 to 86.38% in 2005-06. Exports to China in 2005-06 registered a significant growth of 22.42% over the previous year when the same reached a level of Rs.14,765.12 crore as against Rs.2,060.70 crore. Other major countries showing a rising trend during the period included: Switzerland (91.53%), Turkey (90.87%), Japan (45.19%), and Netherland (14.87%). While, the countries showing a declining trend during the period comprised: Taiwan (86.50%), Romania (58.20%), Kuwait (26.69%), Korea Rep (21.76%), Pakistan (21.18%), UAE (20.75%), Hong Kong (12.06%), and Belgium (1.05%).

Iron ore market had seen a paradigm shift since 2000 with emergence of Chinese industrial demand. In the first decade of the 21st millennium, China emerged as the largest producer of steel and consequently became the largest consumer of iron ore. Steel production dropped marginally in 2008 and about 8.1% last year on account of global slowdown. The demand, however, picked up this year once again due to China and it is estimated China alone needs more than 650 million tons of imported iron ore this year to feed its ever growing steel industry. Chinese demand benefited largely global exporters of ore as China’s inland production is not enough to meet the demand both on qualitative and quantitative terms. Along with large players like BHP Billiton, Vale Group and RioTinto who together control 70% of total iron ore exports, India is the third largest exporter of iron ore. Growth in Indian iron ore exports attracted several criticisms too such as environmental damage due to illegal mining, issue of licenses and the very rationale of exporting a crucial raw material. However there have been divergent views on the issue.
IRON ORE – BACKBONE OF GROWTH OF THE STEEL INDUSTRY

The National Steel Policy 2005 had projected total iron ore requirement of around 190 million tonnes per year by 2019-20, based on the assumption that new steel production capacities will be 60% through BF route, 33% through sponge iron-EAF route and 7% through other route. Thus, the cumulative iron ore requirement for the country till 2019-20 shall be around 2.0 BT (taking 2004-05 as the base year). Considering the growth curve of production of finished steel, India might consume all its present mineable resources of iron ore by around 2050. It is thereby important to re-strategize the methods of extraction so as to increase the resources.

The Mineral Sector in India is on the threshold of expansion, with more and more mines being opened up. Among the metaliferous minerals, iron ore is one of the economically most important mineral in India. Sustainable supply of quality iron ore is critical to the growth and viability of steel industry. Production of iron ore in India is through a combination of large mechanized mines in public and private sector and several small mines operating manually or semi-mechanized means in private sector.

The share of export in total production ranges from 46% in 2000-01 to 58% during 2005-06 and hovering around 47% during 2008-09. Exports of iron ore have registered a CAGR of 20% in the last 9 years. Grade-wise export distribution was hovering in the range of 20-25 % for (+) 64% Fe content, 44% for 63-64 % Fe and 30-36% for 62% and below Fe content.33

Once the resources of the existing non-captive iron ore sellers will get exhaust, India would be left with only captive producers with resources belonging to only those who add value.

The world is observing India today as Indian iron ore has created a benchmark in the global iron ore trade to China. It may not be long that India shall be in the race of iron ore exporters with its domestic consumptions rising. China may have to depend on Australia and South America for its iron ore, and the day is not far when India will join China as a buyer from Australia or South America.

4: POLICIES, NORMS & PRESENT TRADE BARRIERS OF IRON ORE INDUSTRY
This chapter consists of the general Exim policies of china. It also consists of the provisions with respect to the iron ore policies of India. Following are the overview of the policies.

GENERAL PROVISIONS

All goods permitted to be imported into or exported out of the People's Republic of China are subject to import or export duty to be collected by the Customs according to "The Customs Import and Export Tariff of the People's Republic of China" (hereinafter referred to as "Customs Import and Export Tariff"), unless otherwise provided for.

The Tariff Commission shall be responsible for the amendments of the "Customs Import and Export Tariff" and the establishment of temporary tariff rates and shall submit them to the State Council for approval and implementation.

THE APPLICATION OF TARIFF RATES

The tariff rates for imports fall into two categories: general tariff rates and minimum tariff rates. The general tariff rates apply to imports originating in the countries with which the People's Republic of China has not concluded trade treaties or agreements containing reciprocal favorable tariff clauses; the minimum tariff rates apply to imports originating in the countries with which the People's Republic of China has concluded trade treaties or agreements containing reciprocal favorable tariff clauses therein. No export duty shall be levied on the export items against which export duty rates are not specified in the "Customs Import and Export Tariff".  

ASSESSMENT OF THE DUTIABLE VALUE

The dutiable value of imports shall be calculated on the basis of the CIF value of the goods, which means the normal wholesale price prevailing at the place of purchase plus all charges incurred before discharge at the place of importation in China, such as packing charges, freight, insurance premiums, commissions, etc., all of which are to be scrutinized and determined by the Customs.

When the normal wholesale price of the imports prevailing at the place of purchase cannot be ascertained by the Customs, the dutiable value shall be assessed on the basis of the normal domestic wholesale price of similar goods at the place of importation prevailing at the

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time of application minus the import duty and product tax (or value added tax) paid at importation and normal freight, storage fees and other business expenses incurred after importation.

The dutiable value of goods sent abroad for processing shall be assessed on the basis of the difference between the CIF value of the processed goods and the CIF value of the original exports at the time of re-importation, provided that the goods sent for processing were declared to the Customs at the time of exportation and re-imported within the prescribed time limit.

The dutiable value of exports shall be calculated on the basis of the FOB value of the goods sold abroad less export duty, which shall be scrutinized and determined by the Customs.

The consignee (or shipper) or his agent shall, at the time of handing in an import (or export) application, produce simultaneously a bona fide invoice enumerated with such items as price, freight, insurance premiums and other expenses incurred for the goods (with manufacturers' invoices attached, if any), packing lists and other relevant documentation.

Where the consignee (or shipper) or his agent fails to produce the relevant documentation at the time of handing in the application, the imports (or exports) shall be levied customs duty on the basis of the dutiable value assessed by the Customs. After the duty has been collected, the duty amount shall not be adjusted even though the relevant documentation has been subsequently produced to the Customs.

Where the CIF value and FOB value or rents for imports or exports are in terms of foreign currency, the amount shall be converted into renminbi at the buying and selling mid-rates quoted by the department in charge of exchange control in the "Schedule of Exchange Rate of Renminbi against Foreign Currencies" available to the Customs on the date of issue of the duty memorandum. Where the official exchange rate is not available, the Customs may use the exchange rate set by the above-mentioned department.

**PAYMENT, REFUND OR RECOVERY OF CUSTOMS DUTY**

The consignee (or shipper) or his agent shall pay customs duty at the designated bank within seven days (that is, excluding Sundays and official holidays, and the same below) from the date following the issue of the duty memorandum by the Customs, beyond which the Customs may, in addition to urging the consignee (or shipper) or his agent to pay the duty in
time, charge an overdue fine at 0.1% of the total duty amount per day from the eighth day to the date of payment of duty.

The consignee (or shipper) or his agent may, within a year from the date of payment of customs duty, apply for a refund by handing in to the Customs a written statement with details of the case and relevant duty memorandum attached, failing which his application for refund shall not be entertained under any of the following circumstances:
(a) Where duty has been overpaid on imports or exports as a result of wrong assessment by the Customs.
(b) Where the full amount of duty has been paid on cargo passed without Customs examination and subsequently found to have been short-landed and verified correct by the Customs.
(c) Where duty has been paid and released exports have not been shipped, owing to special reasons, and reported to the Customs as shut-out cargo and verified correct by the Customs.

DUTY REDUCTION OR EXEMPTION AND THE APPROVAL PROCEDURE

The following goods may be exempted from customs duty upon verification by the Customs:
(a) Where the amount of duty to be paid for a consignment of goods comes below RMB 10
(b) Where the advertising matters and trade samples are of no commercial value.
(c) Where goods are sent from abroad free of charge by international organizations or governments.
(d) Where native exports are returned from abroad for any justifiable reasons, if re-importation is applied for by the original shipper or his agent with supporting documentary evidence covering original export and verified true by the Customs, but the export duty already paid shall not be refunded.
(e) Where fuel, stores, beverages and provisions are loaded on the means of conveyance entering or leaving the country for use en route.

Raw materials, subsidiary materials, parts, accessories, components and packing materials, supplied by foreign enterprises for inward processing or assembling or brought from abroad to make goods for the foreign market, shall be exempted from import duty on the basis of the quantity of the material, parts, etc., actually used in the processing or assembling and re-exported.
APPEAL PROCEDURE

If the consignee (or shipper) or his agent disagrees with the classification and dutiable value under the "Customs Import and Export Tariff", he shall pay the duty first and lodge with the Customs an appeal in writing within 14 days (that is, excluding Sundays and official holidays) from the date following issue of duty memorandum. Any appeal not lodged within prescribed time limit shall not be entertained.

On receipt of the above-mentioned appeal, the Customs concerned shall, within seven days, reconsider the case in question and may modify the original decision. If, however, the original decision is sustained, the Customs concerned shall transmit the appeal together with their comments to the Customs General Administration for consideration within 14 days of receipt of the appeal.

IMPORT DUTIES AND TAXES RELATED TO FOREIGN TRADE AND BUSINESS

Since its WTO accession China has fulfilled its tariff reduction commitment. The overall level of import tariffs has dropped to an average of 9.8%, with agricultural products at 15.2%, and industrial goods at 8.95%.

Export tax of 142 types of products was increased, including 80 types of iron and steel products up by 5% to 10%, steel billets, steel ingots and pig iron export tax rates up from 10% to 15% from 1 June 2007.

THE INDIAN IRON ORE EXPORT POLICY

- Exports of iron ore up to 64% Fe content is freely allowed.
- Export of iron ore of Goa origin to China, Europe, Japan, South Korea and Taiwan (irrespective of Fe content) and export of iron ore from Redi region to all markets (irrespective of Fe content) is also freely allowed.
- The export of iron ore with Fe content above 64% is canalized through MMTC.
- KIOCL is the canalizing agency for its own products (iron ore concentrates and iron ore pellets) since it is a 100% E.O.U (export oriented unit).
- High-grade iron ore (Fe content above 64%) from Bailadila in Chhattisgarh is allowed to be exported with restrictions on quantity imposed primarily, with a view to meet domestic demand on priority.
Present quantitative ceiling of iron ore in operation, is as under:\textsuperscript{35}

<table>
<thead>
<tr>
<th>AREA</th>
<th>ANNUAL QUANTITY (In million tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Bailadila Lumps</td>
<td>Not exceeding 3.0 Million Tonne</td>
</tr>
<tr>
<td>b) Bailadila Fines</td>
<td>Not exceeding 3.8 Million Tonne</td>
</tr>
</tbody>
</table>

- In addition to the above, export of iron ore of above 64% Fe content is also allowed against licenses issued by DGFT.

5: POTENTIAL OF IMPORT-EXPORT OF IRON ORE BETWEEN INDIA AND CHINA

Iron ore exports from India, usually the world's third biggest supplier of the ingredient for steel, could fall a third to 65-70 million tonnes in March 2012.

The big price spike in China’s iron ore market last year spurred growth of domestic iron ore production in China, which put more small and medium-sized Chinese iron ore mines into operation. Iron and steel production as well as imports all increased last year in China. The following table shows more details.

**Growth of Domestic Iron Ore Production in China:**\textsuperscript{36}

<table>
<thead>
<tr>
<th>Item</th>
<th>Output(mt)</th>
<th>YOY Change (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pig Iron</td>
<td>630</td>
<td>+8.4</td>
</tr>
<tr>
<td>Crude Steel</td>
<td>683</td>
<td>+8.9</td>
</tr>
<tr>
<td>Domestic Crude Iron Ore</td>
<td>1327</td>
<td>+27.2</td>
</tr>
<tr>
<td>Imported Iron Ore</td>
<td>686</td>
<td>+10.9</td>
</tr>
</tbody>
</table>


Rising export duty and labor costs underpin iron ore prices. China ranks the first in terms of iron ore production cost, followed by India, Brazil and Australia. Iron ore prices would hover around high level although the cost of iron ore from Australia and Brazil is much lower than market price because the production cut in China and India caused by cost pressure would change supply glut. The major producers of iron ore have long predicted a slowdown in demand from China, which is by far the biggest consumer of both iron ore and steel, but have defended multi-billion dollar expansion plans with forecasts that the base for demand in China is now much larger and would in time be matched by demand from other Asian countries where populations are moving to urban centers.

BHP doesn't expect iron ore prices to fall significantly and forecasts a "price floor" of around US$120 a metric ton, Mr. Ashby said. The iron ore spot price is currently around US$145 a ton. Mr. Ashby said that the company is "full steam ahead" with its plans to expand production of the commodity. The major producers of iron ore have long predicted a slowdown in demand from China, which is by far the biggest consumer of both iron ore and steel, but have defended multi-billion dollar expansion plans with forecasts that the base for demand in China is now much larger and would in time be matched by demand from other Asian countries where populations are moving to urban centers.

China earlier this year cut its 2012 gross domestic product, or GDP, growth target to 7.5%, an eight-year low, yet both BHP and Rio have said they are pushing ahead with plans to sharply increase their production of iron ore as well as other commodities.

India's share of iron ore imports by China, chiefly on the spot market, fell to 17% of a record 628 million tonnes in 2009, versus 20% in 2008, ceding ground to Australia and Brazil in a race to feed the world's largest steel producer.

DEMAND FROM TWO BILLION PEOPLE

India's greater focus on domestic demand comes as it grapples with concerns similar to China's, trying to hold down inflation while battling to meet demand for cars, homes and other steel-related goods from populations of more than 1 billion each. Indian steelmakers have projected capacity at 90 million to 100 million tonnes by 2012, an increase of at least 50% from 60 million tonnes now, which will boost their ore demand to about 150 million tonnes, or 67%, from 90 million tonnes.
India's surging demand for iron ore, with low-quality grades making up about 70% of last year's output of 222 million tonnes, has driven miners to invest in plants to make pellets. Pellets made of lower grade powdery iron ore fines once thrown away, but now melted down to make higher grade nodules, are ideal for feeding blast furnaces in steel mills.

Companies such as Essar Steel, JSW Steel (JSTL.BO) and state-run miner NMDC Ltd (NMDC.BO) are pursuing the process, with about 5% of the roughly 150 million tonnes of India's iron ore fines estimated to become pellets in the next five years, though the resources needed could be expensive, analysts say. But as the trend gathers momentum, China, the biggest buyer of lower-grade Indian ores, stands to lose out the most.

India may play a bigger role in ensuring a “tight” future market for the steelmaking ingredient as it boosts infrastructure spending and becomes more urbanized. India “could come to contribute in a relevant way to the heating up of the iron-ore market in the medium-term,” Vale said. “We expect the iron-ore market to stay heated in the near future, given the lack of significant growth in supplies of high-quality iron ore and rising demand in China.”

India should be able to sustain the projected domestic steel demand for over 200 years. The current iron ore resources of about 25 billion tons will last 75 to 85 years as steel production touches 200 million tons by 2020. Further, with more exploration, development of technology to economically treat lower grade ores and increased use of scrap India’s iron ore resource could sustain the domestic steel industry for another 125 to 150 years. Even the magnetite resources can be beneficiated economically and in an environment friendly manner with technologies available today. Australia, Brazil, China and even USA have several large magnetite operations today.

Exports of iron ore, slag, ash, plastic & linoleum to China increased substantially, indicating enhanced capacity of Indian goods to cater to the growing demands of the Construction Industry in China. While the demand for specialty steel is strong in China both due to booming housing and industry construction, China is also emerging as a big importer of aluminum, especially for its communication and transport infrastructure. The following topics covered in this chapter will reveal the importance of iron ore imports for china and the export potential of India in case of iron ore & other products.
- This brief overview of India-China trade and investment linkages shows that the magnitude of trade has expanded rapidly over the past few years. This indicates the presence of complementarities and suggests the potential of an even faster growth. The Chinese international trade crossed a target of US$ 30 billion in 2010.

- The steps that could be considered include streamlining customs procedures and moving towards a more comprehensive electronic data interface in customs administration and information exchange, having a bilateral pre-shipment inspection agreement, mutual recognition agreements on standards, and harmonization of conformity assessment procedures among others. Trade facilitation could also cover cooperation to facilitate trade financing and cooperation between export-import banks of the two countries.

- A large potential exists for trade in services and investment. Barriers to trade in services need to be addressed systematically to exploit the potential of trade in services for mutual benefit. Such potential appears to exist in areas such as IT and IT enabled services, biotechnology, education, financial sector, education, health care, tourism, among other sectors. The potential is yet to be fully exploited. Investments can be undertaken by Indian enterprises in China, not only for supplying the Chinese domestic market but also for exports in the third countries. Similarly Chinese companies can explore investment opportunities in India for domestic market and for exports. Bilateral investment flows could be facilitated by bilateral investment protection and promotion agreement, among other policies. In addition, an organized institutional promotion by business chambers and governmental agencies may be fruitful. Economic relations could be further strengthened with improved transport linkages and connectivity. While some progress has been made on air connectivity between India and China, the frequency of direct air links is still low.

KEY SECTORS WITH POTENTIAL FOR EXPANSION OF EXPORTS FROM INDIA TO CHINA:
Using the index of revealed comparative advantage, commodities where India has a comparative advantage in the world market have been identified. Based on this, commodity categories of potential export from India to China have been identified. These include agriculture and allied products - edible fruits, nuts etc, oilseed, animal and vegetable fats and oils, marine products; material based manufactures like –metal and metal articles thereof (e.g. iron and steel and
articles thereof), cotton, manmade staple fibers and filaments; chemicals and plastics- organic and inorganic chemicals; and machinery and equipment, software etc. Indian exporters could target China with niche products such as fruits, “processed fruit” products, dairy, including processed dairy products, vegetables and seafood. The pharmaceuticals sector also holds great potential for expansion of exports to China.

Conclusion:

Iron ore is the major component in the manufacturing of steel. In the last several years, China has continued to become the largest consumer of steel in the world, consuming around 2/3 of the total production. China is India's biggest buyer, with its proximity helping it secure ores with low freight costs. The largest exporter is Sesa Goa, a unit of London-listed Vedanta Resources.

China's iron ore reserves ranked third in world, the total resources mainly focused on low-grade iron ore. According to authoritative figures, China's average iron ore grade only stays at 30-33%. China has increased exploration of iron ore resources in recent years and accordingly actual average grade of iron ore exploration is predicted to be less than 30%, which is 20% lower than that of world-class iron ore suppliers. Additionally, China iron ore resources are in varieties, among which magnetite ore accounts for 55.4%, hematite ore 18.1%, spathic iron ore 14.4%, vanadium titano-magnetite ore 5.3%, specular iron ore 3.4% and brown iron ore 1.1%.

The world is observing India today as Indian iron ore has created a benchmark in the global iron ore trade to China. It may not be long that India shall be in the race of iron ore exporters with its domestic consumptions rising. China may have to depend on Australia and South America for its iron ore, and the day is not far when India will join China as a buyer from Australia or South America.
A study of Gems and Jewellery industry:

Gems and jewellery are being used by the Indians since ages, for both aesthetic, as well as investment purposes. India has the distinction of being one of the first countries to introduce diamonds to the world. The country was also one of the first countries to mine, cut & polish, and trade in diamonds. The two major segments of the gems and jewellery business in India are gold and diamond jewellery. While a predominant portion of gold jewellery manufactured in India is for domestic consumption, a predominant portion of rough, uncut diamonds processed in India are exported either in the form of polished diamonds or in the form of finished diamond jewellery. The gems and jewellery industry has an important role in the Indian economy. India is one of the largest consumers of gold in the world.

The size of the global Gems and Jewellery industry was estimated at US $ 146 billion at retail prices in 2005, and is estimated to have recorded US $ 170 billion in sales in 2008. The industry has grown at an average Compounded Annual Growth Rate (CAGR) of 5.2% since 2000. The manufacturing and processing of Gems and Jewellery is distributed across several countries in the world (i.e., the African continent dominates the mining space of diamonds whereas India is the dominant player in diamond processing). Apart from being a major market, India primarily forms a part of the polishing and jewellery manufacturing part of the industry’s value chain in addition to increasing traction in the organized retail of jewellery.

The industry is characterized by highly unorganized trade, labour intensive operations, working capital and raw material intensiveness, price volatility of gold and export orientation. Though India plays a dominant role in the Gems and Jewellery industry in terms of processing and consumption, its role in the mining of gold and diamond is minimal. India imports gold and rough diamonds along with other precious metals.

The Gems and Jewellery industry also plays a key role in the Indian economy, and commands a high percentage of the exports from the country. In 2008, Gems and Jewellery exports accounted for about 12% of India’s total exports. The growth of exports between 2002-03 and 2007-08 was about 14% amounting to Rs. 837 billion in 2008.37

China is one of the largest consumers of gold, with gold jewellery being the major item of demand. In the year 2008, the total demand for gold in China was 392.7 tonnes, a growth of 19.8%, over the previous year. After diamond was found in the three provinces of Liaoning, Shandong and Hunan, the diamond industry in China has been growing, since 1980s. The annual production of diamonds in 2008 was US $ 1.3 million (69.4 thousand carats), an increase of 18% in value (13% in carat) since 2006.

**Role of GEMS and Jewellery Industry**

Global Jewellery sales will grow at 4.6% y-o-y to touch USD 185bn in 2010 and USD 230bn in 2015, according to a report by GJEPC. The industry witnessed a compound annual growth rate (CAGR) of 6.2 per cent between 2003 and 2008. The industry is forecasted to grow at a CAGR of 6 per cent for the period 2007–2012. The Indian G&J sector is highly dominated by unorganized players and is fragmented in nature. Currently, only 4-6% of the industry constitutes of the organized players. Although the market is highly dominated by unorganised players, with increase in consumer income and economic prosperity, the future of organised branded jewellery in India is very bright.

The centre of India's GJ industry is Mumbai. Most imports of gold and rough diamond arrives in Mumbai. Gems and jewellery clusters in the state is concentrated in various regions of **Mumbai**. Mumbai continues to be the main diamond trading centre of India accounting for the dispatch of 93% of diamond exports. A state of the art diamond trading centre is recently inaugurated in Mumbai, which has all the major diamond trading houses of India. The Apex body for promotion of exports in Gems & Jewellery sector, The Gems and Jewellery Export Promotion Council (GJEPC) is headquartered in Mumbai.

Gems and jewellery industry in China has over the past 25 years of reforms and opening-up grown from a non-existent base to emerge as a new industry with dynamism and high development prospects. The annual production of the industry, including various types of gems and jewellery, is valued at 120 billion RMB (about US$14.6 billion). The industry employs an estimated 5 million people. Further, the industry is growing at the rate of over 10%. This is coupled with sustained high growth rate of the Chinese economy for more than two decades and the prospects for continued growth as China unveils a scheme for realization of comprehensively
well-off society (xiaokang) by the year 2020. There are plenty of factors as to why gems and jewellery industry in China should be able to maintain its growth over the medium term.

- **First**, jewellery is traditionally a luxury item of consumption, and demand for jewellery is highly elastic to income.
- **Second**, the appeal for jewellery is the highest among younger consumer sections. China’s young working age population is quite high.
- **Third**, foreign tourists in China are also one of the major categories adding to jewellery demand in China.
- **Fourth**, as China’s GDP and per capita income increases, a part of the consumer class has started using jewellery items as items of domestic use, for instance gold and silver cutlery and decorative items.38

2.1.3 STRUCTURE OF THE GEMS AND JEWELLERY INDUSTRY

The Gems and Jewellery industry in India is highly fragmented, with large number of Public and Private sector players vying the market. Though this industry has been existing for long and much has been achieved and much has evolved over time, but still, a large part of this industry is still un-organized. India has been gaining large prominence globally in terms of the demand for designer jewellery at a lower cost. The high quality labour available in India at a lower price band makes it a lucrative destination for consumers globally to buy Jewellery here.

The Indian Gems & Jewellery industry is highly fragmented with a large number of domestic private sector companies.

- A large portion of the market is in the unorganized sector.
- India is gaining prominence as an international sourcing destination for high quality designer jewellery.
- Walmart, JC Penney etc. procure jewellery from India.
- A geographical map of the Gems and Jewellery clusters in India is as shown in the following figure:

The centre of the trade in India’s Gems and Jewellery industry is Mumbai. Most imports of gold and rough diamond arrives in Mumbai. However, most of the processing of diamonds takes place in the neighbouring state of Gujarat. Gujarat alone accounts for an estimated 80% of the diamonds processed in India. Of this, 90% are processed by diamond units located in and around Surat alone. The rest of the diamond units are located in Ahmedabad, Palapur, Khambhat, Rajkot, Bhavnagar, Valsad and Navsari.39

2.1.3 FUNCTION OF GEMS AND JEWELLERY INDUSTRY

GOLD:
The major producer of gold in the world in the year 2008 was China with a production of 295 metric tonnes (growth rate of 7.3% over the previous year); China held a share of 18.9% of the total world production of gold during 2008. During the third quarter of 2009, the demand for gold has shown a decline in almost all the segments. This may be partially owing to global economic slowdown and increase in imports had grown by 24.4%, from US $ 17.1 billion to US $21.2 billion.

Diamond:
According to USGS data, diamond production (gem and industrial) in India in the year 2007 was 55 thousand carats and has remained more or less stagnant over the years. As per United Nations Framework Classification (UNFC) system, as on 1.4.2005, India had total resources of around 4.5 million carats, of which 1.2 million carats was reserves. As a result, India is a net exporter under this category in value terms. India exported diamonds valued US $ 14.2 billion during 2007-08, an increase of 34% over the previous year. During the year 2008-09, the exports of diamonds showed an increase of 10.6%, touching US $ 15.7 billion.

Platinum:
The total resources of platinum group of metals in India, as on April 2005, was only 14.2 tonnes; the entire known resources are located in Niligiri, Boula-Nuasahi and Sukinda areas in Orissa. The exports of platinum which had witnessed an increase of 175% in value terms, during 2007-08, over the previous year, showed a tremendous increase of 1804% during the year 2008-09,

over the previous year. Imports also showed a high increase during the year 2008-09, of around 6542% over the previous year.

**Pearls:**
During 2007-08, the exports of pearls had witnessed an impressive performance, with the export of cultured pearls showing a growth of 125%. During the year 2008-09, the imports of pearls declined by 7.8% over the previous year. Major export destinations of pearls include: USA (38.6%), UAE (14.1%), Austria (12.0%), Japan (7.5%), and Hong Kong (10.8%). The source countries for import of pearls by India include Japan (34.5%), China (31.9%) and Hong Kong (21.1%).

**Silver:**
During 2007-08, exports of silver (unwrought and semi-manufactured form) witnessed a negative growth of 35.5%, and silver jewellery witnessed a growth of 19.5%. However, during the year 2008-09, exports of silver (unwrought and semi-manufactured form) grew by 27.4%, and export of silver jewellery witnessed a growth of 87%. During the year 2008-09, India imported unwrought silver valued around US $ 2 billion, a growth of 79% over the previous year. Import of silver jewellery witnessed a growth of 80.6%.

2.1.4 BUSINESS ACTIVITY OF GEMS AND JEWELLERY INDUSTRY

The activities in the value chain of the Gems and Jewellery sector are as explained below.

**Mining:**
The first stage in the value chain of the Gems and Jewellery Industry is mining, i.e. the extraction of gold/diamonds from their natural deposits. Diamonds are typically mined by pipe mining or by alluvial mining. Pipe mining refers to the extraction of diamonds from volcanic pipes, while alluvial mining involves the extraction of diamonds from riverbeds or ocean beaches. Gold mining consists of the processes and techniques employed in the removal of gold from the ground and there are several techniques by which gold may be extracted from the earth.

**Diamond/Gemstone Processing:**
Diamond cutting and polishing requires anywhere from several hours to several months to complete. During this process, a diamond loses, on average, half of its original weight. A mined diamond stone first needs to be planned for cutting – i.e. it is carefully examined by the cutter and then marked for cutting. In the polishing process facets are ground on to the stone. A facet is the tiny plane or surface that traps the light and makes a diamond sparkle. Most diamond cuts have 58 facets.

**Jewellery Fabrication:**
Nearly two thirds of the world supply of gold is currently used for jewellery fabrication. Under this step, gold is first manipulated, i.e. it is melted, bent, cut and shaped in a way so as to create jewellery designs. This is followed by the casting process, which may be a manual or machine-aided. The setting process follows casting, and is the process in which diamonds/coloured gemstones are set into the gold metal. Jewellery fabrication ends with the polishing/finishing process – at the end of this process, the jewellery is ready to be sold..

**Jeweler Retail:**
This is the end-customer facing process in which finished jewellery is sold to the end customer. In India, jewellery retail is typically done by small to middle sized family retailers, but this trend is changing with the advent of large retailers such as Tanishq.

2.2.1 COMPARATIVE POSITION OF GEMS AND JEWELLERY INDUSTRY

**POSITION OF GEMS AND JEWELLERY IN INDIA**

While a predominant portion of gold jewellery manufactured in India is for domestic consumption, a significant portion of rough, uncut diamonds processed in the form of either polished diamonds or finished diamond jewellery is exported.

**Indian Gems & Jewellery Industry Sales to Grow 50% by 2013**
The All India Gem and Jewellery trade Association has set a target of 50% rise in the retail turnover of Rs 1, 12,000Crore domestic jewellery industry for 2013, reported by Business Line.
The Indian gems & jewellery industry had a share of 4% in the global gems & jewellery market during 2006-07, said the Investment Commission of India. India's Government Cooperation

According to the Times of India, as of April 1, 2006, the Gujarat state government has exempted Surat's diamond-cutting industry from state-imposed VAT (Value Added Tax) taxes. Until recently, Surat has been the leading processor of rough diamonds, but there is increasing competition from Guangzhou Province and China's exploding gem industry. A study by KPMG says that India's share of the global diamond processing industry, which is 57 percent presently, will decline to 49 percent by 2015, with China taking up the slack.

2.2.2 POSITION OF GEMS AND JEWELLERY INDUSTRY IN GUJARAT

Surat, the 'Diamond City of India'

Surat, a city by the Gulf of Khambat (aka the Gulf of Cambay), is considered one of the hubs of the global diamond trade, and "the diamond city of India." The De Beers controlled Diamond Trading Company (DTC) has demonstrated Gujarat's power in the diamond-cutting arena by increasing its take of the DTC's 125 lucrative 'sightholder' contracts to nearly 50 in 2005.

POSITION OF GEMS AND JEWELLERY IN CHINA

Greater China, which consists of Mainland China and Hong Kong is a major jewellery market and is currently the second largest market in Asia closely behind India and is poised to topple India to become the leading gems and jewellery consuming region in Asia in 2011.

China is a big country of diamond manufacturing and diamond jewellery consumption. From July 1, 2006, China has been adopting a new policy for imported diamonds. The rough stones imported by Shanghai Diamond Exchange are exempted from import VAT. The VAT on loose stones is cut down from 17% to 4%. Consequently, the trade statistics shows that in the year 2006, the import volume of diamonds grows 39.8% (by the regular way) and 208% (by Shanghai Diamond Exchange) respectively, compared with that of last year.

China is the world’s largest supplier of clear-water pearls, accounting for 95% of the global output. China is the Asia’s largest jade market and is poise for the world’s jade consumer leader. Shanghai has become a leading hub with exchange centres at the heart of the jewellery industry – offering trading in gold, platinum, diamond and sliver. Shanghai is a China’s largest distribution and consolidating centre for jewellery, well ahead of the rest of the country. With its robust economy, modern services and fast-maturing business environment, Shanghai is well placed for
investment and trading. Shanghai has a booming jewellery retail sector, representing 20% of China’s total annual sales. The Shanghaiese is among the country. Jewellery Shanghai 2011 is the largest annual trade fair among pearl and jewellery exhibitions in China.

**Diamond Cutting in Guangzhou Province**

Within Guangzhou province the majority of the diamond cutting and polishing factories are located in the Panyu (*Pun Yue*) Industrial District, near Hong Kong. Panyu is known as the 'gems and jewellery capital' of China, and in 2007 Guangdong Province imported more than $420 million in diamonds during the first quarter.

**Diamond Cutting in Shandong Province**

In 2006, the Shanghai Daily News reported that China's Jewellery sales were expected to grow by more than 40% over the next five years. That same year, China opened the National Gemstone Testing Centre in Shanghai - a gemmological testing laboratory designed to augment the testing facility in Shenzhen.\(^{40}\)

**Present Position of Gems and Jewellery Industry in India**

Top 10 Buyers of Indian Gems and Jewellery

- United Arab Emirates (U.A.E.)
- Hong Kong
- United States of America
- Belgium
- Israel
- Singapore
- Thailand
- United Kingdom
- Japan
- Australia

**Major Players in Indian Gems and Jewellery**

- Gitanjali Group
- Shrenuj& Company

\(^{40}\) Citing from Center for American Progress- Progressive Ideas for a Strong Just and Free America
Suraj Diamonds and Jewellery Limited
• Rajesh Exports
• Asian Star
• Titan Industries (Tanishq into Retail), Bangalore
• Suashish Diamond
• Rosy Blue
• B. Vijaykumar
• Laxmi Diamond
• K Girdharilal
• C. Mehendra Exports
• J.B Brothers
• Tara - Ultimo
• Vaibhav Gems, Jaipur
• Sheetal Manufacturing

FIGURE 2

Destinationwise Exports Of Gems & Jewellery

- USA 11%
- Hong Kong 22%
- Belgium 5%
- Israel 3%
- Others 12%
- UAE 47%

Source: GJPEC Dhanbank PRU as on 4th April, 2012.

The above figure shows the percentage of exports of Gems & Jewellery to different countries from India in the financial year 2011.

FIGURE 3
Source: GJPEC Dhanbank PRU as on 4th April, 2011

The Above Figure Shows describes the exports of gems and jewellery from India from FY02 to FY11 which depicts that export of Gems & Jewellery has increased over years.

**FIGURE 4**

Source: GJPEC Dhanbank PRU as on 4th April, 2012.

The above figure shows that percentage of Gems and Jewellery Industry Exports as % of Total Exports of India.

**FIGURE 5**
The Above Figure shows that the quarterly exports of Gems and Jewellery of India which is at peak during July 2011.

**FIGURE 6**

### Gem & Jewellery Export Basket

**FY 2010-11**

Source: Annual_Export_Figures_FY_10-11.pdf as on 4th April, 2011

The above figure shows that Gems & Jewellery Export Basket of India in the Fiscal Year 2011 which shows that Cut & Polished Diamonds has Maximum Percentage 65.49%.

**FIGURE 7**
The Above Figure Shows that Percentage of Gold & Non Gold in Billion($) in total Exports of India from FY 02 to FY 11.

TABLE 1

<table>
<thead>
<tr>
<th>Gold and Silver Jewellery Exports ($ billion)</th>
<th>April-July 2010</th>
<th>April-July 2011</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gold Jewellery</td>
<td>2.25</td>
<td>2.73</td>
<td>25.33</td>
</tr>
<tr>
<td>Silver Jewellery</td>
<td>1.1</td>
<td>1.73</td>
<td>63.41</td>
</tr>
</tbody>
</table>


The Above table depicts that Gold and Silver Jewellery Exports of India in ($ billion) in April-July 2010 and April-July 2011 and its comparison in Percentage Growth.

TABLE 2
The Above Table depicts Net Exports of Gems and Jewellery of India from FY April10-Feb11 and FY April11-Feb12 and the Percentage Growth which includes Gems and Jewellery Export Basket.

2.3.1 Foreign Trade Policy Of India For Gems & Jewellery Industry

Import of gold of 8 k and above is allowed under replenishment scheme subject to import being accompanied by an Assay Certificate specifying purity, weight and alloy content.

- Duty Free Import Entitlement (based on FOB value of exports during previous financial year) of Consumables and Tools, for:

1. Jewellery made out of:
   
   (a) Precious metals (other than Gold & Platinum) – 2%
   (b) Gold and Platinum – 1%
   (c) Rhodium finished Silver – 3%

2. Cut and Polished Diamonds – 1%
   
   - Duty free import entitlement of commercial samples shall be Rs. 300,000.
   - Duty free re-import entitlement for rejected jewellery shall be 2% of FOB value of exports.
   - Import of Diamonds on consignment basis for Certification/ Grading & re-export by the authorized offices/agencies of Gemological Institute of America (GIA) in India or other approved agencies will be permitted.
   
   - Personal carriage of Gems & Jewellery products in case of holding/participating in overseas exhibitions increased to US$ 5 million and to US$ 1 million in case of export promotion tours.
   - Extension in number of days for re-import of unsold items in case of participation in an exhibition in USA increased to 90 days.
   - In case of exports through Foreign Post Office (including via Speed Post), value of jewellery parcels shall not exceed US$ 75000 and 20 kg. By weight.

2.3.2 Foreign Trade Policy Of China For Gems & Jewellery Industry

**Import & Export and Customs supervision policy**

Diamonds (including rough diamond & unset polished diamond) imported and exported in the name of normal trade is required to go through the declaration formalities with the customs located inside the Shanghai Diamond Exchange (SDE). Diamond from inside SDE entrusted to be processed by enterprises established in Bonded Zone or Export Processing Area shall be under tariff-free customs supervision.

**Taxation Policy**

Diamonds directly entering SDE from overseas are exempted from import duty, value-added tax and consumption tax. Diamonds traded in SDE are exempted from value added tax. Imported diamonds flowing from SDE to the domestic market, no import duty is levied but value added tax of 17% is applicable.
Foreign Exchange Policy
After approval from foreign exchange administration, members of SDE can open a foreign exchange account for the exclusive use in diamond transaction. Foreign exchange payment & collection on diamond transaction by members registered in SDE or by members registered outside SDE but inside China shall be done through a special foreign exchange account.

2.4.1 POTENTIAL FOR EXPORT IN INDIA

FIGURE 8

Trends of Gems and Jewellery In India


The Gem and Jewellery Industry in India is one that has showed immense and consistent growth over time. Unlike most sectors that fizzled out during the recent global economic downturn, the gems and jewellery industry has not only remained unfazed but has also shown a better growth rate.

The sector is expected to register a compound annual growth rate (CAGR) of 13 per cent during 2011-2013, according to a report on Indian Gems and Jewellery Market Forecast to 2013.
CONCLUSION

Gems and Jewellery Industry play a vital role in the development of an economy. It can expanded its markets in the global economy and can be recognized as a global to the exporters of the other countries and prove to be equally good in the export. The growth outlook for the gems and jewellery sector in India is stable and CARE Research expects the domestic industry to grow at a CAGR of 10-12% up to 2015. There is a shift in consumer preference to low priced diamond jewellery which is about 50% cheaper than normal diamonds and also cheaper than pure gold jewellery.

Apart from that particularly in Jewellery, the following trend shift is observed:

- Gold Jewellery which traditionally generates its demand from investment viewpoint and traditions, now is regarded as a fashion accessory by the young population.
- Trend is shifting from pure gold-22 caret in traditional designs. More and more now low carat and lightweight jewellery is preferred. Moreover, modern and contemporary designs are finding their way.
- Traditionally purchase from neighborhood jewelers used to dominate purchases, which lacked transparency. Now there is growing preference for brands, retail store and e-retailing. There is an introduction of hallmarking and certification.
A Study of Plastic Industry:

Plastic industry is one of the highly growing industries in China. Potential for plastic industry is high and good trade relationship between India and China would be mutually beneficial. Hence we are doing the comprehensive study of the Chinese plastic industry and its trade relation with Indian plastic industry.

In today’s time we can see that we use lots of plastic items in our life and most of these plastic items are made in China. Not only the plastic products but as well all kind of raw materials (various types of plastics seeds) are also produced by the China.

China tops the list for production of plastic related products and Chinese plastic industry has significant contribution in exports across the globe. Aspired entrepreneurs are encouraged in china to start business operations in plastic industry. Even it would be great opportunity for Indian company and associations to leverage the business operations in context of Chinese plastic industry.

Plastic material is identified via GGN (Green Guide Network) guidelines to what the plastic numbers mean, whether they're safe, and how easily recyclable they are. Types of plastics are as following.

Plastic #1 refers to Polyethylene terephthalate is known as PET. Usually clear in color, the vast majority of disposable soda and water bottles are made of #1 plastic.

Plastic #2 refers to high-density polyethylene, or HDPE. Most milk jugs, detergent bottles, juice bottles, butter tubs, and toiletries bottles are made of HDPE.

Plastic #3 refers to Polyvinyl chloride, or PVC. It is used to make food wrap, bottles for cooking oil, and the highly common plumbing pipes.

Plastic #4 refers to low-density polyethylene (LDPE) is used to make grocery bags, some food wraps, squeezable bottles, and bread bags.

Plastic #5 is polypropylene. Common items produced with it include yogurt cups, medicine bottles, ketchup, syrup bottles, straws etc.

Plastic #6 refers to Polystyrene or Styrofoam from which disposable containers, packaging, disposable plates and cups are made.

Plastic #7 refers to "everything else" and is composed of plastics that were invented after 1987 - the use of plastic in this category is at your own risk since you don't know what could be in it.
Some other known plastics are Acetal, Acrylic, Acrylonitrile-Butadiene-Styrene (ABS), Cellulosics, Coumarone-Indene, Diallyl Phthalate (DP), Epoxy, Fluoropolymer, Nylon, Petroleum Resins, Polyarylates, Polyvinyl Chloride etc.

Structure of Plastic Industry in China

2.1 Briefing of the key enterprises

According to statistics from January to December 2003, 8237 companies are producing plastics products in China with turnover over 100 million amounted to 527, achieving total product sales revenue of RMB136.84 billion. The fast development of plastics product industry has accelerated the speed of industrial agglomeration. From January to June 2004, the total output of the major plastics products from companies with reasonable production scale reached 87.38 metric tonnes, which was an increase of 14.2% over the same period of the previous year.

2.2 Analysis on the market demand of the Chinese plastics industry

Agricultural plastics: - China is a large agricultural country with 768.5 million populations living in the vast countryside. Agricultural plastic products have become indispensable products and measures for modern agricultural development

Plastic water saving equipment: - China is one of the few countries in the world with the least fresh water resources. It is predicted that by 2005, the market demand on plastics in China will reach 1.5 million tonnes.

Plastics for packaging: - In China, the most application of plastics is in packaging. Its development is much faster than other conventional packaging materials.

The development of soft packaging enhances strong demand for BOPP film. Almost all the BOPP film production lines are imported ones with exceeding production capacity. The development of the BOPET film industry has been over heated and the supply will exceed the market demand.

Plastic products used in construction: - In 2005 the level of the urbanization will reach over 35%. The market share of different building plastic pipes and plastic windows and doors will be 45% and 20% respectively.
Strong development of plastic waterproof materials: - By 2005, the market share of new waterproof materials in China projects will reach over 50%. By 2015, new waterproof materials in nationwide waterproof projects will take a leading role by occupying 70% in the market.

Artificial leather and synthetic leather: - The industry of artificial and synthetic leather in China experienced the fastest growth in 1980’s and 1990’s. There are 2400 factories with over 7,200 production lines. It is estimated that the annual demand of artificial and synthetic leather will be 780,000 tonnes.

Plastics for cars: - The consumption of plastics in Chinese automobile industry is about 350,000 tonnes for 2005.

Plastics for medical use: - According to the ministry of public health, the market volume for medical plastics will reach RMB 6-10 billion in 2005 with great potential.

2.3 Strengthening international exchange and cooperation; introducing advanced technology from foreign countries
The China Plastics Processing Industry Association (CPPIA) has actively engaged itself in exchange and cooperation with the international counterparts in the plastics industry. CPPIA has established good relationship with associations and organizations of many countries including Germany, USA, Canada, UK, Italy, Japan, Singapore and Korea.

COMPARATIVE POSITION OF PLASTIC INDUSTRY WITH INDIA & GUJARAT
3.1 Briefing on China's Plastics Market
Plastic Industry in China has been consistently growing with double-digit growth rates since 1996. Currently, China consumes 48.5 pounds of plastic commodity per capita, compared to the world averages 55 pounds. Early this year, China has reached $53.4 billion worth of plastic production. $12.8 billion of them are exported while imports account for $7.1 billion worth of plastic products from overseas. The major markets that trade with China include European Union, United States, Japan, and ASEAN counties.

3.2 Major China’s plastics industry associations on Business Vibes
China Engineering Plastics Industry Association (CEPIA) relies on engineering plastics enterprises and cooperates with domestic related scientific research institutes, and experts to provide all round news and topical study on science and technology, economy and market for
engineering plastics industry at home and abroad. China Taizhou Plastics Industry Association (TZPIA) is the largest regional group of plastics industry manufacturers in China; it supports the move to the fullest extent by setting up the organization to assist plastics enterprises developing technology through concentrated efforts of the industry's individual enterprises.

### 3.3 Plastic industry in India

The Indian plastic industry has taken great strides. In the last few decades, the industry has grown to the status of a leading sector in the country with a sizable base. The material is gaining notable importance in different spheres of activity and the per capita consumption is increasing at a fast pace. Continuous advancements and developments in polymer technology, processing machineries, expertise, and cost effective manufacturing is fast replacing the typical materials in different segments with plastics. On the basis of value added, share of India's plastic products industry is about 0.5% of India's GDP. The export of plastic products also yields about 1% of the country's exports. The sector has a large presence of small scale companies in the industry, which account for more than 50% turnover of the industry and provides employment to an estimate of about 0.4 million people in the country. Approximately Rs 100 billion are invested in the form of fixed assets in the plastic processing industry.

Indian plastic industry has made significant achievements in the country ever since it made a promising beginning with the start of production of polystyrene in 1957. The industry is growing at a rapid pace and the per capita consumption of plastics in the country has increased several times as compared to the earlier decade. Currently, the Indian plastic industry is highly fragmented with an estimate of around 25,000 firms and over 400,000 employees.

The immense potential of Indian plastic industry has motivated Indian manufacturers to acquire technical expertise, achieve superior quality standards and build capacities in different facets of the booming plastic industry. Substantial developments in the plastic machinery sector coupled with matching developments in the petrochemical sector, both of which support the plastic processing industry, have facilitated the plastic processors to develop capacities to cater both the domestic as well as overseas exports.

### 3.4 Exports
In the calendar year 2006, the value of world plastic export was US$ 375 billion. However the share of India was less than 1 % with exports of worth US$ 3.187 billion. The percentage of growth in export was 21 %. During this trend of growth in exports, the export of plastics raw material increased from 55 % to 60 % of the total export of plastic goods, while the export of processed plastic goods has registered a negative growth from 45 % to 9 %. According to recent reports, the industry is said to be losing an opportunity of USD 300 million through value addition on the raw materials that are exported.

The Indian plastic exports were valued at about US$ 532 million during FY 2004 (1st half FY2005 exports US $ 295 million). With significant capacity additions leading to over-capacity in domestic markets during FY2001 and beyond, polymer exports have increased considerably. However, due to the lower competitiveness of the plastic products industry, polymers have been exported directly.

3.5 Products
The major plastic products that India export are – raw material, packaging, films, consumer goods, travel ware, writing instruments, leather cloth/artificial leather floor coverings, Water Storage Tanks Toys and Games Engineering Plastics, Electrical Accessories FRP / GRP Products, sanitary fittings, construction, Tarpaulins Laminates Fishnets / Fishing Lines Cordage / Ropes / Twins Eyewear, Laboratory Ware Surgical / Medical.

The Indian plastic processing industry is highly fragmented and comprises 25,000 firms. Barring 10% - 15% of the firms, which can be classified as medium scale operations, all the units operate on a small-scale basis. However, the degree of fragmentation, worldwide, is a large and despite the small size of operations of the players, they are able to operate profitably. Further, the high growth in demand ensures that the market is able to absorb the excess capacity in quick time. Overall, the degree of competition can be considered high in the Indian plastic processing industry.

More than 95% of the firms in the industry are partnership, proprietorship or private limited companies. These firms thus provide significant level of competition to the organised sector.
companies, which combined together are making losses. The organised sector companies thus need to build up significant brand image to survive against the competition from the unorganised sector.

3.6 Comparison of Indian and Chinese plastic industry
the Chinese plastics industry is much larger from Indian plastic industry in terms of production and consumption of plastics. Compared to India’s 5 million tonnes polymers per annum, China has a capacity of consuming 38 million tonnes plus reprocessing of 6.8 million tonnes of imported scrap totaling to 44.8 million tonnes.

3.7 Plastic Industry in Gujarat
The Plastics Industry in Gujarat has made significant achievements ever since it made a modest but promising beginning by commencing production of Polystyrene about four decades ago. The Plastic processing sector in India comprises of about 30,000 units of which Gujarat accounts for over 6,100 tiny, small and medium scale units thus contributing to about one-fifth of the total number of units in the country. They are involved in producing variety of items through injection moulding, blow moulding, extrusion and calendaring.

The country in general and Gujarat in particular possess the necessary technical skills to produce high quality plastic goods, required machinery, the efficient moulds and dies.
In view of the versatility of operations and the low cost production, the State has been ideally suited to serve as a sourcing base. The major international companies from various segments of industry including automobiles, electronics and communication, food processing and packaging have set up their large manufacturing plants in the country and helped to develop the market. India is emerging as one of the fastest growing market and is expected to grow by 12 to 15% in the coming years.

The economic reforms launched in Gujarat since 1991, have added further fillip to the Gujarat plastic industry. Joint ventures, foreign investments, easier access to technology from developed countries etc have opened up new vistas to further facilitate the growth of this industry.
GSPMA is also one of the founder members of the PLASTINDIA FOUNDATION, an apex body engaged in the research & development in the Plastic Industry throughout the country and dedicated to national progress through plastics. GSPMA has been engaged in the promotion of image of Gujarat based units in the country and has been functioning as a major link between the Industry & the Government. GSPMA is also publishing its own magazine namely; PLASTIC SANDESH on biomonthly basis. This is the house journal of the Association, which covers important articles & information regarding Plastic Industry over and above its regular features. GSPMA is publishing Directory every year to commemorate the annual event covering very useful information pertaining to Plastic Industry. Both the publications are having wide circulation amongst members and plastic community.

GSPMA is also closely & actively associated with many institutions in the Country & also performing its social responsibilities in natural calamities by extending help to the victims. GSPMA is planning to distribute awards to entrepreneurs for innovation, exports etc. and will also announce scholarships/awards to the toppers in plastics engineering to promote technical education, which will ultimately useful to the industry.

3.8 Position of the plastic industry in India

INDIA, one of the fastest growing economies of the world, is all set to attain the premier status along with China. India is a favored destination for overseas investors and offers the advantages of an open economy, increasing liberalization, a stable democratic political scenario, highly skilled work force with fluency in English. Various overseas players wish to explore the Indian market and invest in opportunities thrown open by the country, projected to be world number 3 in plastics consumption by 2010.

The Indian plastics industry functions with its unique market dynamics, of which, www.plastemart.com has been a successful part. www.plastemart.com has attempted to address these queries in "Synopsis of the Indian Plastics Industry: 1992-2010”; the past 18 years and what the future holds for the overseas investors.
After liberalization of the economy in 1992, the Government of India has been quite supportive of industry in general, taking many steps over the years for the conducive growth of business. These measures favoring economic growth are being continuously taken by the Indian Government, irrespective of the change in power. The Government of India is endeavoring to achieve GDP growth of more than 7% in the next 10 years. It is quite possible that plastics could grow at 14%, based on historical performance. However, the polymer manufacturers and other downstream industries are free to set up projects 100% on their own equity.

Thus, The Indian plastics industry is quite upbeat about the future potential of plastics in India, believing that the Plastics industry will grow between 10% to 12%, if not higher, in this decade.

POLICY & NORMS FOR PLASTIC INDUSTRY

4.1 Foreign Trade Law

The Foreign Trade Law, which came into force on July 1, 1994, serves as the basic law on standardizing foreign trade activities in China. Its basic principles are:

- That the whole country practices a unified foreign trade system;
- Safeguarding a fair and free foreign trade order;
- Ensuring the independent operational authority of foreign trade dealers;
- Encouraging the development of foreign trade;
- Promoting trade relations with other countries and regions on the basis of equality and mutual benefit.

4.2 Laws and Regulations Governing Management of Import

1993, and related detailed rules for implementation, the "Provisional Regulations Governing the Automatic Registration for the Import of Special Commodities" promulgated on April 13, 1994, the "Provisional Regulations on Managing the Import of Machinery and Electronic Products" promulgated on October 7, 1993, and the "Circular on Tightening Management of the Import of Used Machinery and Electronic Products" promulgated on December 22, 1997, the "Detailed Rules for Implementation on Managing Imports by Foreign-Funded Enterprises" promulgated on June 9, 1995., and the "Management Method on the Standard of the Imported Machinery and Electronics Products."

4.3 Major laws and regulations on managing export commodities
The "Provisional Procedures on Managing Export Commodities" promulgated on December 29, 1992, and the revised "Provisions on Managing Export Licenses" promulgated on January 2, 1996, are the most important.

4.4 Policies and Norms of India for Import or Export to China
The Government of India is trying to set up the economic reforms to elevate and boost the plastic industry by joint venturing, foreign investments and entrepreneurs are trying to provide high quality plastic products, so that it becomes a booming industry.

Import Policy
The economic needs of the country, effective use of foreign exchange and industrial as well as consumer requirements are the basic factors which influence India's import policy. On the import side the policy has three objectives: to make necessary imported goods more easily available, including essential capital goods for modernizing and upgrading technology; to simplify and streamline procedures for import licensing; to promote efficient import substitution and self-reliance.

Export Policy
Exports are the major focus of India's trade policy and a thrust area is exports involving higher value additions. Most items can be freely exported from India. A few items are subject to export control in order to avoid shortages in the domestic market, to conserve national resources and to protect the environment.

4.5 Context of new Foreign Trade Policy
Trade is not an end in itself, but a means to economic growth and national development. The primary purpose is not the mere earning of foreign exchange, but the stimulation of greater economic activity. For India to become a major player in world trade, an all-encompassing, comprehensive view needs to be taken for the overall development of the country's foreign trade. The Foreign Trade Policy is built around two major objectives. These are (a) To double our percentage share of global merchandise trade within the next five years; (b) To act as an effective instrument of economic growth by giving a thrust to employment generation.
4.6 Waste Management & Recycling of Plastic
Municipal solid waste in India contains 1-4 per cent by weight of plastic waste. India’s rate of recycling of plastic waste is the highest (60%) in the world as compared to other countries (China 10%, Europe 7%, Japan 12%, South Africa 16%, and USA 10%). Various strategies are being devised to mitigate the impact of plastic waste in India. These Regulations and legislation are as following.

(a) The Act appropriately envisages prohibition of throwing or depositing plastic articles in public places and to facilitate the collection through garbage in identifiable and marked garbage receptacles for non-biodegradables, placed at convenient places.

(b) Ministry of Environment and Forests, Government of India have issued criteria for labelling ‘plastic products’ as ‘Environmental Friendly’ under its ‘Ecomark’ Scheme, in association with the Bureau of Indian Standards.

(c) The Bureau of Indian Standards, New Delhi (BIS) has issued guidelines on recycling of plastics waste including code of practices for collection, sorting through conventional practices.

(d) The Prevention of Food Adulteration Department of the Government of India has issued directives to various catering establishments to use only food-grade plastics, while selling or serving food items.

(e) ‘A National Association of PET industry has recently been formed by PET manufacturers and users in India which is expected to look after the organised collection and recycling of PET bottles/containers waste.

Potential of import-export for plastic goods in china
China import-export policy has changed the world as we know it. The ready availability of cheap Chinese labor means that often it is more cost effective to import goods from China than to purchase the same goods made domestically. For this reason, China is one of the biggest exporters of goods in the world.42

China is a member of the World Trade Organization since 2001. This has had a major impact on China’s trade network, allowing it to become even more dominant than it was previously. China

is a vast market that presents both opportunities and challenges for the U.S. plastics industry. Since joining the World Trade Organization (WTO) in 2001, China has adopted many economic reforms to open its market to foreign investment and imports. These market reforms have paved the way for U.S. plastics industry participants to supply China's large and growing plastics market. In 2007, China continued to be the third-largest export market for U.S. plastics industry goods, with exports to China valued at $3.68 billion. 43

China is also the United States' second-largest source of plastics industry imports. Chinese plastics imports into the U.S. market far exceed U.S. plastics exports to China, leading to a large deficit in plastics trade with China. The deficit is particularly acute in plastics products trade. China is hungry for raw materials, and recyclable plastics provide a source of feedstock for a growing number of downstream applications. Waste plastic from all over the world finds its way to China to be recycled. Much of the recycled plastic is used locally, as China is such a huge market for converting plastics.

**China Import Requirements**

China has continuously reduced administrative barriers to trade. By end-1997, the categories of import commodities subject to licensing controls were reduced to 35 (including 374 items), and most commodities, except 16 crucial ones which are currently under state monopoly, were open to all enterprises given the import & export rights. 44

In April 1997, China announced its first anti-dumping and anti-subsidy regulations enacted to maintain order and fair competition in foreign trade and protect relevant domestic industries. Under the new regulations, China can impose anti-dumping duties on foreign goods if there is evidence showing that they are sold at dumping prices. China uses both tariff and non-tariff measures to regulate imports. Tariffs imposed include import duty value added tax (VAT) and consumption tax; non-tariff measures include import licenses, quota control and restricted import list.


In principle, all import and export commodities are subject to inspection. Applicable standards for inspection should normally be specified in the contract of sale, including standards for quality, weight, quantity, packing and inspection methods. Such standards must not be lower than the corresponding Chinese national standards. On 15th November 1999, China and the US signed a bilateral agreement on China's accession to World Trade Organization, paring its way for China to join this multinational trade body.

**Indian market for plastic industry**

Indian plastic industry has made significant achievements in the country ever since it made a promising beginning with the start of production of polystyrene in 1957. The industry is growing at a rapid pace and the per capita consumption of plastics in the country has increased several times as compared to the earlier decade.\(^{45}\)

Currently, the Indian plastic industry is highly fragmented with an estimate of around 25,000 firms and over 400,000 employees. The top 100 players of Indian plastic industry account for just 20% of the industry turnover. Barring 10 to 15% of the firms that can be categorized as medium scale enterprises, most of the units operate on a small – scale basis.

The immense potential of Indian plastic industry has motivated Indian manufacturers to acquire technical expertise, achieve superior quality standards and build capacities in different facets of the booming plastic industry. On the basis of value added, share of India's plastic products industry is about 0.5% of India's GDP. The export of plastic products also yields about 1% of the country's exports. The sector has a large presence of small scale companies in the industry, which account for more than 50% turnover of the industry and provides employment to an estimate of about 0.4 million people in the country. Approximately Rs 100 billion are invested in the form of fixed assets in the plastic processing industry.

**Indian Exports for Plastic Goods**

In the calendar year 2006, the value of world plastic export was US$ 375 billion. However the share of India was less than 1 % with exports of worth US$ 3.187 billion. The percentage of growth in export was 21 %. During this trend of growth in exports, the export of plastics raw material increased from 55 % to 60 % of the total export of plastic goods, while the export of

processed plastic goods has registered a negative growth from 45% to 9%. According to recent reports, the industry is said to be losing an opportunity of USD 300 million through value addition on the raw materials that are exported. The Indian plastic exports were valued at about US$ 532 million during FY 2004 (1st half FY2005 exports US $ 295 million).

**Future forecast of Indian plastic industry**

The Indian plastic industry clearly has the potential to continue its fast growth. However, over the next few years, competition in the industry is expected to increase considerably, as a result of global trends, which will become applicable to the liberalizing economy of country. To survive the competition, both polymer manufacturers and processors will need to adopt radically new methods and approaches to reduce costs, improve market and customer service and management of performance. The per capita consumption of plastics in India is well below the world average. However it also reflects the many years of growth ahead, as the country's economy continues to grow and upgrade the usage of products.

Hence, it is clear that plastics will continue to be a growth industry, with boosting prospects for fresh investments in polymerization and downstream processing capacity. This is in contrast to the situation in various other countries, where growth prospects are limited, either because of stagnant demand or due to the historical over building.

Plastic goods manufacturers and exporters are set to grab Indian and Chinese markets thanks to the growing demand of locally manufactured quality and international standard products. Many big companies are coming to the plastic sector with large investments and modern equipment and recycling machinery.

**Trade between India & China**

The joint ventures and the trade between Indian Plastic Industry and the manufacturers from China and South Korea have touched a new high and prospects for the futures growth are excellent. China and India can and should be partners in the plastic industry.

There is need for more machinery to manufacture more plastic products which is in short supply in India. Chinese manufacturers of plastic machinery are ready to help through Joint Ventures and MoUs. India & China signed dozens of contracts and MoUs worth US$16 bn and promised
to raise the volumes of bilateral trade to US$100 bn by 2015 from US$61.7 bn last year. China imported 51.8% more Indian products than the previous year; making it India’s fastest growing overseas market. As “the world’s factory” China is the largest producer of plastic machinery in the world with share of 25% of the world total and exports about half of its production. China threatens to bring its opposition to India's plastic import ban to the WTO, while India seems poised to restrict other Chinese products. India and China are gearing up for a showdown, one that might go all the way to the World Trade Organization, over India's increasing reluctance to allow Chinese imports to flood the Indian market.

Chinese plastic goods, have captured anywhere between 60% and 90% of its $2.5 billion plastic market. On Jan. 23 the Indian government imposed a six-month ban on the imports of Chinese-made plastic goods. India was protecting its growing plastic market from cheap foreign imports—lies nearly a decade of Indian and Chinese mistrust, envy, and even complex geopolitics. The Indian government has advertised its ban on Chinese plastic goods as a safety measure. For nearly two years, Indian officials and nonprofit consumer groups have collected data showing many of the plastic toys in the Indian market—and especially those from China—have high levels of lead and cadmium. With the announcement of the toy ban, China's vice-minister for commerce met with India's ambassador to China and, according to a statement on the ministry's Web site, asked that India "Show care and restraint in using trade-remedy measures during this unusual period of severe challenges in the world economy. Making things more complicated is the fact that India has 17 ongoing investigations into Chinese exports.

**BUSINESS OPPORTUNITIES IN FUTURE**

Now it is evident from the fact that the Asiatic plastic-producing countries like China and India are growing at a great pace. So the plastic industry is going to see some huge developments as far as China and India are concerned. Talking in the context of China, consumers and product makers look to plastics to play the role of humble bag at the corner shop, all the way to sophisticated engineering parts. The global plastics market is estimated at around 200 million tons and has been growing five percent, annually. But along with the plastic industry, gradually, awareness of the impact of plastics on the environment has also grown. So, both environmentalists and industrialists are in agreement that
alternatives to plastics need to be found. Now this issue has given rise to certain opportunities for this industry. Both environmentalists and industry executives agree that biodegradable plastics will need to play a larger role in the industry's future.

Following can be the future opportunities for the Chinese plastic industry:

Bio-plastics have made a major breakthrough and it is the only future for the plastic industry. They are already in use for packaging, electronics, auto and agriculture firms and organizations.

The mass-market products involving degradable plastic like plastic bags for collecting organic wastes from households is very useful. This also in turn helps the agricultural aspects like in making of organic fertilizers.

A new concept of Wood Plastic Concept is emerging. WPC combines the properties of wood and plastic offering a highly durable and surprisingly malleable material.

This concept will generate great opportunities for builders, interior and exterior decorators & furniture manufacturers

General consumer-products made up of bio-plastic like carry bags, containers, dustbins etc would be very useful and will be produced in huge quantities.

Plastic Cards or PC is having a very promising future mainly in industries like automobile glass, digital and electric industry etc.

ABS, a type of plastic, is also having a great demand in the very near future. The application area of ABS with fast speed would be transportation and household electric market.

The future of plastics industry also depends upon the growing concept of nanotechnology.

Through nanotechnology, special Nano composites can be created that will be more dent, heat, and scratch resistant.

Potential uses for these foam nanocomposites include coffee cups, fast food containers, home insulation, carpet padding, disposable diapers, seat cushions, and packaging material.

Due to environmental concern’s and degradation issues, plastic industries were facing problems from the government’s side. But the innovations in this industry will again make plastic omnipresent in the economy.

**Conclusion**

So it can be said that, China’s plastics industry has experienced a wide scale of development and expansion since the past 50 years. It has made brilliant achievements to become one of the strong
nations in the plastics industry in the world. To maintain the competitiveness after joining the WTO, China needs to-

1) Take a new way of industrialization and speedily adjustment in the industry as well as establishment of regulations for modern enterprises.
2) We need to emphasize on the development of human resources in order to improve overall quality of the whole industry.
3) We need to rely on technical advancement and speed up upgrading the industry and technical renovation.
4) We need to adjust the product combination and improve the technical standard of our equipment. We need to make greater effort to create products with famous brand names and implement strategy to achieve sustainable development.
5) We need to be united and make full use of time to achieve sustainable and healthy development under a competitive market globally and domestically.
A STUDY OF ELECTRONIC INDUSTRY:

China’s electronics industry has played a major role in driving the growth of national GDP. This growth has declined considerably following the global economic slowdown, though double digit growth rates are still projected for 2009. Chinese consumers increasingly focus on brands and quality (in addition to price) and Chinese companies are strengthening their capabilities in this respect. Outside consumer electronics, the sector is dominated by foreign invested enterprises (FIEs), which are the main owners of much of the core technologies used in production. Israeli firms with technological capabilities can leverage this to forge cooperative partnerships with domestic firms in need of technology transfer.

1.1) MARKET OVERVIEW

- The electronics industry continues to play a major role in China’s growing GDP, contributing an average of 10% annually to GDP growth since 2003. It has also maintained extraordinarily high growth rates. From 2001 to 2007, annual sales revenues grew at an average rate of 28%.
- Growth rates reached a peak of 41.2% in 2004, but slowed to more sustainable levels in following years. Growth held above 20% for the first half of 2008, but dropped to single digits in the wake of the global economic slowdown in the second half of last year.

### Defining China Electronics Industry

<table>
<thead>
<tr>
<th>Consumer electronics</th>
<th>Communication devices</th>
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<tbody>
<tr>
<td>Electronic components</td>
<td>Electronic materials</td>
</tr>
<tr>
<td>Photoelectric apparatus</td>
<td>Radar devices</td>
</tr>
<tr>
<td>Broadcasting/TV industrial</td>
<td>Computer devices/peripheral</td>
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1.2) ELECTRONICS TRADE

- Electronics trade has constituted more than 30% of China’s overall trade in recent years. Having experienced a pike after China’s WTO accession in 2001, import growth gradually has slowed as a result of booming domestic electronics industry. In 2008, the trade value of electronics comprised 34.6% of national foreign trade, amounting to USD 885.43 billion.
- As shown in the chart on the right, China's electronics imports were heavily affected by the financial crisis and only increased by 5.36% last year. Starting in November 2008, electronics trade has decreased, with imports during January and February 2009 dropping 36% year-on-year (y-o-y), contributing to a decline in sales revenue of 13.3%. China’s foreign electronics trade is likely to remain negatively impacted by the financial crisis in the near future.

China's Electronics Industry

- China has come to enjoy a remarkable economic growth rate that has averaged nearly 10 percent per annum since the country began to pursue its open-door policy and market-oriented reforms in 1978.
- As a result, China has transformed from a centrally planned economy into a market economy and effectively strengthened its economic power and raised its people's standard of living.
- With China's rapid economic growth, electronics has now become one of the most important industries in the nation. China has become the world's largest maker of many electronic appliances, such as color TVs, DVDs, and cell phones.
- China also now has a leading-edge semiconductor industry. This is great for China, since the Asian-Pacific market is projected to grow significantly over the next decade.
The future of China is bright. China's preparation for the Beijing Olympics in 2008 and World Expo in 2010, as well as her successful manned space mission, continues to spur her economic growth and social development and enhance her overall national strength and position in the world.

The electronic information industry in China grew rapidly after the liberalization of the economy.

As of 2011, China is the world's largest market for personal computers.

2.1 Structure

The main areas of China’s electronic information industry are computer-related goods (including software), communication equipment, electronic parts and household entertainment equipment. Electronic parts-related investment made up 50% of the total investment in the electronic information industry.

Approved software companies have reached 11,660, increasing by over 1,000 per annum.

3) COMPARATIVE ANALYSIS OF CONSUMER DURABLE INDUSTRY: BETWEEN INDIA & CHINA

China has emerged as a low cost manufacturing destination for consumer durables, catering to both domestic and export markets. 54% of the production in China caters to the export market. Domestic sales in India are a miniscule proportion of that in China and export volumes are not even 1% of that in China.

China has emerged as one of the most popular low-cost manufacturing destinations; it accounts for 72% of the global air conditioner production, 47% of refrigerator production, 45% of television production, 35% of washing machine production and over 52% of mobile phone production.

- Most major global players in the consumer durables segment have set up their manufacturing operations in China.
- China has also emerged as an export hub with many domestic and foreign players using the low-cost facilities in China to cater to global markets. The undervalued currency has aided China’s growth as an export base.

• In comparison, export volumes in India are not even 1% of that in China. Domestic sales in India are a small proportion of that in China in many categories.

• While for some product categories like televisions, India has a cost advantage in low end segments, consumer prices in China are at minimum 15 – 25% cheaper when compared to prices in India, leading to a higher demand base in China.

3.1) Production Specific Factors:

- Raw material/Component sourcing costs: Raw material costs are lower in China with 55 – 90% of the components being sourced domestically. In India, most components are imported.
- Also steel prices (which is a key raw material) in India are 30 – 35% higher than China while aluminium prices are about 7% higher on an average.

  • Labour costs: Labour costs have been on a rise in China and is currently 1.5 times that of India at lower levels. China is also recording a wage inflation of 15 - 20% per annum.
    - Although average wage rates seem to be lower in India, China’s labour productivity on an average is 1.8 times that of India and has consistently shown an uptrend.
  • Logistics and transport costs: While most manufacturing locations in India are spread out due to location specific tax benefits, manufacturing locations in China is clustered (most located near the east coast), reducing logistics costs.
    - Average freight cost in China is USD 0.013 per tonne per km compared to USD 0.2 in India.
  • Indirect taxes: Effective indirect taxes in China are lower than that in India.
China has a single indirect tax comprising of 17% VAT while India has multiple indirect taxes like excise, VAT and education cess which lead to an effective rate of 28.7% for consumer durables and 19% for mobiles.

- Import duties: For most critical components import duty in India is higher in comparison to China.

- Effective import duties in India are in the range of 4 – 31.7% while Chinese effective duty rates are in the range of 0 – 6%.

3.2) PRODUCTION IN CHINA

China has emerged as a major beneficiary of the outsourcing trend; It accounted for over 24% of global production of household appliances by value, 45% of television manufacturing and 52% of mobile phone output.

3.3) Production Snapshot

Domestic sales in India are a miniscule proportion of that in China and export volumes are not even 1% of that in China. The table below shows the comparative data of domestic sales of consumer durables between India and China.
China accounts for 72% share of world’s RAC manufacturing, 47% of refrigerator manufacturing, 45% of television manufacturing, 35% of washing machine manufacturing and 52% of mobile output.

3.4) Trends in Average Price Levels

While average price levels for A/c are lower in China, price levels are higher for refrigerators & washing machine. Overall, industry is characterized by high pricing pressures. Average price levels in televisions are rising due to consumer preference for high end models in both countries.

4) PRESENT POSITION OF BUSINESS WITH INDIA

- Competition, globalization, and powerful policy factors have been the forces driving the electronics industries in China and India. Further impetus at least for China has come from the outsourcing of manufacturing from Taiwan (China), the U.S., Japan, and Europe in the 1990s. However, the development of each country’s electronics industry has been shaped by different industrial policies. China’s policy framework has focused on technological self-reliance and assigned a limited role to foreign investment and to the development of electronic components manufacturing, which has contributed to the success of the industry in Taiwan (China) (Joseph 2004). The Electronics Commission established in 1971 promoted protectionist policy measures to control production capacity, investment, and imports.

- On the other hand, India’s shortcomings in both the private and public sectors have been marked by a strong reliance on imported technology and inadequate R&D—a shift from import induced to R&D-induced technology would be beneficial for the electronics industry.

4.1) India-China Trade

**Indian Export to China (China's Import)**
The structure of bilateral trade between China and India is interesting, because it explains one reason why India is wary about dependency from China. About three quarters of Indian exports to China are raw materials. From all exports 58% belong to the category ore, slag and ashes. Cotton is the second most important export good. One can assume the reason why China imports those vast amounts of raw materials from India lies in the overall demand of the Chinese industry, especially to build transport infrastructure and buildings for the real estate market. China imported about 43% of the world’s export volume in the category ore, slag and ashes in 2008. Cotton on the other hand goes mainly to the Chinese textile industry, which is interesting because one would expect China and India to be competitors in this market.
Indian Import from China (China's Export)

India’s imports from China on the other hand show the opposite structure. Main import goods belong into the categories (HS85 electrical machinery & equipment & parts, telecommunications equip., sound recorders, television recorders) with 27% and (HS84 nuclear reactors, boilers, machinery & mechanical appliances, computers) with 19%. We can record at is point, that almost half of India’s imports belong to categories consisting of high value added goods. In comparison to the average Chinese export basket this is not a big surprise. The only difference is that India doesn’t import as many textiles from China than other countries, which is due to India’s own big textile industry.

The most important result at this point is that India is exporting raw materials to China, whereas it is importing mostly high value-added goods. This is not the trade structure one would expect between two developing countries. It is obvious, that India is not pleased by this structure of bilateral trade and demands concessions from China. Before the imbalance in trade volume and structure is not redressed, it is unlikely that India will comply into a Free Trade Agreement with China.

4.3) TREND OF BUSINESS WITH INDIA

- Sales Trends in consumer Electronics market:
  The Television sales are the maximum among the consumer electronics and are increasing over the years.

  ➢ Trends in Electronic industry

  - Rising per capita incomes, low penetration levels and saturated markets in developed countries have led to a shift in focus towards emerging markets.

  - Product quality improvements of electronic items in recent years have also led to longer product lives.

  - Many existing manufacturers have rationalized the number of plants and outsourced production to third party manufacturers in low-cost countries, mainly China.

Other trends covering all categories include:

1. Moderate technological advancements.
2. Few large players occupy dominant positions in the market mainly due to the scale driven nature of the industry.
3. Penetration levels in India are significantly lower compared to China. To generate rural demand, the Chinese Government (starting December 2007) has been providing farmers a subsidy of 13% for purchasing household appliances such as refrigerators.

Government strategy for electronics focuses on approaches to developing the main subsectors of electronics and the links among them because each subsector faces a somewhat unique set of problems and has a different role to play in the development of the entire industry. In China's overall electronics strategy the low and medium end of the consumer electronics subsector has been designated as the major engine of growth for the entire industry. The consumer electronics industry is expected to help the rest of electronics by providing expertise in high-volume manufacturing and assembly technologies and in coupling manufacturing with product design, development and engineering, as well as experience in sourcing of components and parts through an effective network of suppliers of electronics materials, components and manufacturing and testing equipment. Both the global electronics industry and China’s role in that industry are growing at a rapid pace. In 2006 the total sales revenue for the e-product sector in China was US$640 billion—up 23.7 per cent from 2005. Trade in e-products reached US$652 billion in 2006, accounting for 37 per cent of China’s total foreign trade volume. Of this, exports alone were valued at US$364 billion—a 37.6 per cent increase over 2005.2 A closer look at the market trends for key e-products suggests that China’s role in the global e-product supply chain is growing faster than market growth itself, which suggests a growing consolidation of production capacity and responsibility within China. Market trends also reveal that while growth is large across all sectors, the largest growth potential over the medium- to long-term is related to newer hi-tech markets.

Many trade organizations, research institutions and associations Many associations launched initiatives in various forms such as seminar seminars for a fully discussion about

- Situation of legislation progress on recycling and disposing of EE—wastes
- Sharing experience from foreign recycling industry
- Situation of internal experimental stations and the problems Situation encountered
Proposed corresponding management ideas and methods.

MAJOR LAWS MADE BY LOCAL GOVERNMENT FOR ELECTRONIC UNITS

- Administrative Measure of Shanghai on the Control of Pollution Caused by Electronic Products
- Administrative Measure of Guangdong on the Reuse and Recycle of Wasted Electronic Information Products
- Regulations of Guangdong province on the Pollution Prevention and Control of Electrical Products

Each Electronic industry has to strictly follow all these rules in china and there is a strong rules made by Chinese government if any of the electronic company disobey such rules then their license are cancelled and other punishment done to the company as mentioned in the laws.

Chinese government are very much particular about guidelines and make following of that guideline .there are many corrective steps taken by the Chinese government so that there is not any harm done to the society and to the environment and E-waste can also be under controlled.

Chinese government has also made special laws for company which produces E-waste in large number. All such companies must work in such a way that it does not create any harm to the society and its people and it does not create any problem for environment also. So we can say that as the Chinese government takes positive steps so that Electronic industry is developed well on the same side they are also very much strict about Rules and Regulation made by their government .each company must have to follow all such rules and regulation otherwise they have to shut down their business and they can also have remedy for breach of laws.

So at the end we can say that Chinese government takes good steps for development of electronic industry and they are very much careful about effects of E-waste to the environment so they are taking corrective steps towards protection of the environment and for welfare of the society also.

5) Trade Barriers and Potentials
- Present trade barriers for import/export of selected goods
• Trade barriers are government-induced restrictions on international trade. The barriers can take many forms, including the following:

• Most trade barriers work on the same principle: the imposition of some sort of cost on trade that raises the price of the traded products. If two or more nations repeatedly use trade barriers against each other, then a trade war results.

• Trade barriers are often criticized for the effect they have on the developing world. Because rich-country players call most of the shots and set trade policies, goods such as crops that developing countries are best at producing still face high barriers.

• International Trade has become the order of the day in the current environment of Globalization. The nature of economies namely under developed, developing and developed countries as well as the availability of natural resources, labor, technology and capital required for production etc. play an important role in countries economy as well as its reliance on international trade.

• Though the countries and WTO have been advocating free trade and several Bi Lateral Treaties and Multi-Lateral treaties have come into being to remove trade barriers from one Member County to another, all of the countries still find the need to practice and have protectionist attitude towards international trade.

• Countries levy Import and Export Duties on specific items and also based on countries of origin. The management of duties and tariffs is managed through Trade Laws and Policies.

5.1) Types of Licenses

- **Open General Licensed Items**
  - While normal items and traded goods like textiles, consumer durables, Handicrafts, electronics items, Food articles, Drugs etc. are generally allowed to be imported and exported by all countries freely without restrictions.

- **Imports against Specific Import Licenses**
  - Second hand machinery and goods are allowed to be imported into the receiving countries only through specific license obtained for the said purpose. Such license would set forth conditions required to be met by the importer to prove the residual life of the machinery etc.
➢ **Import - Quantity Restrictions or Quota**
➢ Some countries like USA do allocate quantity restrictions for import of items like textile on certain countries and exporters would have to adhere to the quota norms.

➢ **Export Licenses**
➢ While the domestic industries are engaged in export of some important natural resources and raw materials like iron and steel, certain kinds of herbs etc., Governments control and restrict the export through issuing Export Licenses.

➢ **Negative List**
➢ Most countries maintain a negative list of items which prohibit import and export of certain items like animal hides and other wildlife, precious wild life, livestock, narcotics and many more sensitive items.

5.2) **The Transition from Tariffs To Non-Tariff Barriers**

One of the reasons why industrialized countries have moved from tariffs to NTBs is the fact that developed countries have sources of income other than tariffs. Historically, in the formation of nation-states, governments had to get funding. They received it through the introduction of tariffs. This explains the fact that most developing countries still rely on tariffs as a way to finance their spending.

5.3) **Non-tariff barriers today**

With the exception of export subsidies and quotas, NTBs are most similar to the tariffs. Tariffs for goods production were reduced during the eight rounds of negotiations in the WTO and the General Agreement on Tariffs and Trade (GATT). After lowering of tariffs, the principle of protectionism demanded the introduction of new NTBs such as technical barriers to trade (TBT).

According to statements made at United Nations Conference on Trade and Development (UNCTAD, 2005), the use of NTBs, based on the amount and control of price levels has decreased significantly from 45% in 1994 to 15% in 2004, while use of other NTBs increased from 55% in 1994 to 85% in 2004.
Increasing consumer demand for safe and environment friendly products also have had their impact on increasing popularity of TBT. Many NTBs are governed by WTO agreements, which originated in the Uruguay Round (the TBT Agreement, SPS Measures Agreement, the Agreement on Textiles and Clothing), as well as GATT articles. NTBs in the field of services have become as important as in the field of usual trade.

5.4) Duty Exemption Scheme
The Duty Exemption Scheme enables duty free import of inputs required for export production. An Advance License is issued under Duty Exemption Scheme. The Duty Remission Scheme enables post export replenishment/ remission of duty on inputs used in the export product. Duty Remission scheme consist of (a) DFRC and (b) DEPB.

DFRC permits duty free replenishment used in the export product.
The DEPB scheme allows drawback of import charges on inputs used in the export product. The government has wide discretionary power to declare full or partial duty exemptions "in the public interest" and to specify conditions such as end-use provisions. Almost half of India's total inputs enter under concessional tariffs, though the use of exemptions is falling in tandem with the tariff-reduction program.

5.5) Taxes
India's 28 states may tax goods "imported" from other states. In principle, the power to tax inter-state commerce fragments the economy, especially trade in agricultural goods. The Government has sought to simplify the tax structure by introducing a nation-wide Value Added Tax. Disparate internal levies on commerce have long made India's tax system opaque, and have been cited as a factor impeding economic growth.

The Government had set April 1, 2003 as the launch date, but it has been postponed indefinitely because not all of India's 28 states made the necessary preparations for the transition. The episode marked the third consecutive year that the Government has been required to postpone the planned launch date because of a lack of consensus on modalities with the state governments.
5.6) Findings

- Government support, Domestic & International demand & low production cost are the main drivers behind the industrial growth.
- In respect to the domestic consumer demand Chinese manufacturers are now also concentrating on quality aspects in addition to price factors.
- Foreign Invested enterprises are the main owners of much of the core technologies used in production as well as the cooperative partners of domestic firms for the technology makeovers.
- The total ratio of value added for foreign firms in China is 20.9%, however, which is far behind the 27.6% ratio of local firms.
- 12th five year plan was developed to focus on the six areas related to integrated circuits, new components production equipment and semiconductor and integrated circuit test equipment.
- China and India both have been growing remarkably under economic liberalization after the 1980s and their electrical and electronic industries, though both regulated before the liberalization, have also developed from then on.
- Raw material costs are lower in China with 55 – 90% of the components being sourced domestically. In India, most components are imported.
- Labor costs have been on a rise in China and is currently 1.5 times that of India at lower levels.
- Although average wage rates seem to be lower in India, China’s labor productivity on an average is 1.8 times that of India and has consistently shown an uptrend.
- While most manufacturing locations in India are spread out due to location specific tax benefits, manufacturing_locations in China is clustered (most_located near the east coast), reducing logistics costs.
- The leading merchandise exporters in 2010 were China ($1.58 trillion, or 10% of world exports), the United States ($1.28 trillion, 8% of world), Germany ($1.27 trillion, 8% of world), Japan ($770 billion, 5% of world) and the Netherlands ($572 billion, 3.8% of world).
The top merchandise importers were the United States ($1.97 trillion, 13% of world imports), China ($1.40 trillion, 9% of world), Germany ($1.07 trillion 7% of world), Japan ($693 billion, 4.5% of world) and France ($606 billion, 4% of world).

Rising per capita incomes, low penetration levels and saturated markets in developed countries have led to a shift in focus towards emerging markets.

In TVs and washing machines, urban penetration in China is close to 100%.

China views the development of a strong computer industry as being an essential part of national efforts to modernize the economy and government administration.

In telecommunications, a major investment program is underway because of the rapidly growing demand for telephone service.

In general, import substitution is the main approach taken to managing external competition; Imports of competing products are banned altogether or attract very high rates of custom duty.

To promote exports there is duty-free treatment for direct imports used in exports produced by joint ventures and wholly-owned foreign firms in the special export zones.

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China’s merchandise trade surplus for 2010 totaled $183 billion, roughly 7% less than the $196 billion it recorded in 2009, and 39% less than the nearly $300 billion surplus of 2008.
The leading merchandise exporters in 2010 were China ($1.58 trillion, or 10% of world exports), the United States ($1.28 trillion, 8% of world), Germany ($1.27 trillion, 8% of world), Japan ($770 billion, 5% of world) and the Netherlands ($572 billion, 3.8% of world).

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Rising per capita incomes, low penetration levels and saturated markets in developed countries have led to a shift in focus towards emerging markets.

In TVs and washing machines, urban penetration in China is close to 100%.

5.7) Suggestions

- There are a lot of trade barriers with respect to the export of the electronics, the government must try to remove these barriers so as to increase exports which will result into increase the balance of payments.
- The government of India must take initiatives to support the small and medium size players which have a lot of potential to grow in the long run. This will result into the progress of this sector & will contribute a lot to the GDP of the country.
- The electronics sector in India imports raw materials for the preparation of the finished goods. The government and various players in this sectors must come together to find alternatives to procure its own raw material which will reduce the dependency on imports from other countries.
- India should improve on their quality aspects in all the electronic goods in order to match the standards China.
- The Indian government must take initiatives to help the local players in forming strategic alliances between the two nations. This will result into the mutual development of both the countries.

5.8) Conclusion
Developing countries do not necessarily follow the same industrial development process. China and India both have been growing remarkably under economic liberalization after the 1980s and their electrical and electronic industries.

Despite sharing common starting points, the growth and development of the electrical and electronics industry differ significantly in both countries. Strong government support, low production costs & appropriate support for cooperative partnerships are the main drivers behind the positive growth of China’s electronic industry. Because of different tax structures, high indirect duties & licensing policies of government India gets limited pace.

China has also emerged as an export hub with many domestic and foreign players using the low-cost facilities including low raw material cost, economic labor rates & clustered manufacturing locations.

Indian consumer durables market is dominated by multinationals where as with help of forge cooperative venturing Chinese market has developed large home grown companies.

Rising per capita incomes, low penetration levels and saturated markets in developed countries have led to a shift in focus towards emerging markets, In China's overall electronics strategy the low and medium end of the consumer electronics subsector has been designated as the major engine of growth for the entire industry.
Introduction to Chemical Industry in China

The Chemical industry is a key contributor to the world economy. It is a knowledge based industry with significant investments in R&D. The industry supplies to virtually all sectors of the economy and produces more than 80,000 products. Chemistry, though it seems like the stuff for geeks, is very much a part of our everyday lives. Chemistry is everywhere, whether it is the plastic furniture at home, or a synthetic garment in your closet, or a pill you pop… The words “Chemistry” and “life” are inextricably linked. China Chemical Industry holds the third position in the nation. Though it has got a ranking after the textile industry and machinery industry, China Chemical Industry has established a consistent growth path over the years. In 2004, it recorded a 30% increase in production of petrochemicals. This achievement awarded the China Chemical Industry the tag of the fastest growing industry in China contributes almost 10% of China's GDP.  

China has become a great country for chemical production and consumption. It is the second largest country for chemical consumption and ethylene production after the U.S.A. Its outputs of sulfuric acid, ammonia, fertilizer, calcium carbide, dyes, phosphate and synthetic fiber, and its consumption of polypropylene and synthetic rubber rank first in the world. In 2006, the gross industrial output of the chemical industry reached RMB 2.2 trillion. The Figure shows the output of the major chemical products from 1978 to 2006.

Figure: Major Chemical Products Output (1978-2006)

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The most profitable categories of chemicals were pesticides and dyes, with profit growths of 44.9% and 48.1% respectively. The least profitable categories were fertilizer and rubber, growing by 4.1% and 6.3% respectively.

In 2006, the import and export of chemicals reached US$88.6 billion and US$53.4 billion respectively, up 10.1% and 18.2% from the previous year. Table shows the import and export of chemicals in 2006.

Table: Import And Export of Chemicals in 2006

---

Chemical Product Category in China

- Adhesives and Sealants
- Agrochemicals
- Catalyst & Auxiliary
- Dyestuffs and Pigments
- Food and Feed Additives
- Fragrances and Aroma chemicals
- Inorganic chemicals
- Intermediates
- Metals and Minerals
- Organic chemicals and Derivatives
- Pharmaceuticals and Biochemicals
- Polymers

Source: National Statistics Bureau

Source: National Statistics Bureau

Chemical Product Category in China

<table>
<thead>
<tr>
<th>Category</th>
<th>Import (US$ billion)</th>
<th>Growth (%)</th>
<th>Export (US$ billion)</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organic chemicals</td>
<td>30.8</td>
<td>7.3</td>
<td>12.7</td>
<td>36.6</td>
</tr>
<tr>
<td>Specialty chemicals</td>
<td>7.4</td>
<td>-7.5</td>
<td>4.1</td>
<td>-21.8</td>
</tr>
<tr>
<td>Inorganic chemicals</td>
<td>6.0</td>
<td>28.2</td>
<td>7.6</td>
<td>10.4</td>
</tr>
<tr>
<td>Paint and dye</td>
<td>3.5</td>
<td>14.0</td>
<td>3.0</td>
<td>20.7</td>
</tr>
<tr>
<td>Rubber product</td>
<td>3.2</td>
<td>54.7</td>
<td>18.2</td>
<td>24.8</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>2.5</td>
<td>-18.2</td>
<td>1.2</td>
<td>15.1</td>
</tr>
<tr>
<td>Synthetic material</td>
<td>1.8</td>
<td>13.8</td>
<td>4.5</td>
<td>39.5</td>
</tr>
<tr>
<td>Chemical ore</td>
<td>0.8</td>
<td>-8.4</td>
<td>0.5</td>
<td>-7.4</td>
</tr>
<tr>
<td>Pesticide</td>
<td>0.2</td>
<td>16.8</td>
<td>1.0</td>
<td>-25.7</td>
</tr>
<tr>
<td>Other</td>
<td>32.4</td>
<td>25.5</td>
<td>0.6</td>
<td>17.4</td>
</tr>
</tbody>
</table>

Source: National Statistics Bureau

Structure of Dye Industry in China:

Generally, the dye industry includes three sub-sectors, namely, color pigments, and intermediates are involved. Dye intermediates, petroleum products, dyes and pigments in the downstream ends are further processed. These textiles, plastics, paints, paper and printing ink, leather key sources of these major industries, packaging, etc. Three major i.e. DyStar, Ciba Specialty Chemicals and Clariant dye manufacturers are market leaders.

In 2001, the largest private company in the market share of production of dye (23%) DyStar, (14%) Ciba, Clariant (7%), Yorkshire (5%) group, and other traditional groups (3%) were included. And manufacturers of various dyes are the largest group at 43%. In the first half of 2005, China organic pigment production rose 4 percent and 11 percent of a dye obtained. A report that Chinese demand for dyes and pigments in 12 per cent in 2008 and production of dyes and pigments is expected to increase 13 percent by 2008 will increase each year.

According to statistics, in 2004, China dyeing materials and the production volume of pigments reached 598,300 tons and 143,600 tons, 13.3 and 10.4 per cent respectively over the last year that the increases. Total imports and exports of dyestuffs and pigments for 291 200 tones and was estimated at 138,800 tones at the same time, the increase of 16.15 percent and 10.64 last year. Therefore, for China a major producer, consumer and materials, pigments and dyeing auxiliary dyeing developed dealer. Recently, a new textile dyes DyStar feature of a million to about $ 55 U.S. to China to expand its production base and market focus has increased on this important step has announced to invest in Nanjing.

Business Activities of Dye Industry in China

There are certain activities engaged in the manufacturing and trade of the dye industry. The categories of dyes include dyestuffs, textile dyes, paper dyestuffs and leather dyestuffs. The number of producers were about 300 and their Capacity was about 800,000 tons.

Table: Production Table of Dyes

<table>
<thead>
<tr>
<th>Years</th>
<th>Production (tonnes)</th>
<th>Growth Rate %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>542,000</td>
<td>29</td>
</tr>
</tbody>
</table>
### Production of Major Dye Classes (tonnes)

<table>
<thead>
<tr>
<th>Year</th>
<th>Disperse Dye</th>
<th>Reactive Dye</th>
<th>Vat Dye</th>
<th>Acid Dye</th>
<th>Cationic Dye</th>
<th>Sulfur Dye</th>
<th>Organic Pigment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>600,000</td>
<td>641,000</td>
<td>699,300</td>
<td>749,823</td>
<td>678,000</td>
<td>88465</td>
<td>143600</td>
</tr>
<tr>
<td>2005</td>
<td>641,000</td>
<td>699,300</td>
<td>749,823</td>
<td>678,000</td>
<td>264223</td>
<td>85722</td>
<td>156585</td>
</tr>
<tr>
<td>2006</td>
<td>699,300</td>
<td>749,823</td>
<td>678,000</td>
<td>264223</td>
<td>259365</td>
<td>83552</td>
<td>182600</td>
</tr>
<tr>
<td>2007</td>
<td>749,823</td>
<td>678,000</td>
<td>259365</td>
<td>83552</td>
<td>182600</td>
<td>91035</td>
<td>172608</td>
</tr>
<tr>
<td>2008</td>
<td>678,000</td>
<td>749,823</td>
<td>83552</td>
<td>182600</td>
<td>182600</td>
<td>96858</td>
<td>184890</td>
</tr>
</tbody>
</table>

**Source:** China Dyestuff Industry\(^{53}\)

The above table shows various segments of dyes in which the highest increase in the production is observed in Acid Dye which shows an increase of 121\% from 2004 to 2008. Thus, Acid Dye contributed the most from the overall production of the dyes.

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Developing Trend of Chinese Dye Industry

- Domestic demand will further increase.
- Investment in textile and dyeing industry increased.
- Fabric dyed production:
  - 2005 - 36.2 billion meters, growing by 15.7%; 2006 - 40.0 billion meters, growing by 10.5%;
  - 2007 - 43.7 billion meters, growing by 8%
- Increased industry concentration.
- Imbalanced growth for dye classes.
- Quick development for reactive.
- Competition will be focused on quality and service.
- Environment protection will be attached to more attention.
- Large companies will adopt integration, differentiation and diversification strategies.
- Profit will be further squeezed by the rising prices of raw materials, energy and labor cost.

Main Problems of Chinese Dye Industry

- Unreasonable product mix
- Over supply in total capacity
- The number of products in a shortage
- After treatment as a bottleneck
- Low quality and less variety of auxiliary agents
- Low level of finishing technology
- Weak international marketing ability
- Weak R&D ability
- Environment pressure
- Profit reducing caused by cancelling of export tax refunding and cost increasing

Introduction to Chemical Sector in India

Chemical industry is one of the oldest industries in India. It is estimated that the size of Indian chemical industry is around US$ 30 billion. Volume of production in chemical industry positions
India as third largest producer in Asia (next to China and Japan), and Twelfth largest in the world. The chemical industry accounts for about 13% share in the manufacturing output and around 5% in total exports of the country. The chemical industry contributes around 20% of national revenue by way of various taxes and levies. The chemical industry produced around 8 million metric tonnes each of basic chemicals and basic petrochemicals, and around 10 million metric tonnes of petrochemical intermediaries in 2005-06.

Today, India has significant presence in production of basic organic and inorganic chemicals, pesticides, paints, dyestuffs and intermediates, petrochemicals, fine and specialty chemicals, cosmetic and toiletry product segments. Thus, by virtue of its diversity, the chemical industry bears a close correlation not only with the quantum of overall economic growth but also with the contents and quality of growth. India’s export of basic chemicals amounted to over US$ 7 billion in 2005-06. India exported US$ 4.85 billion worth of organic chemicals, US$ 775 million worth of inorganic chemicals, US$ 847 million worth of tanning and colouring materials, and US$ 649 million worth of pesticides, in the year 2005-06. In addition, India exported petrochemicals valued nearly US$ 4 billion. India is also an importer of basic chemicals and the import value amounted to over US$ 8 billion in 2005-06. The composition of India’s chemical imports includes organic chemicals (63%), inorganic chemicals (28%), dyes (6%) and pesticides (3%). China, USA and Saudi Arabia are the leading source countries for India’s chemical imports. In addition, India imported petrochemicals valued over US$ 2 billion.

In terms of consumption, Indian chemical industry itself is its largest consumer; as the basic chemicals undergo several processing to manufacture downstream chemicals. The industry accounts for approximately one-third of the total consumption. With over 40000 units, the industry is widespread and has presence in both small and largescale sector.

Chemical industry is the second largest industry that has attracted large number of anti-dumping actions in the world. In India, chemicals and petrochemicals industry is the largest segment that has initiated anti-dumping investigations during the period 1992-2005. 82 anti-dumping cases (out of 188 cases) initiated by India fall under the category of chemicals and petro-chemicals, during this period. Indian chemical industry has a good record of management expertise.
Gujarat is the major contributor to the basic chemical as well as petrochemical production with 54% and 59% share in all India production, respectively.

Figure: Share of Major States in Production of Chemicals and petrochemicals in India (2005-06)

Source: EXIM Bank of India

Indian dyestuff sector is one of the important segments of Indian chemical industry. The dyestuffs find usage either as raw material or for direct application in a number of manufacturing sectors like textiles, leather, paper, printing inks and foodstuffs. Indian dyestuff sector has emerged as a leading player in the world market with a share of over 6%. In the year 2005-06, the production of dyes and dyestuffs in India was estimated to be 29,541 MTs. Major dyestuffs produced in India are organic pigment colours, azo dyes, sulphur dyes, reactive dyes and pigment emulsion. The Government has been announcing a number of measures to improve the competitiveness of the Indian chemical industry. These include: abolition of industrial licensing to most of the chemical sub-sectors, excepting a small list of hazardous chemicals.

Approval is being granted for FDI up to 100 percent in the chemical sector. The Government is also continuously reducing the list of reserved chemical items for production in the small scale sector, thereby facilitating greater investment in technology upgradation and modernization.

In the years to come, various new avenues are likely to arise in chemical industry like structural transformation, strategic marketing alliances with multinationals and trading companies for domestic sales and exports, stricter enforcement of good manufacturing practices, opportunity for value addition using contract manufacturing or contract research.

Indian chemical industry has major strengths in basic research facilities available with CSIR laboratories such as National Chemical Laboratory, Indian Institute of Chemical Technology, as also corporate R&D centers. This ensures that development of process knowhow, plant process design, detailed engineering design, commissioning assistance and even consultancy for re-engineering are available at low cost.

Present Position of Chemical Industry in China

• China Chemical Industry holds the 3rd in the nation.
• It contributes almost 10% of China's GDP.
• Strong Demand for Chemicals within the country and also owing to the Cost Advantages.
• The growth in the value of output in Chinese chemical industry is quite high and increasing every year.
• Many local companies are involved in the process of setting up extensive production capacity.
• Western Multinationals are also investing in Chinese Chemical Industry by the Direct Investments in form of cooperative ventures with foreign investors.
• It is dependent on imports for raw materials & resources.
• It also suffers from limited power supply, transportation problems.
• More than 40% of world's total production of dyes and dye intermediates is catered to by Chinese units.

Present Position of Chemical Industry in India

• It accounts for 13% of Indian GDP & 13% of Exports.
• It is growing at 12% p.a.
• At present there are about 50 units in the organized Dye sector and 900 units in the small scale sector, with a total aggregate installed capacity of 1,50,000 tonnes per annum.
• Two Western States i.e. Maharashtra and Gujarat account for over 90% of the dyestuff production in the country.
• Indian companies account for 6 % of world production.

Expansion of Dyes Industry in China
Recently, a new textile dyes DyStar feature of a million to about $ 55 U.S. to China to expand its production base and market focus has increased on this important step has announced to invest in Nanjing. Located about 300 km northwest of Shanghai, Nanjing, Jiangsu Province, is the capital of a region important for textile production. The DyStar Wuxi, where production capacity has tripled last year, with Qingdao in China will be the third production unit. The new production site in China will increase their growth, Strengthen their international competitiveness, and it will boost market leadership. This investment is a clear sign that your heart DyStar business continues to invest in the textile industry in the long term, will remain a reliable partner.

New production complex in Nanjing, cellulosic fibers and synthetic DyStar will produce colors. Flexibility built in other colors and in accordance with the requirements of the building will allow expansion of infrastructure. This means that the growing demand in China DyStar will be able to react quickly. The first plant is scheduled to inaugurate the first half of 2006.

Expansion of Dyes Industry in India
Growth of dyes and dye intermediates industry in India is basically a post-independence phenomenon. With the availability of basic feedstock and self-reliance in intermediates over five decades, the industry has achieved self-sufficiency. In 1977, certain dyes were reserved for exclusive development in the small scale sector. With the 1978 Budget, excise concessions were introduced for this sector, which led to a very fast growth of the small-scale sector in dyes. This eventually led to fragmentation of the sector. At present there are about 50 units in the organized sector and 900 units in the small scale sector, with a total aggregate installed capacity of 1,50,000 tonnes per annum. Two Western States viz Maharashtra and Gujarat account for over
90% of the dyestuff production in the country. Several units, which were not complying with Pollution control norms have been shut down.

**Production of Dyestuffs**

**Table 3.1: Production Capacity of Dyes**

<table>
<thead>
<tr>
<th>Name of the Product</th>
<th>Capacity</th>
<th>Production (000 tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZO Dyes</td>
<td>8.7</td>
<td>2.9</td>
</tr>
<tr>
<td>Acid Direct Dyes</td>
<td>0.2</td>
<td>0.0</td>
</tr>
<tr>
<td>Basic Dyes</td>
<td>0.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Disperse Dyes</td>
<td>6.5</td>
<td>1.9</td>
</tr>
<tr>
<td>Organic Pigment Colors</td>
<td>12.2</td>
<td>9.8</td>
</tr>
<tr>
<td>Reactive Dyes</td>
<td>6.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Sulphur Dyes</td>
<td>3.3</td>
<td>1.6</td>
</tr>
<tr>
<td>VAT Dyes</td>
<td>2.9</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Source:** M&E Division / D/o C&PC

**Import and Export of Chemicals in China:**

**Table: Import Export Table**

<table>
<thead>
<tr>
<th>CHEMICAL TRADE BY PRODUCTS IN CHINA (2009)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(US$ Million)</td>
</tr>
<tr>
<td>Type of Chemicals</td>
</tr>
<tr>
<td>Organic Chemicals</td>
</tr>
<tr>
<td>Inorganic Chemicals</td>
</tr>
<tr>
<td>Dyes and Pigments</td>
</tr>
<tr>
<td>Other Chemicals</td>
</tr>
<tr>
<td>Total including others</td>
</tr>
</tbody>
</table>

**Source:** Chemical and Engineering News

**Certain Facts related to Import and Export of Dyes:**
• The exports of Chinese dyestuff reached 0.272 million tons and imports of Chinese dyestuff reached 0.051 million tons.
• The exports of Chinese pigments reached 0.153 million tons and imports of Chinese pigments reached 0.023 million tons.
• The total trade amount of exports of Chinese dyestuff industry in 2010 was US$ 1.17 billion and imports of Chinese dyestuff industry in 2010 was US$ 0.43 billion.
• The total trade amount of exports of Chinese pigments industry in 2010 was US$ 1.02 billion and imports of Chinese pigments industry in 2010 was US$ 0.24 billion.
• The total trade amount of exports of Chinese dyeing and printing industry in 2010 was US$ 12.94 billion and imports of Chinese dyeing and printing industry in 2010 was US$ 2.81 billion.
• The favorable balance of imports and exports trade in Chinese printing and dyeing industry in 2010 was US$ 10.13 billion.

Data of Import and Export of Dyes in China:

Table: Dyes imported in China:

<table>
<thead>
<tr>
<th>Years</th>
<th>Import of dyes from china (US Dollar Thousand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>4475</td>
</tr>
<tr>
<td>2007</td>
<td>4401</td>
</tr>
<tr>
<td>2008</td>
<td>6472</td>
</tr>
<tr>
<td>2009</td>
<td>6465</td>
</tr>
<tr>
<td>2010</td>
<td>6463</td>
</tr>
</tbody>
</table>

Source: Chemical and Engineering News

Interpretation: The above table shows that the import of dyes in china has decreased in year 2007 however it has tremendously increased in year 2008 i.e. increase by 47% approximately, while in year 2009 and 2010 it has a slight decrease of 1% and less than 1% respectively. Thus, it shows the continuous import of dyes in three consecutive years which depicts the positive side for China

Dyes exported from china:

Table: Dyes exported from china:

<table>
<thead>
<tr>
<th>Years</th>
<th>Export of dyes from china (US Dollar Thousand)</th>
</tr>
</thead>
</table>

161
<table>
<thead>
<tr>
<th>Year</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>4475</td>
</tr>
<tr>
<td>2007</td>
<td>4869</td>
</tr>
<tr>
<td>2008</td>
<td>7472</td>
</tr>
<tr>
<td>2009</td>
<td>7657</td>
</tr>
<tr>
<td>2010</td>
<td>7698</td>
</tr>
</tbody>
</table>

Source: Chemical and Engineering News

**Interpretation:** The above table depicts the continuous increase of exports from year 2006 to year 2010 and there is a huge increase in year 2008 by 67% approximately since year 2006. The export also increased in year 2010 by 5% approximately which shows the production of dyes has increased since year 2006 till year 2010.

**Policies in China**

**Import Policy:**

Import of Hazardous Chemicals is permitted without a license in accordance with the provisions of the Manufacture, Storage and Import of Hazardous Chemicals Rules 1989 (made under the Environment (Protection) Act, 1986). Besides other conditions mentioned in the Rules, the importer shall, before 30 days but not later than the date of import, furnish the details specified in Rule 18 to the Authority specified in Schedule 5 of the said Rules.

**Decree 591** – Regulations on Safe Management of Hazardous Chemicals in China

**Replaced decree 344,** & entered into force on 1 Dec 2011

**Mains Reasons for Revision**

- Reform of governmental authorities
- Incomplete management system: users of hazardous chemicals are not regulated;
- Integration with other existing laws(Order No. 7, GHS);

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• Keeping up to date with international trend (TSCA reporting, reporting under CSCL, CLP)

Provisions for Safe Production and Storage of Hazardous Chemicals (Article 11-27)

General Requirement for Production and Storage
- responsible person and qualified professionals;
- regular inspection and maintenance to facilities;
- safety evaluation report every three years;
- recording substance flow for highly toxic chemicals and precursors for explosives;
- suppliers of chemical packages or containers shall possess National Industrial Products Manufacture Certificate;

Application of Licenses:
Any legal entities producing/using/operating hazardous chemicals in China shall obtain a license from local authorities of work safety.
✓ Safe Production License
✓ Safe Use License
✓ Operating License
✓ Transportation Permit

Registration of Hazardous Chemicals in China

Only domestic companies can register. There are Two Bodies for registration -

1) National Registration Center for Chemicals (NRCC) of State Administration of Work Safety (SAWS) and;
2) Local Environmental Protection Authorities (MEP).

Registration of Hazardous Chemicals with NRCC (Article 67)

Required Information
- Legal entity information;
- Classification and labeling (GHS);
- Physio-chemical properties;
- Main uses;
- Hazard properties;
- Safety requirement for storage, use and transport;
- Emergency responses;
- Renewed every 3 years
- Report volume annually;

**Labeling and SDS for Hazardous Chemicals**

**Chapter 2, Article 15:** Producers of hazardous chemicals shall provide SDS and affix chemical safety labels on packages. The SDS and labels shall be prepared in accordance with national standards.

**Chapter 4, Article 37:** Companies cannot sell hazardous chemicals that do not have proper SDS and chemical safety label.

### Labeling and SDS for Hazardous Chemicals\(^{57}\)

<table>
<thead>
<tr>
<th>Offences</th>
<th>Penalties</th>
</tr>
</thead>
<tbody>
<tr>
<td>No proper license</td>
<td>RMB 100,000 to 200,000</td>
</tr>
<tr>
<td>No SDS or label; SDS and labels do not comply with national</td>
<td>RMB up to 50,000; Repeated infringement</td>
</tr>
<tr>
<td>standards</td>
<td>up to RMB 100,000</td>
</tr>
<tr>
<td>Manufacturers and importers fail to register hazardous</td>
<td>RMB up to 50,000; Repeated infringement</td>
</tr>
<tr>
<td>chemicals</td>
<td>up to RMB 100,000</td>
</tr>
</tbody>
</table>

**Laws Concerning the Management of Chemicals\(^{58}\)**

- Environmental Protection Law of the People’s Republic of China (Amended in 1989)

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- Law of the People’s Republic of China on the Prevention and Control of Water Pollution (Amended in 1996)
- Law on Prevention and Control of Environmental Pollution Caused by Solid Waste (Amended in 2004)
- Fire Control Law of the People’s Republic of China (1998) (concerning flammable and explosive chemicals)

**Policies in India**

**Licensing Policy:**
In Chemical Sector, 100% FDI is permissible. Manufacture of most chemical products inter-alia covering organic / inorganic, dyestuffs & Pesticides is delicensed. The entrepreneurs need to submit only IEM with the Department of Industrial Policy & Promotion provided no locational angle is applicable. Only the few items are covered in the compulsory licensing list because of their hazardous nature.

- Hydrocyanic acid & its derivatives
- Phosgene & its derivatives
- Isocynates & di-isocynates of hydrocarbons.

**Customs Duty:**
The peak rate of Customs Duty on most Chemicals is 7.5%

- On basic raw materials like acid grade fluorspar, sulphur, rock phosphate, natural borates is 5%
- On most building blocks & feedstock the duty is 5% (ethylene, propylene, crude, naptha, benzene, toluene, xylene, ethylbenzene)

**Excise Duty: (Last updated in July 2011)**
On almost all chemicals the excise duty is 16%

**Trade Policy:**
Dyes and intermediates are classified under HS code 3201 to 3207. All items under these codes can be freely imported.

**Industry Policy:**
Industrial undertakings involved in producing dyes and intermediates are exempt from obtaining
an industrial license are required to file an Industrial Entrepreneur Memoranda (IEM) in Part 'A'
(as per prescribed format) with the Secretariat of Industrial Assistance (SIA), Department of
Industrial Policy and Promotion, Government of India, and obtain an acknowledgement. No
further approval is required. Immediately after commencement of commercial production, Part B
of the IEM has to be filled in the prescribed format.
Industrial undertakings are free to select the location of a project.
Many items under the dyes and intermediates are reserved for production by small scale units.
Under the small scale policy, equity holding by other units including foreign equity in a small
scale undertaking is permissible up to 24 per cent.

**Tariff-non-tariff Policy**
Custom duty on items falling under coded 3202 to 3207 is 56.83 per cent which includes 30 per
cent basic duty, 16 per cent additional duty and 4 per cent special additional duty. Items
beginning with codes 3201 are having a lower basic duty of 15 per cent, because of this total
duty is lower at 38.74 per cent.\(^{59}\)

**Trade Barriers**

**Demand-supply:**
The growth in exports has resulted in higher growth, apart from the domestic
demand from the textiles sector which accounts for 60 per cent of the consumption. The
realizations of Indian players were affected by the appreciation in rupee, but tight supply has
enabled them to increase prices. The export growth is also expected to get affected by slowdown
in the demand from East, South and West Asia, Africa, USA and the European Countries.

**Government policies:**
In order to reduce the impact of global economic slowdown, the government
reduced excise duty by 4 percent on chemical products in December 2008. This is likely to result

\(^{59}\) *Indian Data. (n.d.).* Retrieved January 29, 2012, from

in lowering of prices. Narrowing down of the duty differential between intermediates and finished products has led to higher imports of lower-end dyes and dyestuffs, particularly from China. Going ahead, the industry will have to comply with the new EU regulatory framework this will affect small players, as additional costs will have to be incurred for testing and registration.

**Input-related risk**

Dyes and pigments are prepared from various chemicals which are mostly derived from basic petrochemicals. The prices of the feedstock are dependent on the demand-supply and rise in prices of crude oil. The raw material cost, accounting for 70 per cent of the net sales, increased sharply in 2007-08 due to rise in prices of crude oil. As a result margins are expected to remain under pressure.

**Extent of competition:**

The dyes and pigments industry is highly fragmented (around 1000 players), with 90 per cent of players located in Gujarat and Maharashtra. This has resulted in high domestic competition, in addition to competition from international players. Established players have strong associations with major end-users, which act as moderate entry barriers. The high cost of effluent treatment, as well as old and outdated technology in small-scale units will make them unviable, resulting in their closure. The industry also faces stiff competition from China; however this competition from Chinese players is expected to diminish, as their costs are likely to increase due to removal of export benefits and implementation of pollution control norms.60

**The changing chemistry of China’s investment environment:**

Most major chemicals companies established manufacturing operations in China decades ago and continue to be big players in the market. The top 10 global chemicals companies currently represent nearly 20% of total foreign direct investment (FDI) in China’s

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chemicals sector. But major players such as Bayer, BASF, Dow Chemical, and Akzo Nobel are changing how they operate. They are increasingly investing in R&D and design and development (D&D) operations to better serve the Chinese market.

**Specialty chemicals attract attention:**
Many recent investments have focused on the development of specialty chemicals. The focus on specialty chemicals and increasing demand for these products for use in China requires chemical companies to work more closely with their Chinese customers.

**Government policies impact investment flows:**
In the past, Chinese government policies focused on attracting foreign investment through a series of favorable tax and incentive policies that enabled low-cost production for export. These were largely abolished at a national level because of the Chinese government’s change in focus to ensure that local companies and MNCs are governed by the same tax regulations. However, opportunities for favorable tax treatments still exist and certain local (i.e., provincial or municipal) government policies in China are designed to attract foreign companies.62

**Navigating the challenges of the shifting chemicals strategy:**
The growing demand for specialty chemicals, the increase of attractive acquisition targets, and the Chinese government’s support of these ventures creates a seemingly perfect backdrop for business expansion for MNCs in the chemicals industry. But foreign companies face various challenges—from talent to logistics—as they expand their operations. To succeed, they must adapt to the new landscape.


Successfully merging cultures:
The key for any MNC seeking to expand its operations in China through an acquisition or partnership is finding a worthy candidate. Many niche oriented Chinese companies lack the scale or expertise that an MNC would need to grow. Large state-owned companies are not for sale, so joint ventures or licensing deals are the only ways to partner with them.

Expansion’s effects on logistics and operations:
MNCs looking to expand operations in China must grapple with increasingly complex supply chains. China currently operates in a bi-modal manner, as MNCs are subject to different rules than their domestic counterparts. As a result, the supply chains for MNC-to-MNC sales are different than the supply chain and distribution networks for MNCs selling to domestic companies. Companies originally geared toward export manufacturing that are now establishing distribution and sales networks in China.

Continued risk for intellectual property rights protection:
Intellectual property rights (IPR) protection has long been a headache for any MNC operating in China, and it’s a particularly sensitive issue in the field of innovation. Chemicals companies that are expanding D&D operations, or even distribution chains, may need to reconsider how they enforce IPR protection. One way MNCs are managing their IP is by acquiring chemical inputs in China for end products manufactured at plants in markets with more reliable IPR protection. The Chinese government has taken steps to improve IPR protection. In February 2011, for example, it clarified the patent law implementing regulations (Implementing Regulations of the Patent Law of China). Efforts may already be making an impact.63

Conclusion

Chemical industry has become of utmost importance for China as well as India. From the data of the above report it can be noticed that both the countries are trying to strengthen their ties by doing regular business within this industry. The data also suggests that Gujarat and especially Ahmedabad plays an important role in building the trade relations through the chemical industry. It can also be noticed that China has become an important site of export for the petrochemicals. China is also the world’s largest producer and exporter of dyes. The other major sector amongst the chemical industry which is mutually beneficial for India and China both is of dyes. The dyestuff industry is also an important part of the Indian economy and hence, the data reveals the importance given by India for trade in the same. India has also played a leading role in the development of the dye industry by exporting dye pigments and fulfilling China’s requirements. China has come up as an attractive destination for FDI as far as the chemical industry is concerned where a series of favorable tax and incentive policies are provided. Moreover the regulatory bodies of China had to revise and strengthen their IPR protection laws to established faith and trust in the foreign companies. The data of the recent scenario in the dye sector has promised bright future for both India and China which is reflected from high trade volumes in 2010. India is also one of the most important export destinations for the colorants produced by the Chinese dyeing sector. The data also helps in concluding that the dyeing sector is also of utmost importance from the employment perspective. The dyeing sector in India is mostly handled by the small scale industry. It shows that there is a high scope for large scale industries in the dyeing sector in the near future, in order to satisfy the demand. Thus we can say that Chemical Industry is one such element which is creating a bond and developing a mutually beneficial relationship between two emerging super powers India & China and helping them move on the path of progress and economic development.
A Study of Automobile Industry:

The global automobile industry, increasingly characterized by global mergers and relocation of production centers to emerging developing economies, is in the grips of a global price-war. The industry is subject to imperfect competition which has resulted in too much of everything — too much capacity, too many competitors and too much redundancy and overlap. The industry is concerned with consumer demands for styling, safety, and comfort; and with labor relations and manufacturing efficiency. The developing countries studied are making efforts to develop their automobile sector through different paths with direct and indirect influence of government through innovative policies and trade liberalization programmes. Government policies towards investment liberalisation brought significant benefits to the selected countries as private players stepped in with modern technology and FDI started pouring in mainly through the hands of Japanese automobile majors.

Different countries adopted different policies to handle the overcapacity problem in the sector. Chinese has promoted consolidation of the industry through mergers and acquisition while Indians sought overseas market. In both these countries, government policies have been towards development of the indigenous automobile sector through strengthening the national players while Thailand focused entirely on the export market through Japanese companies. Domestic players in Indonesia remained as partners to MNCs in assembling activities. Protection in automobile sector earlier was mainly through high tariffs, import bans on Completely Build Units (CBU), local content use condition, and restriction on private investment and other regulatory restrictions. Protection in component sector did not work well in general as it helped only the basic components sector to grow domestically in these countries, with most of the critical components still being imported. A much battered automobile industry enjoyed a significant rebound in 2010 through the fall of 2011—a sharp and

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64 Citings retrived from [www.gbm.scotiabank.com/English/bns_econ/bns_auto.pdf](http://www.gbm.scotiabank.com/English/bns_econ/bns_auto.pdf)

welcome contrast to its state during 2008 and 2009. In the U.S. and around the world, the recession that started near the end of 2007 had a profound impact on the automobile industry. America’s car and light truck market dropped dramatically in 2008, to approximately 13.2 million units sold for the year, down by about 2.9 million from the number of units sold in 2007.

**Emerging trends driving the 2010 China auto industry**
- Sustainable demand growth fuelled by urban economic development
- Shifting preferences for increasingly savvy consumers
- Hyper-competition across the automotive market segments
- Adaptive brand innovation to extend product reach and grow share
- Increasing focus on the automotive aftermarket
- Accelerated drive to globalizatio

**The Chinese automobile market Structure**
By a first look on the growth rates of the Chinese car market you can only be impressed. In 2007 the car market increases dramatically. 37 % more cars were sold than the year before while the European car market was growing slowly and the US car market has had a growth rate near to 0 %. Additionally impressive is the number of car builders in China. More than 80 Chinese companies are producing cars at the moment. This huge amount of competitors needs a form of organisation so that they can be successful not only in China but in the whole world. Up to now the majority of these companies are quit unknown abroad and so the Shanghai Automotive Industries Corporation (SAIC) and Nanjing Automobile decided to develop standards in design, the production process and the sales management of these companies in order to raise the export rate of Chinese cars.

**Business Activities**
**Marketing**
Volkswagen announced to focus more on differentiation

**Sourcing and Supply Chain**

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As a reaction Volkswagen is trying to introduce a common sourcing process for the global group and bundle the purchasing volume in China to create economies of scale. Thereby the target is to find one supplier for each platform part and carry these parts to China.

**Manufacturing**

In order to decrease production costs the board decided to introduce so called ‘product cost workshops’ within the manufacturing departments to communicate cost targets and ‘produce to costs’.

**Honda strategy in China**

There are 3 strategies adopted by Honda strategy which is Joy of buying, joy of selling, and joy of producing. When we realize The Three Joys, we should also be creating joy for society as a whole. Because of the industry we are in, we affect society in many ways.

**Future market structure**

An important issue in the future market structure is the potential to develop new financing alternatives for car buyers. Special vehicle loans may trigger the demand for new cars, while the necessity of paying a very big part of the car in cash may lead people rather to choose to buy a used car or a less expensive new car. That the financial companies create a trust among consumers is therefore important and it will make it easier for people to make decisions about buying not only cars but also accessories, insurance and service to the cars.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Firms</th>
<th>Sales (1000 Units)</th>
<th>Shares (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shanghai Automotive Industry Corporation (Group)</td>
<td>1224</td>
<td>20.22</td>
</tr>
<tr>
<td>2</td>
<td>China FAW Group Corporation</td>
<td>1165.7</td>
<td>19.26</td>
</tr>
<tr>
<td>3</td>
<td>Dongfeng Motor Corporation</td>
<td>932.3</td>
<td>15.40</td>
</tr>
<tr>
<td></td>
<td>ChangAn Automobile (Group) Liability Co.Ltd</td>
<td>708.7</td>
<td>11.71</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>5</td>
<td>Beijing Automotive Industry Group Corporation</td>
<td>685.1</td>
<td>11.32</td>
</tr>
<tr>
<td>6</td>
<td>Guangzhou Automobile Group Colt</td>
<td>352.3</td>
<td>5.82</td>
</tr>
<tr>
<td>7</td>
<td>Chery Automobile Co.Ltd</td>
<td>302.5</td>
<td>5.00</td>
</tr>
<tr>
<td>8</td>
<td>Harbin Hafei Automobile Industry Group Co.Ltd</td>
<td>266.8</td>
<td>4.41</td>
</tr>
<tr>
<td>9</td>
<td>Huachen Automotive Holding</td>
<td>210.2</td>
<td>3.47</td>
</tr>
</tbody>
</table>

Global Unit Sales by Top Auto Manufacturers 2010 (millions) at global level

<table>
<thead>
<tr>
<th>Auto Manufacturer</th>
<th>Unit Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toyota</td>
<td>8.4</td>
</tr>
<tr>
<td>General Motors (GM)</td>
<td>8.3</td>
</tr>
<tr>
<td>Volkswagen</td>
<td>7.1</td>
</tr>
<tr>
<td>Hyundai</td>
<td>5.7</td>
</tr>
<tr>
<td>Ford</td>
<td>5.3</td>
</tr>
<tr>
<td>Nissan</td>
<td>4.0</td>
</tr>
<tr>
<td>Peugeot</td>
<td>3.6</td>
</tr>
<tr>
<td>Honda</td>
<td>3.5</td>
</tr>
</tbody>
</table>

Many big joint-ventures and small joint-ventures took place in China

- Guangzhou Automobile Industry Group - Peugeot : Peugeot 504 (subsequently defunct). (However, in the 90s, Honda replaced Peugeot as the partner of Guangzhou Auto, and producing the Accord and the Fit with huge success).
- In 2006, it started to manufacture Toyota Camry, with huge success also. Making Guangdong province the center of Japanese makes auto manufacturing in China now.
In Structure growth, In 2007 the car market increases dramatically. 37 % more cars were sold than the year before while the European car market was growing slowly and the US car market has had a growth rate near to 0 %.

- More than 80 Chinese companies are producing cars at the moment
- quit unknown abroad and so the Shanghai Automotive Industries Corporation (SAIC) and Nanjing Automobile decided to develop standards in design, the production process and the sales management of these companies in order to raise the export rate of Chinese cars.

Comparision of the policy framework of India & China

Attempts to grab the opportunities emanated from the global restructuring of the industry and relocation of production base to developing countries. Most leading auto-manufacturers continue to invest in R&D so that the production costs get reduced and develop partnership with local firms which concentrate on production activities to reduce cost. Government policies towards automobile industries in these countries also got evolved along with this. Policies towards liberalization of investment regime brought significant benefits to the selected countries as private players stepped in with modern technology and FDI started pouring in mainly through the hands of Japanese automobile majors. However, the overcapacity problem faced by the global automobile industry also creped in the automobile industry of these selected countries. Different countries took different policies to handle the overcapacity problem in the sector. Chinese has attempted to consolidate the industry through mergers and acquisition while Indians sought overseas market. In both these countries, government policies have been towards development of the indigenous automobile sector through strengthening the national players while Thailand focused mainly on the export market through Japanese companies.

In China, company structures are mainly in the form of JVs. Consolidation of domestic companies is being promoted to form larger groups such as FAW, DMC, etc. In India, domestic companies such as Telco, Hindustan Motors are listed companies at the stock exchange with
relatively low level of FDI. These companies grew considerably under the protective environment of the government and are now competing with MNCs. Even company like Maruti, in which Suzuki has a significant stake, has grown through government patronage and today, government holds more than 10% share in the company.

Protection in component sector did not work well in general as it helped only basic components sector to grow domestically in these countries. Most of the critical components are imported despite protection given to component sector. India is also now making an effort to develop indigenous component sector through giving focus in R&D and tightening the IPR regime and thereby inviting big players to step in the critical component sector leaving the basic components in the hands of SMEs. China, on the contrary is increasing the comparative advantage in the basic component sector through further reduction in cost. For the vehicles, it is still focusing on the consolidation of the domestic sectors and improving the technological as well as managerial capabilities of the sector in general. Due to local content requirement and lack of intellectual patent rights, sub-system and design development sector has not been developed in China which is a prerequisite for international competitiveness.

Automobile industry in these countries is subject to variety of taxes such as excise tax, sales tax, corporate income tax, VAT and import duties. Tax structure of these countries on automobiles is not similar which shows the interest of the government. In China levies different taxes on cars, motor vehicles, CVs etc. whereas in India it is not vehicle specific and limited to ‘cars’ and ‘others’. The taxes are relatively heavier in India. Corporate Income tax is highest in India

**Tax and tariff structure**

Tax structure is important both for demand and production as it is treated as an additional cost and affects demand by rising selling prices. Automobile industry in these countries is subject to variety of taxes such as excise tax, sales tax, corporate income tax, VAT and import duties. Table 21 provides the comparison of tax structure in these four countries. It may be noted that taxes on automobile industry do not have a homogeneous structure in the selected countries. In India taxes are not vehicle specific. However, in Thailand and China different
taxes are levied on cars, motor vehicles, CVs etc. Corporate Income tax is highest in India among all these four countries. Quite interestingly, corporate income tax in China is higher in state owned enterprises (SOEs) compared to JVs. China is giving importance on JVs in terms of production. This is reflected in lower corporate income tax. In Indonesia it varies from 10-30%.

**Comparison of Tax Structure**

<table>
<thead>
<tr>
<th></th>
<th>INDIA</th>
<th>CHINA</th>
<th>INDONESIA</th>
<th>THAILAND</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Corporate</strong></td>
<td>36.75%</td>
<td>SOEs and Chinese companies: 33%</td>
<td>10 – 30%</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Excise tax:</strong> Cars</td>
<td>24% VAT: 17%</td>
<td>VAT 10%</td>
<td>VAT: 7%</td>
<td></td>
</tr>
<tr>
<td><strong>Others 16%</strong></td>
<td>Consumption tax: Excise tax 20%</td>
<td>Interior tax: 10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sales tax:</strong> Cars 12%</td>
<td>3 – 8% for motor-vehicles</td>
<td>Excise tax: Cars and PV 12 –</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Others 4%</strong></td>
<td>ad valorem</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>All vehicles at 60%</strong></td>
<td>Car and light vehicles: 43 – 50%</td>
<td>Cars 30% CV</td>
<td>Cars and PV 60 –</td>
<td></td>
</tr>
<tr>
<td><strong>Import tariffs</strong></td>
<td>50%</td>
<td>20%</td>
<td>80%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bikes 30%</td>
<td>CV 30 – 80%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


In South East Asia, trade in automobiles is now under AFTA rules where tariffs were cut, including those on cars, to between 0 and 5%. Provided a car has a minimum local content of 40% from any ASEAN member, the car maker has to pay just 5% duty when exporting to member countries of the grouping. AFTA has a brought new range of issues for discussion related to automobile trade in ASEAN region.

- **Industry Definition:** This class consists of units mainly engaged in manufacturing motor vehicles or motor vehicle engines.

- **Products and Services:**
  - The primary activities of this industry are:
  - Motor cars manufacturing
• Motor vehicle engine manufacturing
  o The major products and services in this industry are:
• Passenger motor vehicle manufacturing segment (Passenger Cars, Utility Vehicles & Multi Purpose Vehicles)
• Commercial Vehicles (Medium & Heavy and Light Commercial Vehicles)
• Two Wheelers and Three Wheelers
  o The market segmentation includes 91% households

Comparative Position of Automobile Industry between India & Gujarat

Major players
• TATA Motors :-
• Market share: Commercial vehicles – 63.94% & Passenger vehicles – 16.45%
• Maruti Suzuki India :-
• Market Share: Passenger Vehicles - 14.15%
• Mahindra & Mahindra :-
• Market Share: Commercial Vehicles-10.01%, Passenger Vehicles-6.50%, Three Wheelers-1.31%
• Ashok Leyland :-
• Market Share: Commercial Vehicles - 16.47%
• Hero Honda Motors :-
• Market Share: Two Wheelers - 41.35%
• Bajaj Auto :-
  Market Share: Two Wheelers - 26.70%, Three Wheelers - 58.60%

Market characteristics include:

Market Size
The Indian Automotive Industry after de-licensing in July 1991 has grown at a spectacular rate on an average of 17% for last few years. The industry has attained a turnover of USD 35.8 billion, (INR 165,000 crores) and an investment of USD 10.9 billion. The industry has provided direct and indirect employment to 13.1 million people. Automobile industry is currently contributing about 5% of the total GDP of India.
Price of Petrol: Movement in oil prices also have an impact on demand for large cars in India. The changing patterns in customer preferences for smaller more fuel efficient vehicles led to the launch of Tata Motor’s Nano – one of world’s smallest and cheapest cars.

International Markets Imports are low and increasing.

The exports in automotive sector have grown on an average compound annual growth rate of 30% per year for the last seven years. The export earnings from this sector are over USD 6 billion. Even with this rapid growth, the Indian automotive industry’s contribution in global terms is very low. This is evident from the fact that even thought passenger and commercial vehicles have crossed the production figures of 2.3 million in the year 2008, yet India’s share is about 3.28% of world production of 70.53 million passenger and commercial vehicles. India’s automotive exports constitute only about 0.3% of global automotive trade.

Basics for competition

Concept of attaining competitiveness on the basis of low cost and abundant labour, favourable exchange rates, low interest rates and concessional duty structure is becoming inadequate and therefore, not sustainable.

Competition in this industry is high. Competition in this industry is increasing. India with a rapidly growing middle class (450 million in 2007 as per NCAER Report), market oriented stable economy, availability of trained manpower at competitive cost, fairly well-developed credit and financing facilities and local availability of almost all the raw materials at a competitive cost has emerged as one of the favourite investment destinations for the automotive manufacturers.

These advantages need to be leveraged in a manner to attain the twin objective of ensuring availability of best quality product at lower cost to the consumers on the one hand and developing and assimilating the latest technology in the industry on the other hand.

Exports
India's automobile exports have grown consistently and reached $4.5 billion in 2009, with United Kingdom being India's largest export market followed by Italy, Germany, Netherlands and South Africa. India's automobile exports are expected to cross $12 billion by 2014.

In July 2010, The Economic Times reported that PSA Peugeot Citroën was planning to re-enter the Indian market and open a production plant in Andhra Pradesh with an annual capacity of 100,000 vehicles, investing EUR 700M in the operation. PSA's intention to utilise this production facility for export purposes however remains unclear as of December 2010.

In recent years, India has emerged as a leading center for the manufacture of small cars. Hyundai, the biggest exporter from the country, now ships more than 250,000 cars annually from India. Apart from shipments to its parent Suzuki, Maruti Suzuki also manufactures small cars for Nissan, which sells them in Europe. Nissan will also export small cars from its new Indian assembly line. Tata Motors exports its passenger vehicles to Asian and African markets, and is in preparation to launch electric vehicles in Europe in 2010.

China’s entry into the WTO provided a set of boundary conditions on the rules of play, and has ushered China into the global automotive community. The series of Five-Year Plans have also guided the industry to an impressive state. But growth in the future will require taking a closer look at how well the industry is structured for Success, and paying more attention to the softer issues related to industry development. China's automobile industry released a much-anticipated new policy with rules expected to slow investment and consolidates the auto industry. The policy also encourages car buying through new traffic laws enacted by local governments.

The Policy-Maker, the National Development and Reform Commission, claims this policy will help create a healthier auto industry and cites seven distinct differences from the 1994 policy, including abolishing market-share requirements for local vehicles, which stated that by 2010 half of all new cars must be built in China. The policy also favoured large manufacturers over China's aging producers. Companies in other industries will not be allowed to buy failing manufacturers and new producers will need to invest at least 2 billion Yuan ($241 million) according to the new policy.

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This policy aims to promote integrated, phased, enduring and self-sustained growth of the Indian automotive industry. The objectives are to:-

(i) Exalt the sector as a lever of industrial growth and employment and to achieve a high degree of value addition in the country;
(ii) Promote a globally competitive automotive industry and emerge as a global source for auto components;
(iii) Establish an international hub for manufacturing small, affordable passenger cars and a key centre for manufacturing Tractors and Two-wheelers in the world
(iv) Ensure a balanced transition to open trade at a minimal risk to the Indian Economy and local industry;
(v) Conduce incessant modernization of the industry and facilitate indigenous design, research and development;
(vi) Steer India's software industry into automotive technology;
(vii) Assist development of vehicles propelled by alternate energy sources;
(viii) Development of domestic safety and environmental standards at par with international standards.

The automotive industry is in the midst of a major structural transformation in today's globalized scenario. "System Supply" of integrated components and subsystems is becoming the order of the day, with individual small components being supplied to the system integrators instead of the vehicle manufacturers. In this process, most of the SSI units manufacturing smaller individual components are on their way to become tier 2 and tier 3 suppliers, while the larger companies including most MNCs are being transformed into tier 1 companies, which purchase from tier 2 & 3, and sell to the auto manufacturers.

Indian auto sector needs to grow collaterally and in harmony with world industry. India has the potential to be a global automotive power. However, concerted efforts will be required to take auto manufacturing to a self-sustaining level where they shall have volumes, generate requisite technology and meet evolving emission requirements.
Volume is important for any manufacturing enterprise. However, it is more important for automobile sector, both for the manufacture of vehicles as well as auto components. Lack of volume will not only inhibit efficient manufacture but also R&D and introduction of new models. The investment and fiscal policies should create an environment for volume production and indigenous capability for innovation for small cars and auto component Auto components manufacturers have been slowly gaining global recognition and maintaining a certain level of exports despite the recent downturn. It should be possible to achieve an export target of US $ 1 billion by 2005 and US $ 2.7 billion by 2010. This would require three pronged marketing strategy: exports through OEMs for their global sourcing requirements, export to tier I manufacturers as a part of their international supply chain and direct exports to aftermarket. The main challenges are lower volume – low scale, fragmentation, inadequate R&D/technology support, lower productivity levels, limited resources for international marketing and establishment of an efficient supply chain.

Initiatives relating to investment, tariffs, duties and imposts will be the instruments to achieve the Policy objectives. These path government’s economic reform and are in harmony with the commitments made to WTO. Increased resource allocation to the highways sector to ensure collateral up gradation and development of road infrastructure in step with the increase in the population of vehicles. An appropriate regulatory framework for smooth movement of traffic, safety and environmental aspects. Automatic approval for foreign equity investment up to 100% of manufacture of automobiles and component is permitted. Traffic on roads is growing at a rate of 7 to 10% per annum while the vehicle population growth for the past few years is of the order of 12% per annum. Poor road infrastructure and traffic congestion can be a bottleneck in the growth of vehicle industry.

The Government shall promote Research & Development in automotive industry by strengthening the efforts of industry in this direction by providing suitable fiscal and financial incentives. The current policy allows Weighted Tax Deduction under I.T. Act, 1961 for sponsored research and in-house R&D expenditure. This will be improved further for research and development activities of vehicle and component manufacturers from the current level of
125% Government will encourage setting up of independent auto design firms by providing them tax breaks, concessional duty on plant/equipment imports and granting automatic approval.

Allocations to automotive cess fund created for R&D of automotive industry shall be increased and the scope of activities covered under it enlarged. With the growth of vehicles, smooth traffic movement has come under severe strain. The problem has been aggravated because of inadequate provision of parking facilities generally. Starting with metropolitan and important towns, the Government will pursue with State Governments and Local bodies amendments to laws for upward revision of the parking norms for new residential buildings, construction of common parking for existing residential areas besides parking upgradation in all commercial areas. Multi-storied parking shall also be encouraged. The Government will formulate a comprehensive auto fuel policy covering the other related aspects and ensure availability of appropriate auto fuel/fuel mixes at minimum social costs across the country. Suitable institutional mechanism will be put in place for certification, monitoring and enforcement of different technologies/fuel mixes. Appropriate fiscal measures will be devised to achieve milestones in the roadmap for implementation of auto fuel policy.

There is prime need to support the development and introduction of vehicles propelled by energy sources other than hydrocarbons by promoting appropriate automotive technology. Hybrid vehicles and vehicles operating with batteries and fuel cells are alternatives to the conventional automobile, which in their early beginnings, lie entreated. As an impetus for the development of such vehicles, an appropriate long-term fiscal structure shall be put in place to facilitate their acceptance vis-à-vis vehicles based on conventional fuels.

Government will duly amend the Central Motor Vehicles Rules, Bureau of Indian Standards (BIS) and other relevant provisions and introduce safety regulations that conform to global standards. Testing and certification facilities need to be revised and strengthened in accordance with safety standards of global order. Government, in partnership with industry, will tend to this requirement.
The incidence of import tariff will be fixed in a manner so as to facilitate development of manufacturing capabilities as opposed to mere assembly without giving undue protection; ensure balanced transition to open trade; promote increased competition in the market and enlarge purchase options to the Indian customer.

In respect of items with bound rates viz. Buses, Trucks, Tractors, CBU's and Auto components, Government will give adequate accommodation to indigenous industry to attain global standards. In consonance with Auto Policy objectives, in respect of unbound items i.e., Motor Cars, MUVs, Motorcycles, Mopeds, Scooters and Auto Rickshaws, the import tariff shall be so designed as to give maximum fillip to manufacturing in the country without extending undue protection to domestic industry. India has often been described as a country with large market. But unfortunately this large market has been highly fragmented by interstate barriers. It is further complicated by State specific law on sale of goods. The wide divergence in the structure and practice has hampered free flow of goods and services within the country and effected competitiveness of Indian Industry.

Uniform rate structure across the country helps in avoiding diversion of trade from one State to another, checks unhealthy competition and reduces tax evasion. It helps automobile industry to plan and commit long term investments. Set-off of tax paid should be allowed for all inputs including raw material, components, consumables, fuel and capital goods. Tax paid on services should be allowed to be set-off. Tax paid on capital goods should be allowed as set-off in full in the same year to avoid confusion and litigation later.

Automobile manufacturers have made huge investments, which are in phases in unviable locations. These location disadvantages are partially offset by fiscal incentives. Any detrimental variations or withdrawal will affect the viability of such investments. This may adversely impact the country's image as an attractive investment destination.

In the U.S. and around the world, the recession that started near the end of 2007 had a profound impact on the automobile industry. America’s car and light truck market dropped dramatically in 2008, to approximately 13.2 million units sold for the year, down by about 2.9 million in 2009,
China easily surpassed the US in total car sales to become the world's largest automotive market from the number of units sold in 2007. China’s government has a great deal of control over the market, as it may increase sales by encouraging new auto loans, or decrease sales by adding new registration fees or restricting traffic in major cities in order to reduce congestion and pollution.

68 China produced a total 9.3 Million vehicles in 2008, surpassing United States as the 2nd largest automobile maker, after Japan. Chinese government has recently announced various incentives and subsidies to boost the new energy vehicle market and to become the world’s largest producer of electric cars in the next three years. From the supply side, almost every international player has recognized China as their largest source of future profit and has thereby committed significant investment. several emerging trends that are driving the near-term development of the China automotive industry are

- Sustainable demand growth fueled by urban economic development
- Shifting preferences for increasingly savvy consumers
- Hyper-competition across the automotive market segments
- Adaptive brand innovation to extend product reach and grow share.

The Volkswagen Beetle, the first car produced for the Chinese market, was a real success. After several years competitors, mainly from the Japanese market like Honda, started to enter the Chinese market very aggressively and due to that Volkswagen had to face the challenge to maintain its market leader position and therefore adopt the corporate strategy. The supply chain of this industry in India is very similar to the supply chain of the automotive industry in Europe and America. the level of trade exports in this sector in India has been medium and imports have been low. The level of technology change in the Motor vehicle Industry has been high but, the rate of change in technology has been medium.

Tata Motors is leading the commercial vehicle segment with a market share of about 64% and Maruti Suzuki is leading the passenger vehicle segment with a market share of 46%, Hyundai Motor India and Mahindra and Mahindra are focusing expanding their footprint in the overseas market. Hyundai Motor India Limited is a wholly owned subsidiary of world’s fifth largest automobile company, Hyundai Motor Company,

The import of vehicles shall be subject to the following guidelines of the Government of India:

A new imported vehicle shall mean a vehicle that:-

- has not been manufactured/assembled in India; and
- has not been sold, leased or loaned prior to importation into India; or
- has not been registered for use in any country according to the laws of that country, prior to importation into India.

General Motors applauded the policy as more transparent and predicted it would result in a healthier industry, despite the fact that new licensing policies designed to limit the number of vehicles will result in higher prices and lower sales. Another perspective related to above mentioned policy is whether there is a more efficient set of economic policies that would better support the development of the automotive industry and overall economic impact on China than the 50:50 rule Automobile policy aims to promote integrated, phased, enduring and self sustained growth of the Indian automotive industry and objectives are as follows:

1. Exalt the sector as a lever of industrial growth and employment and to achieve a high degree of value addition in the country;
2. Promote a globally competitive automotive industry and emerge as a global source for auto components.
3. Establish an international hub for manufacturing small, affordable passenger cars and a key centre for manufacturing Tractors and Two-wheelers in the world.
4. Development of domestic safety and environmental standards at par with international standards.

Conclusions
Initiatives relating to investment, tariffs, duties and imposts will be the instruments to achieve the Policy objectives. These path government’s economic reform and are in harmony with the commitments made to WTO. An appropriate regulatory framework for smooth movement of traffic, safety and environmental aspects. Approval for foreign equity investment up to 100% of manufacture of automobiles and component is permitted.

A balanced and coordinated approach will be undertaken for proper maintenance, up gradation and development of roads by encouraging private sector participation besides public investment and incorporating latest technologies and management practices to take care of increase in vehicular traffic.

The Government has taken initiative to promote Research & Development in automotive industry by strengthening the efforts of industry in this direction by providing suitable fiscal and financial incentives. The current policy allows Weighted Tax Deduction under I.T. Act, 1961 for sponsored research and in-house R&D expenditure. This will be improved further for research and development activities of vehicle and component manufacturers from the current level of 125%.

Uniform rate structure across the country helps in avoiding diversion of trade from one State to another, checks unhealthy competition and reduces tax evasion. It helps automobile industry to plan and commit long term investments. The classification of goods should be aligned to central taxes to reduce litigation. Uniform classification across all States and central taxes would create favorable environment for growth of industry.
INTRODUCTION OF THE PHARMACEUTICAL INDUSTRY

GLOBAL
The global pharmaceutical market research has been done by many companies and almost all of the market reports indicate a significant growth of pharma market in 2010-2011. The forecasting indicates pharmaceutical market growth of about 4 - 6% in 2010-2011. The established markets, including the US, UK, and Japan, together account for 30% of the global demand for pharmaceutical excipients.
The pharma market world over has experienced significant shifts. Especially Asia-Pacific region has emerged as the fastest growing pharmaceutical market over the recent past. The reason for this positive shift can be attributed to the low costs and favorable regulatory environment.

CHINA
69 Despite the recent global financial crisis, China’s economic growth is still surpassing expectations as the world’s fastest growing economy. As of 2009, China is the second largest economy (in purchasing power parity) in the world with a GDP of US$ 8.8 trillion, which is growing at a rate of 8.7% (Central Intelligence Agency, 2010).
Moving from generics into new drug development is a large and important step towards becoming a legitimate player in the global pharmaceutical industry. Developing national capabilities to increase innovation not only increases China’s probability of producing novel drugs, but it also enhances the country’s overall quality and sustainability of economic development (Yusuf, Wang, & Nabeshima, 2009).
China has been in desperate need of a healthcare overall. Despite the country’s impressive economic growth, 2009 healthcare expenditures accounted for only 4.96% of China’s GDP (WiCON, 2010).

India
The Indian pharmaceutical industry currently tops the chart amongst India's science-based industries with wide ranging capabilities in the complex field of drug manufacture and technology. A highly organized sector, the Indian pharmaceutical industry is estimated to be worth $4.5 billion, growing at about 8 to 9 percent annually.
There are approximately 250 large units and about 8000 Small Scale Units, which form the core of the pharmaceutical industry in India (including 5 Central Public Sector Units).
The Government has also played a vital role in the development of the India Software Industry.
In 1986, the Indian government announced a new software policy which was designed to serve as a catalyst for the software industry.

INTERNATIONAL TRADE BETWEEN INDIA AND CHINA
In April last year, the Chinese government kicked off healthcare reforms to revamp the ailing medical system and to ensure fair and affordable health services for all its 1.3 billion citizens with an investment of 850 billion yuan ($124 billion) in three years.
Factors such as rapidly increasing urbanisation, demographic shift, life style changes and a huge investment to support Health Care reform between 2009 to 2011 is likely to drive the drug market size in China and will help Indian generic companies to penetrate that market, says Satish Reddy. Dr Reddy's Laboratories had started operations in China in 2000 through a joint venture.

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Conducting business in China can be difficult due to the many uncertainties and differences in the economic, political, and cultural environment. The Chinese prefer doing business with companies they know, so working through an intermediary is crucial in China. Business relationships are built formally. It is important to be patient as it takes a considerable amount of time to build business relationship which is also bound with enormous government bureaucracy.

THE PHARMA AND BIOTECH INDUSTRY STRUCTURE

When speaking of the Pharma /Biotech business model, the focus is actually on the development process of new drugs (not the actual process from manufacturing to patient). Drug development is a very complex process driven by medical science, regulatory constraints, and reimbursement standards. The very nature of this process shapes the industry and is the root cause for most M&A activity, hence it makes sense to look at it in some detail.

- Target identification and validation
- Drug discovery
- Pharmacology
- Clinical development

THE PHARMA AND BIOTECH INDUSTRY STRUCTURE

- In Phase I, the safety of the drug is verified by applying increasing doses of the drug candidate to healthy patients (typically 10-20).
- If no side effects are measured, the drug is progressed to phase II, in which the efficacy is tested in volunteer patients.
- Phase III finally applies the drug to a larger group of patients to detect frequent side effects, and includes often other (older) drugs as comparator.

ACTIVITIES

The Group offers a wide range of services, which is constantly being supplemented, thanks to its significant capabilities in terms of technology, know-how and innovation.

Computerized CRM services, which are proportional to the number of medical representatives and represent the Group’s traditional activities for pharmaceutical companies, today account for
only 20% of its total revenue following the growth and proliferation of the services provided by Cegedim.

The CRM services offered to the pharmaceutical industry are becoming increasingly complex and will lead to changes in activities.

New government policies on pharma covigilance will also create new requirements in Cegedim’s priority areas, which are databases of healthcare professionals, longitudinal patient studies, risk-benefit studies for all new products prior to launch, the management of new prescribers, especially in oncology, and management of new purchasers.

One of the new requirements concerns disclosure requirements for health spending, an area in which Cegedim’s «reconciliation» service called «Aggregate Spend» is proving very successful in the United States. Cegedim aims to repeat this success in Europe from 2011.

**IMPORT POLICY**

**Imports**

Centralized system of registration has been introduced under the Drugs & Cosmetics Act and Rules made there under, administered by Ministry of Health and Family Welfare. These arrangements may continue to regulate imports of Drugs and Pharmaceuticals.

- **Industrial Licensing**
  Industrial licensing for all kinds of drugs has been reduced or abolished.

- **Foreign Direct Investment**
  FDI up to 100% is permitted, subject to stipulations laid down from time to time in the Industrial Policy, through the automatic route in the case of all bulk drugs cleared by the Drug Controller General (India).

- **Foreign Technology Agreement**
  Automatic approval for Foreign Technology Agreement (FTA) is already available in the case of all the bulk drugs cleared by Drug Controller General (India),

- **Product Patent in Pharmaceuticals**
  Product patent in pharmaceuticals has been introduced in the country with effect from 1st January, 2005 by amending the Patents Act, 1970 in conformity with the TRIPS agreement. The physical infrastructure in the four patent offices in the country are (Kolkata, Delhi, Chennai and Mumbai).
✓ **Introduction of Value Added Tax (VAT)**

VAT has been introduced in India with effect from 1st April, 2005. Already 22 States have implemented it. The remaining States are likely to implement it in the near future. VAT on medicines has been kept at 4%.

✓ **Quality Certification of drugs**

Government would institute a method of widely publicizing GMP certification as a guarantor of quality of the certified drug. In addition, a quality mark like the ISI or Agmark approvals would be evolved through industry involvement – BIS would be involved with the grant of these quality marks.

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**EXPORT AND IMPORT OF DRUGS AND PHARMACEUTICALS IN INDIA**

![Bar chart showing export and import of drugs and pharmaceuticals in India from 1997-98 to 2006-07](image)

**INDIA’S IMPORT OF DRUGS AND PHARMACEUTICALS**

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71 Corporate catalyst India retrieved from [www.cci.in/pdf/surveys_reports/indias_pharmaceutical_industry.pdf](http://www.cci.in/pdf/surveys_reports/indias_pharmaceutical_industry.pdf)
PHARMACEUTICAL EXPORTS FORM INDIA

PRODUCTION OF BULK DRUGS IN INDIA (1995-96 TO 2004-05)
From the above table we can observed than from 2000 to 2005 production of bulk drugs is increased by 185 percent

**DUTY STRUCTURE OF INDIA FOR PHARMACEUTICAL**

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<th>particular</th>
<th>Excise duty</th>
<th>Custom Duty</th>
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<tr>
<td></td>
<td>Present</td>
<td>Proposed</td>
</tr>
<tr>
<td>Life Saving Drugs/Essential Medicines</td>
<td>Nil</td>
<td>Nil</td>
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<tr>
<td>Drug Intermediates and Bulk Drugs</td>
<td>8%</td>
<td>4%</td>
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<tr>
<td>Formulation</td>
<td>4%</td>
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**IMPORT EXPORT PROCEDURES OF CHINA**

- The establishment of an effective import contract
- The writing of a Letter of Credit (L/C)
- Booking space and pushing for shipment
- Insurance
- Customs declaration and receiving shipment
- Checking, receiving, and goods delivery
- Checking documents and making payment

**CHINA’S PHARMACEUTICAL EXPORT**
PRESENT TRADE BARRIERS FOR IMPORT / EXPORT

✓ Import Export Licensing
✓ Customs Procedures

Customs valuation procedures allow India’s customs officials to reject the declared transaction value of an import.

✓ Government Procurement

At the Central (federal) level, procurement is regulated through executive directives and administered by the government agencies. The General Financial Rules (GFR), issued by the Ministry of Finance, lay down the general rules and procedures for financial management, the Procurement of goods and services,

✓ Export Subsidies
✓ Import Quotas

PHARMACEUTICALS INDUSTRY IN INDIA

• “The Indian pharmaceutical industry is a success story providing employment for millions and ensuring that essential drugs at affordable prices are available to the vast population of this sub-continent.”

• India has a thriving pharmaceuticals industry. India supplies 8 per cent of the world’s output (in volume) of drugs, and 22 per cent of the world’s output of generic drugs

• Indian pharmaceutical industry consisted of 300 large to moderate firms and approximately 5000 smaller firms, and together they produced output valued at US$10 billion.

• India exported drugs, pharmaceuticals and fine chemicals worth US$4.9 billion.

• India exports pharmaceutical products to a large number of countries including the United States, United Kingdom, Germany, Russia and China.

• India is a low-cost supplier of generic drugs to several less-developed countries.

Market shares of different pharmaceutical product category

72 Corporate Catalyst report on Indian Pharmaceutical Industry retrieved from www.cci.in/pdf/surveys_reports/indias_pharmaceutical_industry.pdf
Exports

- Over 60 per cent of India’s bulk drug production is exported. India’s pharmaceutical exports are to the tune of Rs87 billion, of which formulations contribute nearly 55 per cent and the rest 45 per cent comes from bulk drugs.

- The export revenue now contributes almost half of the total revenue for the top three pharmaceutical majors: Dr Reddy’s, Ranbaxy and Cipla

Revenue from Export\textsuperscript{73}

- The Indian market for over-the-counter medicines (OTCs) is worth about $940 million and is growing 20 percent a year, or double the rate for prescription medicines

- Indian exports are to more than 200 countries around the globe including highly regulate markets of US, Europe, Japan and Australia. More than 400 Bulk Drugs and about 60,000 Formulations (60 categories) are produced in India the industry has the potential to achieve $22.40 billion in formulations, with bulk drug production going up from $1.79 billion to $5.60 billion.

- To introduce product patenting as required by the TRIPS, the government issued the Indian Patent Ordinance of 2004 in December 2004.

- The strict provisions of the Ordinance were criticized in India and abroad as being detrimental to public health concerns. Finally, the Ordinance was replaced with the Indian Patent (Amendment) Act of 2005 passed by the Indian Parliament in March 2005

\textsuperscript{73} Export-import bank of India occasional paper no. 119 indian pharmaceutical industry : surging globally retrieved from http://www.eximbankindia.com/op/oplast.pdf
• As per the Indian Patent Ordinance of 2004 (Section 92 (A)), least developed countries (LDCs) were required to issue compulsory licenses for importing generic drugs from India.
• The Patent (Amendments) Act 2005 relaxed the requirement: as per the revised Section 92 (A) of the 2005 Act, LDCs can import pharmaceutical products from India by notification or other means.

PHARMACEUTICALS INDUSTRY IN CHINA
• The pharmaceutical industry is one of the leading industries in People's Republic of China, covering synthetic chemicals and drugs, prepared Chinese medicines, medical devices, instruments, hygiene materials, packing materials, and pharmaceutical machinery.
• China accounts for 20% of the world’s population but only 1.5% of the global drug market.
• The industry environment has been transformed for the better over the last 10 years.
• Research and development is rapidly increasing with Shanghai becoming one of the most important global centers.
• Currently China has about 3,500 drug companies.
• China's thousands of domestic companies account for 70% of the market, and the top 10 companies about 20%, according to Business China.
• Foreign players account for 10% to 20% of overall sales, depending on the types of medicines and ventures included in the count. But sales at the top-tier Chinese companies are growing faster than at Western ones.

FUTURE GROWTH
• The report said that China's pharmaceutical revenue is growing fast and that the market there may double by 2013. Sales of prescription drugs in China will grow by US$40 billion through 2013.
• The value-added output of China's pharmaceutical industry increased 14.9% year on year in 2009.
• In the first 11 months of last year, the medicine sector's combined net profit was RMB 89.6 billion, up 25.9% year on year. Growth in the period was only 16.2% in the period from January to August

• **Foreign expansion**

• Most Chinese pharma companies with foreign distribution export traditional chinese medicine mainly to Asian countries or regions.

• Sinopharm has achieved an annual sales volume of 10 billion RMB (over 1.2 billion U.S. Dollars) and a total import and export volume of 200 million U.S. Dollars.

• **Pharmaceutical Logistics**

• China has 16,500 wholesalers, 120,000 retailers and more than 6,300 producers.

• In terms of sales, China's top three companies: sinopharm group, shanghai pharmaceutical co. and jiuzhoutong Group Crop., are all shared less than 5% of the national market.

• China's pharmaceutical logistics industry has been expanding constantly. A great amount of capital is being poured into the industry.

• **Comparison of regulatory requirements with other countries**

• There should be no big differences between rules of China and those of the U.S. Pharmaceutical, partly because China is following and copying U.S. rules.

• China and India each also possess their own, unique features and characteristics, not only in the pharmaceutical-related industries but also in almost every aspect of social structure.

**Potential for Import/Export of pharmaceutical**

• China's fast-growing pharmaceuticals market is proving attractive to many foreign pharmaceutical firms, including those in the generics sector. Such companies need to be aware of potential pitfalls, some of which were outlined in *Scrip News* by Mr Jason Wang, Senior Business Development Manager at GreenPine (Tianjin) Pharmaceutical Co, a company that specialises in the registration and distribution of imported pharmaceuticals in China.

• Before the launch of any imported drug in China, an import drug license (IDL) must be obtained from the State Food and Drug Administration (SFDA). According to SFDA
regulations, only the marketing authorisation holder specified in the certificate of pharmaceutical product (CPP) can be the applicant and holder of the IDL.

- For generic IDL applications, which include clinical data, the CDE will need an additional 90 working days to evaluate the clinical trial application dossier. Although this timeframe has been clearly specified in current SFDA regulations, it will actually often take much longer to get an evaluation result.

**BUSINESS OPPORTUNITIES**

**For India**

The Indian pharmaceutical market reached US$ 10.04 billion in size, with a value-wise growth rate of 20.4 per cent over the previous year’s corresponding period on a Moving Annual Total (MAT) basis for the 12 months ended July 2010.

The sale of all types of medicines in the country stands at US$ 9.61 billion, which is expected to reach around US$ 19.22 billion by 2012.

India's domestic pharmaceutical market is valued approximately at US$ 12 billion in 2010, and has shown a strong growth of 21.3 per cent for the 12 months ending September 2010.

1. The migration into a product patent based regime is likely to transform industry fortunes in the long term. The new product patent regime will bring with it new innovative drugs.
2. Large number of drugs going off-patent in Europe and in the US during 2005 - 2009 offers a big opportunity for the Indian companies to capture this market. Since generic drugs are commodities by nature, Indian producers have the competitive advantage, as they are the lowest cost producers of drugs in the world.
3. Being the lowest cost producer combined with FDA approved plants; Indian companies can become a global outsourcing hub for pharmaceutical products.

**China**

As well as European Chemical companies, Chinese companies will also benefit from improvements in the economic environment.

Chinese health and life sciences companies are likely to be active participants in the aggressive consolidation of the Chinese pharmaceutical manufacturing base.

Chinese pharmaceutical manufacturers are acquiring interests in retail channels and have become a major factor in a consolidation trend.
Domestic Chinese TCM products, actively supported by the Chinese government, have significant export potential. Today Hong Kong and Taiwan hospitals already include form of TCM in their therapy and treatment programs.

CONCLUSIONS
Target of 20% growth in European Union for which two important issues to be addressed are breaking the knowledge barrier and high bio equivalence cost for product registration. Extensive training programmes, free/online on EU regulation should be offered to Indian companies aggressively.
Increasing India’s share in domestic market of China which is growing @ 10% per year. There exists an opportunity for Indian exports of pharma products to China of at least US$ 2 billion per year. India would have to leverage its position as a key export market for China and negotiate preferential access to Chinese market involving the following: Faster registration of specific generic drugs and unique combinations which are available in India and not in China and can contribute to reducing China’s healthcare costs.
A period of exclusivity in China for such generic drugs to ensure a sustainable opportunity for India in the Chinese market. China undertaking buying missions to India to source these drugs from approved vendors.
Conclusions

Major items of India’s export to China are iron ore and other mineral ores; marine products; drugs and pharmaceuticals; inorganic, organic, agro and fine chemicals; cotton yarn, fabrics & made ups; castor oil, plastic & linoleum products; guergum meals, etc.

Top five items of exports to China which include iron ore, other ores & minerals, plastic & linoleum, marine products and drugs & pharmaceuticals, accounted for a share of 65.98 per cent in India’s total exports to China and have had similar proportions in previous years as well (57.6 per cent and 51.7 per cent in 2000-01 and 1999-2000 respectively). Indian exports to China are largely concentrated to primary products; while higher value added manufactured items are gradually making their presence in the export basket. Exports of iron ore, slag, ash, plastic & linoleum to China increased substantially, indicating enhanced capacity of Indian goods to cater to the growing demand of Construction Industry in China. While the demand for specialty steel is strong in China, both due to the booming housing and industry construction, China is also emerging as a big importer of aluminum, especially for its communication and transport infrastructure. Though India is the third largest exporter of seafood and fish to China, immense potential lies in exploiting high quality fish market e.g. prawn, shellfish etc. as well as frozen marine products.

The restructuring of China’s textile sector could result in new opportunities for increasing exports of cotton yarn/fabrics to China. East China possesses the ability to compete in market for international high quality textile garment and middle processing technology; textile industry in West China seeks opportunities in low and medium quality textile market. Indian companies could accordingly develop win-win partnerships in different provinces and regions of China.

India’s major imports from China include chemicals, mechanical and electronic goods, silk, pharmaceuticals, machinery, minerals, iron and steel etc. Among the fastest growing Chinese exports to India are artificial resins, plastics, and manufactures of metals, electrical machinery and equipment, project goods, crude minerals and professional instruments.

With China's entry into the WTO, immense opportunities have opened for setting up joint ventures and business collaborations between Indian & Chinese Industry. Total Chinese investments in India amounted to about US$148.5 million by November 2002, whereas total Indian investments in China are estimated to be about US$28.4 million. Though there has not been significant transfer of technology between the two countries, many Chinese conglomerates are looking keenly at the Indian market as part of the "go-out" strategy and have plans to enter the Indian market. Major Chinese companies have set up offices in India in sectors such as machinery, metallurgical equipment, chemicals, automobiles, silk, engineering, and IT.

China has emerged as strong player in Global Trade and Commerce.
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