

Mains Master

Manufacturing on slow growth trajectory with miles to go

India's manufacturing sector is essential for the nation's economic health and offers the following advantages:

- **Job Creation:** Manufacturing directly creates jobs and absorbs workers from the agricultural sector, addressing underemployment.
- **Economic Diversification:** Reduces India's reliance on the service sector, building a more balanced and resilient economy.
- **Technological Progress:** Manufacturing drives innovation and research, benefiting the entire economy with technological advancements.
- **Export Potential:** Increases India's exports beyond raw materials, improving trade balance and boosting foreign exchange reserves.
- **Reducing Inequality:** Manufacturing jobs in less developed areas promote economic growth and help combat regional disparities.

Background

- The government's initial focus was on services-led growth.
 - This was because the service sector was seen as less capital intensive and offered a faster path to growth than manufacturing.
- Industries like IT, software, and BPO (Business Process Outsourcing) saw significant expansion
 - Later, the emphasis shifted to enhancing India's manufacturing capabilities due to:
 - The need for job creation: The government realized India could not generate enough high-quality jobs through the service sector alone, and that manufacturing was key to absorbing a growing workforce.
 - Trade imbalance concerns: India had a trade deficit with imported manufactured goods outpacing exports. Boosting domestic manufacturing could reduce this reliance on imports.
 - Supply chain stability (especially during COVID-19): Global disruptions highlighted the need for India to build a more self-reliant manufacturing base to ensure security of critical supplies.

Status of Manufacturing Sector in India

- Contributes 17% to GDP, employs 57.3 million workers.
- While significant, this highlights the potential for far greater contributions if the sector expands.
 - Goal to reach 25% of GDP by 2025.
 - This is an ambitious target requiring robust growth in manufacturing output.
 - Growth trajectory has been slow but shows recent acceleration.
 - The growth path hasn't been linear, but recent initiatives suggest a more concerted effort to boost the sector.

Challenges to Increasing GDP Share & Employment

- Demand volatility, especially in consumer-facing manufacturing.
- The Indian market is sensitive to income fluctuations, meaning industries serving domestic consumers can face inconsistency, slowing investment.
 - Skill gaps in the workforce.
 - Many workers lack the technical training needed for modern manufacturing, limiting productivity and product quality.
 - Infrastructure deficiencies.
 - Poor roads, unreliable power supply, and port congestion create delays and inefficiencies that raise manufacturing costs.
 - Complex regulatory environment.
 - Bureaucratic hurdles, unclear laws, and slow approvals discourage investment and expansion.

Government Initiatives

- **Make in India:** Aimed to boost domestic production, attract investment.
 - Launched to streamline manufacturing processes, create a favorable policy environment, and improve the ease of doing business.
- **Production Linked Incentive (PLI) Scheme:** Incentivizes production in key sectors.
 - Provides subsidies/incentives to manufacturers in specific sectors like electronics, pharmaceuticals, and automobiles, to scale up their operations.
- **Infrastructure Development:** Focus on highways, ports, railways.
 - Critical to reduce transportation costs and bottlenecks, making Indian manufactured goods more competitive.

-Introduction of GST: Removed cascading tax effects.

- Simplified the complex tax system, reducing compliance costs and improving the movement of goods across state borders.
- Global Headwinds
 - US-China trade tensions.
 - Caused disruptions in global supply chains, increasing uncertainty and potentially impacting input costs for Indian manufacturers.
 - COVID-19 pandemic impacts.
 - Disrupted production, exposed vulnerabilities of supply chains, and led to a temporary decrease in demand.
 - Geopolitical tensions.
 - Create uncertainty in the global trading environment, which can hinder export growth for Indian manufacturers.

Way Forward

Address Infrastructure Bottlenecks

- **Roads and Highways:** Expand and modernize road networks to seamlessly connect manufacturing hubs with ports and markets. Emphasize last-mile connectivity for efficient movement of goods and raw materials.
- **Ports and Waterways:** Increase capacity and efficiency of ports to manage larger cargo volumes. Develop inland waterways for cost-effective transport.
- **Railways:** Upgrade railway infrastructure and increase freight capacity to reduce bottlenecks and delays in transportation.
- **Logistics and Warehousing:** Build modern logistics parks and warehouses with advanced technology to streamline storage, handling and distribution.

Streamline Regulations

- **Ease of Doing Business:** Create a simpler, transparent, and predictable regulatory framework to reduce bureaucratic hurdles and red tape for manufacturers.
- **Single-Window Clearance:** Implement a system that provides centralized approval mechanisms for land, environment, and other clearances to speed up project implementation.
- **Labor Reforms:** Simplify and consolidate labor laws to promote flexibility in hiring practices while ensuring appropriate worker protections.

Skill Development

- **Industry-Relevant Skills:** Partner with industry to design vocational training programs aligned with the needs of manufacturers.
- **Up-skilling Initiatives:** Offer programs to update the existing workforce with technology, automation, and advanced manufacturing skills.
- **Focus on Rural Workers:** Provide targeted skill development programs for rural populations to integrate them into the manufacturing workforce.

Promote Innovation

- **R&D Incentives:** Increase tax breaks and subsidies for private sector investment in research and development, particularly in areas relevant to manufacturing.
- **Industry-Academia Collaborations:** Facilitate partnerships between research institutions and manufacturers to bridge the gap between research and commercialization.
- **Technology Adoption:** Provide affordable financing and support for smaller manufacturers to adopt digital tools, automation, and advanced technologies.

Foster Global Integration

- **Strategic Trade Agreements:** Negotiate agreements with key markets to reduce tariffs and non-tariff barriers, giving Indian manufacturers better access.
- **Quality Standards:** Help manufacturers meet international quality standards through certifications and capacity-building to improve competitiveness.
- **Investment Promotion:** Actively promote India as a manufacturing destination to attract foreign investment and partnerships.

Reforms needed in the voting process

1. Introduction

- The Supreme Court has decided to hear petitions seeking 100% cross-verification of the Voter Verifiable Paper Audit Trail (VVPAT) slips with the vote count as per Electronic Voting Machines (EVMs).

2. History of the Voting Process in India

- 1952 and 1957 general elections: Separate box for each candidate with their election symbol.
- Third election onwards: Ballot paper with names of candidates and their symbols introduced.
- 1982: EVM introduced on a trial basis in Paravur, Kerala.
- 2001: EVMs deployed in all booths during Assembly elections of Tamil Nadu, Kerala, Puducherry, and West Bengal.
- 2004: EVMs used in all 543 Lok Sabha constituencies.
- 2019: EVMs backed with 100% VVPAT in all constituencies.

3. International Practices

- Many western democracies continue to have paper ballots for their elections.
- Countries like England, France, The Netherlands, and the U.S. have discontinued the use of EVMs for national or federal elections.
- Germany: Supreme Court declared the use of EVMs in elections as unconstitutional in 2009.
- Brazil uses EVMs for their elections.
- Pakistan does not use EVMs.
- Bangladesh experimented in a few constituencies in 2018 but reverted to paper ballots for the 2024 general elections.

4. Features and Benefits of EVMs

- Virtually eradicated booth capturing.
- Eliminated invalid votes.
- Eco-friendly due to reduced consumption of paper.
- Provides administrative convenience for polling officers.
- Faster and error-free counting process.

5. Concerns Raised Against EVMs

- Susceptible to hacking as it is an electronic device.
- Sample size for matching EVM count with VVPAT slips is not based on scientific criteria.
- Booth-wise polling behavior can be identified, leading to profiling and intimidation.

6. Supreme Court Observations

- In Subramanian Swamy versus Election Commission of India (2013), the Supreme Court ruled that a paper trail is an indispensable requirement for free and fair elections.

7. Suggestive Measures to Improve Poll Integrity

- 100% match of EVM count with VVPAT slips would be unscientific and cumbersome.
- Sample for matching EVM count and VVPAT slips should be decided in a scientific manner by dividing each State into large regions.
- In case of even a single error, VVPAT slips should be counted fully for the concerned region and form the basis for results.
- 'Totaliser' machines can be introduced to aggregate votes in 15-20 EVMs before revealing the candidate-wise count.

8. Conclusion

- In a transparent democracy, each citizen must be able to comprehend and verify the steps in the election process without any special technical knowledge.
- Additional steps need to be adopted to make the entire process more robust and ensure that the votes are 'counted as recorded'.

Imported Inflation

What is imported Inflation?

- Imported inflation occurs when prices of goods and services rise in a country due to increased costs of imported products.
- Rising input costs may push producers to increase their prices for local customers, fueling overall inflation.

Causes of Imported Inflation

- **Currency depreciation:** When a country's currency weakens, it takes more local currency to purchase foreign currency, increasing the effective price of imports.

- **Rising global commodity prices:** Even without currency depreciation, if the prices of imported commodities (like crude oil) increase, this can lead to imported inflation.

The Cost-Push Theory

- The traditional view of imported inflation follows cost-push inflation theory: rising input costs lead to higher prices of final goods and services.

The Consumer Demand Perspective

- Critics argue that it's not costs that determine prices, but the prices consumers are willing to pay for final products.
- Producers will only pay for inputs based on the expected selling price of their output as determined by final customer demand.
- Currency depreciation itself might be caused by increased demand for foreign currency, reflecting higher demand for imported goods from consumers.

Conclusion

The relationship between imported costs and inflation is complex. While rising import costs can contribute to price increases, it's ultimately consumer demand that acts as the driving force behind pricing decisions within an economy.

Prelims Booster

INDIA-ORIGIN GOPI THOTAKURA HEADS TO SPACE: WHAT IS SPACE TOURISM?

1. Introduction

- Gopi Thotakura selected as a crew member for NS-25 mission
- Launch date yet to be announced

2. Space Tourism Market

- Growing popularity of space tourism
- Market estimated to be worth \$848.28 million in 2023
- Expected to grow to \$27,861.99 million by 2032
- Challenges may limit the industry's growth

3. Types of Space Tourism

- **Sub-orbital:** spacecraft takes passengers just beyond the Kármán line (100 km above Earth's surface)
- **Orbital:** spacecraft takes passengers much farther than the Kármán line, allowing them to spend days to more than a week at an altitude of up to 400 km

4. Specific Missions

- NS-25 mission: a sub-orbital mission that Thotakura is a part of
- In 2021, SpaceX's Falcon 9 took four passengers to an altitude of 160 km

5. Challenges

- **Expensive:** passengers generally have to pay at least a million dollars to reach outer space
- **High manufacturing costs and the cost of fuel**
- **Environmental damage:** rockets emit gaseous and solid chemicals directly into the upper atmosphere

- **Safety concerns:** a total of 676 people have flown into space, and 19 of them have died as of November 2023 (approximately 3% of astronauts died during their space flight)

6. Environmental Impact

- **Soot emissions from rocket launches** are far more effective at warming the atmosphere compared to other sources, according to a 2022 study published in the journal Earth's Future

Three new fish species spotted using tools in the Laccadive Sea

- Three new fish species that live in the Laccadive Sea have been found using tools to break hard shells and get food.
- These fish species - **the janssen's wrasse, the undaunted wrasse, and the moon wrasse** - have not been reported using tools before, making this the first documented instance.
- They use live or dead coral structures as anvils to break the hard shells of sea urchins to reach the edible bits inside.
- Unlike primates and other animals known to use tools, these fish species likely evolved this behavior independently without shared ancestry.
- The study raises questions about the underlying drivers for tool use, the cognitive capabilities of these fish, and their interactions with prey.
- Observing these fish carefully in their natural habitat is critical to better understand their tool use and gain insights into animal intelligence and predator-prey dynamics.

