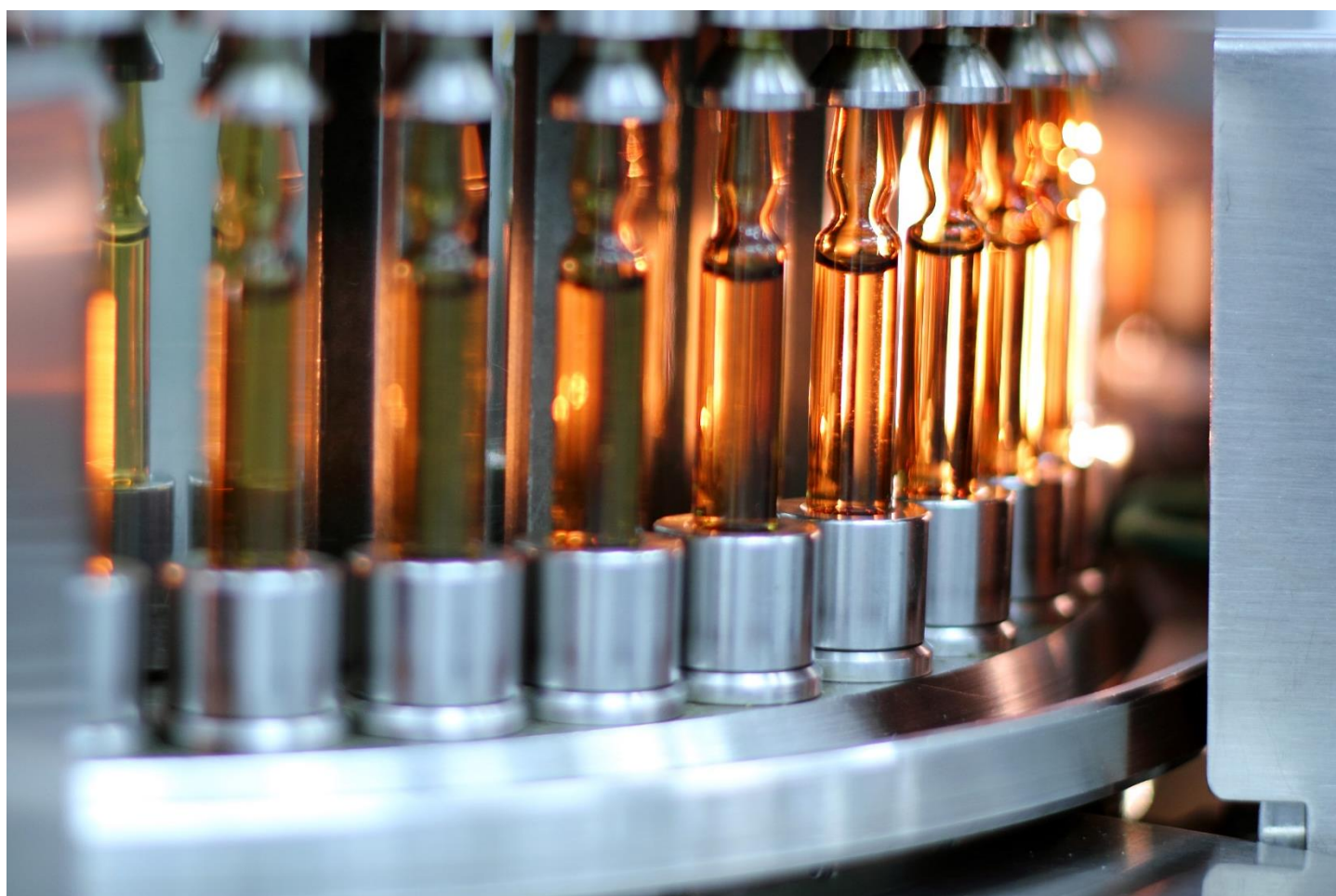


Chinese blessing for the chemicals industry

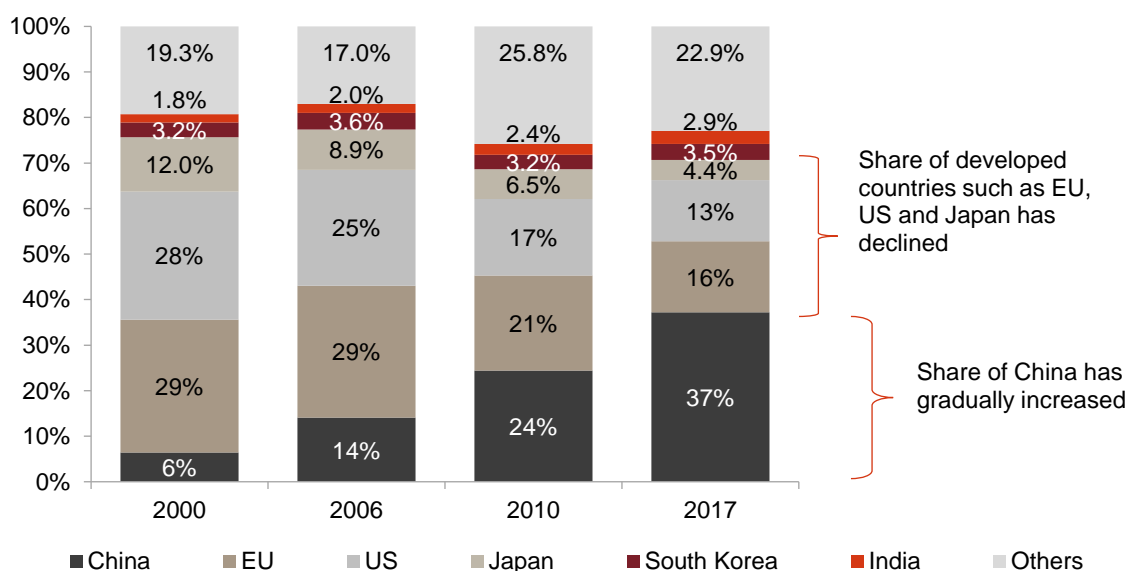
Indian players can gain by updating product mix,
launching new specialty chemicals and more R&D



Traditionally, the European Union (EU) and United States (US) were the key chemical hubs globally. Together they contributed to nearly 40% of global chemical sales till 2006. However, the Great Recession of 2008 changed everything. Developing countries started faring better than the relatively mature economies of the West.

Over the last decade, the core of the chemical industry has shifted from the West to Asia, with China being the key benefactor. Manufacturers in the Asian region enjoy low labour costs, relatively relaxed environmental norms and government subsidies.

Percentage share in global chemical sales



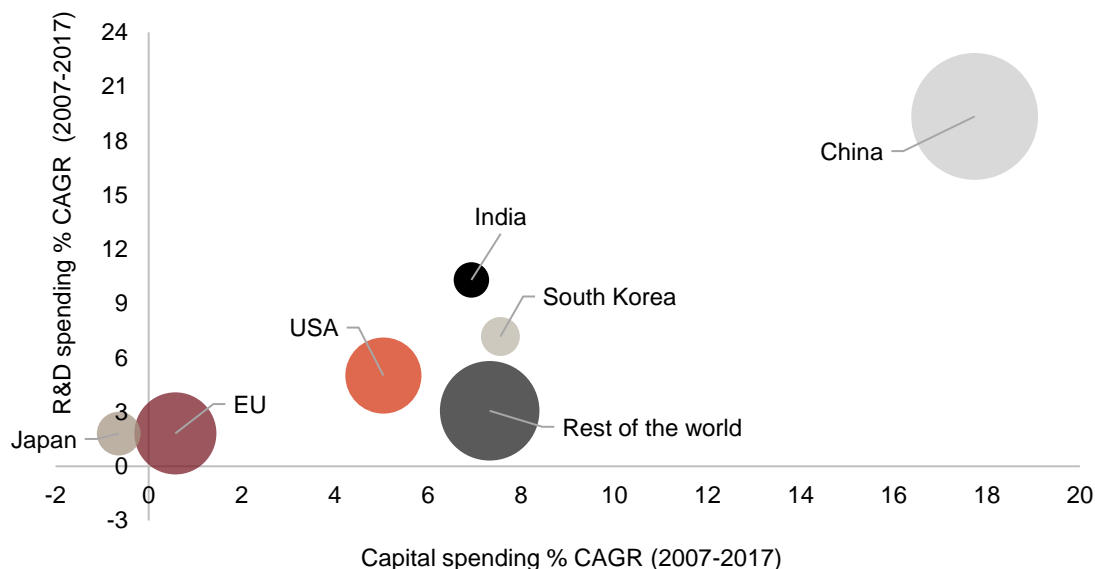
China key beneficiary of the shift away from the west

China’s chemicals industry continues to surpass all other nations. This is reflected in rising China’s share in global chemical sales, which increased from 24% in 2010 to 37% in 2018. During this phenomenal growth period, the focus of China was more on infilling the huge and rapidly growing domestic demand.

There is a direct link between investments, innovation (measured by research and development, or R&D spend) and global competitiveness. Investments in China’s chemicals industry have risen led by a large consumer base and favourable government policies. Easy availability of low-cost capital and labour, government subsidies and relaxed environmental norms have helped the region serve as a production base for leading global vendors. Consequently, chemical players in China invested heavily in R&D and capital investments during 2007-2017.

On the other hand, countries such as the EU and Japan saw a mere 1-2% rise in capital spending and R&D expenditure. Of late, capital spending in mature economies has slowed down owing to factors such as stringent environmental norms, slowing domestic market demand and availability of cheaper imports. Moreover, slower gross domestic product (GDP) and consumption growth in developed countries has reduced the need for incremental capex in this segment.

Comparison of R&D and capital spending



Note: Size of bubble represents the share in global chemical sales

Source: CRISIL Research

However, chemicals industry in China is slowly losing momentum

The domestic chemicals industry in China is witnessing a slowdown as a result of slower economic growth. Over the next 2-3 years, China's GDP is projected to grow at 6-6.5%, against 8-10% witnessed over the last decade (2009-2018).

This slowdown would translate into lower offtake of specialty chemicals from large segments such as construction, automobiles, textiles and consumer durables.

China is also losing ground on decreasing cost competitiveness

China's specialty chemicals market has seen a downturn in recent years due to various factors. Most prominent being the introduction of stringent environmental norms, which has led to the shutdown of several chemical plants.

Major factors that have contributed to a slowdown in the specialty chemicals market in China include:

- Changing global trade dynamics:** Factors such as global slowdown and the US–China trade war have also impacted the production growth in China. Currently, the US accounts for nearly 15% in China's export basket. However, the continuation of trade war and resultant increase in tariffs could have negative implications for its trade and subsequently the domestic capacity and production in China.
- Stringent environmental norms:** The Chinese government started implementing stricter environmental protection norms from January 2015. In 2017, an estimated 40% of the chemical manufacturing capacity in China was temporarily shut down for safety inspections, with over 80,000 manufacturing units charged and fined for breaching emission limits. China's Ministry of Environmental Protection enforced strict penalties on polluting industries, including chemicals.

In 2016, the Government of Jiangsu, China, issued a development plan for the Yangtze River Delta Economic Belt. Pollution in the river has reached dangerous levels with several chemical manufacturers located near the river owing to proximity to ports. As per the plan, the government has set a goal of shutting down or relocating

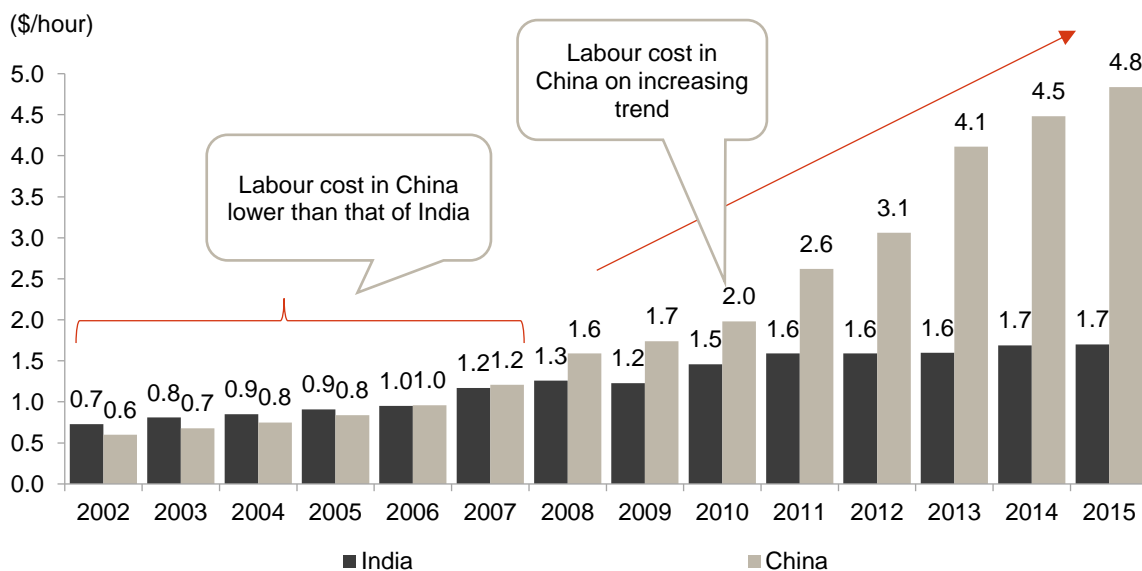
nearly 1,000 chemical plants, which use older technology or are located near the Yangtze River, within three years (2018-2020). By 2020, 134 chemical firms will be shut down, relocated or renovated. No factories will be allowed within 1 km of the river.

Also, the Chinese government has mandated the construction of compulsory effluent treatment plants and imposed green tax on the chemicals industry to combat pollution. As a result, the overall cost of production is likely to go up with capital expenses incurred towards effluent treatment as well rise in compliance cost. The cost is expected to be higher for the smaller non-integrated plants operated by medium- and small-scale players.

This is likely to impact production in the medium term and thereby overall chemical exports.

- Rising cost of labour:** The labour cost (hourly cost of compensation) in China was lower than that of India till 2007. However, over 2005-2015, the average labour cost in China increased nearly 19-20% CAGR, against 4-5% CAGR in India. In fact, over the last five years, this cost has more than doubled compared with India, rendering Chinese manufacturers' uncompetitive vis-à-vis India in terms of labour cost.

Hourly cost of compensation (China vs India)



Source: Cefic, CRISIL Research

All these factors are pushing the capex and opex costs upwards, making Chinese chemical companies less competitive in the export market.

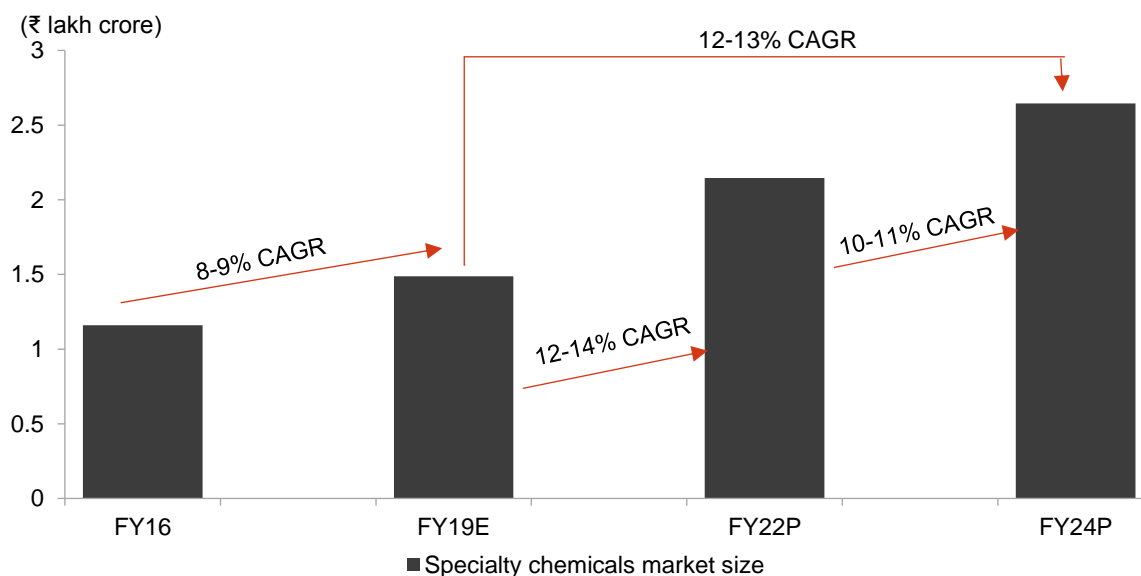
This slowdown provides an opportunity to India to enhance its share in the global export market

Growth of chemicals and specialty chemicals is dependent upon growth in major end-user industries such as construction, textiles, automobiles and consumer durables. Domestic chemicals industry, estimated at Rs 6.3-6.8 lakh crore in fiscal 2019, clocked 7-8% CAGR during fiscals 2014 to 2019.

Specialty chemicals accounts for 20-25% of the overall chemicals industry in India. Going forward, specialty chemicals is expected to register 12-13% CAGR over the next five years driven by the growth in the economy. Specialty chemicals consumption in the country is low compared with the global average. This provides enormous

scope. Moreover, increasing availability of basic chemicals is likely to support further investments in the specialty chemicals segment.

Domestic specialty chemicals: Projected growth



Source: CRISIL Research

India’s chemicals industry is poised for strong growth

Key growth drivers for chemicals, primarily specialty chemicals, are:

1. Growth in end-use markets

The overall growth in GDP is linked to key industries such as construction, automobiles, textiles and consumer durables. Going forward, with GDP projected to grow at 7.5% in the medium term, demand from the above-mentioned end-use industries is likely to remain strong.

Expected growth in demand from key end-use industries

| Key industries | CAGR (FY18 to FY23) | Comments |
|-------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Textiles | 9-10% | Increase in domestic demand led by rise in disposable income coupled with high export growth |
| Auto | 7-8% | Better income prospects, subdued cost of ownership and fast-paced road development to help clock better demand |
| Construction | 8-10% | Increase in housing and infrastructure investments |
| Consumer durables | 7-8% | Healthy growth driven by increased government spending in rural markets which will boost consumer sentiments Continued economic recovery, rising disposable incomes and low penetration levels to also support growth |

Source: CRISIL Research

Currently, penetration of specialty chemicals in the country is lower than the global average. Going forward, with increased focus on improving products, the intensity of specialty chemicals in these end-use domestic markets will rise. Therefore, over the next five years, specialty chemicals is expected to clock 12-13% CAGR.

2. Increasing availability of raw materials

Lack of olefin capacities in India has resulted in limited production of other downstream chemicals, which are the key inputs for specialty chemicals. For example, India is a net importer of propylene derivatives. Of the total propylene production, over 95% is used in the production of polypropylene. Given the concerns over availability of feedstock propylene, players are apprehensive to add downstream propylene derivative capacities. Similar is the case with ethylene as most of it is consumed in downstream polyethylene and mono-ethylene glycol applications leaving very little for other downstream products like ethylene oxide, ethylene dichloride and styrene.

However, there is ample opportunity in the domestic specialty chemicals industry. Taking advantage of this, BPCL has added downstream capacities in other chemicals, where India is a net importer. As part of the project, BPCL will manufacture specialty petrochemicals derived from propylene like acrylic acid, polyols and butyl acrylates. These find applications in hygiene products, adhesives, plasticisers, water-based chemicals and sealants. Others such as HPCL, Indian Oil and Ratnagiri Refinery and Petrochemicals Ltd are also planning to replicate this by setting up units.

3. Organic growth coupled with consolidation in the industry

In the past, growth of the specialty chemicals industry in India has been hampered by factors such as presence of small/ unorganised players, who could not cater to the growing demand. However, post demonetisation and implementation of the Goods and Services Tax (GST), the industry is gradually moving towards consolidation. Thus, with gradual consolidation in the industry as established players slowly show interest in downstream specialty and other chemicals segments, specialty chemical players would be in a better position to achieve economies of scale. For instance in the specialty chemicals segment, players like SRF, Sudarshan Chemicals, International Flavours & Fragrances and Jay Chemicals have announced capacity additions.

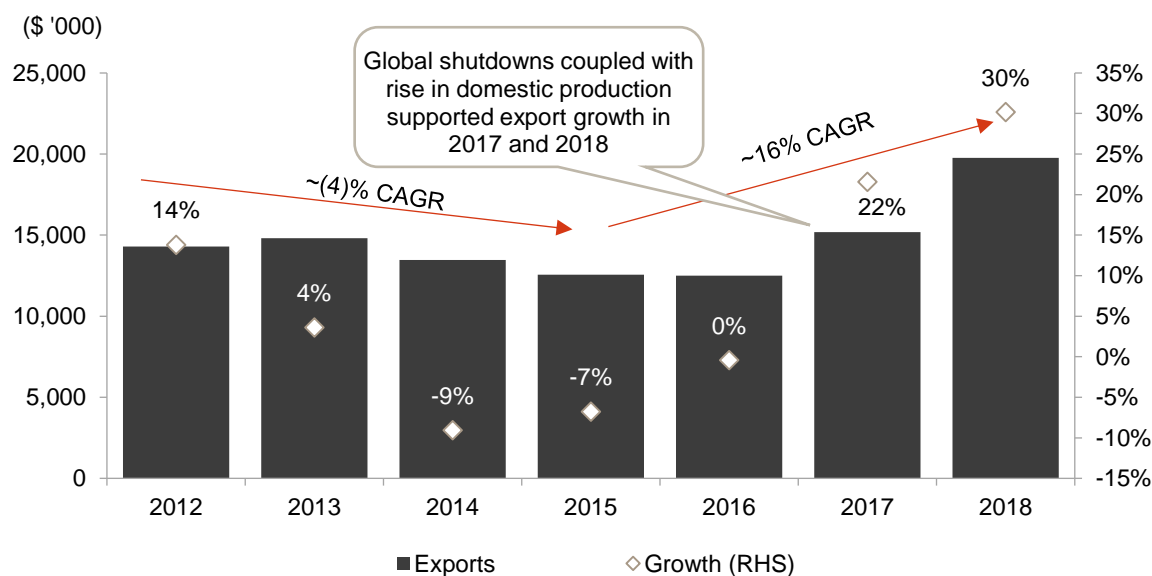
Moreover, transparency in the industry is increasing with the filing of recent IPOs by Neogen Chemicals, Hindcon Chemicals, Galaxy Surfactants, Fine Organics, etc. This reflects the increase in size of operations and showcases the growth potential of the domestic chemicals industry.

4. Shutdowns of chemical plants globally

Closure of plants in countries such as EU and China owing to increasing environmental concerns has opened doors for Indian manufactures to invest further in specialty chemicals. While India also faces threat from environmental concerns, the threat is limited to smaller players and shall serve as an opportunity for larger players to capture the market. In fact, some of the large players have established themselves in global markets like the EU and US and have active export revenue share, which will help them to seize the opportunity.

At the same time, global players are looking to diversify supply risk, thereby improving export opportunities for Indian players.

Export trend over the years



Source: ITC trade map

India likely to benefit from downturn in China

Prospects of the domestic chemicals industry are intrinsically linked with the overall growth in the economy as well the export market. India is a net exporter in segments such as dyes and pigments, and this trend is expected to continue.

However, slowdown in the global economy is likely to hamper the overall growth potential for chemicals. Nevertheless, despite shutdowns in China and lack of capacity additions in other developed countries, India still stands to benefit in the export market. Also supporting the growth in India is its ability to manufacture at a lower price compared with its western counterparts. This along with the emergence of established players bodes well for Indian manufacturers.

But some challenges need to be addressed for benefits to flow

To take full advantage of the export market, existing players will have to update their product mix and introduce specialty chemicals in their portfolio. This also calls for accelerated investments in R&D.

Lack of infrastructural development and R&D investment acts as hindrance to the sector. At the same time, threat of cheaper imports and unavailability of raw materials also impact domestic production growth. Going forward, government support in the form of feedstock availability and protection from aggressive imports is vital for the industry.

India's overall chemical production infrastructure continues to be at a nascent stage. For example, the basic chemicals industry in India is structured around refineries that have added an ethylene cracker. However, the downstream specialty chemicals still continues to be unorganised and fragmented. The government's initiatives to promote the development of petroleum, chemicals, petrochemicals investment regions (PCPIRs) across the country, hasn't been very fruitful. However, despite this, regions such as GIDC has established themselves as key chemical manufacturing hubs.

Going forward, more support in terms of fiscal incentives like tax breaks and special incentives through petroleum, chemicals and petrochemicals investment regions or special economic zones to encourage setting up of downstream

units, will certainly enhance production capacity. In order to bring about structural changes in the working of the domestic chemicals industry, future investments should focus more on crude-to-chemicals complexes or refineries set up to cater to the production of chemicals, and not transportation fuels such as petrol and diesel. Nevertheless, opportunities in the segment continue to outweigh the challenges. Domestic demand growth coupled with opportunities in the export market show remarkable ability of India to establish itself as a global chemical manufacturing powerhouse.

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