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Chemical sector

Impact of the global energy crisis and production disruption in China

November 2021

Highlights

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Near-term volatility in some segments, but medium term positive

The ongoing energy crisis, production disruption in China and high freight costs have resulted in near-term volatility in some chemical segments, although the impact on the domestic chemical sector will be mixed, with several domestic producers benefiting from higher prices and improved demand

- Due to the power crisis in China and resultant rationing of power for industrial sector, the chemical industry has also been impacted in the near term. China being a major chemical producer and high import dependence on China for several chemical segments, there has been some impact on domestic chemical sector also.
- Segments like dyes and pigments, agro chemicals, man made fibres, basic chemicals like carbon black, acetic acid, maleic anhydride, alinine; and petrochemicals like iso-propanol, polyol, vinyl acetate monomer, polyol etc. have high import dependence on China
- The domestic chemical industry has been impacted by the supply disruptions from China in several ways, with companies which use the products as inputs for downstream application witnessing availability issues and increase in prices of input costs, which may have an adverse impact on production and margins
- High freight costs have also resulted in higher cost for several imported chemicals
- However, domestic producer of such chemicals where there was high import dependence on China, should benefit from improved demand and prices in domestic and export markets
- Over the medium term, it is favourable for domestic players as it accelerates the China+1 supply chain de-risking strategy of global players, opening up avenues for Indian players

Global energy crisis, China and high freight costs

- In recent months due to sharp recovery in post-pandemic global demand, coupled with supply-side issues had led to several disruptions in global supply chain and production. While there are multiple drivers for the same, three broad trends (not mutually exclusive) which have impacted the sector are:

  - The global energy crisis witnessed in recent months leading to increase in prices of coal, natural gas and crude oil
  - Sharp production constraints in China due to the energy crisis, coupled with focus on stringent decarbonisation targets, which has impacted the supply chain for several segments
  - Sharp increase in container freight rates due to disruption in global trade routes, congestion issues and exim cargo mix mismatch

Energy prices and freight costs have witnessed sharp increase

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Exhibit: Trend in coal prices (USD/MT) as per Australia New Castle Thermal Coal

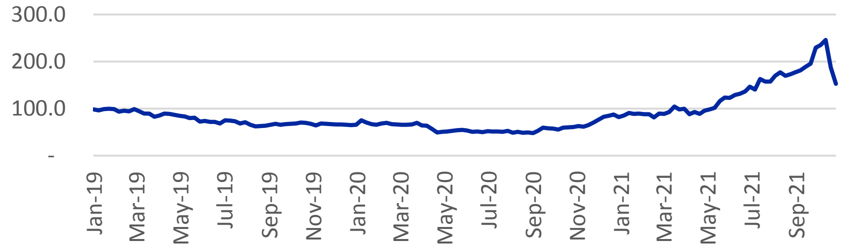


Exhibit: Trend in natural gas prices (USD/MMBTU) as per JKM data

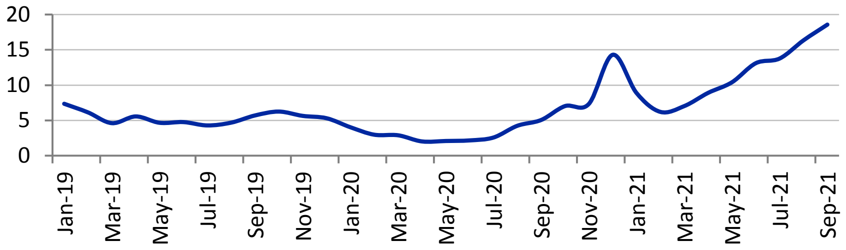
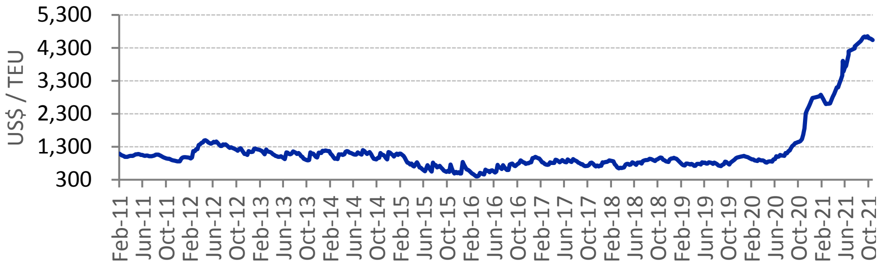


Exhibit: Trend in crude oil prices (USD/bbl) as per Brent prices

Exhibit: Trends in container freight cost



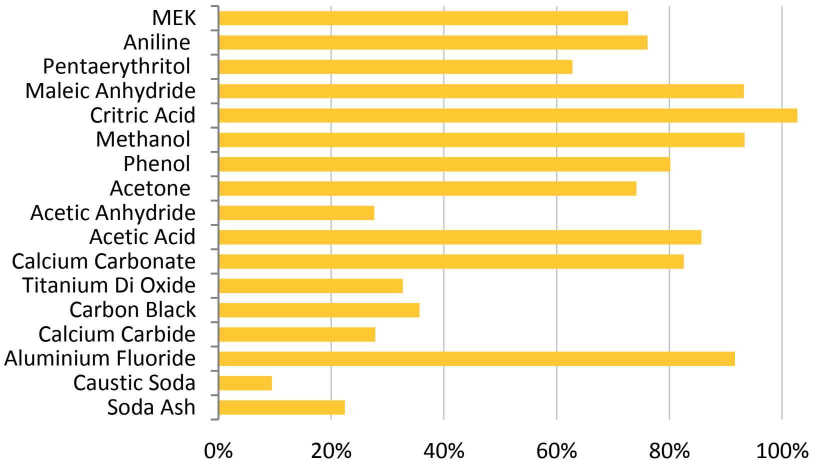
Source: Indonesia HBA Coal Price Index, Japanese Korean Marker, Bloomberg, Nasdaq, ICRA Research

Source: Shanghai Containerized Freight Index and ICRA Research

Indian chemical sector remains exposed to high import dependence

- Indian chemical sector has high import dependence for chemical segments.
- Hence any disruption in imports has impact on the domestic supply of several basic chemicals, petrochemicals, dyes and pigments and agro-chemicals; leading to volatility in prices, and disruption in raw material availability for downstream chemicals

Exhibit: Import share % of consumption



Source: DPCP and ICRA Research

- Some of the key basic chemical and petrochemical segments with high import dependence are soda ash, carbon black, acetic acid, methanol etc.

China is a major source of imports for several key chemicals

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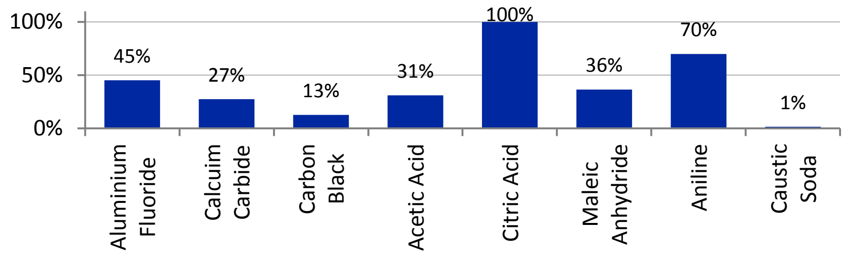
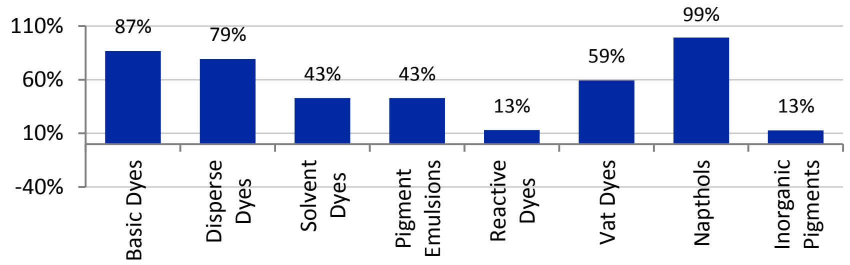
Exhibit: Share of Chinese imports in Domestic Consumption of key basic chemicals



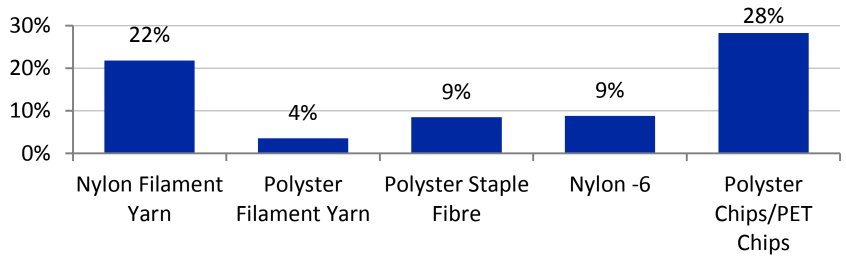
Source: Department of Chemicals and Petrochemicals and ICRA Research; Data for FY2020

Exhibit: Share of Chinese imports as % of total imports for key dyes and pigment segment



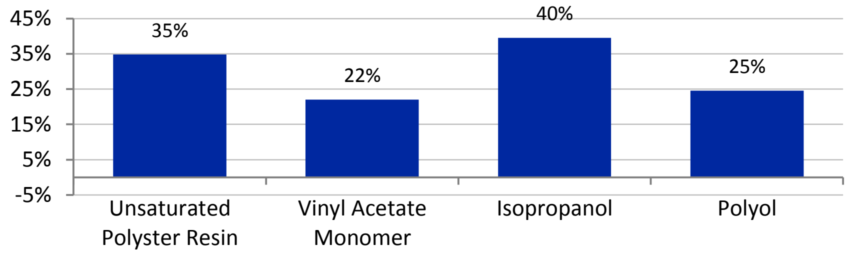
Source: Department of Chemicals and Petrochemicals and ICRA Research; Data for FY2020

Exhibit: Share of Chinese imports in Domestic Consumption of key man made fibres and intermediates



Source: Department of Chemicals and Petrochemicals and ICRA Research; Data for FY2020

Exhibit: Share of Chinese imports in Domestic Consumption of other petrochemicals



Source: Department of Chemicals and Petrochemicals and ICRA Research; Data for FY2020

Impact on domestic chemical sector

The factors discussed earlier have had following impact:

- Companies/segments with high dependence on Chinese feedstock have faced raw material availability issues/higher prices in the near term
- Even in sectors where Chinese imports to India are lower, there could be an impact on prices due to high share of China in global production.
- Further, due to increase in coal prices, the input costs of energy intensive chemicals like Chlor Alkali segment has also witnessed sharp increase
- High freight cost have also resulted in higher costs for several imported chemicals

This has resulted in some short-term margin pressure for chemical segments which have witnessed higher input costs (agro-chemicals, dyes and pigments and some specialty chemical segments).

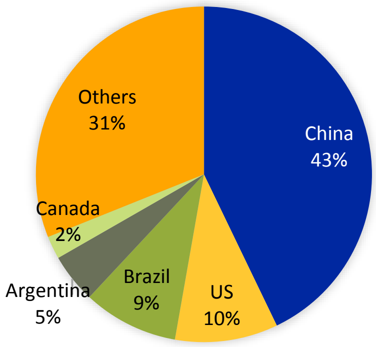
However, domestic companies which are operating in same chemical segments for which imported supply has been adversely impacted or increase in prices, should benefit from improved realisation and demand.

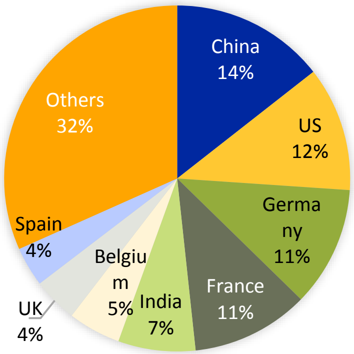
The afore-mentioned impact is expected to be short term in nature and with easing of energy prices and recovery of industrial production in China, there should be improvement in raw material availability and some moderation in prices.

Trends – Key Chemical Segments

Agro-chemicals: China remains a major consumer and exporter globally

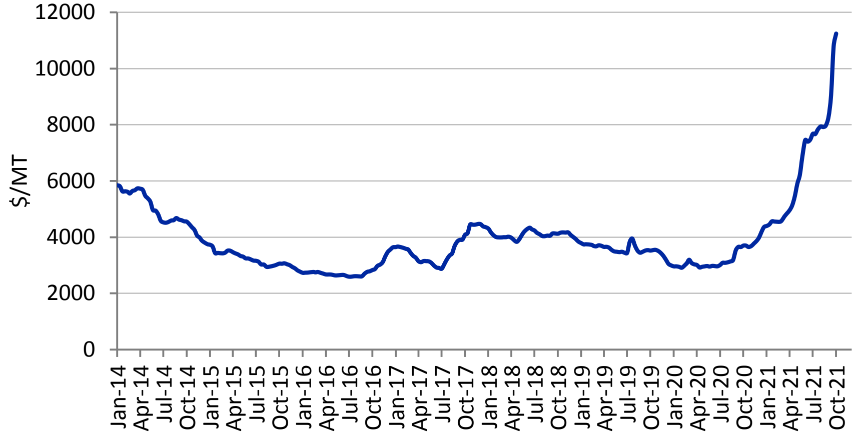
Exhibit: China is the largest consumer as well as exporter of pesticides





Source: Pesticide consumption, Bloomberg, FAO, ICRA Research; Note: Data pertains to CY2019

Exhibit: Trend in glyphosate prices in China



Source: Bloomberg, ICRA Research

- China remains a major consumer as well as exporter of pesticide with share in consumption at 43% of consumption and share in exports of 14%
- China is a major supplier of technicals globally with expertise developed over several years
- The recent pollution control initiatives along with rising energy prices have led to a decline in production of agrochemicals in China and steep rise in agrochemical prices in recent months
- Glyphosate, one of the major herbicides used globally, with China being the major supplier, has witnessed steep rise in price amid limited availability in global markets

Agro-chemicals: India's import reliance on China remains significant

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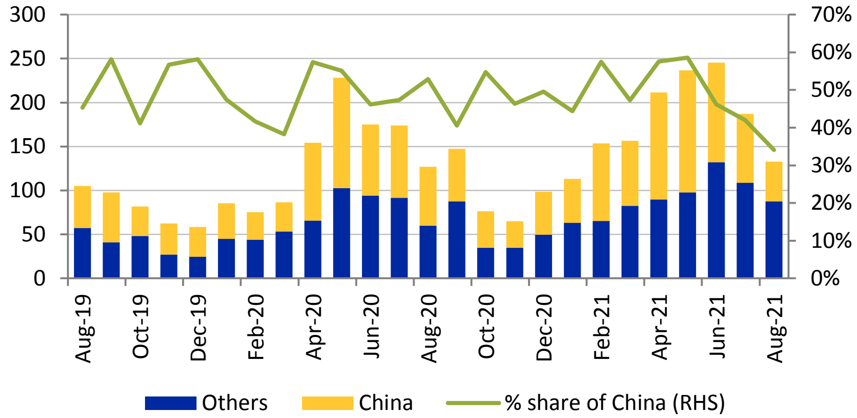
Exhibit: Import share by key regions



Source: CMIE, Ministry of Commerce, ICRA Research

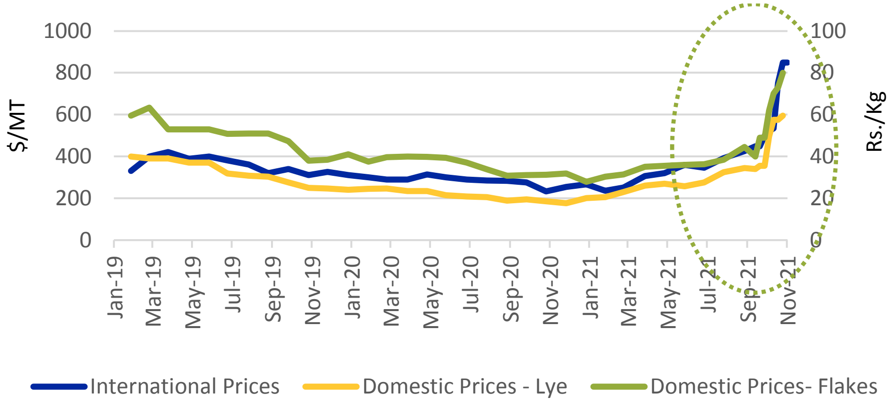
Exhibit: Trend in India's cost of agrochemical imports from China and others

Source: Ministry of Commerce, ICRA research

- India imports a significant share of agrochemicals from China with the country being a major source of technical for Indian manufacturers
- With pesticide imports from China declining by 4.4% YoY in 5M FY2022 as against a 6.4% YoY increase in overall pesticide imports, the import dependence has reduced in 5M FY2022
- Pesticide prices are on an uptrend since October 2020 and price rise is very steep in Q2 FY2022
- Indian agrochemical players are witnessing a negative impact on the profitability as the price hikes at the farmer 's end remains inadequate to cover the raw material price inflation

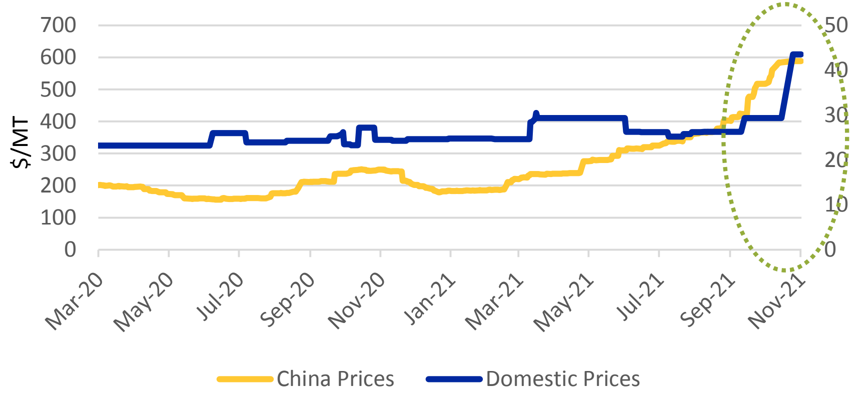
Chlor-Alkali: Spike in prices of caustic soda and soda ash supported by international price hikes

Exhibit: Trend in International and Domestic Prices of Caustic Soda



Source: CMIE, Bloomberg, ICRA Research

Exhibit: Trend in International and Domestic Prices of Soda Ash



Source: Bloomberg, ICRA Research

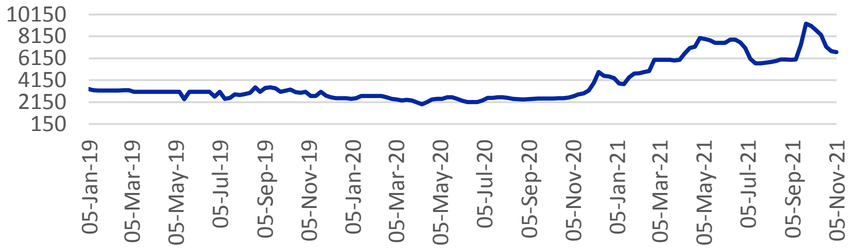
- Caustic soda prices in India have witnessed an increase in-line with increasing international prices (which are a result of supply shortage in China due to reduced power supply) as well as rise in energy costs. Further, demand recovery in key end-user segments such as paper and textile industries is also driving the price increase.
- In case of soda ash, Chinese prices (which are a floor for international prices) have risen in the past few months supported by healthy demand and increase in energy costs ; a further spike has been witnessed in the Chinese prices due to power supply constraints and domestic prices have followed a similar trend(although the extent of increase remained lower)

Mixed impact on other chemical segments

- Some of the other chemical segments with high import dependence have witnessed mixed trends
  - Chemicals like acetic acid, carbon black, citric acid and aniline have witnessed sharp price increase
  - Similarly man-made fibres and some petrochemicals have also witnessed increase in prices in recent months
  - However, some of the other chemical segments have witnessed only moderate price impact
- The price volatility has been on account of the mix of factors mentioned before including higher energy prices, increase in crude oil prices and impact of freight rates

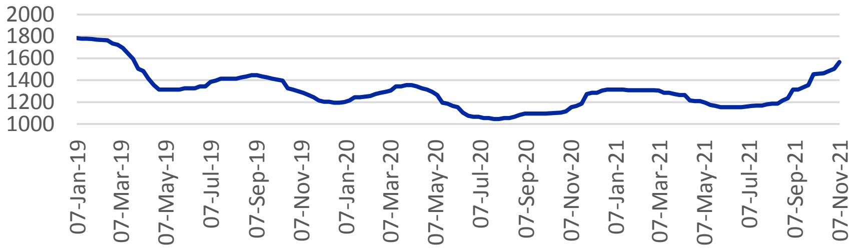
Key basic chemicals: Price Trends

Exhibit: Trend in Acetic Acid Prices (CNY/MT) - Huabei



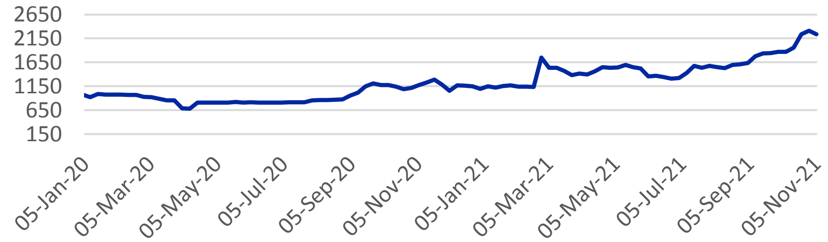
Source: Bloomberg, ICRA Research

Exhibit: Trend in Aluminium Fluoride Prices (USD/MT) – 61% FOB



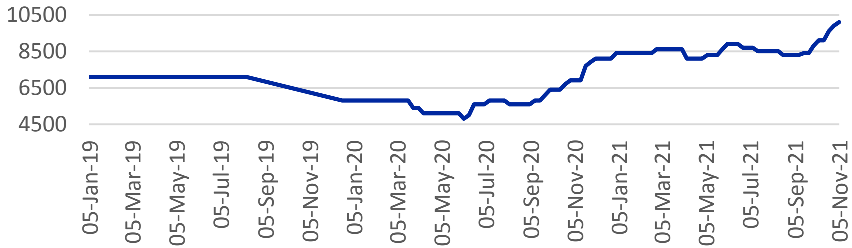
Source: Bloomberg, ICRA Research

Exhibit: Trend in Maleic Anhydride China Prices (USD/MT)



Source: Bloomberg, ICRA Research

Exhibit: Trend in Carbon Black Prices (CNY/MT)



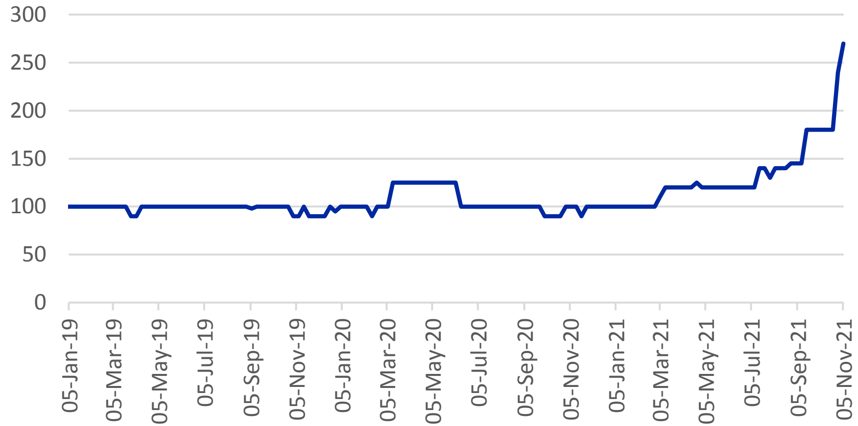
Source: Bloomberg, ICRA Research

Key basic chemicals: Price Trends

Exhibit: Trend in Aniline Prices (Rs/Kg)

Source: Indian Petrochem, ICRA Research

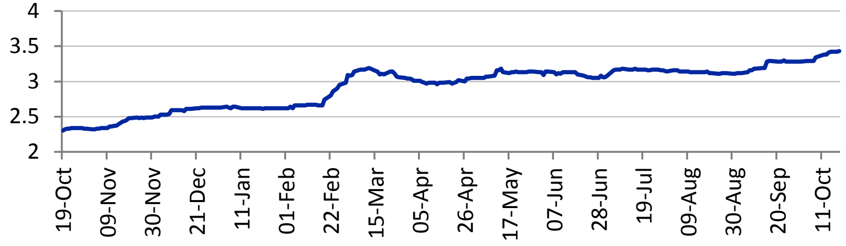
Exhibit: Trend in Citric Acid Prices (Rs/Kg)



Source: Indian Petrochem, ICRA Research

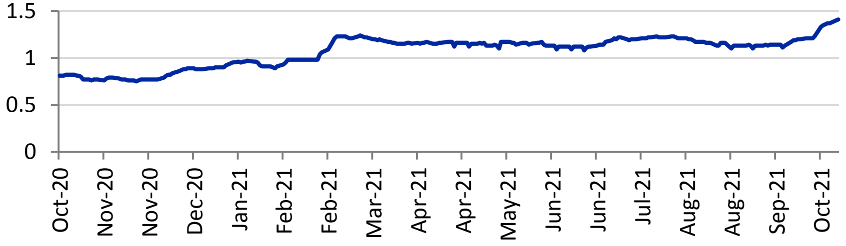
Key petrochemicals, man-made fibres: Price Trends

Exhibit: Trend in Nylon – 6 Prices in China ($/Kg)



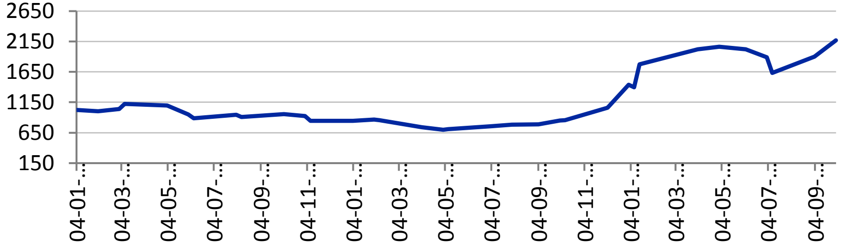
Source: Emerging Textiles and ICRA Research

Exhibit: Trend in Polyster Filament Prices in China ($/Kg)



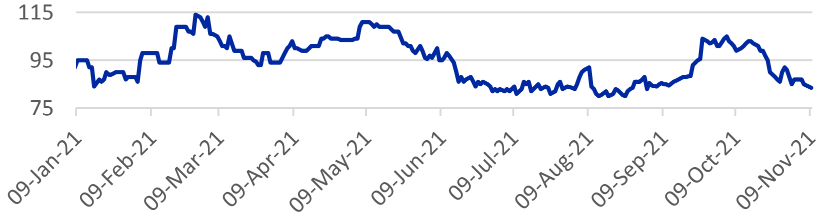
Source: Emerging Textiles and ICRA Research

Exhibit: Trend in Vinyl Acetate Monomer Price China ($/MT)



Source: Bloomberg, ICRA Research

Exhibit: Trend in Iso propanol Price (Rs/KG)



Source: Indian Petrochem and ICRA Research

Outlook

Near-term volatility in some segments, should accelerate trends towards import reduction in medium to long term

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Near Term Impact

- In the near term due to price volatility and RM availability issues, some of the segments witnessed margin pressure
- However, domestic companies with access to raw material/backward integration will benefit from higher prices and moderation in imports

Medium to Long Term Impact

- The near-term disruption should accelerate the move towards reduced import dependence in the medium to long term
- The Govt focus on 'Atmanirbhar' and 'Make in India' and favourable trade protection measures in recent period will also aid the transition
- There are several large capacity expansion projects being implemented by domestic players in basic as well as the petrochemical segment which should come online over the next few years

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Thank You!