CHAPTER – IV

Overview of Growth and Development of SMEs with special reference to selected sectors in India and China

4.1 Overview of Growth & Development of SME’s with special reference to selected sectors in India

4.1.1 Overview of Growth & Development of SME’s with special reference to Chemical sectors in India

4.1.2 Overview of Growth & Development of SME’s with special reference to Pharma sectors in India

4.1.3 Overview of Growth & Development of SME’s with special reference to Textile sectors in India

4.2 Overview of Growth & Development of SME’s with special reference to selected sectors in China

4.2.1 Overview of Growth & Development of SME’s with special reference to Chemical sectors in China

4.2.2 Overview of Growth & Development of SME’s with special reference to Pharma sectors in China

4.2.3 Overview of Growth & Development of SME’s with special reference to Textile sectors in China
4.1. Overview of Growth & Development of SME’s with special reference to selected sectors in India

4.1.1 Overview of Growth and Development of SMEs with special reference to Chemical sectors in India

The Indian chemical industry forms the backbone of the industrial and agricultural development of India and provides building blocks for downstream industries. Chemical industry is one of the oldest industries in India. The industry has grown at a pace outperforming the overall growth of the industry. Growing interdependence of economies due to increasing international trade is resulting in a chemical industry that is highly globalised in terms of production and supply.

The Chemicals Industry comprises both small and large scale units. The fiscal concessions granted to small sector in mid-eighties led to establishment of large number of units in the Small Scale Industry (SSI) sector.

The Chemical industry is critical for the economic development of any country, providing products and enabling technical solutions in virtually all sectors of the economy. Specialty Chemicals are the fastest growing segment in the chemical industry. These are high value, low volume chemicals known for their end-use applications and/or have performance enhancing properties. There is immense potential for increasing consumption within the country as also for India to become a reliable supplier of such quality chemicals to the world. Compared to United States, Europe and even China, there is comparatively very low usage of such chemicals in India. Increasing judicious usage of such chemicals will not only help in the growth of this important segment of the chemical industry but also facilitate overall economic growth.

The Indian Chemicals Industry comprises both small and large-scale units. The fiscal concessions granted to small sector in mid-eighties led to establishment of large number of units in the Small Scale Industries (SSI) sector. Currently, the Indian Chemical industry is in the midst of a major restructuring and consolidation phase. With the shift in emphasis on product innovation, branch building and environmental friendliness, this industry is increasingly moving towards greater customer orientation. Even though India enjoys an abundant supply of basic raw materials, it will have to build upon technical
services and marketing capabilities to face global competition and increase its share of
exports.

As the Indian economy was a protected economy till the early nineties, very little large-
scale R&D was undertaken by the Chemical industry to create intellectual property. The
Industry would, therefore, have to make large investments in R&D to successfully
counter competition from the international chemicals industry. India has a number of
scientific institutions and the country’s strength lies in its large pool of highly trained
scientific work force. India also produces a large number of fine and specialty
chemicals, which have very specific uses and are essential for increasing industrial
production. These find wide usage as food additives and pigments, polymer additives,
anti-oxidants in the rubber industry, etc.

The specialty chemical industries, consisting of approximately fifty segments including
construction chemicals, electronic chemicals, polymer additives, textile chemicals and
oil field chemicals. The market is concentrated largely in the US, Europe and Japan but
future growth is expected to come from the emerging Asian markets. The high growth
rates in these economies are ushering in prosperity and improved life style which
mandate a greater usage of productivity and performance enhancing materials.

The Dyestuff sector is one of the important segments of the chemicals industry in India,
having forward and backward linkages with a variety of sectors like textiles, leather,
paper, plastics, printing inks and foodstuffs. The textile industry accounts for the largest
consumption of dyestuffs. From being importers and distributors in the 1950’s, it has
now emerged as a very strong industry and a major foreign exchange earner. India has
emerged as a global supplier of dyestuffs and dye intermediates, particularly for
reactives, acid, vat and direct dyes. India accounts for 7% of the world production.

Chemical fertilizers and pesticides played an important role in the “Green Revolution”
during the 1960s and 1970s. Indian exports of agrochemicals have shown an impressive
growth over the last five years. The key export destination markets are USA, U.K.,
France, Netherlands, Belgium, Spain, South Africa, Bangladesh, Malaysia and
Singapore.
India is one of the most dynamic generic pesticide manufacturers in the world with more than 60 technical grade pesticides being manufactured indigenously by 125 producers consisting of large and medium scale enterprises (including about 10 multinational companies) and more than 500 pesticide formulators spread over the country. India is the 4th largest producer of agrochemicals after USA, Japan and China. The agrochemicals market in India is Rs.4500 crores. The government is promoting research on the use of alternative and safe pesticides using neem seeds. A country programme entitled “Development and production of neem products as Environment Friendly Pesticides” is being undertaken by the Department of Chemicals & Petrochemicals with the financial assistance of United Nations Development Programme (UNDP).  

Petrochemicals are derived from various chemical compounds, mainly from hydrocarbons. These hydrocarbons are derived from crude oil and natural gas. Among the various fractions produced by distillation of crude oil, petroleum gases, naphtha, kerosene and gas oil are the main feed stocks for petrochemical industry. Ethane, propane and natural gas liquids obtained from natural gas are the other important feedstock used in the Petrochemicals industry. Petrochemical industry plays a vital role in economic growth and development of manufacturing sector. The value addition in the petrochemicals industry is higher than most of the other industry sectors. The Petrochemical industry, which entered in the Indian industrial scene in 1970s, registered a rapid growth in the 1980s and 1990s. Petrochemical industry mainly comprise of synthetic fibre/yarn, polymers, Synthetic Rubber (elastomers), Synthetic detergent intermediates, performance plastics and plastic processing industry. Today, petrochemical products permeate the entire spectrum of daily use items and cover almost every sphere of life like clothing, housing, construction, furniture, automobiles, household items, agriculture, horticulture, irrigation, packaging, medical appliances, electronics and electrical etc. Presently there are five naphtha and three gas cracker complexes in operation with combined ethylene capacity of about 2.6 million tonnes per annum. In addition, there are four aromatic complexes in operation with a combined Xylene capacity of about 2.1 million tonnes. The production performance of major petrochemicals during 2001-02 to 2005-06 is as follows: Presently there are five naphtha and three gas cracker complexes in operation with combined ethylene capacity of about

http://chemicals.nic.in/chem1.htm retrieved on 7.9.2013
2.6 million tonnes per annum. In addition, there are four aromatic complexes in operation with a combined Xylene capacity of about 2.1 million tonnes.42

Basic Chemical sub-sector of the Indian Chemical industry is one of the old industries in the world as well as in India. The firms in this industry are mainly producers of the intermediate goods that are used by various other industries including leather, textile, paints, plastics, rubber, and other chemicals. This industry is expected to be highly developed since it acts as backbone for many other industries.

Gujarat is the hub of the Indian Chemical industry, contributing to over 50% of its production. Gujarat government has announced a number of measures to improve competitiveness in the Chemical sector. Industrial licensing has been abolished for most sub-sectors (except a small list of hazardous chemicals). Approval is being granted for FDI up to 100 per cent in the chemicals sector. The government is continuously reducing the list of reserved chemical items for production in the small-scale sector, thereby facilitating greater investment in technology up-gradation and modernization. Policies have been initiated to set up integrated Petroleum, Chemicals and Petrochemicals Investment Regions (PCPIR). New initiatives are likely to attract large investments – both domestic and foreign with requisite improvements in infrastructure and competition due to Gujarat’s investor-friendly policy towards industrial development have resulted in Gujarat evolving as the hub of India's chemical and petrochemical industry - with the state accounting for more than half of India's total chemical industry and national petrochemical production. The chemical industry is today the largest and fastest growing component of Gujarat's manufacturing sector.

The wide and diverse spectrum of products can be broken down into a number of categories, including inorganic and organic (commodity) chemicals, drugs, pharmaceuticals, plastics, petrochemicals, dyes, pigments, fine chemicals, specialty chemicals, pesticides, agrochemicals and fertilizers.

Trade in chemicals to and from India in the recent years has increased substantially. Though earlier the exports were to countries of South East Asia, Africa, this is now

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changing. Indian Chemicals have markets in countries such as USA, UK, Germany, France, Japan, etc.

The chemical industry provides tremendous scope for Small and Medium Enterprises as well as to big players to grow because of the increasing demand of chemical products within the country and in international market. In fact global companies are also looking at India for future business deals as the country provides good quality of products and services. In addition to association and individuals, the government is also taking measures to promote chemical sector like, working on Public Private Participation (PPP) model for building necessary infrastructure, especially for ports and roads, availability of finance to improve infrastructural facilities for Small and Medium Enterprises, large scale infrastructure projects, especially those involving multiple states, Ensure feedstock availability and Rationalize taxes and duties.

Besides to association and individuals, the government is taking measures to promote chemical sector and helping finance to improve infrastructural facilities for Small and Medium Enterprises. The Indian government with a special focus on modernization takes an active role in promoting and advancing the domestic chemical industries. India is becoming favoured destination for global and regional chemical & pharma majors due to its manufacturing capabilities and low labour cost.

Growth of small organisations is influenced by the background/resource of the entrepreneur, the nature of the firm, and the strategic decisions taken by the owner/manager. Entrepreneurs of the small businesses are the sole strategic decision makers and their close control supports easy translation of entrepreneurial vision into action. Their ability, need and opportunity are the major determinants of growth. Small business entrepreneurs show different motives and also have different attitude and behaviour towards growth.

Today, the Chemical industry is leading the change towards bringing a cleaner, greener, brighter future. Every technology or service or product is promoting greenness. So much so, that green chemistry is becoming an industry in itself. Green chemistry will drive future growth of the chemical industry. Indian chemical industry to promote sustainable development by investing in green technologies, adding that the industry must ensure
increased adherence to safety and international health & environmental standards. For the green chemistry development measures chemical manufacturing plants are being designed to maximise energy efficiency. Waste heat from one process is the warm-up for the feedstock for the next step.

Indian Chemical industry generates around 70,000 commercial goods ranging from plastic to toiletries and pesticides to beauty products. It is regarded as the oldest domestic sector in India and in terms of volume it gives a sense of pride to India by featuring as the 12 largest producers of chemicals. With an approximate cost of $28 billion, it amounts to 12.5% of the entire industrial output of India and 16.2% of its entire exports. Under Chemical industries some of the other rapidly emerging sectors are petrochemical, agrochemical, and pharmaceutical industries.43

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4.1.2 Overview of Growth and Development of SMEs with special reference to Pharma sectors in India

The early stage of Pharmaceutical evolution has been divided into two distinct phases viz., the pre-independence and the post independence scenarios.

Before the advent of British Rule, the indigenous forms of medicine were in use (Ayurvedic or Unani) in India. The Central Government of British India first introduced the allopathic form of medicine in the country. However, there were no production units in the country. Instead, the foreign companies exported raw materials from India, transformed it into finished products, and imported it back to India. In spite of sincere

43 Mazumdar, N. Performance of Pharmaceutical companies in India, 2013
efforts by a handful number of entrepreneurs to establish indigenous companies, drug production in the country was low and could hardly meet only 13% of the total medicinal requirement of the country. The indigenous industry, however, received impetus during the Second World War due to the fall in the supply of drugs from foreign companies and many more Indian companies like Unichem, Chemo Pharma, Zandu Pharmaceutical Works, Calcutta Chemicals, Standard Chemicals, Chemical Industrial and Pharmaceutical Laboratories (now known as Cipla), East India Pharmaceutical Works and others were established. With the entry of new firms in the market the production of drugs increased rapidly and indigenous firms were able to satisfy about 70% of the country’s medicinal requirement. During this period, foreign companies across the globe as well as Indian companies were engaged in production related activities and the importance of R&D was unknown to them. Whichever new inventions of drugs were made were mainly due to the individual efforts of scientists and the drug companies were not involved in it.44

The period spans from 1945 to approximately the mid 1970s. A major breakthrough known as therapeutic revolution marked the beginning of this period and resulted in a phenomenal growth of the global pharmaceutical industry located mainly in Germany, Switzerland, the UK and also to some extent in the US. A noteworthy achievement during this period was a shift in drug therapy from treating the symptoms to treating the disease itself (Temin 1979). At the same time there was a significant shift in the structure of the industry mainly because the global pharmaceutical industry instead of being mere production units also embarked on the path of massive investment in R&D. The commercialization of newly invented pharmaceutical products like penicillin and other synthetic drugs also turned out to be a lucrative business.

In comparison Indian companies were however, not influenced by the wave of therapeutic revolution. The lack of technology, capital and support from the government were the principal hindrances for Indian companies to embark on the new trajectory of drug development.

Concerned about the lack of manufacturing facilities and guided by the perception that ‘foreign technology’ was an important component for the growth of the pharmaceutical sector, the Government of India in its Industrial Policy Statement of 1948 decided to take a liberal attitude towards Multi National Companies and allowed them to establish plants without facing the hurdle of licensing agreements. Such liberal attitude of the government towards MNCs led to a free flow of foreign capital and the sector witnessed rapid growth.

However, in spite of the progress made by the sector, it was observed that foreign companies did not establish any production unit in India, but were engaged in assembling bulk drugs (imported from their country) for manufacturing the final product (Pharmaceutical Enquiry Committee 1954). MNCs were not keen to establish production units in the country because the production of bulk drugs required investment in plant and machinery whereas importing bulk drugs and processing them into the formulation was an easier and more profitable business. In order to fulfil regulatory requirements many foreign companies started their production in India. During this period, a large number of domestic companies also entered the market mainly due to government support under the Industrial Licensing Act and started producing a wide range of products.

The development of the pharmaceutical industry in India is a relatively recent phenomenon. It was during the 1950s and 1960s that the pharmaceutical sector started developing and as a result of western pharmaceutical giants working with the Indian public sector. However, even this arrangement could not cater to India’s domestic needs. The Indian pharmaceutical sector has tremendous growth, from being a small player in the 1970s, to becoming a prominent provider of healthcare products; meeting almost 95% of the country’s pharmaceutical needs today. Moreover, in order to ensure access to drugs, the government set prices at affordable levels, thereby not providing sufficient incentive, causing a situation in terms of a crisis in healthcare.

The Indian pharmaceutical sector has come a long way, from being almost non-existent before 1970 to a prominent provider of healthcare products at present. The Indian Pharmaceutical Industry today is in the front rank of India’s science-based industries with wide ranging capabilities in the complex field of drug manufacture and technology. It ranks very high in the third world, in terms of technology, quality and range of medicines.
manufactured. From simple headache pills to sophisticated antibiotics and complex cardiac compounds, almost every type of medicine is now made indigenously.

The Indian Pharmaceutical Industry to become globally competitive through world class manufacturing capabilities with quality and cost efficiency of production capacity and radical up-gradation of research and development capabilities for new drugs and associated activities like clinical trials and contract manufacturing. There is need to develop world class support infrastructure both for production and research.

The core strength of Indian pharmaceutical industry today is its huge export potential. The industry is making adequate returns from the domestic sales but bulk of its profits come from the export of generics and active pharmaceutical ingredients to the developed markets. The industry has been exporting more than half of its total production. The largest export destination continues to be the US, followed by the UK, Germany, South Africa, and Russia.

Segment wise, generic drugs account for 58% of total exports, APIs account for 40% and traditional medicines account for the remaining 2%. Many pharmaceutical firms have already established themselves as leading API manufacturers and generic players in the US and European markets. Thus the Indian firms have made their presence felt in developed markets and continue to maintain the quality of its APIs and generic formulations. The country’s commerce ministry has set an ambitious export target. More than 50 per cent share of exports is by way of dosage forms. Indian companies are now seeking more Abbreviated New Drug Approvals (ANDAs) in USA in specialized segments like anti-infective, cardio vascular and central nervous system groups. India currently exports drug intermediates, Active Pharmaceutical Ingredients (APIs), Finished Dosage Formulations (FDFs), Bio- Pharmaceuticals and Clinical Services to various parts of the world.

India has always been an important contributor to the pharmaceuticals sector with the domestic market showing unprecedented growth in the last few years. The sector is growing at 10-12% per annum with growth in respondents, specifically increasing number of old people, rapid urbanisation, better purchasing power with the middle income group and the focus of the country towards innovation and research. The growing generics
business of the pharma industry is expected to be the largest driver of growth in future too, with a large portion of patented drugs losing their patent privilege in the next few years.45

The Pharmaceutical industry in India is the world's third-largest in terms of volume and stands 14th in terms of value. The demand for pharmaceutical products in India is significant and is driven by many factors like low drug penetration, rising middle-class & disposable income, increased government & private spending on healthcare infrastructure, increasing medical insurance penetration, changing demographic pattern and rise in chronic lifestyle-related diseases; adoption of product patents, and aggressive market penetration driven by the relatively smaller companies. The Pharmaceutical industry in India meets more than 70% of the country's demand for bulk drugs, drug intermediates, pharmaceutical formulations, chemicals, tablets, capsules, orals and injectables.

The Strengths of Pharma Sector are Low cost of innovation/manufacturing/Capex costs/expenditure to run a cGMP compliance facility. Low cost scientific pool on shop floor leading to high quality documentation. It is not only an API and formulation manufacturing base, but also as an emerging hub for Contract research, Bio-technology, Clinical trials and Clinical data management. The Indian SME Pharma Sector providing quality healthcare at affordable prices.

The exports to US accounts for more than 40% of the total exports of pharmaceuticals from India. The trigger for the development of the generics market in the US came in the form of legislative action initiated in the first half of the 1980s. The Drug Price Competition and Patent Restoration Act of 1984 (better known as “the Hatch-Waxman Act”) created opportunities for marketing of generics or the so-called abbreviated new drug applications (ANDAs). The Hatch-Waxman Act established the ANDA approval process, which allows lower-priced generic versions of previously approved innovator drugs to be brought into the market.

Similarly Europe is emerging as a key market and a potential growth driver for Indian SME Pharma sector. Germany, France, the UK and Italy accounting for more than 50% of the market. The governments in Europe are trying to reduce healthcare costs by embracing

45 Sector briefing: Biotechnology and Pharmaceutical opportunities in India by UK Trade & Investment
generic drug companies. India has had a unique position among the countries in the developing world for it has a strong generic pharmaceutical industry, which has been able to provide medicines at prices that were amongst the lowest in the world. Much of the credit for this development goes to the Patents Act that India has enacted from time to time. Strengthening of patent laws has helped India in increasing the investments by foreign firms in the Indian market.46

4.1.3 Overview of Growth and Development of SMEs with special reference to Textile Sector in India

The Indian cotton textile industry is one of the most important sectors that affect the economy of the country as a major chunk of Indian respondents is dependent on this sector for their livelihood. Although this sector is very critical, only a few studies have been carried out to appreciate the effectiveness of this sector in the post-liberalization period, as liberalization has changed the economic scenario of the country. This study aims to compare the performance of firms incorporated before liberalization and those incorporated after liberalization. This study is also intended to study the effect of different variables on a firm’s performance. In this study, a firm’s performance is measured in terms of weighted ROCE and Net Sales. The study will certainly strengthen the existing body of knowledge by providing some empirically tested insights for the Indian cotton textile industry and other similar industries. India’s textile industry is also significant in a global context, ranking second to China in the production of both cotton yarn and fabric and fifth in the production of synthetic fibres and yarns. It can be inferred that one out of every six Indians is directly or indirectly associated with this industry. This industry offers one of the most basic needs of the people i.e., clothing and helps in improving the quality and standard of life. From the production of raw input to the delivery of the finished products with substantial value addition at each stage of processing, it has a distinctive position as a self-reliant industry of the Indian economy. Its vast potential for creation of employment opportunities in the agricultural, industrial, organized and decentralized sectors and rural and urban areas, particularly for women and the disadvantaged is noteworthy. The industry has a great advantage of availability of low-cost enormous network of skilled human resource, flexibility in production processes and long experience

with European Union and US. The low-wage structure in India has also caused a shift in production of textiles from developed countries to India. This industry offers one of the most basic needs of the people i.e., clothing and helps in improving the quality and standard of life. From the production of raw input to the delivery of the finished products with substantial value addition at each and every stage of processing, it has a distinctive position as a self-reliant industry of the Indian economy. Its vast potential for creation of employment opportunities in the agricultural, industrial, organized and decentralized sectors and rural and urban areas, particularly for women and the disadvantaged is noteworthy.47

The Indian Textile industry occupies an important place in the economy of the country because of its contribution to the industrial output, employment generation and foreign exchange earnings. At present, the contribution of the textile industry to GDP is about 4 percent. The textile industry provides direct employment to about more than 35 million people and is the second largest employment provider in India after agriculture. Of this, textile industry alone accounts for 29 million and the apparel industry accounts for balance 6 million people. With exports as well as domestic sector growing rapidly the Textile and Apparel Industry is expected to provide direct employment to 40 million people by year 2010. Size of the Indian Textile and Apparel Industry is estimated to be US $ 85 bn. comprising US $ 45 bn. in domestic and balance in exports by 2010. The contribution of this industry to gross export earnings is about 17% and it adds less than 2 % to the gross import bill of the country in 2004-05. The textile industry is a self-reliant industry from the production of raw materials to the delivery of final products with considerable value addition at each stage of processing. The industry was delicensed in 1991 and under the current policy no prior government approval is necessary to set up textile mills. The per capita cloth availability in the country has increased from 22.87 square meters in 1991-92 to 33.51 square meters in 2004-05.48

The textiles and clothing industry are dominated by small, fragmented and non-integrated units with the exception of spinning sector. The spinning segments production is dominated by large units and has been able to undergo significant modernization at a rapid

48 http://www.niir.org/information/content.phtml?content=47
rate. In recent years, a trend towards consolidation and integration with the value chain upstream along with modernization in segments like garments has been witnessed. The ginning, weaving and processing sectors, on the other hand, lags behind as regards modernisation. Within the weaving sector, increasing dominance of the power loom sector is being witnessed over the years. The garments sector is undergoing significant expansion and modernization process in recent years and this opportunity has been created through de-reservation. The recent global slowdown has however impacted the prospects of this sector also. This industry covers a wide range of activities ranging from generation of raw materials such as jute, wool, silk and cotton to greater value added goods such as ready made garments prepared from different types of manmade or natural fibres. Textile industry provides job opportunity to over 35 million individuals thus playing a major role in the nation's economy. It has 4 per cent share in GDP and shares 35% of the gross export income besides adding 14% of value addition in merchandizing sector.  

4.2 Overview of Growth & Development of SME’s with special reference to selected sectors in China

4.2.1 Overview of Growth and Development of SMEs with special reference to Chemical sector in China

The chemical industry is the third largest in China, after textiles and machinery, and accounts for 10% of the country’s GDP, as well as for between 35% and 40% of the global demand growth for chemicals. China’s chemical industry is the second largest consumer, after the US, of basic chemical products - fully 45% of the total for Asia.  

However, despite this growth, China has a net chemical deficit with the world market and is heavily dependent on imported materials. This dependency has been affected by price trends in the world market caused by heavy international demand for raw materials, petroleum and other chemical inputs.

China joined the World Trade Organization in 2001, which committed it to cutting tariffs on chemicals. In coming years, this could expose weaknesses in various parts of the domestic chemical manufacturing centre.

The massive globalization and consolidation strides taken by the industry with the requirement of heavy capital investment that brings in more competition and the overall focus of the industry to meet the environmental challenge.

The processes applied in the Chinese chemical industry and their defining global standards thereby ensuring leadership in exports as well as attracting significant FDI in the industry. The industry’s dynamics like competition, infrastructure and the regulatory policies with the reporting requirements deployed on the industry.

A comprehensive section on the affect of the REACH agreement, which came in to effect from June 1, 2007, on the Chinese Chemical Industry. The report also profiles some of the leading players in the industry who have earned the reputation and pride for the Chinese Chemical Industry globally and have placed China at the top of the pecking order. As China’s economy and industrial base continue their rapid expansion, the country’s demand for chemicals will increase accordingly, making this market as world’s most exciting market in this sector. After three decades of annual growth close to or more than 10 percent, China’s GDP at a nominal exchange rate surpassed that of Japan in 2010, making China the world’s second-largest economy. Although the 12th five-year plan, to be adopted. During 2011, an aim to rein in growth in the quest for sustainability, the annual growth target is still set at 7 percent, and actual growth is likely to be even higher. (Under the previous five-year plan, projected annual growth was 7.5 percent, but actual growth was regularly at least 3 percent higher.) By contrast, the world’s other leading economies—the U.S., Japan, and Germany—are expected to achieve compound annual growth rates of only 1 to 2 percent during the coming decade.

China’s growth was only briefly dented by the global economic downturn following the 2008 financial crisis. It weathered the storm by implementing a huge fiscal stimulus program, amounting to some 15 percent of GDP. Most of the funds were directed to new transport infrastructure (US$265 billion), but there were also significant spends on rural infrastructure ($54 billion) and the environment ($51 billion). In addition, the government
cut interest rates and introduced initiatives to boost consumer spending. Chinese demand for chemicals dipped sharply at the end of 2008, but had resumed a strong growth trend in less than a year. The rise of China’s economy has thus far been export-driven, with foreign investment attracted primarily by the low-cost manufacturing base and heavy government investment in infrastructure. In recent years, government policy has been trying to move away from this “investment push” economy toward a more sustainable long-term growth model based on “consumer pull,” and has focused more efforts on stimulating domestic consumption.51

The last decade or so has seen the emergence of a large middle class with significant disposable income, at last making this ideal of a consumption-led economy feasible. This transformation will lead to a shift in the industrial balance, with an expansion of the light manufacturing and service sectors. However, increasing government concerns with health, safety, and environment (HSE) and social welfare are highlighted in the new five-year plan. They will drive up operating costs and inhibit growth to some extent.

Discontinuities in demand structure are creating opportunities in new value chains for China’s chemical producers. The automotive, construction, and textiles industries have seen consistently high growth—well above that of overall GDP—throughout the past decade, and this is likely to continue. However, in percentage terms, the solar energy sector has exceeded them all, with a 50 percent expansion over the past five years; with the increasing government emphasis on renewable energy, this growth is accelerating further, almost doubling year-by-year from 2009 onward.52

Hence, polyethylene/polypropylene, EVA, and elastomers (used in tires) for the automotive industry, along with construction uses of polyurethane, will remain major growth areas, but demand for PVA, PVB, and EVA for use in solar panels is also becoming significant. There are also major regional discontinuities in chemical production, reflecting the distribution of China’s industrial base. At present, the chemical industry’s installed capacity is heavily concentrated on the east coast, primarily in the provinces of

52 Specialty Chemicals in China: Catalysts for Growth - by Andrew Thomson, Director, and Alexis Zirah, of KPMG in China and Hong Kong SAR. Pp3,pp6,pp8 accessed on September10, 2013
Shandong and Jiangsu. Among the western provinces, only Sichuan has significant capacity. A prime aim of government policy is to redress this unbalanced development: Industries are being encouraged to set up in the “Tier Two” and “Tier Three” provinces of central and western China through a variety of preferential policies (land credits, tax exemptions, subsidies, etc.). The far western region of Xinjiang, thought to contain major oil and natural gas reserves, is becoming a particular focus of this initiative.

The domestic production base has mastered commodity chemicals, but asset build and technology transfer in the more advanced chemical segments has been slow, and there remains a great dependence on the import of fine and specialty chemicals (an area of rapidly expanding demand, as China’s manufacturing industry increases in sophistication). Local producers have gradually developed their own technologies for some of the more complex chemicals, and the import window for products such as butanol, ethylene, and pigments is closing. However, technologies for producing polycarbonates and polyamides—In high demand in the automotive and telecommunications industries—are still far from mature in China, and these will continue to provide a strong market for importers.

Chinese companies produce a large range of commoditised chemicals such as vitamins and pharmaceutical inputs. Many international specialty chemicals companies have stopped producing these products because of their lower margins. However, growth in these areas is strong in China and may provide the foundation for the development of more specialised products in years to come.

The vast majority of domestic companies are tiny firms producing usually one, sometimes two products, for consumption locally; almost all of these are lower-end products, supplied with either no or negligible supporting services — the source of most value in the industry. While their output may technically fall into the specialty category, the nature of their business has more in common with commodity producers.

Every segment of the specialty chemicals sector, there is a divide between a domestic sector feeding the lower end of the market and a foreign-invested part supplying the higher end. For foreign companies, production in China has largely been developed to supply
demand within the country, with sourcing from China being a relatively minor element of
the business, except to buy commodity inputs for more sophisticated products.

Most of the chemical producers in China are small and manufacture just one or two
products. In the long term, the sector will not be able to support so many businesses,
making eventual consolidation likely. In the shorter term, the sheer number of these
businesses will keep the industry highly competitive, although it may not prevent prices
for many lower-end products being highly volatile. Foreign companies occupy much of
the higher end of the market. In the medium term, and maybe beyond, they are unlikely to
see their dominance eroded to any sizeable degree due to their strengths in services and
support — the principal source of benefit in the sector. Stronger enforcement of existing
environmental and other regulations reflects a growing concern on the part of the
government to clean up the industry and improve health and safety standards. Compliance
will be more of an issue for domestic companies than for foreign ones, which have built in
higher standards from the start. China offers some potential for specialty chemicals
research and development, although the emphasis is more likely to be on the development,
application and customisation of products than basic research.

Specialty chemicals are going to play a key role in the development of China’s
manufacturing industries over the next decade and beyond. To date, much of the country’s
economic success has stemmed from taking full advantage of low-cost inputs of labour,
land and in some cases raw materials. However, for China to continue developing
strongly, manufacturers, especially domestic ones, are going to have to look at improving
the quality and sophistication of their products, and the underlying processes by which
they are made. It is here that specialty chemicals will play a key role. Specialty chemicals
are those additives and ingredients at the higher end of the chemicals value chain, which
tend to be used in relatively small amounts on the basis of some performance-improving
property, and which often require supporting services to ensure that their application
produces the desired result. They comprise everything from dyestuffs and pigments,
through the active ingredients in pharmaceuticals and cosmetics, to the materials used to
produce integrated circuits and computer chips.

Many domestic companies focus relentlessly on reducing costs — for example by looking
to increase capacity — rather than investing in the development of product support
services. As a result, margins in the sector, particularly for domestic companies, are likely to fall further. Only a consolidation of the industry and an emphasis on developing skills and processes aimed at delivering not just performance-improving products but the support in customising and effectively applying these products will see this trend reversed.

Given both China’s continuing economic expansion, and in particular growing demands from the government to increase productivity and product quality, the general prospects for the sector are good. So while growth is assured for the sector, its size and nature will depend upon a range of variables, the most important of which will be the rate at which the industry consolidates and the degree to which environmental and intellectual property rules are enforced.

While active pharmaceutical ingredients represent the biggest single segment of the Chinese specialty chemicals, the domestic industry is particularly strong in the areas of textile chemicals and dyestuffs — unsurprising given China’s position as the world’s leading textiles producer. Exports are an important part of the synthetic dyestuffs segment, with more than one-third of the 700,000 or so tons produced a year sent abroad.

The Chinese government has been very active in promoting legislation on the environmental management of chemicals and strictly implementing the environmental management registration of new chemical substances and imported and exported toxic chemicals. China has revised a series of administrative regulations, e.g. “the Measures on Environmental Management of New Chemical Substances”, and “the Catalogue of Toxic Chemicals Strictly Restricted from Import and Export”, strengthened environmentally sound management of chemicals, and conducted a survey of pollution sources with a focus on persistent organic pollutants and mercury.53

4.2.2 Overview of Growth and Development of SMEs with special reference to Pharma sectors in China

The Chinese pharmaceutical industry appeared at the beginning of the 1950s, following a government decision to become self-sufficient regarding all aspects involving health care.

53Specialty Chemicals in China: Catalysts for Growth - by Andrew Thomson, Director, and Alexis Zirah, of KPMG in China and Hong Kong SAR. Pp3,pp6,pp8 accessed on September10, 2013
Before, Chinese patients had access to the pharmacopoeia of traditional Chinese medicine (TCM); only the richest had access to imported Western medicines. After Mao Zedong’s death, China adopted the market economy for some sectors, including the pharmaceutical one. This led to the privatisation of numerous public companies. The State Pharmaceutical Administration of China (SPAC) was set up to oversee this transition and was dissolved in 1998.

The patent law has undergone profound changes in the past twenty years. Until 1992, China excluded patents on drugs but protected the manufacturing methods. Any drug that had not been previously produced in China could be qualified as new drug, even if it had been invented and previously produced abroad. Chinese companies were thus legally authorized to copy foreign drugs.54

There are about 80 scientific parks in China; they receive financial support from the government and local authorities. Ten of them play an important role in the biotech sector (like the Zhongguancun Life Science Park in Beijing). The aim of the parks is to persuade big domestic and foreign companies to set up their R&D centres there as well as to facilitate the creation of innovative biotech companies (like spin-offs). The parks offer cheap premises and important fiscal advantages: Corporate income tax (CIT) at 15% (instead of 25%). The tax can be completely waived for the first two years and be halved the three following years. Revenues created through technology transfers and consultative services are tax-exempt if below RMB 5 mio and benefit from a 50% reduction if above this sum.55

China is the world's second largest pharmaceutical market after the US. Reform of the healthcare system has been a major priority of the Chinese government to make it more affordable. Before the 1990s, most of companies and factories in China were state owned and their employees could reimburse all medical bills. Today, that system no longer exists and medical bills are paid by social medical insurance, which is contributed by individuals

54 The people's republic of china national report on sustainable development, Chapter-1 pp29 accessed on September 9, 2013 www.china-un.org/eng/zt/sdreng/P020120608816970051133.pdf
and employers on a monthly basis, and/or commercial medical insurance, which individuals buy from insurance companies.

Growth prospects in China’s pharmaceutical industry are promising, with the potential for growth of up to 20 percent annually. Most of the rise in domestic production is coming from increased manufacture of generic and non-branded drugs and vitamins, produced both to feed rising domestic demand and for export (APIs account for around half of all China’s medical exports). Domestic production is mostly of bulk and commodity products including aspirin, paracetamol and penicillin. Foreign companies dominate the branded market in China, with their output largely produced in joint ventures with Chinese partners.

While the government is keen to encourage the development of the domestic pharmaceuticals sector, weak intellectual property protection and fierce price competition between companies making largely the same range of generic products has contributed to declining profitability in the last few years. This is making it hard for companies to afford or justify long-term investments in research and development. While various foreign companies in the sector have established research facilities in China, few domestic businesses have invested significantly in researching or developing new drugs.56

4.2.3 Overview of Growth and Development of SMEs with special reference to Textile sector in China

Shengze, known as the “silk town,” has an extensive production line. It is one of four towns (the others being Suzhou, Hangzhou and Taihu) that were collectively called the major silk towns of China during the Ming and Qing Dynasties. The silk industry of Shengze has shifted from low- to high-quality materials, from textiles to R&D, from low to high-value added. Shengze has more than 2,000 textile factories, which have combined more than 75,000 shuttle less looms. It has formed a textile production chain from silk reeling, polyester spinning, weaving, dyeing and finishing, deep processing of textiles to the manufacture of clothes and garments. The development of Shengze’s textile industry also helped to establish textile enterprises in its surrounding areas. Today Shengze’s textile

industry boasts a highly competitive textile production base operating in the areas around Shengze, which include Wujiang City, Jiaxing in Zhejiang, and some towns in Huzhou.

The Textile Industry is a recognized national precious stone in China. Archaeological studies suggest that the first textile, different from furor skins sewn together, was felt (non-woven cloth produced by condensing and pressing woollen fibres). The locations where textile was first used are believed to be: Egypt, India, Turkey and China. Since ancient years, China was a key player in the textile market. During the Shang Dynasty (1766 BC and 1122 BC), Chinese produced and wore vivid silk tunics and ankle-length skirts. In the Han Dynasty (220–265 CE), China started trading textile with remote buyers. The trade emerged along the Silk Road and achieved its peak between the 5th and 12th centuries CE, reaching lands as distant as Rome and Iran. The Chinese textile production and trading strongly influenced the development of the textile industry in Medieval Europe. Through Modern times, England, Italy, France, Spain, Germany and Scandinavia developed sophisticated clothing markets. Until the nineteenth century, China was the world’s largest and most advanced economy. In the textile industry it was not different. China was a large, advanced textile producer. In the industrial revolution, textile production was mechanised leading to mass production and assembly line organization. Sewing machines emerged in the 19th century reshaping clothing production. During this period, Europe, especially England, achieved great efficiency gains and Chinese competitiveness lagged behind. In the end of last century, the textile industry was shaped by the effects of globalization. China has become a dominant exporter, attracting manufacturing facilities from many different sectors and geographies. Textile producers located not only in developed countries but also low income countries relocated facilities to China.

The competitiveness of China resulted in a shift in the textile production. Especially producers located in developed countries struggle to compete in the global textile industry and gradually are put out of business. Long before China opened its market, other developing countries presented similar competitiveness and threatened producers in developed markets. These producers and governments of developed countries feared loosing the market for the textile volumes produced domestically. In order to avoid or limit the negative impact that developed economies could suffer, in 1974 it was introduced the Multi Fibre Arrangement (MFA); also know as Agreement on Textile and Clothing
(ATC). This policy intervention was created to protect domestic industries in major
developed countries, which alleged that producers in developing countries were applying
dumping. MFA imposed quotas on the year amount of textile that developing countries
could export to developed markets from 1974 through 2004. It was set to expire on 1st
January 2005. In the meantime, producers in developed countries had time to improve its
efficiency and recover its competitiveness. However, they never managed to match the
required competitiveness to remain in the market. China, as a developing country, also had
to export according to the limits pre-defined in the MFA. For this reason, after the
economy reform in 1979, China could enjoy only to some extent the benefits its
competitiveness in the textile market.

China’s position in the textile industry is extremely strong and undoubtedly leads the
global production. A study presented by the end of 2009 claims that, even under the
negative effects of the global financial crisis, China is still the most competitive location in
the world for the textile industry (China’s competitiveness index for this industry was
evaluated at 102.8 in 2009). Chinese prevailing competitiveness in the textile industry is
also supported by public investments and industry internal organization in China. There
are cities, like Changshu City (Jiangsu province) and Dongguan City (Guangdong), which
concentrate a high number of textile enterprises (2300 and 6500 textile companies
respectively). Companies in these cities are co-ordinately moving to improve the industry
competitiveness. In Changshu, for example, more than 50% of all integrated production
textile machines meet international standards. It is an important movement, given China’s
accession into WTO. In addition, these textile industrial centres help to attract new
companies and investors due to the existing appropriated infrastructure and business
momentum.57

57 Marco Biselli, China’s Role in the Global Textile Industry” 2009 - pp2, pp5, pp9, pp11