Infomerics Analytics & Research

CIN: U74999DL2020PTC369018

Flat No.108, Golf Apartments, Sujan Singh Park New Delhi – 110 003
iar@infomerics.com, Phone: +9111 41410243, 4141 0244,

Industry Report on Plastic & Plastic Molding

Dated-
29.03.2025

Disclaimer

This report is prepared by Infomerics Analytics & Research Private Limited. Infomerics Analytics & Research has taken utmost care to ensure accuracy and objectivity while developing this report based on information available in Infomerics Analytics & Research 's proprietary database, and other sources considered by Infomerics Analytics & Research as accurate and reliable including the information in public domain. The views and opinions expressed herein do not constitute the opinion of Infomerics Analytics & Research to buy or invest in this industry, sector or companies operating in this sector or industry and is also not a recommendation to enter into any transaction in this industry or sector in any manner whatsoever.

This report has to be seen in its entirety; the selective review of portions of the report may lead to inaccurate assessments. All forecasts in this report are based on assumptions considered to be reasonable by Infomerics Analytics & Research; however, the actual outcome may be materially affected by changes in the industry and economic circumstances, which could be different from the projections.

Nothing contained in this report is capable or intended to create any legally binding obligations on the sender or Infomerics Analytics & Research which accepts no responsibility, whatsoever, for loss or damage from the use of the said information. Infomerics Analytics & Research is also not responsible for any errors in transmission and specifically states that it, or its directors, employees, parent company – Infomerics Valuation & Rating, or its directors, employees do not have any financial liabilities whatsoever to the subscribers/users of this report. The subscriber/user assumes the entire risk of any use made of this report or data herein. This report is for the information of the authorized recipient in India only and any reproduction of the report or part of it would require explicit written prior approval of Infomerics Analytics & Research Private Limited

Infomerics Analytics & Research shall reveal the report to the extent necessary and called for by appropriate regulatory agencies, viz., SEBI, RBI, Government authorities, etc., if it is required to do so. By accepting a copy of this Report, the recipient accepts the terms of this Disclaimer, which forms an integral part of this Report.

Contents

1. Indian Macro Economy an overview

The global economy exhibited steady yet uneven growth across regions in 2024. A notable trend was the slowdown in global manufacturing, especially in Europe and parts of Asia, due to supply chain disruptions and weak external demand. In contrast, the services sector performed better, supporting growth in many economies. Inflationary pressures eased in most economies. However, services inflation has remained persistent. Although commodity prices have stabilised, the risk of synchronised price increases persists. With growth varying across economies and last-mile disinflation proving sticky, central banks may chart varying paths of monetary easing. This will lead to uncertainty over future policy rates and inflation trajectories. This apart, geopolitical tensions, ongoing conflicts, and trade policy risks continue to pose significant challenges to global economic stability.

In this global context, India displayed steady economic growth. As per the first advance estimates of national accounts, India's real GDP is estimated to grow by 6.4 per cent in FY25. Growth in the first half of FY25 was supported by agriculture and services, with rural demand improving on the back of record Kharif production and favourable agricultural conditions. The manufacturing sector faced pressures due to weak global demand and domestic seasonal conditions. Private consumption remained stable, reflecting steady domestic demand. Fiscal discipline and strong external balance supported by a services trade surplus and healthy remittance growth contributed to macroeconomic stability. Together, these factors provided a solid foundation for sustained growth amid external uncertainties.

Looking ahead, India's economic prospects for FY26 are balanced. Headwinds to growth include elevated geopolitical and trade uncertainties and possible commodity price shocks. Domestically, the translation of order books of private capital goods sector into sustained investment pick-up, improvements in consumer confidence, and corporate wage pick-up will be key to promoting growth. Rural demand backed by a rebound in agricultural production, an anticipated easing of food inflation and a stable macro-economic environment provide an upside to near-term growth. Overall, India will need to improve its global competitiveness through grassroots-level structural reforms and deregulation to reinforce its medium-term growth potential.

Snapshots on key Economic Indicators: -

Foreign Direct Investment: -

Foreign Direct Investment, the subject of much analysis, has held up. RBI data on India's Balance of Payments shows us that the investment interest of external investors, measured in terms of dollar inflows of new capital, was USD45.8 billion in FY24 compared to USD47.6 billion in FY23. This slight decline is in line with global trends. Reinvestment of earnings remained the same. Repatriation of investment was USD29.3 billion in FY23 and USD44.5 billion in FY24. Many private equity investors took advantage of buoyant equity markets in India and exited profitably. It is a sign of a healthy market environment that offers profitable exits to investors, which will bring newer investments in the years to come. That said, the environment for foreign direct investment to grow in the coming years is not highly favourable for many reasons.

Employment generation: -

It is worth reiterating that job creation happens mainly in the private sector. Second, many (not all) of the issues that influence economic growth, job creation and productivity and the actions to be taken therein are in the domain of state governments. So, in other words, India needs a tripartite compact, more than ever before, to deliver on the higher and rising aspirations of Indians and complete the journey to Viksit Bharat by 2047.

In more than one respect, the action lies with the private sector. In terms of financial performance, the corporate sector has never had it so good. Results of a sample of over 33,000 companies show that, in the three years between FY20 and FY23, the profit before taxes of the Indian corporate sector nearly quadrupled. Further, newspaper headlines told us that the corporate profits-to-GDP ratio rose to a 15-year high in FY24. Business Line reported, "The corporate profit for the Nifty-500 universe was up 30 per cent last fiscal to ₹14.11-lakh crore against ₹10.88 lakh crore in FY23. The nominal GDP grew 9.6 per cent y-o-y to ₹295-lakh crore (₹269-lakh crore)1 ". Hiring and compensation growth hardly kept up with it. But, it is in the interest of the companies to step up hiring and worker compensation.

Between FY19 and FY23, the cumulative growth in private sector non-financial Gross Fixed Capital Formation (GFCF) is 52% in current prices. During the same period, the cumulative growth in general government (which includes states) is 64%. The gap does not appear to be too wide.

Private sector GFCF in machinery and equipment and intellectual property products has grown cumulatively by only 35% in the four years to FY23. Meanwhile, its GFCF in 'Dwellings, other buildings and structures' has increased by 105%. This is not a healthy mix. Second, the slow pace of investment in M&E and IP Products will delay India's quest to raise the manufacturing share of GDP, delay the improvement in

India's manufacturing competitiveness and create only a smaller number of higher-quality formal jobs than otherwise.

Nonetheless, there is a silver lining in the data. In the two years since FY21, GFCF by the private sector has grown faster. General government GFCF rose a cumulative 42% between FY21 and FY23. Non-Financial Private Sector's overall GFCF increased by 51%; investment in Machinery and Equipment and Intellectual Property Products increased by 38%. So, the growth in these two critical sub-components of Private Sector GFCF is similar to that of the overall GFCF by the General Government. This is a statistic that bears watching. They should continue to invest. To do so, they need demand visibility. That comes from employment and income growth.

Agriculture can be a growth engine: -

The agriculture sector is one area ripe for and in need of such a pan-India dialogue. Agriculture and farmers matter for a nation. Most countries understand that. India is no exception. India subsidises their water, electricity and fertilisers. The former two are provided virtually free. Their incomes are not taxed. The government offers them a minimum support price (MSP) for 23 selected commodities. Monthly cash support is offered to farmers through the PM-KISAN scheme. Indian governments – national and sub-national –write off their loans. So, governments in India spend enough resources to look after the farmers well. Yet, a case can be made that they can be served better with some re-orientation of existing and new policies.

Unleashing small enterprises: -

Another area where policy intentions have yet to manifest in desired outcomes is with respect to small, medium, and large enterprises. Earlier, several products were reserved for small scale industries. That was phased out as it benefitted neither the small-scale industries nor the overall economy. Recent concerted efforts at formalising them are making progress. Progress is relatively slower on access to finance. Buyers and creditors are shedding old mindsets and practices too slowly for these enterprises to feel the effect. However, these enterprises need maximum relief from the compliance burdens they face. Laws, rules and regulations stretch their finances, abilities and bandwidth, perhaps robbing them of the will to grow.

Final words: -

The tripartite compact that this country needs to become a developed nation amidst emerging unprecedented global challenges is for governments to trust and let go, for the private sector to reciprocate the trust with long-term thinking and fair conduct and for the public to take responsibility for their finances and their physical and mental health.

2. An overview on Macro Economy Parameters

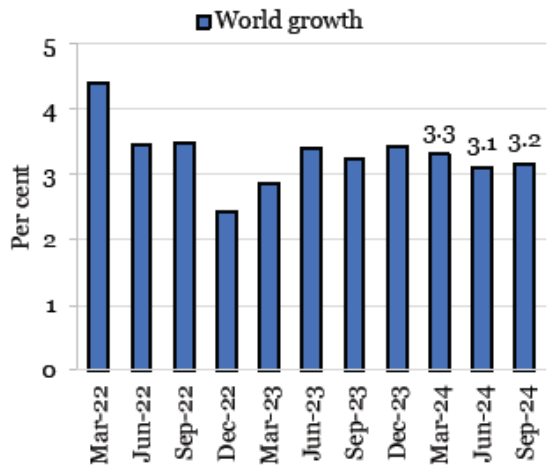
Global economic conditions are shaped by changing growth dynamics, fluctuating commodity prices, and evolving monetary policies, which influence domestic inflation, trade balances, and capital flows. At present, this interconnectedness is complicated by unusual levels of geopolitical tensions, supply chain disruptions, and climate-related shocks. Against this background, this chapter is organised broadly into four sections. The first section outlines the global economic scenario comprehensively, highlighting growth and inflation trends, policy stances, and key emerging risks and uncertainties. The second section focuses on the domestic macroeconomic situation, examining developments from the demand and supply sides. The third section delves into the emerging trends in public finances, inflation, external sector, financial markets and employment. The concluding section presents the prospects and outlook for growth in the presence of global headwinds while capitalising on domestic growth drivers.

GLOBAL ECONOMIC SCENARIO: -

Globally, 2024 has been an eventful year. The year witnessed unprecedented electoral activity on the political front, with more than half of the global population voting in major elections across countries. Meanwhile, adverse developments like the Russia-Ukraine conflict and the Israel-Hamas conflict increased regional instability. These events impacted energy and food security, leading to higher prices and rising inflation. Cyberattacks also became more frequent and severe, with growing human and financial consequences due to the increasing digitisation of critical infrastructure. Geopolitical tensions have reshaped global trade. Geopolitical risks and policy uncertainty, especially around trade policies, have also contributed to increased volatility in global financial markets

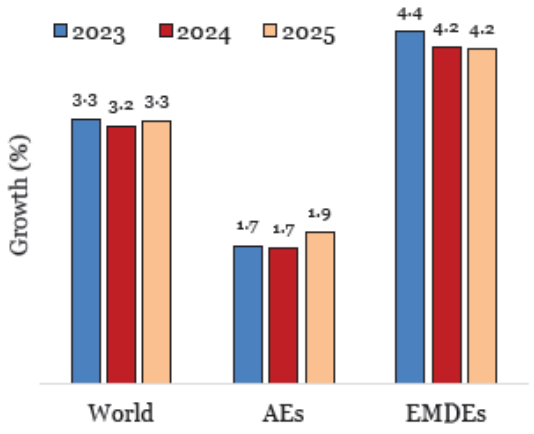
Nonetheless, global economic growth has remained fairly moderate. The global economy grew by 3.3 per cent in 2023. The International Monetary Fund (IMF) has projected growth of 3.2 per cent and 3.3 per cent for 2024 and 2025, respectively. Over the next five years, global growth is expected to average around 3.2 per cent, which is modest by historical standards. While the overall global outlook remains steady, growth varies across different regions. Further, geopolitical developments and monetary policy changes across countries resulted in increased caution among investors, culminating in moderation in foreign direct investment (FDI) flows.

Chart I.1: Resilient global growth trends in 2024



Source: OECD Economic Outlook, Volume 2024 Issue 2.

Chart I.2: Steady growth outlook across country groups



Source: IMF WEO (January 2025)

Note: AEs- Advanced Economies, EMDEs- Emerging market and developing economies

Despite higher interest rates, advanced economies (AEs) witnessed stable growth in the first half of 2024. This was on account of moderating inflation and sustained employment and consumption. However, the growth outlook differs between the United States (US) and the Euro Area. Growth in the US is expected to remain strong at 2.8 per cent in 2024 and may decline slightly in 2025, reflecting a moderation in consumption and exports.

In the Euro area, growth is expected to improve from 0.4 per cent in 2023 to 0.8 per cent in 2024 and further to 1.0 per cent in 2025 on the back of improving services activity. However, growth outcomes in Europe have been varied. Some countries like Spain, France, Poland, and the United Kingdom have benefitted from the strength of their services sector. Meanwhile, manufacturing-intensive countries like Germany and Austria are being weighed down by weak demand.5 Germany's structural weaknesses, particularly in manufacturing, have been noticeable, contributing to the slackness in Europe's manufacturing. Political developments in France and Germany are also adding to policy uncertainty in Europe's major economies.

Chart I.3: Structural weakness in the German economy

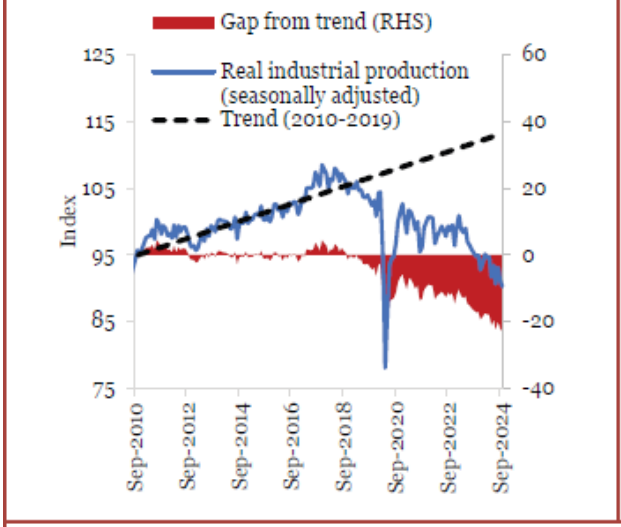
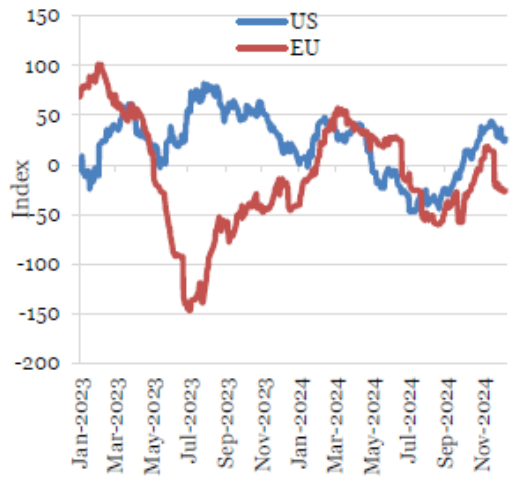


Chart I.4: Citi Economic Surprise Indices indicating unexpected resilience of the US

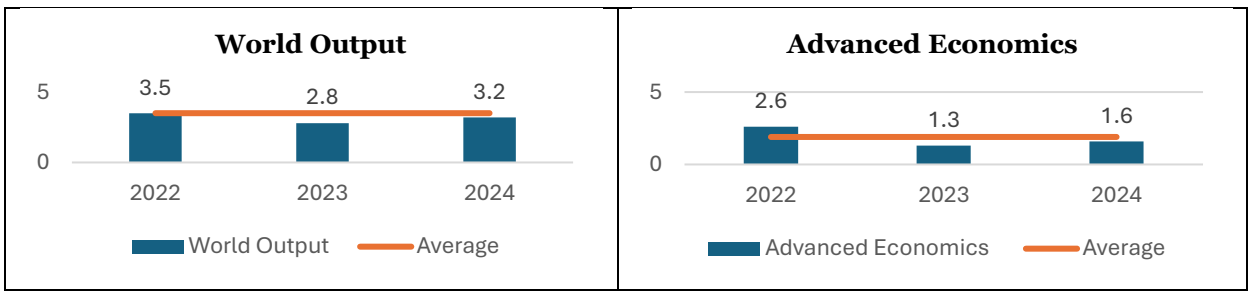


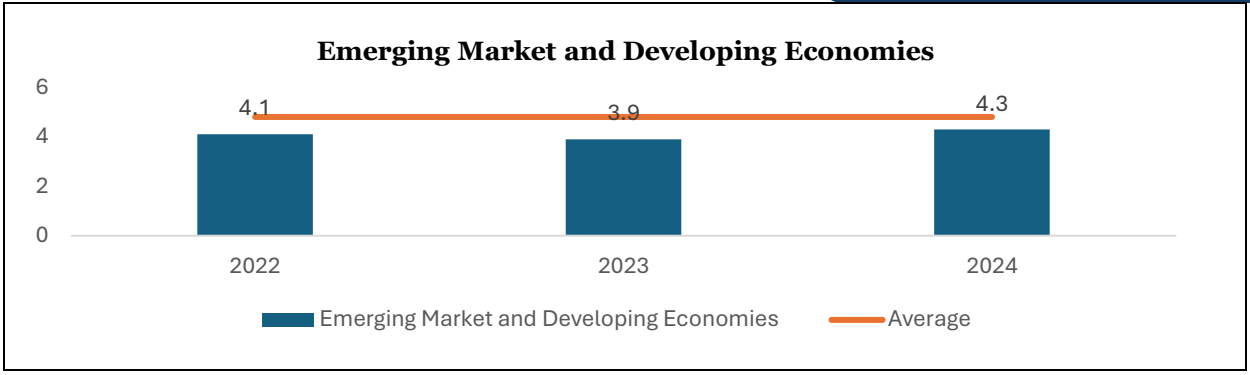
Source: Bloomberg

The divergence of the growth trajectories of Europe and the US can also be seen in Citi Economic Surprises indices for these countries. These indices compare actual data releases with analyst expectations. A value above zero indicates the data was stronger than analyst expectations, while a negative value indicates weaker actual data compared to expectations. Between January 2023 and November 2024, data for the US economy continued to present more 'positive' surprises than the EU, compared to the analyst estimates.

Within Asia, Japan's growth was hindered by domestic supply disruptions in the early part of the year, while China's growth weakened after the first quarter, affected by sluggish private consumption and investment, alongside challenges in the real estate sector.

Global economy registers strong growth

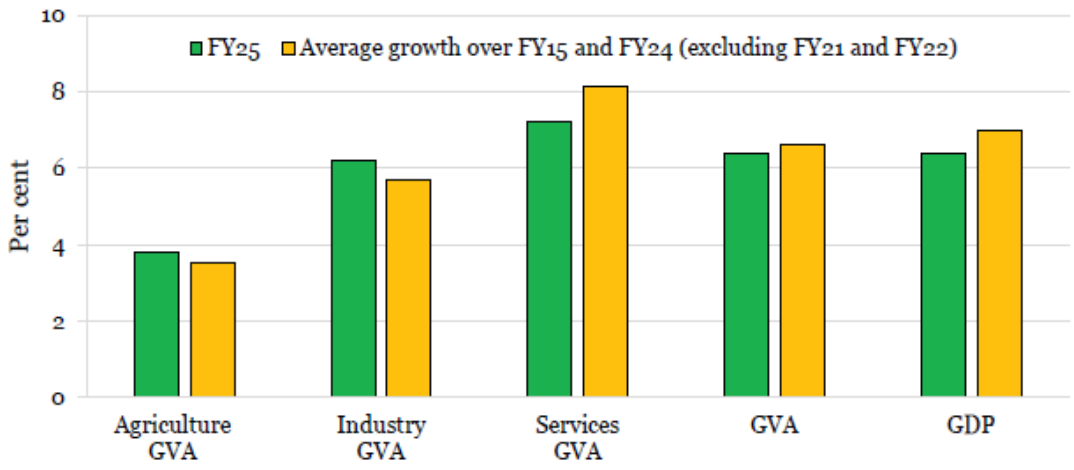




Domestic Economy: -

As per the first advance estimates released by the National Statistical Office, Ministry of Statistics & Programme Implementation (MoSPI), the real gross domestic product (GDP) growth for FY25 is estimated to be 6.4 per cent. From the angle of aggregate demand in the economy, private final consumption expenditure at constant prices is estimated to grow by 7.3 per cent, driven by a rebound in rural demand. PFCE as a share of GDP (at current prices) is estimated to increase from 60.3 per cent in FY24 to 61.8 per cent in FY25. This share is the highest since FY03. Gross fixed capital formation (GFCF) (at constant prices) is estimated to grow by 6.4 per cent.

Chart I.20: Despite global uncertainty, India's growth remains close to decadal average (at constant prices)



Source: Calculations based on Statement 13: Annual and Quarterly Estimates of GDP at constant prices, MoSPI
Note: FY25 values are First Advance Estimates.

On the supply side, real gross value added (GVA) is also estimated to grow by 6.4 per cent. The agriculture sector is expected to rebound to a growth of 3.8 per cent in FY25. The industrial sector is estimated to grow by 6.2 per cent in FY25. Strong growth rates in construction activities and electricity, gas, water supply and other utility services are expected to support industrial expansion. Growth in the services sector is expected to remain robust at 7.2 per cent, driven by healthy activity in financial, real estate, professional services, public administration, defence, and other services. The analysis

of growth trends in this chapter, hereinafter, is mostly based on the trends in the first half (H1) of FY25, on which the information base is more comprehensive.

Resilient recovery

The COVID-19 pandemic caused widespread disruptions to economies worldwide. Economic Survey 2023-24 compared the post-pandemic trends until Q4 FY24 with the pre-pandemic trajectory and concluded that the economy grew briskly enough to avert any permanent loss of output.

The overall picture is encouraging. Aggregate GVA surpassed its pre-pandemic trend in Q1 FY25, and it now hovers above the trend in the H1 FY25. The agriculture sector remains strong, consistently operating well above trend levels. The industrial sector has also found its footing above the pre-pandemic trajectory. The robust rate of growth in the recent years has taken the services sector close to its trend levels

A closer look at industrial sub-sectors reveals a spectrum of performances. Construction has been a standout, gaining momentum since mid-FY21 and soaring approximately 15 per cent above its pre-pandemic trend—an impressive feat driven by robust infrastructure development and housing demand. The utilities sector, including electricity, gas, water supply, and other services, reached its pre-pandemic trend by the end of FY23 and has consistently stayed above these levels. Manufacturing, while steadily recovering, remains slightly below its pre-pandemic trajectory. Meanwhile, mining continues to operate below its pre-pandemic trend.

The recovery within the services sector has been uneven. Financial, real estate and professional services have taken the lead, surpassing pre-pandemic trend levels by the end of FY23. Public administration, defence, and other services followed suit, exceeding the trend for the first time in Q1 of FY25 since the onset of the pandemic. However, trade, hotels, transport, and communication services are gradually catching up with the pre-pandemic trend. These contact-intensive sectors faced challenges due to lockdown, restricted demand for travel, and reduced demand for hospitality, entertainment, and personal services.

Chart I.21: Aggregate GVA recovery continues

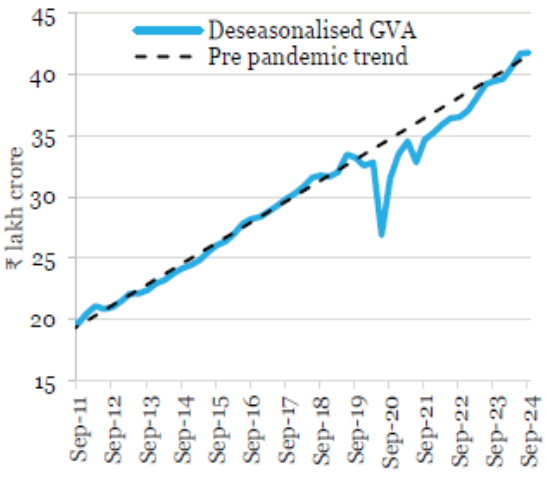


Chart I.22: Agriculture GVA sustained at higher levels

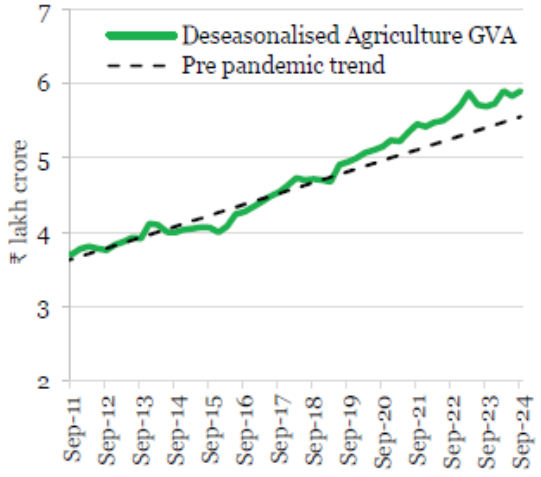


Chart I.23: Industrial GVA operating above the trend level

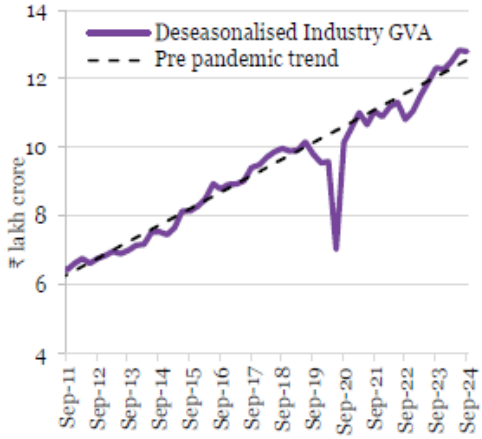


Chart I.24: Services GVA is close to its trend

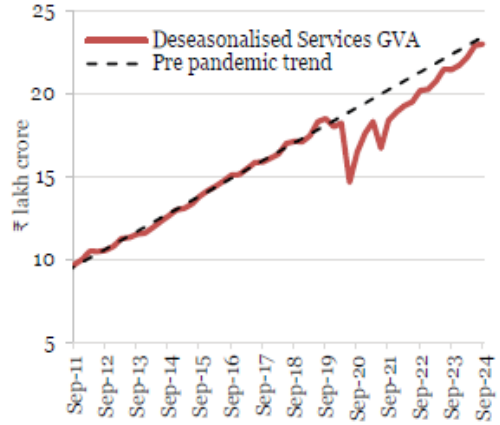


Chart I.25: Construction GVA operating well above trend levels, and manufacturing GVA gradually recovering

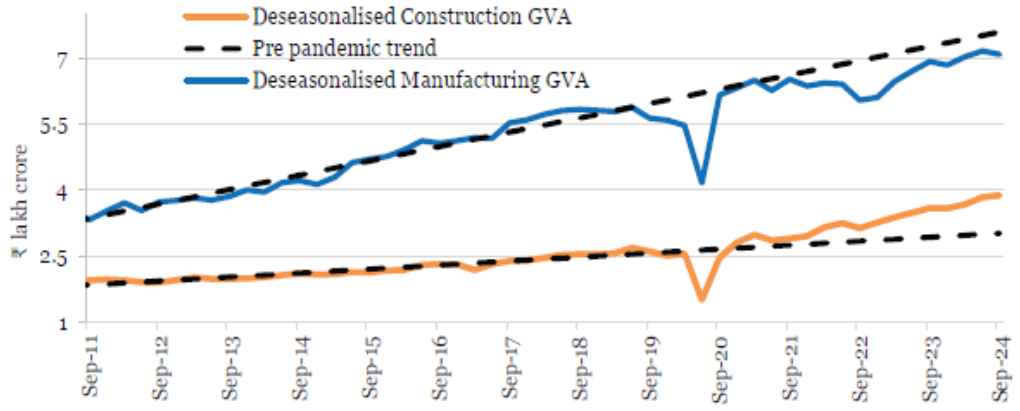
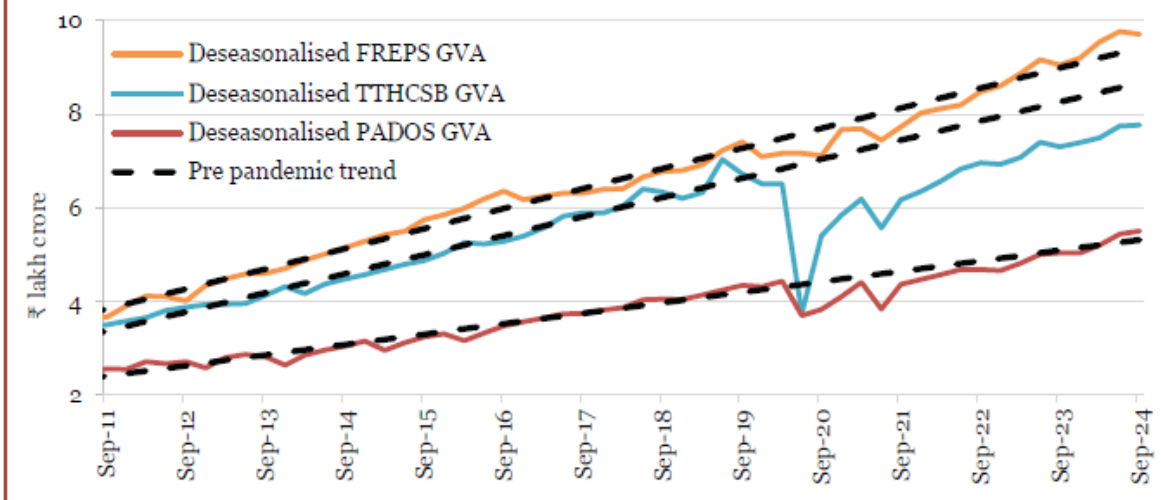


Chart I.26: Uneven recovery within the services sector



Source: Calculations based on Statement 13: Annual and Quarterly Estimates of GDP at constant prices, MoSPI

Note: i) **FREPS**- Financial, real estate and professional services ii) **TTHCSB** – Trade, transport, hotel, communication and services related to broadcasting iii) **PADOS** - Public administration, defence & other services.

All de-seasonalised variables are derived from National Accounts variables at constant (2011-12) prices.

Growth in H1 FY25 driven by agriculture and services sector

The real GVA grew by 6.2 per cent in H1 FY25. A strong growth momentum in Q1 FY25 was followed by a subdued performance in Q2 FY25. The agriculture and services sectors emerged as key growth drivers during this period. However, the overall growth was tempered by moderation in industrial growth, particularly in manufacturing, which faced challenges from slowing global demand and supply chain disruptions

India's GDP at constant (2011-12) prices grew by 6.7 per cent and 5.4 per cent in Q1 and Q2 FY25, respectively. This implied a real GDP growth of 6.0 per cent in the first half of the current fiscal.

Chart I.29: GDP growth in H1 FY25 at 6.0 per cent

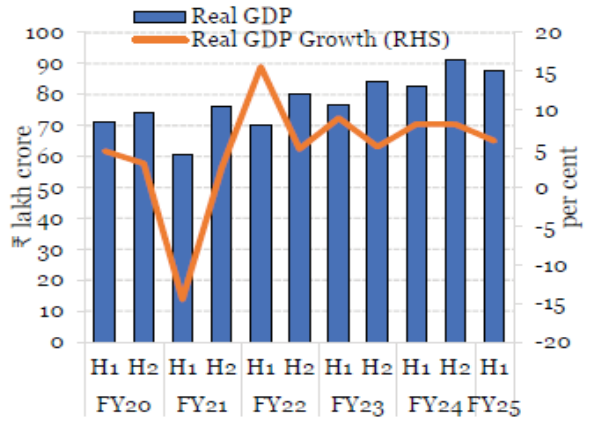
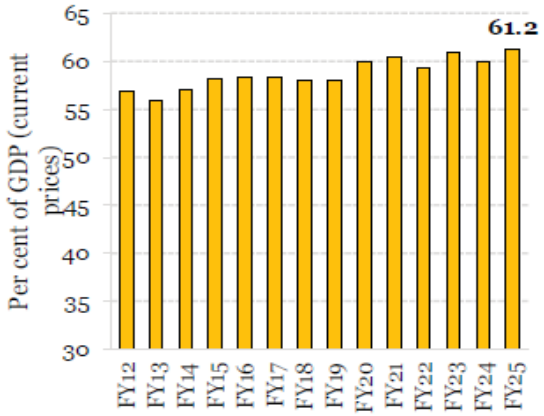
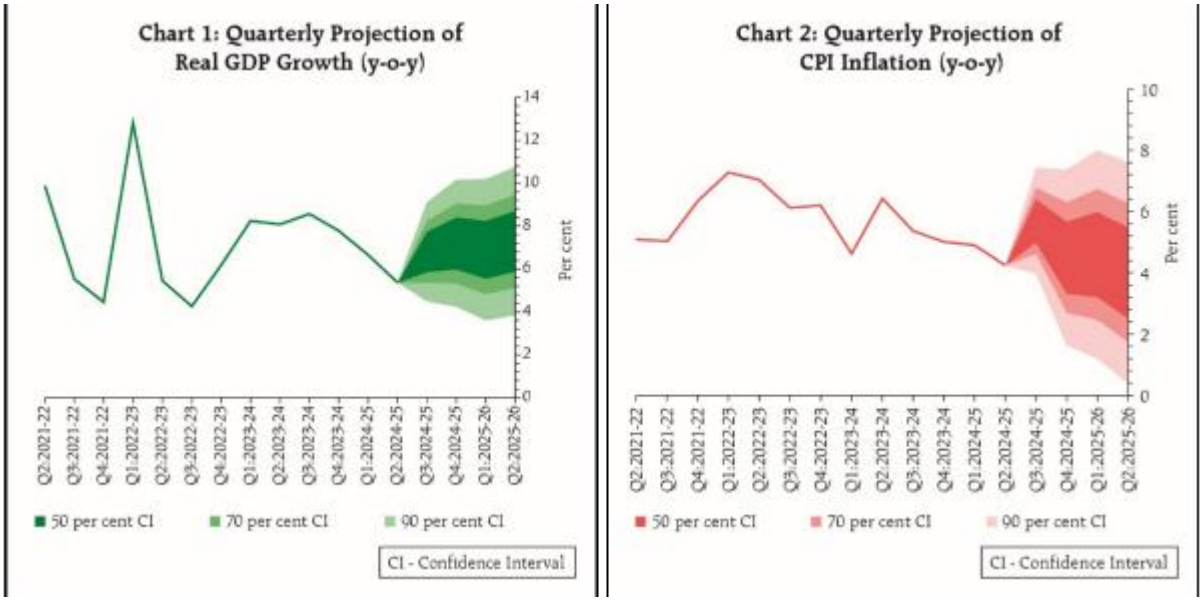


Chart I.30: Highest share of private consumption in H1 across all years



Source: Calculations based on Statement 13: Annual and Quarterly Estimates of GDP at constant prices and Statement 14: Annual and Quarterly Estimates of GDP at current prices, MoSPI



India's headline inflation, measured by the Consumer Price Index (CPI), has moderated in FY25 (April-December) compared to FY24. This decline is primarily due to a significant decrease in core inflation, which dropped by 0.9 percentage points between FY24 and FY25 (April-December). The sharp decline in core inflation was largely driven by core services inflation, which was lower than core goods inflation. A decrease in fuel price inflation has also contributed to the moderation in headline inflation, alleviating pressure on household budgets. In general, the decline in retail inflation can be attributed to a reduction in input prices, as reflected in wholesale price inflation, which was in the deflationary zone (-0.7 per cent) in FY24 and remained low in FY25 (April-December).

Various high-frequency indicators reflect the growth in the services sector. Both Goods and Services Tax (GST) collections and the issuance of e-way bills, reflecting wholesale and retail trade, demonstrated double-digit growth in FY24. Financial and professional services have been a major driver of growth post the pandemic. Contact-intensive services—prominently trade, transport, real estate and their ancillary services that were impacted the most during the pandemic have emerged much stronger in the post-pandemic period, embedding greater technology and digital content in them and transforming the nature of the service delivery in India. The proliferation of global capability centres (GCCs) has also imparted resilience to India's services exports, giving further thrust to the sector.

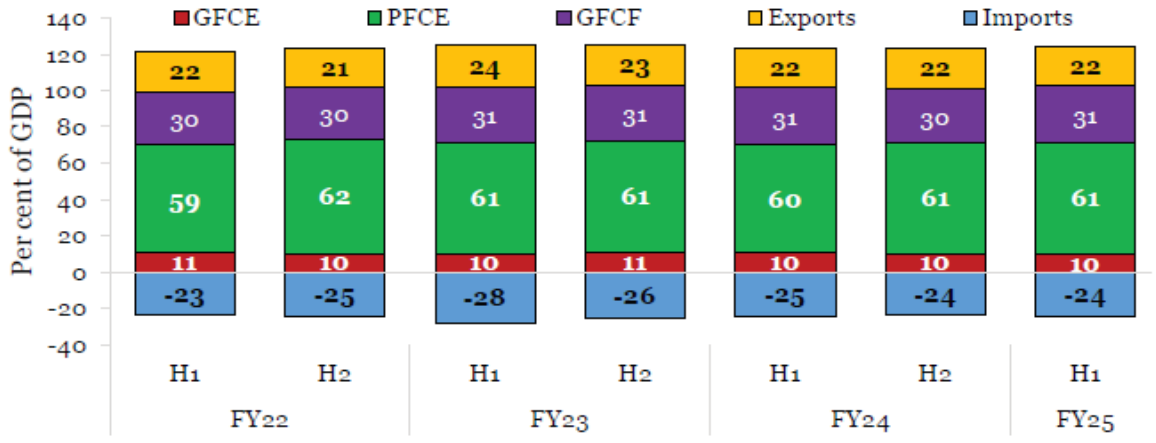
From a demand perspective, Private Final Consumption Expenditure (PFCE) firmed up in H1 FY25, growing by 6.7 per cent YoY. While National Accounts data is not disaggregated by geography, indicators such as 2-wheeler and 3-wheeler sales and tractor sales signal that rural demand contributed to private consumption growth. This is also reflected in the January 2025 round of National Bank for Agriculture and Rural Development (NABARD's) Rural Economic Conditions and Sentiments Survey, where 78.5 per cent of rural households reported an increase in their consumption

expenditure during the last year. The impulse from rural demand is expected to continue in the second half of the fiscal year with the returns from a bumper Kharif crop and higher MSPs for a prospectively good Rabi crop.

On the other hand, indicators of urban demand presented mixed trends. According to data from the Federation of Automobile Dealers Associations (FADA)19, the growth of passenger vehicle sales has slowed to 4.2 per YoY cent in April – November 2024 compared to 9.2 per cent in the corresponding period of the previous year. Fast-moving consumer goods (FMCG) sales in urban areas, as per Nielsen IQ, have recorded a moderate growth in H1FY25. However, there is steady growth of 7.7 per cent YoY in air passenger traffic in April – November 2024. The 7.3 per cent YoY growth indicated by the First Advance Estimates for PFCE at constant prices for FY25 indicates a pick-up in the most recent months.

The moderation in real GDP growth can be traced to a softening of growth in Gross Fixed Capital Formation (GFCF) from 10.1 per cent in H1 FY24 to 6.4 per cent in H1 FY25. Q1 FY25 witnessed a slowdown in capital expenditure across different levels of government on account of the conduct of the general elections. Private sector investment growth may have remained subdued thus far in FY25 on account of the domestic political timetable, global uncertainties and overcapacities.

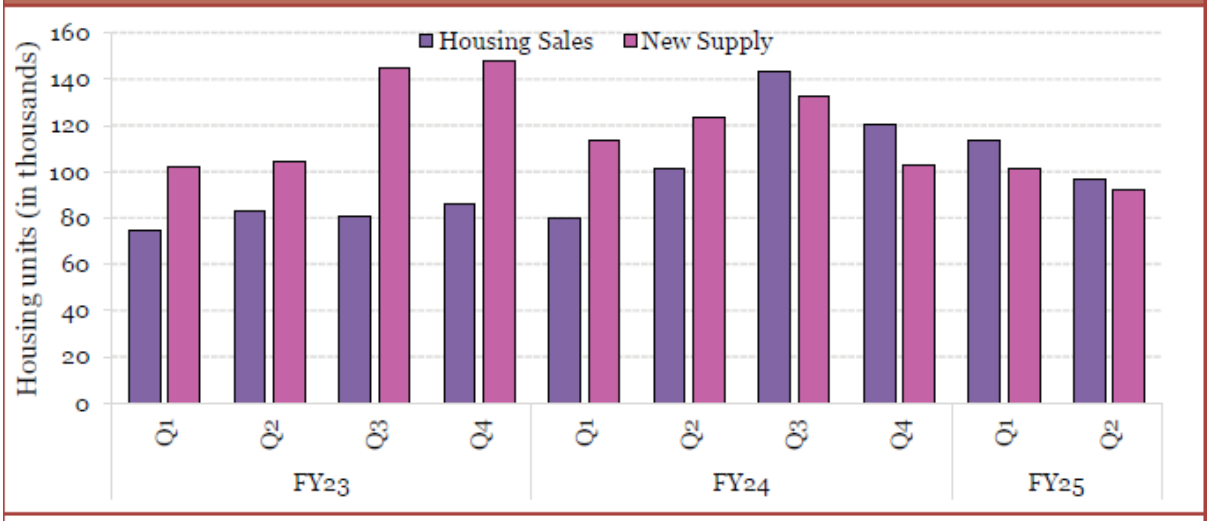
Chart I.31: Steady shares of investment and consumption in GDP (at current prices)



Source: Calculations based on Statement 14: Annual and Quarterly Estimates of GDP at current prices, MoSPI

An additional reason for the slowdown in capital formation growth in Q2 FY25 may have emanated from the moderation in residential investment by households in this quarter, which is on the back of a sharp uptick over the last few quarters. Industry reports, however, point out that the correction in demand-supply metrics in this sector is indicative of market normalisation after a period of robust performance. An inventory overhang of 23 months signals healthy demand momentum in the segment.

Chart I.32: Moderating housing sales and launches on the back of a high base in the top 8 cities[20]



Source: Various Real Insight Residential reports by Proptiger

The slowdown in investment activity is likely temporary. Green shoots in capital formation are visible. Union government capex is up 8.2 per cent in July – November 2024 and is expected to pick up further pace. Early results of the RBI's Order Books, Inventory, and Capacity Utilisation Survey (OBICUS) show that the seasonally adjusted capacity utilisation (CU) in manufacturing firms was 74.7 per cent in Q2 FY25, above the long-term average of 73.8 per cent. A private sector report's22 analysis of a sample of capital goods companies indicates that the order books of these companies have registered a sharp increase of 23.6 per cent in FY24 as against a compound annual growth rate (CAGR) of 4.5 per cent in the preceding four years. Moreover, in H1 FY25, there has been a growth of 10.3 per cent compared to the end of FY24. The RBI's report on private investments showed that investment intentions increased to ₹2.45 lakh crore for FY25 as compared to ₹1.6 lakh crore for FY24. Along with fresh investment, some of the existing intentions would spill over and be implemented in FY26.

On the external front, exports of goods and non-factor services at constant prices increased by 5.6 per cent in H1 FY25, while imports increased by 0.7 per cent. In Q2 FY25, imports of goods and services at constant prices contracted by 2.9 per cent, primarily driven by a decline in commodity prices. As a result, net exports contributed positively to real GDP growth in this period.

Moderation in inflation pressure: -

Inflation rates across economies have trended downward steadily, approaching central bank target levels. This has been the result of tighter monetary policy regimes across the globe and supply chains adapting to higher levels of economic uncertainty. As a consequence, price pressures eased in 2023 due to a reduction in fuel prices. In 2024, it was attributed to a broad-based reduction in goods inflation.

Chart I.8: Inflation in advanced economies

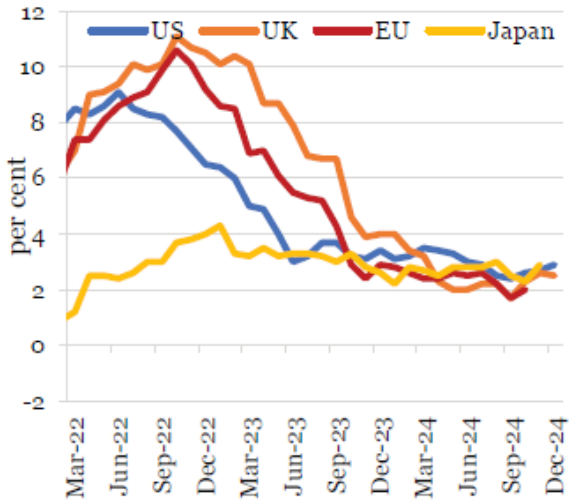
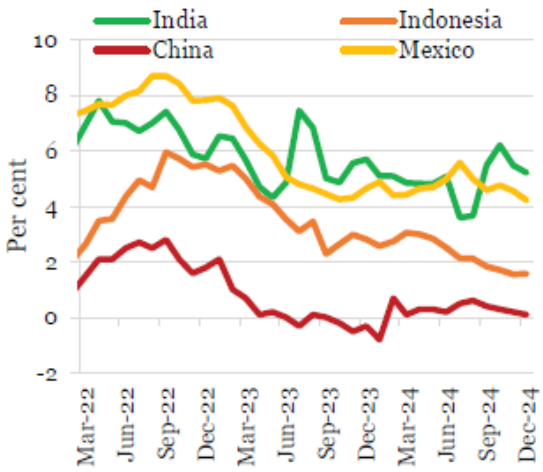


Chart I.9: Inflation in emerging market economies



Source: OECD and MoSPI

However, disinflation seems to have slowed due to the persistence of services inflation, while core goods inflation has fallen to negligible levels. The IMF World Economic Outlook (WEO) October 2024 reasons that this is on account of higher nominal wage growth as compared to pre-pandemic trends. The report notes that there are early signs that these pressures are abating, thereby aiding the disinflation process.

Inflation – a combination of low and stable core inflation with volatile food prices

Retail headline inflation, as measured by the change in the Consumer Price Index (CPI), has softened from 5.4 per cent in FY24 to 4.9 per cent in April – December 2024. The decline is attributed to a 0.9 percentage point reduction in core (non-food, nonfuel) inflation between FY24 and April – December 2024. While the average inflation in FY25 has trended downward, monthly volatility in food prices and a select few commodities have been responsible for CPI inflation printing towards the upper side of the tolerance band of 4 (+/-) 2 per cent.

Pressures in food prices have been driven by factors such as supply chain disruptions and vagaries in weather conditions. Food inflation, measured by the Consumer Food

Price Index (CFPI), has increased from 7.5 per cent in FY24 to 8.4 per cent in FY25 (April-December), primarily driven by a few food items such as vegetables and pulses.

Plots headline retail inflation excluding the following commodities – tomato, onion and potato, (TOP). These commodities together constitute 2.2 per cent of the CPI basket.

Chart I.46: Food price pressures driving retail inflation

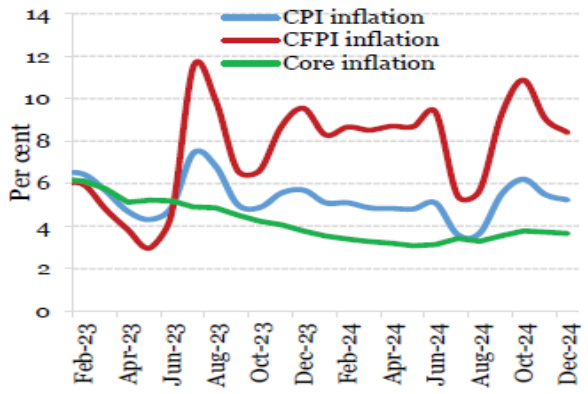
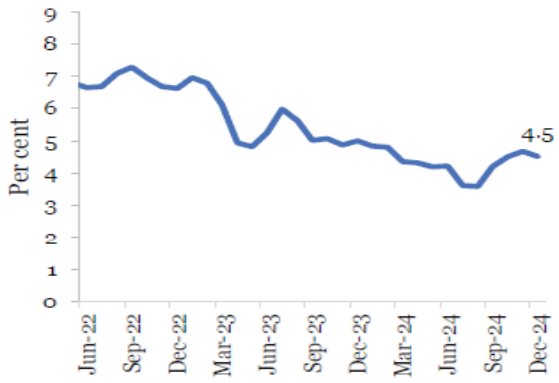


Chart I.47: CPI inflation excluding TOP commodities significantly lower[32]

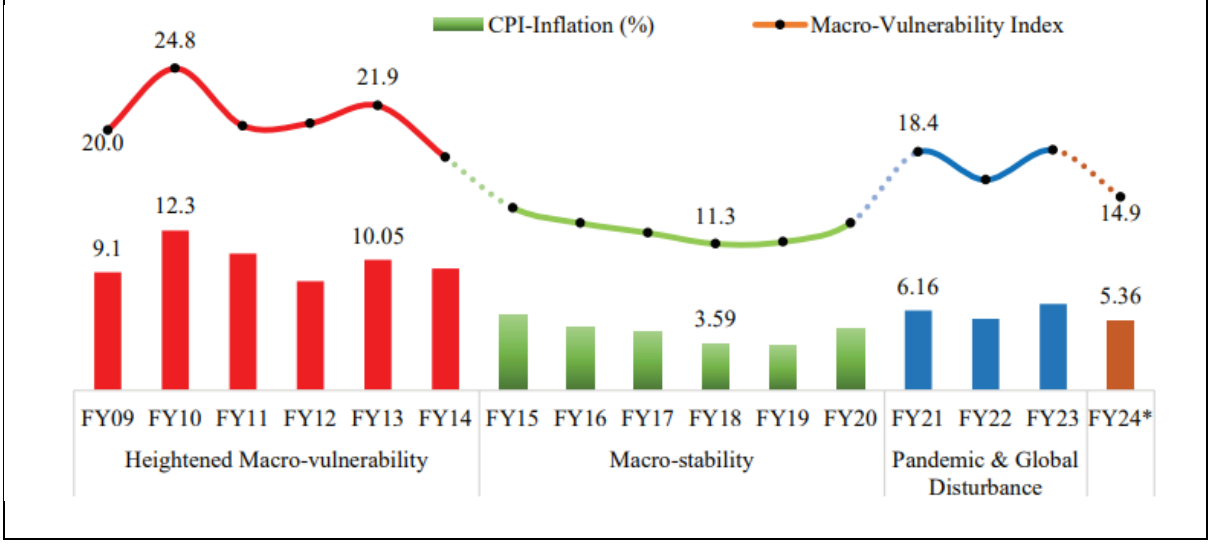


Source: Consumer Price Indices released by Central Statistical Office (CSO), MoSPI

Reduction in macro vulnerability

In its pursuit of fiscal consolidation through efficient and prudent fiscal management, the Government continues to stick to the fiscal glide path. The fiscal deficit of the Government is expected to drop to 4.5 per cent of GDP or lower by FY26. This commitment has helped keep the sovereign debt sustainable, thereby keeping sovereign bond yields and spreads in check. All these factors have combined to keep the macroeconomic environment stable and provide a platform for sustainable growth. This is reflected in the downward trajectory of the macroeconomic vulnerability index – an index constructed by combining India's fiscal deficit, CAD and inflation.

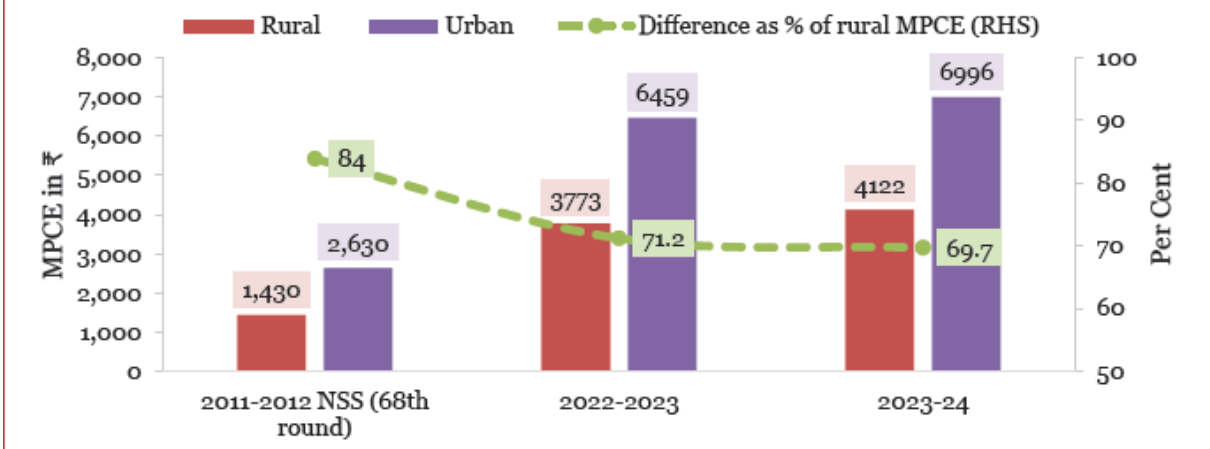
A reduction in macro-vulnerability despite increased external uncertainty:-



Household Consumption Expenditure Survey 2023-24

The results of the Household Consumption Expenditure Survey (HCES) 2023-24 highlights the narrowing urban-rural gap in consumption expenditure. The average monthly per capita expenditure (MPCE) in rural and urban India in 2023-24 is estimated at ₹4,122 and ₹6,996, respectively.5 Considering the imputed values of items received free of cost through various social welfare programmes, these estimates rise to ₹4,247 and ₹7,078, respectively, for rural and urban areas. The urban-rural gap in MPCE has declined to 71 per cent in 2022-23 from 84 per cent in 2011-12. It has further come down to 70 per cent in 2023-24, which confirms the sustained momentum of consumption growth in rural areas.

Chart XI.3. Declining urban-rural gap in consumption



Source: HCES 2023-24, MoSPI

Social sector initiatives have reduced inequality and increased consumption spending, as reflected in the survey. The Gini coefficient improved for rural areas (declined to 0.237 in 2023-24 from 0.266 in 2022-23) and urban areas (declined to 0.284 in 2023-24 from 0.314 in 2022-23). The bottom 5 per cent of the rural population, ranked by MPCE, has an average MPCE of ₹1,677, compared to ₹2,376 in urban areas. The top 5 per cent have average MPCEs of ₹10,137 in rural and ₹20,310 in urban areas.

The largest growth in average MPCE between 2022-23 and 2023-24 occurred among the bottom 5–10 per cent of the population in both rural and urban areas. The bottom 5 per cent of the rural population saw a 22 per cent increase, while the corresponding urban segment experienced 19 per cent growth in the MPCE.

The Economic Survey 2023-24 highlighted how the welfare policies of the government and the social sector initiatives have resulted in the reduction of inequality marked by rising consumption expenditure, as evident from the results of the HCES 2022-23. Fiscal policies of the government are playing a key role in reshaping income distribution, inter-alia, through the provision of subsidies, pensions, and other direct transfers, as well as public spending on social services such as education and health. Various government welfare schemes such as free foodgrain or subsidised availability of foodgrains, subsidised cooking fuel, insurance cover, etc, are lifting household incomes. These fiscal transfers help to provide additional resources to the financially deprived sections and, thus, favourably impact people's standard of living. As an example, building upon the learnings of the HCES, a study by the World Bank8 presents evidence of the re-distribution impact of the Public Distribution System (PDS).

OUTLOOK AND WAY FORWARD

A steady growth trajectory shapes the global economic outlook for 2024, though regional patterns vary. The near-term global growth is expected to be a shade lower than the trend level. The services sector continues to drive global expansion, with notable resilience in India. Meanwhile, manufacturing is struggling in Europe, where structural weaknesses persist. Trade outlook also remains clouded in the next year.

Inflationary pressures have been easing globally, though risks of synchronised price pressures linger due to potential geopolitical disruptions, such as tensions in the Middle East and the ongoing Russia-Ukraine conflict. Central banks have adopted more accommodative monetary policies. However, the pace of rate cuts varies across regions depending on the growth imperatives and the pace of disinflation, creating potential divergences in economic recovery.

On the domestic front, rebounding rural demand augurs well for consumption. Investment activity is expected to pick up, supported by higher public capex and improving business expectations. Capacity utilisation in manufacturing remains above the long-term average, and private sector order books have shown steady growth, alongside a rise in investment intentions. However, these gains could be tempered by the global excess capacities in sectors such as steel, leading to aggressive trade policies in search of demand.

Going forward, food inflation is likely to soften in Q4 FY25 with the seasonal easing of vegetable prices and Kharif harvest arrivals. Good Rabi production is likely to contain food prices in the first half of FY26. Adverse weather events and rise in international agricultural commodity prices, however, pose risks to food inflation. Global energy and commodity prices have softened in the recent past, making the core inflation outlook benign. However, risks remain on account of significant global political and economic uncertainties.

in brief, there are many upsides to domestic investment, output growth and disinflation in FY26. There are equally strong, prominently extraneous, downsides too.

Nonetheless, the fundamentals of the domestic economy remain robust, with a strong external account, calibrated fiscal consolidation and stable private consumption. On balance of these considerations, we expect that the growth in FY26 would be between 6.3 and 6.8 per cent.

Navigating global headwinds will require strategic and prudent policy management and reinforcing the domestic fundamentals. The Budget 2024-25 laid out a multi sectoral policy agenda for sustained growth push. In this context, Chapter 5 elaborates on the need for deregulation and reforms at the grassroots level to improve the overall competitiveness of the economy and to lift trend growth rates, supporting higher levels of economic activity.

3. Introduction & Overview of Plastic

Plastic

Plastic material refers to a wide range of synthetic or semi-synthetic compounds that are malleable and can be molded into various shapes and forms. Plastics are primarily made from polymers, which are long chains of molecules derived from petrochemicals (such as crude oil and natural gas) or renewable sources (like corn or sugarcane). These polymers are combined with additives to enhance properties like strength, flexibility, color, and durability.

As 99% of plastics are created from chemicals of fossil origin, plastic production is closed linked to the petrochemical industry. The rapid global growth of the plastic industry is largely fuelled by the availability of cheap shale gas and growing investments from the fossil industries. Indeed, petrochemicals are expected to be the largest driver of global oil demand growth from now through 2040, outpacing its use in transportation, industry, in power, or in buildings. The strong linkages between plastics and fossil fuel also mean that plastics is one large driver of climate change. Plastic production is an important contributor to global emissions associated with air and water pollution, as well as oil spills leading to toxic contaminations.

An independent report commissioned by the Basel, Rotterdam and Stockholm Conventions and published in April 2023 found that up to 13,000 chemicals are possibly used in plastics as monomers, additives, processing aids and NIAS. Out of these, 3,200 are verified to be chemicals of potential concern, but the figure could be bigger considering that hazard data is missing for 6,000 chemicals. Moreover, only 1% of chemicals of concern used in plastics are regulated under MEAs, such as the Stockholm Convention, the Minamata Convention, and the Montreal Protocol. These represent gross health and human rights threats which could be prevented with the adoption of safety storage and disposal procedures of toxic substances.

Rigid plastic

It refers to plastic materials that maintain their shape and structure without significant flexibility. These plastics are tough, durable, and resistant to bending or breaking under normal conditions. They are commonly used in packaging, automotive parts, construction, and consumer goods.

Plastic packaging

Plastic packaging items are things composed mostly of plastic that are used to hold, protect, handle, convey, and present goods. These things are widely utilized in many industries, including food & beverage, pharmaceuticals, cosmetics, electronics, and retail.

Plastic packaging can take a variety of forms, such as:

- Bottles and Jars: Hold liquids, powders, and other goods (e.g., water bottles, shampoo bottles, condiment jars.
- Bags and Pouches: Flexible packaging for snacks, groceries, or other things, such as plastic shopping bags, chip bags, and resealable pouches.
- Trays and Containers: Rigid or semi-rigid packaging for food, electronics, or other commodities, such as clamshells, takeout trays, and fruit containers.
- Wraps and Films: Use thin plastic layers to wrap products or seal containers, such as cling film or shrink wrap.
- Lids & Caps: Used for sealing bottles, jars, and containers.
- Blister packs are pre-formed plastic packaging commonly used for minor consumer goods and medications.
- Foam Packaging: Protective packaging constructed from plastic foam, such as polystyrene foam for electronics or food.
- Tubes are squeezable plastic tubes for toothpaste, lotions, and gels.

Key Characteristics of Plastic Materials:

Types of Plastic Materials:

1. Thermoplastics: Can be melted and reshaped multiple times (e.g., polyethylene (PE), polypropylene (PP), polyvinyl chloride (PVC), polystyrene (PS)).
2. Thermosetting Plastics: Once set, they cannot be remelted or reshaped (e.g., epoxy, phenolic resins).
3. Elastomers: Flexible and rubber-like plastics (e.g., silicone, polyurethane).

Introduction of Plastic Molding :-

Plastics are synthetically produced non-metallic compounds. It can be molded into various forms and hardened for commercial use. Plastic molding products can be seen everywhere. Examples are jars, protective caps, plastic tubes, grips, toys, bottles, cases, accessories, kitchen utensils and a lot more.

The basic idea in plastic molding is inserting molten liquid plastic into a ready shaped mold, for example the mold of a bottle. It will be then allowed to cool, then the mold will be removed to reveal the plastic bottle.

Plastic molding can also custom mold a wide variety of plastic products including: garden pots, cabinets, office trays and boxes, barriers, barricades and traffic signage and displays for product and marketing promotions

Plastic Molding Technology Types

Blow Molding

Blow molding is a pivotal way to make plastic items. It's known for making a wide variety of products, from regular bottles to special parts for specific industries. As technologies advance and the push for sustainability grows, this manufacturing process is poised to be a trendsetter. Its relevance, adaptability, and promise to highlight its integral role both today and in times to come.

The blow molding process is particularly favoured for producing high volumes of thin-walled plastic items, be it everyday bottles or protective casings for consumer goods.

Blow molding stands out as a predominant method in the vast arena of plastics manufacturing. This technique's primary function Craft hollow plastic items.

The procedure is straightforward: an extruded plastic tube inflates, taking the precise shape of a predefined mold. Although various thermoplastics and thermoset polymers suit this method, HDPE, or high-density polyethene, often emerges as the preferred choice for practitioners in the field.

Injection molding

A single step in which a solid item is created by injecting molten plastic into a mold. Solid plastic components such as electrical casings, toys, caps, and automobile parts are among its uses. The final shape can only be made with a single mold. ABS, PP, PE, nylon, and polycarbonate are often utilized materials in the technique, which is typically applied to toys, electronic casings, furniture parts, and automotive components. The strength and precision of solid parts are very high.

Injection blow molding (Hybrid Process)

Injection blow molding combines the principles of traditional injection and blow molding. The journey begins with molten plastic being injected onto a metal rod within a mold, crafting the preliminary preform.

Post this, the preform, accompanied by the rod, ventures into another mold that mirrors the final product's shape. Injecting compressed air transforms the preform to mirror the mold.

Boasting higher precision, especially around the product's neck, this method predominantly uses materials such as HDPE, PET, PP, and nylon. It's renowned for crafting items ranging from beverage containers to intricate storage tanks.

Used for small containers, pharmaceutical bottles, and personal care packaging.

Process:

- Injection Molded preform heated, Preform secured into blow mold , Preform Stretched with core rod, Compressed air simultaneously blown in preform inflates to mold, Product is removed from mold, Finished product ready for next production stage.

Extrusion Blow Molding (EBM)

Distinct from its injection counterpart, this technique pivots around extruding the hollow preform. After sealing one end, compressed air breathes life into the preform, transforming it to fit the mold's contours.

Once molded, the product undergoes cooling and ejection. The technique is divided into continuous and intermittent extrusion blow molding, each with unique characteristics.

Commonly crafted items encompass water bottles, automotive components, and gardening tools. Notable materials here include HDPE, PP, and nylon.

- The most common type, used for making **HDPE bottles, plastic barrels, and jerry cans**.
- Process:
    - Heated plastic is extruded into hollow tube (parison), Mold closes parison is gripped in place, Compressed air blown into parison which inflates, Parison fills mold, Product is trimmed and removed from mold, Finished product ready for next production stage.

4. Executive Summary

Indian Market size and growth rate.

The plastic industry in India market size is estimated at INR 3,938 billion in 2024 and is expected to reach INR 4,466 billion by 2029, growing at a CAGR of over 6.5% during the forecast period (2024-2029). As of 2023-24, the Share of India's plastic products industry is 0.5% of India's GDP

India Plastics Market Overview:

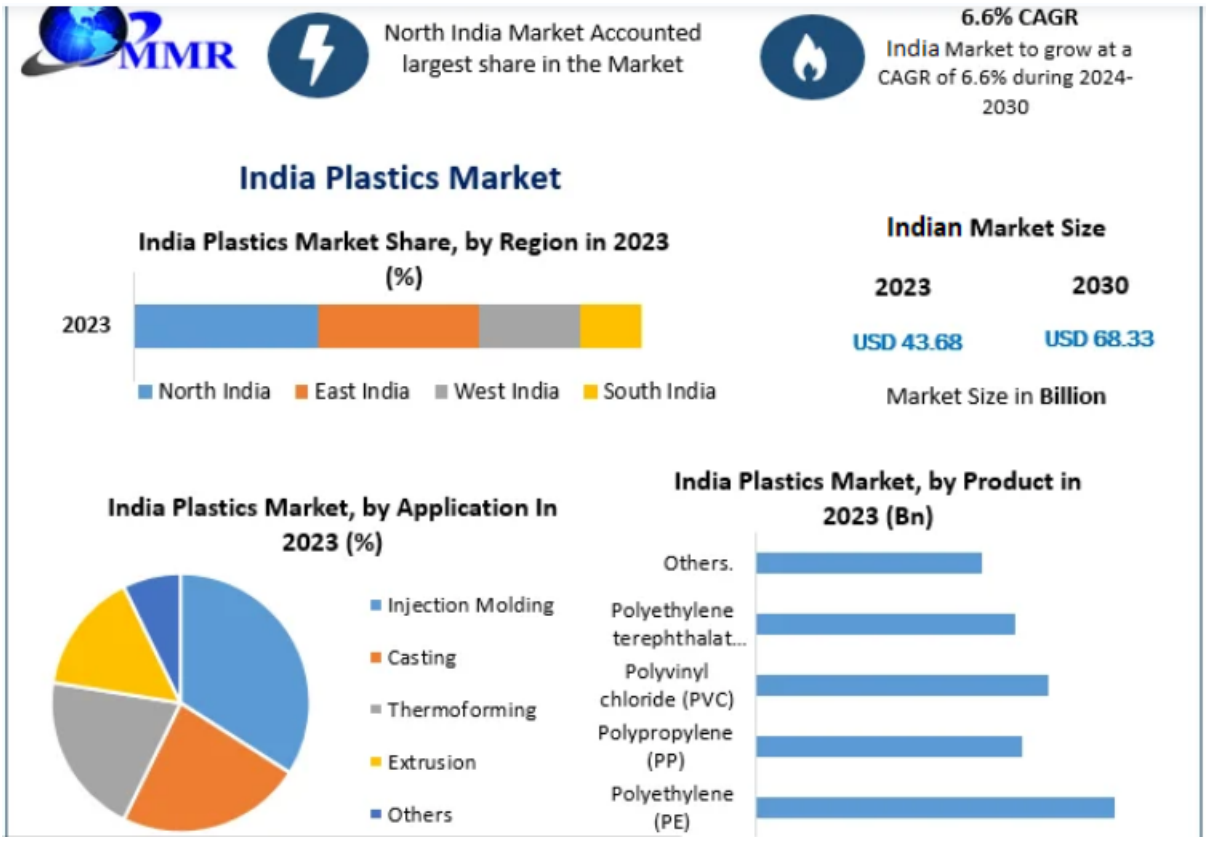
The Indian plastic industry is one of the leading sectors in the country's economy. The history of the plastic industry in India dates back to 1957 with the production of polystyrene. Since then, the industry has made substantial progress and has grown rapidly. The industry is present across the country and has more than 2,500 exporters. It employs more than 4 million people in the country and constitutes 30,000 processing units; among these, 85-90% belong to small and medium enterprises. India manufactures various products such as plastics and linoleum, houseware products, cordage, fishnets, floor coverings, medical items, packaging items, plastic films, pipes, raw materials, etc. The country majorly exports plastic raw materials, films, sheets, woven sacks, fabrics, and tarpaulin. The Government of India intends to take the plastic industry from a current level of Rs. 3 lakh crore (US$ 37.8 billion) of economic activity to Rs. 10 lakh crore (US$ 126 billion) in 4-5 years.

Indian plastics industry has established & expanded expressively since its beginning in 1957. The plastics industry in India has now developed to become one of the prominent areas in the nation's economy, containing of over 30,000 companies & paying more than 4 Mn people. India is also one of the world's best exporters of plastics products. The productions & exports a range of raw materials, laminates, electronic equipment, medical ware, & consumer goods. These plastic products are exported to more than 150 nations, mostly in Europe, Africa, & Asia.

Indian plastics industry also delivers plastic materials to many other industries such as automotive, consumer packaging, & electronics. Over the past few decades, the demand for Plastic has developed by 8 percent yearly. A similar development rate is anticipated to continue during the forecast period. The progress rate of the plastics industry in India is among the top in the world, with plastics consumption rising at 16 percent per year. Considering a rising middle class with low per capita consumption of plastics. This high progress rate is expected to continue, as the per capita consumption of plastics will certainly increase. Although India's plastics industry has

been hit by the nation's general economic emergency over the past 2 years, with the weakening rupee, underlying economic movement rests strong as the use of plastic is increasing in more & more segments, opening new markets & substituting traditional materials.

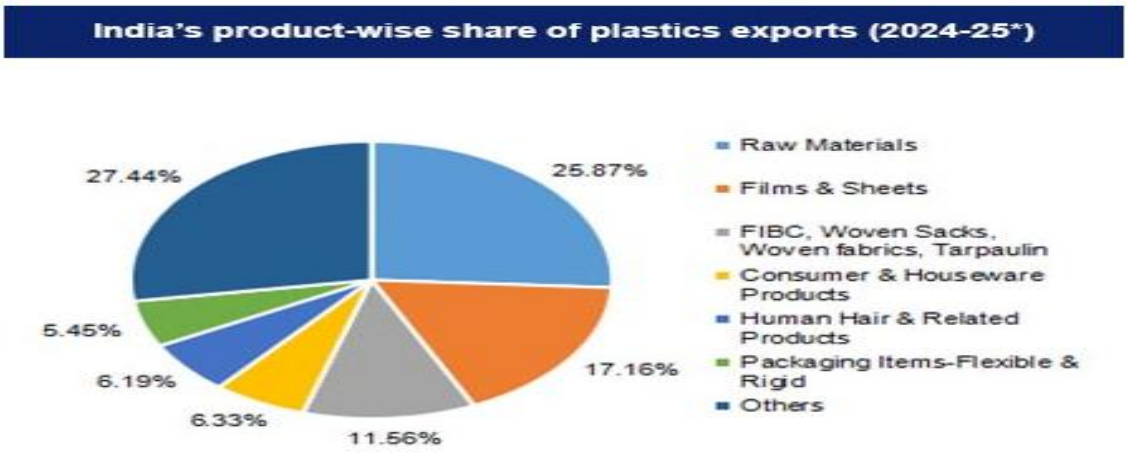
As local plastics demand & consumption in India endure to grow at about twice the rate of country's total economy, polymers are one of the premier sectors with an anticipated growth rate of between 8-12 percent a year through 2021. India's plastics Market will see more than double its polymer consumption by the year 2022, reaching 20 Mn metric tons.



Diversity of India's plastic exports

India's product-wise share of plastics exports for the fiscal year 2024-25 (up until June 2024). Here's an explanation of the data:

Raw Materials: This category holds the largest share at 27.44%, indicating that a significant portion of India's plastic exports consists of raw materials like polymers (e.g., polyethylene, polypropylene).
Films & Sheets: This category accounts for 5.45% of exports. These are likely used in packaging, agriculture, and industrial applications.
FIBC, Woven Sacks, Woven Fabrics, Tarpaulin: This segment makes up 6.19% of exports. FIBC (Flexible Intermediate Bulk Containers) and related products are commonly used for bulk packaging in industries like agriculture and chemicals.
Consumer & Houseware Products: This category represents 6.33% of exports. It includes everyday plastic items like utensils, containers, and household goods.
Human Hair & Related Products: Surprisingly, this category accounts for 25.87% of exports. This likely includes synthetic hair products made from plastics, which are in demand globally.
Packaging Items - Flexible & Rigid: This segment holds 11.56% of exports. Flexible packaging includes items like plastic bags and pouches, while rigid packaging includes bottles and containers.
Others: This category covers 17.16% of exports and includes all other plastic products not specifically listed.



Note -The data highlights the diversity of India's plastic exports, with raw materials and human hair-related products being the most significant contributors. The image underscores the importance of the plastic industry in India's export economy and its role in various global supply chains.

Potential of Indian Plastics Market:

Despite country having a populace of approximately 1.2 Bn & a workforce of 467 Mn, many local plastics businesses have reported issues with labor shortages. This has steered to an increased amount of investment in industrial technology like automation & conveyor belt systems. Apart from the lack of an expert manufacturing labor, the plastics industry in India is also fronting the issue of a countrywide power shortage. The electricity demand shortage is about 13 percent. This offers excellent opportunities for companies proposing energy saving solutions, green industrial technology, & ancillary equipment.

Faster globalization, fast change in technology, & rising consumerism have brought about innovative changes & abundant chances for petrochemical firms in the Indian plastics industry to raise domestically & globally. Meanwhile, major investments are also estimated in the Indian plastics industry during the forecast period, owing to its rapidly expanding market size. The plastic industry in India is one of the fastest rising segments which is estimated to rise further owing to increasing demand for inexpensive packaging

"Plastic Industry Seeks PM's Intervention to Establish Petrochemical Regulator"

The plastic good producers have urged Prime Minister Narendra Modi to establish the Petrochemical Controlling Authority to make a fair rating mechanism & guarantee that PSUs such as IOCL, GAIL, BPCL help local plastic processing units. The administration's anti-dumping duty & compulsory BIS standards were creating a non-tariff barrier & the Indian plastic processing industry being import-dependent has to see a huge issue.

The plastic good producers has claimed an instant prohibition on the export of the raw material, polymer, from country to ease supplies in the nation & check the cost rise striking zero duty on polymer imports. With China, establishes of more than 50,000 PPU of which 90 percent are MSME. The segment openly employs more than fifty lakh people & pays more than `three lakh crore to the nation's GDP.

Values of the raw materials such as PVC, ABS, etc. have improved reaching between 30 percent & 140 percent over the past 5 months. The petrochemical businesses are captivating benefit of the flow in polymer values by limiting the supplies to local processing units & liberating the material after the value increase in consistent intervals. The polymer processing units have also associated with private companies thus impressive unjustified polymer costs in the local market as compared to costs.

Polymer costs are 10-15 percent lower in the market & Indian petrochemical manufacturers do not enter into promoting contracts as foreign manufacturers do.
Indian raw material producers export in huge quantities & make scarcity causing in an exponential rise in value in the last 5 months. This is together with a simple drop in demand owing to the pandemic, which has down the line caused in a working capital crisis. The increasing imports of plastic goods from China are also creating the Indian plastic market uncompetitive in the local market & higher raw material costs are making exports of plastic goods uncompetitive. If polymer costs in country are carried at par with the world-wide costs, presence of thousands of PPU in India are at stake. 2023 is considered as a base year to forecast the market from 2024 to 2030. 2023's market size is estimated on real numbers and outputs of the key players and major players across the globe. Past five years trends are considered while forecasting the market through 2030. 2023 is a year of exception and analyzed specially with the impact of lockdown by region.

Market Overview of Injection molding

The Plastics Injection Molding Market size is estimated at 156.43 million tons in 2025, and is expected to reach 192.34 Million tons by 2030, at a CAGR of 4.22% during the forecast period (2025-2030).
The injection molding industry is experiencing significant transformation through technological advancement and automation integration. Manufacturing facilities are increasingly adopting smart manufacturing concepts, incorporating real-time monitoring systems and automated material handling systems to optimize production efficiency. According to industry estimates, an average vehicle contains between 150-200 kg of plastics, highlighting the material's growing importance in modern plastic manufacturing. The integration of Industry 4.0 technologies, including artificial intelligence and machine learning, is revolutionizing production processes, enabling predictive maintenance, reducing waste, and improving overall operational efficiency.

In the plastics injection molding industry, sustainability has become a key area of concern due to strict environmental restrictions and shifting consumer preferences. With a focus on recycled and bio-based materials, manufacturers are making more and more investments in environmentally friendly materials and sustainable production methods. Businesses are creating creative ways to recycle and reuse plastic materials as the industry undergoes a dramatic transition to the concepts of the circular economy. This change is most noticeable in the packaging industry, where recycled materials and sustainable substitutes are increasingly expected. The market for plastics injection molding is sourced from

Injection molded plastics are extensively used in packaging applications, especially in food packaging, as they do not react with food and keep it safe. The most common application of these are caps, closures, containers, bottles, and many more.

An injection-molded plastic container's packaging is clear and leak-resistant and thus keeps food fresh for a long time. These plastics are also reusable, washable, and microwavable and thus have the highest demand amongst people.

Additionally, the latest innovations in injection-molded technologies are expected to have a positive impact on the injection molded plastics market growth, as the new packaging coming into the market is eco-friendly and 100% recyclable. Also, various government bodies are supporting recyclable packaging as it will reduce carbon footprint, and this is expected to drive the market.

Injection Molded Plastics Market Growth Factors

The expansion of the automotive industry is significantly driving the market growth. Automakers increasingly rely on injection molded plastics due to their versatility, lightweight properties, and cost-effectiveness. These plastics are used in various automotive components, including interior trim, exterior panels, engine components, and under-the-hood parts. With the rising demand for fuel-efficient vehicles, manufacturers opt for lightweight materials to improve fuel efficiency and reduce emissions.

Injection molded plastics offer an ideal solution as they contribute to weight reduction without compromising on durability or performance. Moreover, advancements in injection molding technology enable the production of complex designs and intricate shapes, meeting the automotive industry's evolving design flexibility and customization needs. As the automotive industry continues to expand globally, the demand for injection molded plastics is expected to soar, driving market growth in the foreseeable future.

Toys: Injection molding dominates toy manufacturing due to its ability to create colorful, detailed, and durable products at scale.

Automotive: It plays a crucial role in reducing vehicle weight, improving fuel efficiency, and enhancing durability of parts.

Market Overview of Blow molding

Blow molding is building empty plastic portions by creating and gluing them together to produce glass bottles and open containers. The parison maintains the form of the metal mold, and then it demolds and trims the constructed portion to pull out the flash or trim. Extrusion blow formation, injection blow formation and injection stretch blow blowing are three types of blow formations.

The benefits of extrusion-blowing molding are low product cost, simple process, and high efficiency. However, its significant drawback is the wall thickness and yield uniformity. Extrusion blow molding usage has a lower pressure level, reducing manufacturing costs and making the product cost-efficient. In addition, using the blow molding procedure will permit producers to reduce high labour expenses.

The global blow molded plastics market size was estimated at USD 80.04 billion in 2023 and is expected to grow at a CAGR of 7.0% from 2024 to 2030. The market growth is driven by trends shifting towards replacing glass & metal and increasing investments in the construction industry. Blow-molded plastics are widely used for different applications, such as concrete forms of all shapes and sizes, panels, barricades, and traffic markers in the building & construction industry. Industries, such as construction, packaging, and automotive, are the primary industries propelling the demand for blow-molded plastic products and services.

Blow Molded Plastics Market Growth Factors

The India blow molded plastics market generated a revenue of USD 9,092.6 million in 2023 and is expected to reach USD 14,217.2 million by 2030.
The India market is expected to grow at a CAGR of 6.6% from 2024 to 2030.

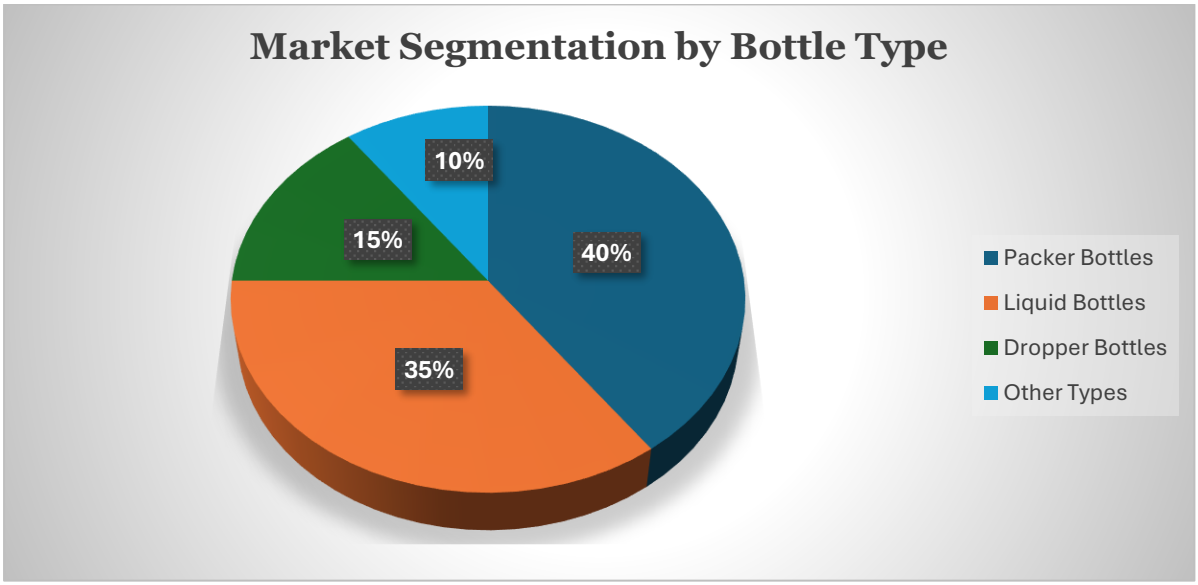
In terms of revenue, India accounted for 11.4% of the global blow molded plastics market in 2023.
Country-wise, China is expected to lead the global market in terms of revenue in 2030.
In Asia Pacific, China blow molded plastics market is projected to lead the regional market in terms of revenue in 2030.
China is the fastest growing regional market in Asia Pacific and is projected to reach USD 18,944.2 million by 2030.

Blow-Molded Plastics in Healthcare-
Since blow-molded plastic bottles are used to wrap medications and preserve their quality without deterioration, the medical industry is expected to support their use. The growth of the blow molding plastics market has been greatly facilitated by the rise of the healthcare industry. Compared to glass packaging, plastic packaging is less

prone to damage and spills and promotes hygienic habits. Healthcare supplies include syringes, cylinders, bottles, and medical vessels.

The rise in pharmaceutical equipment has led to an increase in the approval of blow-molded plastic bottles, contributing to the overall development of the blow-molded plastic bottle market.

The Pharmaceutical Plastic Bottles Market size is estimated at USD 9.22 billion in 2024, and is expected to reach USD 11.26 billion by 2029, growing at a CAGR of 4.07% during the forecast period (2024-2029).



The experts also estimate that regulating and fulfilling regulation laws in the use of plastics have affected the general packing industry, with a rising need for more lasting solutions, pressuring producers to invest severely in biodegradable and economical packing solutions.

Market overview of Polymer Drums & HM-HDPE Industry:

High-density polyethylene, or HDPE, is the specific type of plastic used in the production of polymer drums. For storing and moving goods, barrels and drums have been used for millennia. The oldest of these containers were built of readily accessible materials like wood or clay.

The global high-density polyethylene (HDPE) market size was valued at USD 79.53 Billion in 2024. The market is further projected to grow at a CAGR of 4.00% between 2025 and 2034, reaching a value of USD 117.72 Billion by 2034

Steel production enabled the creation of steel drums a century ago, and synthetic polymer drum and barrel production quickly followed. Modern technology made it possible to mass-produce plastic at low cost. Since HDPE was created to be sturdy and

long-lasting enough to hold even the most dangerous chemicals, it swiftly gained popularity during the 20th century.

HDPE, a polymer-based plastic, is ideal for an industrial application because it doesn't react with many everyday components and won't react with many other chemicals and substances. HDPE barrels are made using plastic mould, which make it simple to build a smooth, cylindrical-shaped drum in great quantities while keeping expenses to a minimum. Polymer drums come in two basic types: open head and tight head. For storage or transportation, open head polymer drums can be sealed with a tight lid and fasteners or left open-topped.

The top of the container will be used for both filling and emptying because it has the single entrance. This type of polymer drum is available in a wide range of sizes. These drums with an open head are sturdy, resilient, and capable of holding hazardous waste. Furthermore, polymer drums with a tight head are sealed at the top and bottom. Except for one or two specific apertures designed to funnel liquids in and out, they are entirely sealed. These tiny gaps are themselves closed off using a bung or other sturdy stopper. Tight-head polymer drums are frequently considered to be more secure than open-head polymer drums since they are sealed. They are produced in a smaller range of capacities.
The plastic drums market size projections:

Year	Market Size (USD Billion)
2024	4.6
2025	4.7
2035	6.6
CAGR (2025-35)	3.50%

Due to the need for simple funneling of the contents in to and out of the drum, tight-head drums are ideal for the storage and transportation of liquids. They are useful for liquids like oils, big volumes of beverages, and others. Drums with tight heads offer more protection for liquids than those with open heads. Open-head polymer drums are excellent for storing semi-solids, powders, and thick liquids since the lid may be removed for considerably simpler access to the contents. An open-head drum is frequently used to store food, but it can also be used to store chemicals or hazardous waste.

Market overview of Toy industry.

A toy is defined as an object that is used for the purpose of entertainment. The secondary application of toys is learning, especially cognitive skills at an early stage. While traditionally, toys are often associated with infants and young children, the modern toy industry also supplies toys meant for older children or young adults above the age of 18 years. Toys have a long-standing history in terms of playing objects. In previous times, toys were made of hard materials such as wood and they were long-lasting. However, with the introduction of new and lightweight materials, the industry has undergone significant change.

Additionally, market players continue to introduce new types of toys in the market. Some of them are more scientifically designed while others appear simple in terms of shape and playing tactics; however, exposure to such toys at an early stage can help accelerate a child's learning or understanding curve. Furthermore, toys have been distributed depending on the gender that prefers specific toys. For instance, dolls are most associated with girl children. Conversely, with the growing trend of gender-neutral parenting, these distinctions are slowly fading away thus creating higher growth opportunities for toy designers and manufacturers.

Toy Market: Growth Drivers

Growing number of online toy sellers to drive market growth

The global toy market is projected to grow owing to the increasing number of toy sellers that are leveraging the extensive consumer reach of online sales platforms. This trend has two aspects. Either toy manufacturers and sellers are launching brand-owned websites, or they are collaborating with existing companies in the global e-commerce segment and using their supply chain network to reach potential customers. While online sales are better for companies since they do not have to invest in constructing a physical commercial facility, digital platforms are also beneficial to customers. The increase in online sales has surged to an unprecedented level since COVID-19. It offers benefits such as access to more options, discounted prices, doorstep delivery, and excellent customer service.

Increasing the use of simple and complex toys at schools to facilitate learning may drive market revenue

Toys, traditionally considered as entertainment mediums, have been reinvented in recent times. While entertainment remains a key aspect, they are also considered crucial objects that help children improve their learning trajectory while making the entire process more fun and engaging. Several preschools and educational facilities for young children have been using simple and complex toys to help the children learn

new topics such as problem-solving, creativity, social skills, language development, and physical dexterity.

Market overview Drone Parts & Composites

The drone industry is rapidly expanding, driven by advancements in technology, increasing applications across various sectors, and the growing demand for lightweight, durable, and high-performance materials. Plastic molding and composite materials play a critical role in the manufacturing of drone parts, offering benefits such as weight reduction, strength, and design flexibility. Below is an overview of drone parts and composites, including their applications, materials, and market trends.

Key Drone Parts Made from Plastics and Composites

Frame and Body	Camera Mounts and Gimbals
Propellers	Electronic Enclosures
Motor Housings	Aerodynamic Covers
Landing Gear	Battery Housings

Materials Used in Drone Parts

1) Carbon Fiber Composites, 2) Glass Fiber-Reinforced Plastics (GFRP), 3) Thermoplastics, 4) Aluminum Composites.

Note- The drone industry's reliance on plastic molding and composite materials is driving innovation and growth in the materials sector. Lightweight, durable, and high-performance materials like carbon fiber composites and advanced thermoplastics are critical for meeting the demands of modern drone applications. As the industry continues to evolve, sustainability, additive manufacturing, and material innovation will play key roles in shaping its future.

Market overview of Automotive parts.

The automotive plastics market refers to a wide range of polymer materials used in the automotive industry for various vehicle components and parts. These materials offer many advantages over traditional materials like glass and metal, including lighter weight, improved efficiency, improved design flexibility, and corrosion resistance. The benefits of automotive plastics include delivering more design flexibility for circularity and durability, support for reliable and safe vehicle operation, offering greater styling, improving fuel efficiency, meeting performance goals, cost savings, enhancing design freedom, and reducing weight. These benefits help to the growth of the market

Automotive plastics are highly sought-after in passenger car applications because of their lightweight nature. The market in this region is expanding as a result of the high

levels of automotive production in China, Japan, and India as well as the growing use of automotive plastics. Polypropylene (PP) automotive plastics are in high demand in India.

The global automotive plastics market size was estimated at USD 32.24 billion in 2024 and is predicted to increase from USD 34.05 billion in 2025 to approximately USD 55.50 billion by 2034, expanding at a CAGR of 5.58% from 2025 to 2034.

The automotive plastic industry in India is undergoing a significant transformation, leveraging advancements in AI. This sector, vital for manufacturing lightweight and durable components, has embraced AI to enhance efficiency and product quality. AI-driven automation streamlines production processes, reducing costs and time.

5. Growth Opportunities in different sector

Plastic molding, particularly injection molding, offers significant growth opportunities across various sectors due to its versatility, cost-effectiveness, and ability to produce high-quality, complex parts. Below are the growth opportunities in key sectors:

Aerospace Industry	**Opportunities:** ➢ Lightweight Components: Plastic molding helps reduce the weight of aircraft and defense equipment, improving fuel efficiency and performance. ➢ High-Performance Materials: Use of engineering plastics and composites for components that require high strength, heat resistance, and durability. ➢ Complex Geometries: Plastic molding can produce intricate parts with tight tolerances, essential for aerospace applications.
Industrial and Machinery	**Opportunities:** ➢ Machine Components: Plastic molding is used to produce gears, bearings, housings, and other machine parts that require high precision and durability. ➢ Automation and Robotics: The rise of automation and robotics in manufacturing creates demand for lightweight, high-performance plastic components. ➢ Wear-Resistant Parts: Engineering plastics are used for parts that require resistance to wear, chemicals, and extreme temperatures.
Healthcare and Pharmaceutical	**Opportunities:** ➢ Precision Components: Plastic molding is ideal for producing high-precision medical devices, such as syringes, IV components, surgical instruments, and diagnostic equipment. ➢ Sterilization Compatibility: Plastics used in molding can withstand sterilization processes, making them suitable for medical applications. ➢ Disposable Medical Products: Increasing demand for single-use, hygienic medical products like gloves, masks, and test kits. ➢ Custom Implants and Prosthetics: Advanced molding techniques enable the production of patient-specific implants and prosthetics.
Consumer Goods	**Opportunities:** ➢ Electronics Housings: Plastic molding is widely used to produce casings for smartphones, laptops, home appliances, and other electronic devices.

	➢ Toys and Games: The toy industry relies heavily on injection molding for producing durable, safe, and cost-effective toys. ➢ Household Products: Items like storage containers, kitchenware, and furniture components are often made using plastic molding. ➢ Customization and Aesthetics: Plastic molding allows for vibrant colors, textures, and designs, enhancing product appeal.
Automotive Industry	**Opportunities:** ➢ Lightweight Components: The shift toward lightweight materials to improve fuel efficiency and reduce emissions in traditional and electric vehicles (EVs) is driving demand for plastic-molded parts. ➢ Electric Vehicles (EVs): EVs require specialized components like battery housings, connectors, and interior parts, which can be efficiently produced using plastic molding. ➢ Customization: Plastic molding allows for the production of customized and intricate parts, such as dashboards, door panels, and grilles. ➢ Sustainability: Use of recycled and bio-based plastics aligns with the automotive industry's sustainability goals..
Renewable Energy	**Opportunities**: ➢ Wind Energy: Plastic molding is used to produce lightweight, durable components for wind turbines, such as blades and housings. ➢ Solar Energy: Plastic components are used in solar panel frames, connectors, and mounting systems. ➢ Energy Storage: Plastic molding is employed in the production of battery casings and components for energy storage systems.
Construction and Infrastructure	➢ Plumbing and Piping: Plastic-molded pipes, fittings, and valves are widely used in construction due to their durability and corrosion resistance. ➢ Insulation Materials: Plastic molding is used to produce insulation components for buildings and infrastructure. ➢ Modular Construction: Prefabricated plastic components for modular construction projects are gaining traction. ➢ Sustainable Building Materials: Development of recycled and eco-friendly plastic materials for construction applications

6. Supply Chain Analysis

Plastic is one of the most widely used materials in the world, and its production requires the use of a variety of raw materials. The primary raw materials used in plastic production include petroleum, natural gas, coal, and biomass.

However, the production of plastic can have significant environmental impacts, such as the release of greenhouse gases, and can also have social implications, such as the displacement of communities due to the extraction of raw materials.

Therefore, it is essential to understand the role of raw materials and supply chain management in plastic manufacturing.

Sustainable sourcing of raw materials:

One way to address plastic production's environmental and social impacts is to ensure that raw materials are sourced sustainably. This means sourcing raw materials from suppliers who operate environmentally and socially responsibly. This includes suppliers who minimize their environmental impact, respect local communities' rights, and promote fair labor practices.

Tracking the environmental impact of raw materials:

Another critical consideration in raw materials and supply chain management is the environmental impact of raw materials. Tracking the environmental impact of raw materials throughout the supply chain can help identify areas for improvement and reduce the overall environmental impact of plastic production.

Reducing waste in the supply chain:

Reducing waste in the supply chain is another important consideration in raw materials and supply chain management. This can include measures such as reducing packaging, improving transportation efficiency, and minimizing energy consumption in production processes.

Building resilient supply chains is also critical to the success of plastic manufacturing. This includes building relationships with reliable suppliers, diversifying suppliers, and having contingency plans to address supply chain disruptions.

Developing sustainable alternatives:

Finally, developing sustainable alternatives to traditional raw materials is another critical consideration in raw materials and supply chain management. This includes exploring the use of renewable resources, such as bioplastics and plant-based materials, as well as exploring new production processes that reduce the reliance on traditional raw materials.

Innovations in Plastic Manufacturing Equipment

Innovations in plastic manufacturing equipment have played a significant role in the growth and evolution of the plastics industry. These innovations have led to more efficient and cost-effective processes, increased productivity, and improved product quality.

Here are some of the latest innovations in plastic manufacturing equipment:

3D Printing: 3D printing technology has revolutionized the way plastic products are designed and manufactured. This technology uses a computer-controlled process to build plastic products layer by layer, allowing for highly complex shapes and geometries.

3D printing has the potential to reduce waste and energy consumption in the manufacturing process, as it allows for precise control of material usage.

Injection Molding: Injection molding is a widely used process for manufacturing plastic products. Recent innovations in this process have focused on improving energy efficiency, reducing material waste, and increasing production speed.

One such innovation is the use of electric injection molding machines, which use less energy than traditional hydraulic machines.

Blow Molding: Blow molding is a process used to create hollow plastic parts, such as bottles and containers. Recent innovations in this process have focused on reducing material waste and improving energy efficiency.

One such innovation is the use of lightweight materials, which reduces the amount of plastic needed to create each product.

Extrusion: Extrusion is a process used to create long, continuous plastic products, such as tubing and pipes. Recent innovations in this process have focused on improving the precision and consistency of the extruded product, as well as reducing energy consumption and material waste**.**

Automation: Automation is increasingly being used in plastic manufacturing to improve efficiency, reduce costs, and improve safety. Automated equipment can perform dangerous or difficult tasks for humans, such as handling hot materials or working in hazardous environments**.**Robotics is being used to automate various tasks in plastic manufacturing, including injection molding, blow molding, and extrusion.

Smart Manufacturing: Smart manufacturing is the use of advanced technologies, such as artificial intelligence and the Internet of Things (IoT), to improve the efficiency and productivity of manufacturing processes. In plastic manufacturing, smart manufacturing can be used to monitor and optimize the entire production process, from raw material sourcing to product delivery.

Recycling Equipment: Recycling is an essential aspect of sustainable plastic manufacturing. Recent innovations in recycling equipment have focused on increasing the efficiency and effectiveness of plastic recycling.

This includes the development of new recycling technologies, such as chemical recycling, as well as the improvement of existing technologies, such as mechanical recycling.

Labor and Workforce Management in Plastic Manufacturing

Plastic manufacturing is a complex process that requires skilled and efficient labor. The success of a plastic manufacturing plant depends on the productivity and performance of its workforce. Labor and workforce management are critical factors that influence a plastic manufacturing plant's production output, quality, and profitability.

This section will discuss the importance of labor and workforce management in plastic manufacturing and the strategies to optimize workforce productivity and efficiency.

Importance of Labor and Workforce Management in Plastic Manufacturing:

- Labor is one of the most significant cost factors in plastic manufacturing, and effective workforce management can improve cost efficiency.
- Proper labor management ensures compliance with labor laws and regulations, reduces the risk of accidents, and promotes a safe working environment.
- An efficient workforce management system ensures optimal allocation of resources, reduces production downtime, and minimizes labor turnover rate.
- Proper training and development of employees can enhance their skills and knowledge, increase job satisfaction, and boost morale and motivation.
- Labor and workforce management can affect the company's reputation and branding and the relationship with customers, suppliers, and stakeholders

Strategies for Optimizing Workforce Productivity and Efficiency in Plastic Manufacturing:

- Conducting a job analysis to identify the required skills and competencies for each job role and define the job description and duties.
- Implementing a performance management system that includes goal setting, feedback, and reward mechanisms to motivate and engage employees.
- Providing regular training and development opportunities to enhance employees' technical, soft, and leadership skills.
- Ensuring a safe and healthy working environment by complying with safety regulations, providing personal protective equipment, and conducting safety training.
- Encouraging teamwork, collaboration, and communication among employees fosters a positive working environment and enhances productivity and creativity.

- Implementing a fair and competitive compensation and benefits system that reflects the employees' performance and contribution.
- Monitoring and evaluating workforce performance and productivity regularly using key performance indicators (KPIs) and metrics to identify areas for improvement and optimization.
- Encouraging innovation and continuous improvement by involving employees in problem-solving, process improvement, and new product development.

Challenges and Solutions in Labor and Workforce Management in Plastic Manufacturing:

- Attracting and retaining skilled and experienced labor is a significant challenge in plastic manufacturing due to the highly competitive labor market and the perception of the industry as low-skilled and labor-intensive.
- Solutions to this challenge include investing in employee development and training, offering competitive compensation and benefits packages, and creating a positive and supportive working environment.
- Another challenge is managing employee diversity and cultural differences, which can affect communication, collaboration, and teamwork.
- Solutions to this challenge include promoting cultural awareness and sensitivity, providing language training and translation services, and encouraging diversity and inclusion in the workplace.
- Ensuring compliance with labor laws and regulations is another challenge in plastic manufacturing, as the industry is subject to various labor and safety regulations and standards.
- Solutions to this challenge include conducting regular audits and inspections, providing safety training and personal protective equipment, and implementing a robust safety management system.

Design and Engineering Considerations in Plastic Manufacturing.

Product Design: The first step in plastic manufacturing is the design of the product. The design should consider the product's function, the intended audience, and any specific requirements of the manufacturing process.

The design must be optimized for the production process to ensure the product can be produced efficiently and cheaply. The design should also consider the product's environmental impact, such as its recyclability or biodegradability.

Material Selection: The selection of materials is critical in plastic manufacturing. The choice of material will impact the product's properties, such as strength, flexibility, and durability.

The material should be selected based on its intended use, and the manufacturing process must be able to work with the chosen material. It is crucial to consider the environmental impact of the material as well, including its carbon footprint and its potential for recycling or biodegradation.

Mold Design: Mold design is a crucial factor in plastic manufacturing. The mold must be designed to produce the desired shape and dimensions of the product. The mold should be made of a durable material that can withstand the rigors of the manufacturing process, and it should be designed to allow for efficient production.

The mold should also be designed to minimize waste and reduce the amount of material needed.

Tooling: Tooling is an essential consideration in plastic manufacturing. The tools used in the manufacturing process must be designed to produce the desired shape and dimensions of the product.

The tools must be made of durable materials that can withstand the manufacturing process and should be designed to minimize waste and reduce the amount of material needed.

Production Process: The production process is critical in plastic manufacturing. The process must be designed to produce high-quality products efficiently and at a low cost.

The process should be designed to minimize waste and reduce the amount of material needed. The process should also be designed with safety in mind, and appropriate safety measures must be put in place to protect workers and equipment.

Quality Control: Quality control is essential in plastic manufacturing. The manufacturing process must be designed to produce consistent, high-quality products. Quality control measures should be put in place at every stage of the manufacturing process, from material selection to production to final inspection.

The quality control process should be designed to identify and correct any defects or issues in the manufacturing process.

Automation: Automation is an increasingly important consideration in plastic manufacturing. Automation can increase production efficiency and reduce costs. Automation can be used to perform repetitive tasks, such as assembly or packaging, and can also be used to monitor and control the manufacturing process.

Automation can also help to improve safety by reducing the need for manual labor in hazardous areas.

Sustainability: Sustainability is an essential consideration in plastic manufacturing. The manufacturing process should be designed to minimize waste and reduce the product's environmental impact.

This can include using recycled materials, designing products for recyclability or biodegradability, and reducing the carbon footprint of the manufacturing process.

Energy Efficiency and Sustainability in Plastic Manufacturing

Plastic manufacturing is a major contributor to energy consumption and greenhouse gas emissions. As the world becomes more focused on sustainability, the plastic manufacturing industry needs to prioritize energy efficiency and sustainability in its operations.

Here are some ways the industry can do this:

Adopting renewable energy sources: The use of renewable energy sources such as solar, wind, and hydro can greatly reduce the industry's reliance on non-renewable energy sources like fossil fuels, thereby reducing their carbon footprint.

Upgrading equipment: Updating and maintaining equipment can increase energy efficiency by reducing energy waste and increasing productivity. Energy-efficient machinery can also reduce operating costs and improve the bottom line.

Waste reduction and recycling: The implementation of waste reduction and recycling programs can significantly reduce the amount of plastic waste that ends up in landfills or oceans, thereby reducing the industry's carbon footprint.

Lean manufacturing: Adopting lean manufacturing practices can improve production efficiency and reduce waste, which in turn reduces energy consumption and greenhouse gas emissions.

Life cycle analysis: Conducting a life cycle analysis of plastic products can help identify areas where energy efficiency and sustainability can be improved, such as in the manufacturing, use, and disposal of the product.

Collaborating with suppliers and customers: Working with suppliers and customers to identify and implement sustainable practices throughout the supply chain can also help reduce energy consumption and greenhouse gas emissions.

Monitoring and reporting: Regular monitoring and reporting of energy consumption and greenhouse gas emissions can help identify areas for improvement and track progress toward sustainability goals

Quality Control and Assurance in Plastic Manufacturing

Quality control and assurance are essential in the plastic manufacturing industry to ensure that products meet the required specifications and are of good quality. Quality control and assurance help to prevent defects, reduce waste, and improve overall efficiency.

Here are some points that explain the importance of quality control and assurance in plastic manufacturing:

Ensuring compliance with regulations and standards: Quality control and assurance in plastic manufacturing help ensure that products comply with regulatory requirements and industry standards.

Regulatory compliance is essential to ensure product safety and prevent legal issues, while adherence to industry standards ensures consistent quality and reliability.

Reducing defects and waste: Defects in plastic manufacturing can result in significant time, money, and resource losses. Quality control and assurance processes can help identify defects early in production, preventing further processing of defective products and reducing waste.

Improving customer satisfaction: Quality products lead to satisfied customers. Quality control and assurance processes ensure that products meet or exceed customer expectations, resulting in increased customer satisfaction and loyalty.

Enhancing brand reputation: Manufacturers that prioritize quality control and assurance in their operations can build a positive reputation for their brand. A good reputation attracts more customers and increases the likelihood of repeat business.

Increasing production efficiency: Quality control and assurance processes can help identify inefficiencies in the production process, leading to improvements in productivity and efficiency. This, in turn, can reduce production costs and lead to higher profits.

Improving supplier relationships: Quality control and assurance in plastic manufacturing can help build better relationships with suppliers. By ensuring that suppliers provide high-quality materials, manufacturers can reduce the risk of defects and improve the overall quality of their products.

Maintaining product consistency: Quality control and assurance processes can help maintain product consistency, ensuring that products are of the same quality every time they are produced. This is essential for building customer trust and brand loyalty.

Implementing continuous improvement: Quality control and assurance processes are not static but rather involve continuous improvement efforts. By analyzing quality data and identifying areas for improvement, manufacturers can make changes to improve quality and efficiency in their operations.

Raw Materials

The plastic molding industry relies on a variety of raw materials to produce a wide range of products. These materials are selected based on the desired properties of the final product, such as strength, flexibility, durability, heat resistance, and cost. Below is a detailed list of the raw materials commonly used in the plastic molding industry, categorized by their type and applications:

Thermoplastics

Thermoplastics are the most widely used raw materials in plastic molding. They can be melted, reshaped, and recycled multiple times without significant degradation.

Common Thermoplastics - Polyethylene (PE), Polypropylene (PP), Polyvinyl Chloride (PVC), Polystyrene (PS), Polyethylene Terephthalate (PET), Acrylonitrile Butadiene Styrene (ABS), Polycarbonate (PC), Nylon (Polyamide, PA) and Thermoplastic Polyurethane (TPU).

Thermosetting Plastics

Thermosetting plastics are cured through a chemical reaction and cannot be remelted or reshaped after curing. They are known for their high strength and heat resistance.

Common Thermosetting Plastics - Epoxy Resins, Phenolic Resins, Polyurethane (PU), Melamine Formaldehyde, Unsaturated Polyester Resins.

Elastomers (Rubber-like Materials)

Elastomers are used for their flexibility and elasticity, making them ideal for applications requiring durability and resilience.

Common Elastomers (Rubber-like Materials) - Silicone Rubber, Ethylene Propylene Diene Monomer (EPDM), Natural Rubber, Styrene-Butadiene Rubber (SBR)

Composites:

Composites are materials made by combining two or more materials with different properties to achieve superior performance.

Common composite - Fiber-Reinforced Plastics (FRP, Sheet Molding Compound (SMC), Bulk Molding Compound (BMC).

Additives and Fillers

Additives and fillers are mixed with base polymers to enhance their properties or reduce costs.

Common Additives and Fillers – Plasticizers, Stabilizers, Colorants, Reinforcing Fillers, Antioxidants, Lubricants

---

Recycled Plastics

Recycled plastics are increasingly used in the plastic molding industry to promote sustainability and reduce costs.

Common Recycled Plastics - Recycled PET, Recycled HDPE, Recycled PP

Bioplastics.

Bioplastics are derived from renewable sources and are biodegradable or compostable, making them environmentally friendly alternatives.

Common Bioplastics - Polylactic Acid (PLA), Polyhydroxyalkanoates (PHA), Starch-Based Plastics.

Raw material suppliers.

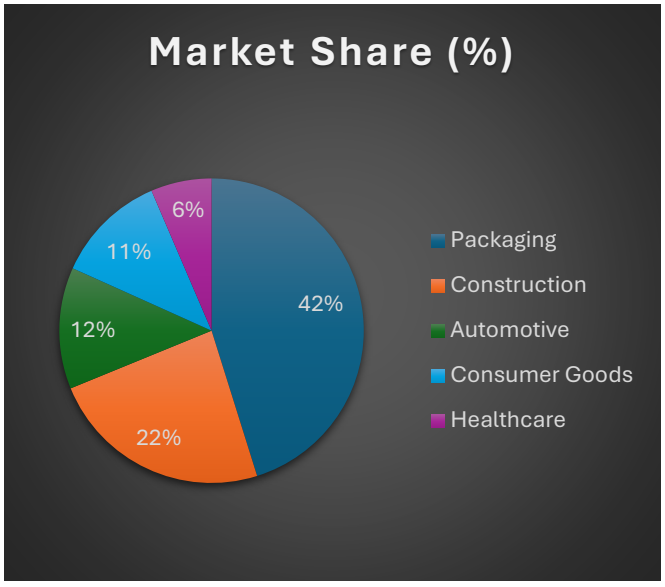
Reliance Industries Limited	Ciba India Limited	Apollo Tyres
GAIL (India) Limited:	Atul Limited	LANXESS India Private Limited
Indian Oil Corporation Limited (IOCL)	Sakshi Chem Sciences Private Limited	Reliance Sibur Elastomers Private Limited
Haldia Petrochemicals Limited	Clariant India Limited	Toray Industries India Private Limited
Dhunseri Petrochem & Tea Limited	BASF India Limited	Jushi India
Dalmia Polypro Industries	Adeka India Private Limited	Shakti Plastics Industries:
Gharda Chemicals Limited	Ensinger India	Quadrant Engineering Plastics India

7. Market Overview: Global Market Size and Growth Rate

As of 2024, the global plastic industry continues to evolve, driven by sustainability trends, technological advancements, and increasing demand across various sectors. Below is the latest data and insights for the global plastic industry as of 2024

- Market Size: The global plastic market is valued at approximately $650-700 billion in 2024.
- Volume: Global plastic production is estimated at 450-470 million metric tons in 2024.
- Growth Rate: The industry is growing at a CAGR of 4-5%, with projections to reach $850-900 billion by 2030.

Key Segments of the Global Plastic Industry (2024)



Segment	Market Share (%)
Packaging	42%
Construction	22%
Automotive	12%
Consumer Goods	11%
Healthcare	6%
Agriculture	4%
Others	3%
Total Share 100%	

India exports plastic to more than 200 countries in the world. The top five consumer and houseware product importing countries are the USA, Germany Japan, the UK, and France. India largely exports plastic and related products to the USA, China, the UAE, the UK, Germany, Italy, Bangladesh, etc.

COVID-19 IMPACT

Increased Growth in Food & Beverage Sector During Pandemic Accelerated Market Growth

The sudden outbreak of the pandemic negatively impacted the global market. The major hindrance for all industries, including packaging, was the shutdown of manufacturing units and stores and the shortage of raw materials. The pandemic positively impacted the pharmaceutical industry as there was increasing demand for medicines and vaccines. The rigid plastic packaging helped safely transport fragile medical equipment, consumer goods, and medicines. The food & beverage industry experienced moderate growth as retail stores were allowed to open for the necessary goods. All other major industries saw negative impacts. However, post-pandemic, the re-opening of the manufacturing units and other industries thrived in market growth.

RIGID PLASTIC PACKAGING MARKET GROWTH FACTORS

Recyclability of Plastic Material Boosts Market Growth

Plastic is considered to be an unsustainable and non-environmental-friendly material. The governments of many nations have banned the use of plastic or advised to curb its usage and focus on more clean and low-impact packaging material. Innovation in the technologies and adoption of recyclable material is one of the primary factors contributing to market growth. According to research by the Organization for Economic Co-operation and Development, innovation for reusable plastic increased by 23% between 1970 and 2017. At the same time, innovation for repairing plastic has been raised by 12%.

Plastic takes hundreds of years to decompose completely, and according to the Environmental Protection Agency of the U.S., the municipal solid waste of PET in the U.S. in 2012 was 4.1 million tons, and only 31% was recycled. Due to these factors, the demand for bioplastic is increasing. Bioplastic is compostable plastic derived from natural materials or petroleum plastic products that are degradable. The augmenting demand for bio-based PE, PET, PP, and other materials is fueling the market growth.

8. *Indian present market scenario*

The Indian plastic industry is one of the fastest-growing sectors in the country, driven by increasing demand across various end-use industries such as: -

Paint Industry: The Indian paint market, a dynamic and competitive industry, is projected to achieve a CAGR of 9.38% from 2023 to 2028. This growth is attributed to factors such as increasing urbanisation, rising disposable incomes and a growing demand for both aesthetic and protective coatings. The total market share can be distinguished between decorative paints and industrial paints, each holding 75% and 25% of the market share respectively. With the Indian paints industry being fiercely competitive, it is essential for key players to focus on strategies such as innovation, product differentiation, low-cost packaging and market expansion to stay ahead of the curve. Further, the companies are increasingly exploring new markets to sustain their positions.

FMCG Industry: The Indian FMCG industry experienced a noteworthy 6% growth in value during Q4 FY2024, primarily attributed to a 6.4% increase in volume. This surge in volume indicates positive consumption patterns and robust demand for FMCG nationwide. Further, the FMCG industry is expected to garner a value growth of 4.5% to 6.5% in 2024. On the backdrop of a robust economy, coupled with increased consumer spending and advent of technological advancement, the Indian FMCG industry is poised for further expansion. The consumption gap between urban and rural markets are steadily narrowing down with rural areas witnessing 5.8% growth, closely approaching the 6.8% growth rate of urban areas.

Agrochemical: The Indian agrochemicals sector is witnessing a resurgence after experiencing a subdued growth during pandemic. As of 2024, the domestic agrochemicals market stands at an estimated $8.22 billion and is poised to reach $13.08 billion by 2029, demonstrating a CAGR of 4% between 2024 and 2029. As reported by the Federation of Indian Chambers of Commerce and Industry (FICCI), the Indian government recognises the pivotal role of the agrochemical industry, identifying it as one of the top 12 sectors to attain global leadership, with a projected growth rate of 8-10% through 2025. India currently holds the position of being the world's fourth largest producer of agrochemicals and the 12th largest exporter of chemicals.

Lubricants The Indian Lubricants Market Size is estimated at 2.87 billion litres in 2024 and is expected to reach 3.15 billion litres by 2026, growing at a CAGR of 4.76% between 2024 and 2026. Industrial lubricants form a protective film between moving parts, reducing friction and wear. It facilitates smooth and efficient movement and reduces the frequency of repairs and maintenance. Industrial lubricants play a vital role in various end use industries, finding application in engines, transmissions, differentials and various other components.

Food and Beverages Industry India' food and beverage industry, segregated into several segments and sub-segments, is one of the largest and fastest growing sectors in the country. The sub-segments of the industry include dairy products, confectionary, frozen foods, convenience foods, processed fruits and vegetables, alcoholic and non-alcoholic beverages, among others. The sector accounts for 27% of the share in the D2C (direct-to-consumer) space. While the industry generates 3% of the GDP, it accounts for around two-thirds of India's overall retail market. It has been observed that the industry revitalised upon the entry of startups offering innovative product ranges. The industry supports the livelihood of more than 7.3 Mn people, making it the single-largest employment space in India. It also functions as a growth engine for various other segments of the economy such as retail, transportation, agriculture and hospitality services. Looking forward, the industry is anticipated to reach almost USD 504.92 billion by 2027.

Chemical Industry Globally, the chemical industry is a colossal market, valued at approximately USD 4.73 trillion, within which Asia holds a dominant position, particularly India. The Indian chemical industry is highly diversified, incorporating production of nearly 80,000 commercial products. Broadly classified into bulk chemicals, specialty chemicals, agrochemicals, petrochemicals, polymers and fertilizers, the Indian industry stands at a market size of USD 178 Bn. It ranks 11th in the World Exports of Chemicals and 6th in the world Imports of Chemicals, excluding

pharmaceutical products. The industry provides employment to more than 2 million. In terms of size, the Indian Chemical Industry ranks at 6th in the world and 4th in Asia. The industry also observes 100% FDI through the automatic route, except in the case of hazardous chemicals. As India aims to become the third largest economy by 2030, the chemicals sector will play a crucial role in facilitating the growth of the country.

Toy The Indian toy industry is at a pivotal stage, with significant growth potential driven by government initiatives, changing consumer preferences, and a focus on domestic manufacturing. By addressing challenges like quality control, innovation, and infrastructure, India can position itself as a global leader in the toy industry while catering to the evolving needs of its domestic market.

9. Swot Analysis

Strength	Weakness
✓ Versatility and Flexibility: Plastic molding can produce a wide range of products, from small, intricate components to large, complex parts, catering to diverse industries like automotive, healthcare, and consumer goods. ✓ Cost-Effectiveness: High-volume production with low per-unit costs makes plastic molding an economical choice for manufacturers. ✓ Material Variety: The industry can work with a wide range of materials, including thermoplastics, engineering plastics, and biodegradable polymers, offering flexibility in design and application. ✓ High Precision and Consistency: Advanced molding techniques ensure high precision, tight tolerances, and consistent quality, which are critical for industries like healthcare and aerospace. ✓ Automation and Scalability: Integration of automation and Industry 4.0 technologies allows for efficient, scalable production processes. ✓ Lightweight and Durable Products: Plastic-molded parts are lightweight yet durable, making them ideal for industries like automotive and aerospace, where weight reduction is crucial	× Environmental Concerns: The industry faces criticism for its reliance on petroleum-based plastics, which contribute to environmental pollution and waste. × Dependence on Raw Materials: Fluctuations in the prices of raw materials like crude oil can impact production costs and profitability. × High Initial Investment: Setting up plastic molding facilities requires significant capital investment in machinery, molds, and technology. × Skilled Labor Shortage: The industry requires skilled workers for design, operation, and maintenance, but there is a shortage of trained professionals. × Limited Material Recycling: Not all plastics are easily recyclable, leading to challenges in meeting sustainability goals.

Opportunity

- Sustainability Trends: Growing demand for biodegradable, recycled, and eco-friendly plastics creates opportunities for innovation and market expansion.
- Electric Vehicles (EVs): The rise of EVs increases demand for lightweight, durable plastic components like battery housings, connectors, and interior parts.
- Healthcare and Medical Devices: The healthcare sector's need for sterile, precision components (e.g., syringes, surgical instruments) offers significant growth potential.
- Advanced Technologies: Adoption of Industry 4.0 technologies like IoT, AI, and robotics can enhance efficiency, reduce waste, and improve product quality.
- Emerging Markets: Rapid industrialization in regions like Asia-Pacific, Latin America, and Africa presents new growth opportunities.
- Customization and Personalization: Increasing demand for customized products in industries like consumer goods and healthcare drives innovation in plastic molding.
- 3D Printing Integration: Combining plastic molding with 3D printing for prototyping and low-volume production opens new avenues for innovation.

Threat

- Environmental Regulations: Stricter regulations on plastic waste, single-use plastics, and recycling could increase compliance costs and limit market growth.
- Competition from Alternative Materials: Materials like metals, composites, and glass are increasingly being used as alternatives to plastics in certain applications.
- Economic Downturns: Economic recessions or slowdowns can reduce demand for plastic-molded products, particularly in industries like automotive and consumer goods.
- Supply Chain Disruptions: Dependence on global supply chains for raw materials and components makes the industry vulnerable to disruptions, as seen during the COVID-19 pandemic.
- Technological Disruption: Emerging technologies like additive manufacturing (3D printing) could disrupt traditional plastic molding processes, especially for low-volume production.
- Public Perception: Negative public perception of plastics due to environmental concerns could lead to reduced demand and stricter regulations.

10. Long-Term Prospects

The long-term prospects of the plastic molding industry are promising, driven by technological advancements, evolving consumer demands, and the need for sustainable solutions. However, the industry must navigate challenges such as environmental concerns and regulatory pressures to fully capitalize on these opportunities. Below is an analysis of the long-term outlook for the plastic molding industry:

Sustainability and Circular Economy

- Biodegradable and Recycled Plastics: The industry is expected to shift toward biodegradable, compostable, and recycled plastics to meet global sustainability goals and reduce environmental impact.
- Circular Economy Models: Companies will increasingly adopt circular economy practices, focusing on recycling, reusing, and reducing plastic waste throughout the product lifecycle.
- Regulatory Compliance: Stricter regulations on single-use plastics and waste management will drive innovation in eco-friendly materials and processes.

Developments in Technology

- Industry 4.0 Integration**:** The adoption of IoT, AI, robotics, and automation will enhance efficiency, reduce waste, and improve product quality in plastic molding processes.
- 3D Printing and Additive Manufacturing**:** These technologies will complement traditional plastic molding, particularly for prototyping, customization, and low-volume production.
- Smart Manufacturing**:** Real-time monitoring, predictive maintenance, and data-driven decision-making will become standard practices, improving productivity and reducing downtime

Growth in Developing Markets

- **Automotive:** The shift toward electric vehicles (EVs) and lightweight materials will drive demand for plastic-molded components like battery housings, interior parts, and connectors.
- **Healthcare:** Increasing demand for medical devices, disposable products, and patient-specific implants will create significant growth opportunities.
- **Packaging:** The need for sustainable, lightweight, and durable packaging solutions will continue to fuel demand for plastic molding.
- **Consumer Goods:** The rise of smart devices, IoT products, and customized consumer goods will boost the industry.

Material Innovation

- Engineering Plastics: High-performance materials like polycarbonate, ABS, and nylon will gain traction for applications requiring strength, durability, and heat resistance.
- Bio-Based Plastics: Development of plastics derived from renewable sources (e.g., corn, sugarcane) will reduce reliance on petroleum-based materials.
- Nanocomposites: The use of nanomaterials to enhance the properties of plastics (e.g., strength, conductivity) will open new possibilities for advanced applications

Customization and Personalization

- Mass Customization: Advances in molding technologies will enable cost-effective production of customized products tailored to individual preferences.

- On-Demand Manufacturing: The ability to produce small batches of specialized components will cater to niche markets and reduce inventory costs

Environmental and Regulatory Challenges

- Plastic Waste Management: The industry will need to invest in recycling infrastructure and develop innovative solutions to address plastic waste.

- Carbon Footprint Reduction: Companies will focus on reducing energy consumption and emissions in manufacturing processes to meet sustainability targets.

- Regulatory Pressures: Compliance with global and regional regulations on plastic use, recycling, and waste management will be critical.

11. *Regulatory Environment:*

Below are the key aspects that should be included in the regulatory framework:

ISO20457:2018 Plastics molded parts—Tolerances and acceptance conditions	This study specifies possible manufacturing tolerances for plastic molded parts. This study specifies all integral features with general tolerances with surface profile tolerance within a specified datuum system. It allows for additional specifications in case of functional needs and requirements using the ISO-GPS-tools for dimensional and geometrical tolerating. This study addresses injection molding, injection compression molding, transfer molding, compression molding and rotational molding of non-porous molded parts made from thermoplastics, thermoplastic elastomers, and thermosets of Extrusion Moulding Compression Moulding, Blow Moulding. Injection Moulding Rotational Moulding, thermoplastics. This study is applicable to other plastic processes if agreed to by the contractual parties.
ISO294-5:2017 Plastics—Injection molding of test specimens of thermoplastic materials—Part5: Preparation of standard specimens for investigating anisotropy	specifies a mold (designated the type F ISO mold) for the injection molding of plates with a preferred size of 80mm×120 mm and a minimum size of 80mm×≥90 mm and with a preferred thickness of 2 mm for single-point and multi-point data acquisition.
ISO294-1:2017 Plastics—Injection molding of test specimens of thermos plastic materials—Part 1: General principles, and molding of multi- purpose and bar test specimens	This study specifies the general principles to be followed when injection molding test specimens of thermoplastic materials and gives details of Mold designs for preparing two types of specimens for use in acquiring reference data, i.e. type A1 and type B1 test specimens and provides a basis for establishing reproducible molding conditions. Its purpose is to provide consistent descriptions of the main parameters of the molding process and to establish a uniform practice in reporting molding conditions.

Guidelines for Disposal of Thermoset Plastic Waste including Sheet molding compound (SMC)/Fiber Reinforced Plastic (FRP)	The preferred option for disposal of thermoset plastic-SMC/FRP wastes is therefore co-processing in cement plants due to its high temperature (upto2000°C and long residence time). The producers of thermoset plastic, major user like industries, Electricity authority etc. in consultation with local authority, cement plants shall work out modalities for co-processing of such waste in cement kiln. •The producers of SMC/FRP, major user like industries, Electricity authority etc. shall assist the cement plants for establishment of required facilities for utilization of SMC/FRP like shredding, feeding system, safety measures as applicable for incineration, online emission monitoring for PM, SO2 and NOx, and stack monitoring of heavy metals, dioxin and furans based on Extended Producers Responsibility.
Food Safety and Standards (Packaging and labelling) Regulations, 2011	These regulations shall come into force on or after 5th August 2011 Containers made of plastic materials should conform to the following Indian Standards Specification, used as appliances or receptacles for packing or storing whether partly or wholly, food articles namely: IS:10146(Specification for Polyethylene in contact with foodstuffs) IS:10142 (Specification for Styrene Polymers in contact 116 with food stuff IS:10151(Specification for Polyvinyl Chloride (PVC), in contact with foodstuffs) IS:10910 (Specification for Polypropylene in contact with foodstuffs) IS:11434 (Specification for Ionomer Resins in contact with foodstuffs)

12. Competitive Landscape

Major Global Players

Name of the Company	Description
Mauser Packaging Solutions	Mauser Packaging Solutions is a global leader in solutions and services across the packaging lifecycle, providing large and small metal, plastic, fiber and hybrid packaging worldwide to companies in industries from food, beverage, personal care and pharmaceuticals to chemicals, petrochemicals, agrochemicals and paints.
Berry Global Inc.	Berry Global Group, Inc. is a Fortune 500 global manufacturer and marketer of plastic packaging products. Headquartered in Evansville, Indiana, it has over 265 facilities across the globe and more than 46,000 employees The company has three core divisions: (1) Health, Hygiene, and Specialties; (2) Consumer Packaging; and (3) Engineered Materials.[6] Berry claims to be the world's leader in manufactured aerosol caps and also provides one of the most extensive lines of container products. Berry has more than 2,500 clients, including firms as Sherwin-Williams, Borden, McDonald's, Burger King, Gillette, Procter & Gamble, Pepsi, Nestle, Coca-Cola, Wal-Mart, Kmart, and Hershey Foods.
Greif Inc.	Greif, Inc. is an American manufacturing company based in Delaware, Ohio. Originally a manufacturer of barrels, The company is now focused on producing industrial packaging and containers. In 2018, the company ranked 642 on the Fortune 1000. In the late 1990s, and early 2000s, Greif made a significant number of purchases of packaging and industrial businesses. Most notable among these was its purchase of the industrial packaging business of Finnish company Huhtamaeki Van Leer Oyj in 2000 for $620 million, which doubled the size of the company.

Indian Players:

Name of the Company	Description
Mitsu Chem Plast Ltd	Mitsu Chem Plast Limited (MCL) is a polymer-based molded products manufacturing company, engaged in the business of manufacturing and marketing plastic blow-molded and injection-molded products, and customized molding solutions.
Pyramid Technoplast Ltd	PTL is an industrial packaging company that manufactures polymer-based molded products. It specializes in rigid Intermediate Bulk Containers (IBCs), Polymer Drums, and Mild Steel Drums used by the chemical, agrochemical, specialty chemical, and pharmaceutical industries.
TPL Plastech Ltd	TPLPL is a part of Time Technoplast Ltd, which holds 75% stake in the company. It manufactures HDPE drum containers with container capacity of 20-250 litre, primarily used in bulk packaging of speciality chemicals, paints and inks,

	pharmaceutical products, and fast-moving consumer goods. Company also manufactures small packaging products with container capacity of 30ml to 10 litre.
Time Technoplast Ltd	The company holds a market share of over 55% in the domestic industrial packaging segment. It is the largest manufacturer of large-size plastic drums, the 2nd largest manufacturer of composite cylinders, and the 3rd largest manufacturer of Intermediate Bulk Containers (IBCs) globally. Additionally, it is the 2nd largest manufacturer of MOX film in India and a market leader in 9 out of the 11 countries where it operates.
Shaily Engineering Plastics Ltd	The Company is engaged in the manufacture and sale of injection moulded precision plastic components, sub-assemblies for various requirements of Original Equipment Manufacturers (OEM). It also offers secondary operations in plastics like vacuum metalizing, hot stamping, and ultrasonic welding. Its manufacturing facilities are at Savli and Halol, Vadodara, Gujarat. This segment includes the home furnishing and Toys business. The company has collaborated with Swedish Home Furnishings major. The company has also ventured in the Toys category with the addition of Toys major Spin Master.
Hitech Corporation Ltd	HCL is a part of Hitech Group of companies. It offers a wide range of rigid plastic packaging for industries such as paints and coatings, agrochemicals, personal care, home care, pharmaceuticals, food & beverage, oils and lubricants Company performs injection moulding, blow moulding, extrusion, production etc. in 12 manufacturing locations across India. Its in-house Design and Development Centre provides solutions from design to delivery of their products.
Mold-Tek Packaging Ltd	Mold-Tek Packaging is engaged in the manufacturing of injection-molded containers for lubes, paints, food and other products. Mold-Tek Packaging Limited (MTPL) is a leader in rigid plastic packaging in India. It manufactures injection molded containers for lubes, paints, food, and other products.
Jyoti Global Plast Ltd	Jyoti Global Plast offers a wide variety of blow and injection moulded products to diverse industries such as chemicals, pharmaceuticals, food packaging, Automobile, Defence, Aerospace, Paint, and other sectors. It is a leading plastic molding company specializing in the manufacturing of Packaging Containers, Auto Parts, Toys and Drone Parts & Composites.

Emerging Players and SMEs:

In addition to the major players, there are several small and medium-sized enterprises (SMEs) and regional players These SMEs are recognized for their expertise in plastics sectors:

Blow Plastics

Blow Plastics was established in 1987 to manufacture a wide range of regular plastic products and custom-made blow-moulded packaging with the highest possible quality.

Bhagyalaxmi Electroplast Private Limited

Bhagyalaxmi Industries (BLI) is a professionally managed ISO 9001, FDA & CE accredited company, with a global customer base for the supply of intricate plastic components, molds, and PPE products meeting the stringent specifications laid down by the White goods, Automobile, Electronics, Furniture, and other engineering industry.

CYPET Technologies India Private Limited:

CYPET Technologies LTD is an international manufacturer of innovative single stage Injection stretch blow-molding systems. CYPET machines transform PET resin directly into finished PET containers, such as bottles, jars, jerrycans, kegs and drums. CYPET's vision is to add value through innovation. CYPET is certified with ISO 9001:2015 and ISO 45001:2018.

Trimurti Plast Containers PVT. LTD.

We are a major manufacturer and supplier of a wide range of HDPE, LDPE, PP, PET Bottles, Jerry Cans, Pharmaceutical Bottles, Ice Packs, Cold Chain Equipment's, and other specialty items. To produce our products, we have the most up-to-date and advanced manufacturing facilities.

Jay Precision Products India Private Limited.

It provides solutions right from concept design and development to tooling and special-purpose machinery. The core competencies lie within R&D and providing turnkey solutions for complex products. In the 30 years of our formation, Jay Precision Products India Pvt Ltd has expanded and diversified substantially within the sector of manufacturing pharmaceutical devices, toys, precision-engineered components, special-purpose machines and LED luminaires under the guidance of the founder and MD, Mr Xerxes Rao.

13. Company's background

BRIEF SNAPSHOT OF ENTITY

Name	Jyoti Global Plast Limited
Year of Incorporation	06-01-2004
Constitution	Public Limited
Registered Office/Location of unit	R-554/555/556/558 TTC MIDC industrial area Rabale Navi Mumbai, Thane - 400701
Website	https://jyotiglobalplast.com
Email ID	info@jyotiglobalplast.com
Product/Services	Plastic Open Top Drum, Plastic Molded Jerry Cans, Narrow Open Mouth Drums, Wide mouth plastic jars, Small Plastic Containers, Plastic Pails bucket, Toys & Kids Furniture, Auto Parts etc.
PAN	AABCJ3617N
GST Number	27AABCJ3617N1ZC
CIN	U28129MH2004PLC143876
Nature of Business	Specialized in the manufacturing of Packaging Containers, Auto Parts, Toys and Drone Parts & Composites.
Industry	Plastic Industry
Key Promoters Name	➢ Bhawanji Khimji Shah ➢ Deven Bhawanji Shah ➢ Hiren Bhawanji Shah
Certifications / Awards	ISO 9000:2015 Company
Installed Capacity	7416 MT.PA

Product Line

Product	Specification
Full Open Top Drum	Material: High-density polyethylene (HDPE) or polypropylene (PP). Applications: Storage and transportation of liquids, powders, and granular materials in industries like chemicals, food, and agriculture.
Plastic Molded Jerry Cans,	Material: HDPE or LLDPE (linear low-density polyethylene). Applications: Storage and transportation of fuels, water, chemicals, and edible oils.
Narrow Open Mouth Drums,	Material: HDPE or PP. Applications: Storage of liquids, powders, and granules in industries like pharmaceuticals, food, and chemicals.
Wide mouth plastic jars,	HDPE, PP, or PET (polyethylene terephthalate). HDPE, PP, or PET (polyethylene terephthalate). Applications: Packaging of food products, cosmetics, pharmaceuticals, and household items.
Small Plastic Containers	Material: HDPE, PP, or PET. Applications: Storage of spices, sauces, medicines, and small industrial components.
Plastic Pails bucket	Material: HDPE or PP. Applications: Storage and transportation of paints, adhesives, food products, and cleaning supplies.
Toys & Kids Furniture	PP, ABS (acrylonitrile butadiene styrene), or EVA (ethylene-vinyl acetate). Applications: Indoor and outdoor use for children's play and learning.
Auto Parts	PP, ABS, polycarbonate (PC), or nylon. Applications: Automotive manufacturing and aftermarket parts.

14. Financial Parameter of key players

Mitsu Chem Plast Ltd	FY2022	FY2023	FY2024
Revenue (In crores)	258.86	309.32	312.28
EBITDA (In crores)	25.67	26.59	25.67
EBITDA margin (%)	9.92	8.60	8.22
PBT (In crores)	16.40	14.83	11.88
PAT (In crores)	11.50	11.80	8.86
PAT margin (%)	4.44	3.81	2.84
EPS in Rs	9.53	9.78	7.12
Current ratio (Times)	1.34	1.27	1.20
Debt to equity Ratio (Times)	1.32	1.23	1.01

Pyramid Technoplast Ltd	FY2022	FY2023	FY2024
Revenue (In crores)	400.40	480.00	532.42
EBITDA (In crores)	44.40	51.79	48.78
EBITDA margin (%)	11.09	10.79	9.16
PBT (In crores)	35.20	42.80	40.10
PAT (In crores)	26.20	31.80	29.30
PAT Margin (%)	6.54	6.63	5.50
EPS in Rs	66.87	10.15	7.98
Current ratio (Times)	1.40	1.61	2.59
Debt to equity Ratio (Times)	NA	0.51	0.09

TPL Plastech Ltd	FY2022	FY2023	FY2024
Revenue (In crores)	228.68	270.59	312.90
EBITDA (In crores)	26.76	30.92	36.53
EBITDA margin (%)	11.70	11.43	11.67
PBT (In crores)	17.78	20.47	25.47
PAT (In crores)	13.31	16.03	19.84
PAT Margin (%)	5.82	5.92	6.34
EPS in Rs	1.71	2.06	2.54
Current ratio (Times)	1.42	1.71	1.83
Debt to equity Ratio (Times)	0.17	0.33	0.19

Hitech Corporation Ltd	FY2022	FY2023	FY2024
Revenue (In crores)	588.45	558.67	561.79
EBITDA (In crores)	86.59	79.73	73.98
EBITDA margin (%)	14.71	14.27	13.17
PBT (In crores)	50.38	37.36	30.02
PAT (In crores)	37.39	28.32	22.00
PAT Margin (%)	6.35	5.07	3.92
EPS in Rs	21.77	16.49	12.81
Current ratio (Times)	1.03	1.19	1.10
Debt to equity Ratio (Times)	0.44	0.25	0.30

Mold-Tek Packaging Ltd	FY2022	FY2023	FY2024
Revenue (In crores)	613.47	729.92	698.65
EBITDA (In crores)	122.26	136.82	134.48
EBITDA margin (%)	19.93	18.74	19.25
PBT (In crores)	86.51	102.72	88.63
PAT (In crores)	63.66	80.43	66.59
PAT Margin (%)	10.38	11.02	9.53
EPS in Rs	22.12	24.40	20.04
Current ratio (Times)	3.72	2.43	1.91
Debt to equity Ratio (Times)	0.10	0.09	0.22

Jyoti Global Plast Limited	FY2022	FY2023	FY2024
Revenue (In crores)	70.16	89.19	87.25
EBITDA (In crores)	4.64	5.95	8.47
EBITDA margin (%)	6.61	6.67	9.71
PBT (In crores)	2.43	3.21	4.89
PAT (In crores)	1.79	2.30	3.67
PAT Margin (%)	2.55	2.58	4.21
EPS in Rs	35.89	46.12	73.56

SALES COMPARISION

Revenue (in crore)	FY2022	FY2023	FY2024
Mold-Tek Packaging Ltd	613.47	729.92	698.65
Hitech Corporation Ltd	588.45	558.67	561.79
Pyramid Technoplast Ltd	400.40	480.00	532.42
Mitsu Chem Plast Ltd	258.86	309.32	312.28
TPL Plastech Ltd	228.68	270.59	312.00
Jyoti Global Plast Limited	70.16	89.19	87.25

15. *Government Schemes and Policies for Industry Growth*

Policy Support

Make in India	Encourages domestic plastic manufacturing and reduces import dependency. Provides investment support to plastic product manufacturers
Production Linked Incentive (PLI) Scheme	Promotes manufacturing of advanced plastic products like biodegradable plastics, engineered plastics, and specialty polymers. Offers financial incentives based on incremental sales.
MSME Schemes for Plastic Manufacturers	Credit Guarantee Fund Scheme: Provides collateral-free loans to MSMEs in the plastic industry. Technology Upgradation Fund Scheme (TUFS): Helps in upgrading manufacturing technology for plastic processing.
Recycling & Environmental Regulations	**Plastic Waste Management (PWM) Rules, 2016 (Amended in 2022)** Bans single-use plastics and promotes biodegradable alternatives. Mandates Extended Producer Responsibility (EPR) for plastic manufacturers and brand owners. **Extended Producer Responsibility (EPR) Policy** Requires plastic manufacturers to recycle a certain percentage of their production. Encourages the use of recycled plastic in packaging and industrial applications. **Green Credit Programme (GCP)** Provides incentives for industries adopting eco-friendly plastic alternatives. Encourages companies to participate in plastic waste collection and recycling.
Research & Development in Plastic Industry	**National Policy on Petrochemicals** Promotes the development of new plastic materials and composites. Supports research in bio-plastics and sustainable polymer alternatives. **Council of Scientific and Industrial Research (CSIR) Programs** Funds research in recyclable plastics, biodegradable alternatives, and advanced polymers. Provides technical assistance to plasti manufacturers.

Import & Export Policies	**Export Promotion Capital Goods (EPCG) Scheme** Allows duty-free import of plastic processing machinery to encourage exports. **Remission of Duties and Taxes on Exported Products (RoDTEP)** Provides tax rebates on plastic products exported from India. **Import Duty on Plastic Raw Materials** Government adjusts tariffs on polymers and petrochemical derivatives to promote local production.
Skill Development & Employment	**Pradhan Mantri Kaushal Vikas Yojana (PMKVY) –** Plastic Industry Training Provides skill development programs for plastic industry workers. Focuses on training in injection molding, blow molding, extrusion, and recycling techniques. **National Skill Development Corporation (NSDC) –** Plastic Sector Training Collaborates with industry players to upskill workers in advanced plastic processing.
Umbrella Scheme: New Scheme of Petrochemicals	The Department is implementing a scheme to support setting up need based Plastic Parks, with requisite state-of-the-art infrastructure, enabling common facilities through cluster development approach, to consolidate the capacities of the domestic downstream plastic processing industry. The scheme aims to increase investment, production and export in the plastics sector. 2. Under the scheme, Govt. of India provides grant funding up to 50% of the project cost subject to a ceiling of Rs.40 crore per project. Under the Scheme, the Department till date has approved 10 Plastic Parks.

Conclusion- The plastics industry's sustainability and industrial expansion are being balanced by the Indian government. Manufacturing incentives increase output, but waste management and EPR regulations encourage environmentally beneficial behaviour. Global demand, recycling infrastructure, and biodegradable material innovation will all be key factors in the plastics industry's future growth.