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NITI Aayog

Enhancing MSMEs COMPETITIVENESS in India

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Disclaimer

Enhancing MSMEs Competitiveness in India

MESSAGE

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The Micro, Small, and Medium Enterprises (MSME) sector remains a crucial pillar of India's economic growth, consistently contributing to job creation, manufacturing, and exports. In recent years, its significance has only strengthened. The share of MSMEs in India's Gross Value Added (GVA) has steadily increased from 27.3% in 2020-21 to 29.6% in 2021-22, reaching 30.1% in 2022-23, reflecting its growing importance in the nation's economic framework. Exports from MSMEs have also seen substantial growth, climbing from ₹3.95 lakh crore in 2020-21 to ₹12.39 lakh crore in 2024-25. Moreover, the number of MSMEs engaged in export activities has surged, rising from 52,849 in 2020-21 to 1,73,350 in 2024-25. These statistics underline the sector's critical role in shaping India's economic progress.

The Union Budget for 2025-26 takes bold steps to fuel the continued expansion of the MSME sector, focusing on improving credit access, driving digital transformation, and implementing business-friendly reforms. Key initiatives include raising investment and turnover limits for MSME classification to help businesses grow and enhancing credit availability with expanded guarantees for micro and small enterprises, startups, and export-focused MSMEs. A new, customized Credit Card scheme will offer up to ₹5 lakh in credit to micro-enterprises registered on the Udyam Portal, with 10 lakh cards set to be issued in the first year. This is a significant step in making financial resources more accessible to the MSME community, enabling them to scale their operations efficiently.

The Udyam Portal is rapidly emerging as a powerful platform that connects MSMEs with essential resources and opportunities. With over 5.9 crore MSMEs already registered as of February 2025, Udyam is poised to become a central hub for MSME growth, offering enhanced access to credit, information, and government support. This platform is pivotal in making the MSME sector more inclusive, enabling even the smallest businesses to benefit from digital tools and financial services designed for their growth.

The "Enhancing MSMEs Competitiveness in India" report is a crucial resource for understanding the sector's challenges and potential solutions. It delves into the various factors impacting MSMEs' competitiveness, including policy recommendations and cluster-level analysis, offering a comprehensive roadmap for the sector's advancement. The report highlights actionable strategies to support the sector in overcoming barriers and maximizing its economic impact by addressing the current obstacles and identifying the next steps.

I want to express my appreciation for the dedicated efforts of the Institute for Competitiveness and the NITI Aayog team in producing this invaluable report. Their collaboration has resulted in a document that assesses the current state of MSMEs and provides meaningful insights for their future growth. This report is a call to action for all stakeholders—government, industry, and academia—to unite to foster an ecosystem that promotes the prosperity of MSMEs. By working together, we can secure the future of the MSME sector and contribute significantly to India's vision of becoming a *Viksit Bharat* by 2047.

(Suman Bery)

Dated : March 21, 2025

स्वच्छ भारत
एक कदम स्वच्छता की ओर

MESSAGE

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In the ambit of global economics, Micro, Small, and Medium enterprises (MSMEs) have emerged as a cornerstone, contributing 90% to business and 50% to overall employment opportunities. Presently, India is on the pathway of recognising the need for integrating 63 million MSMEs with Global Value Chains (GVC) to build a trajectory for Indian MSMEs towards prosperity.

As global manufacturers seek stronger connections, integrating MSMEs into global value chains (GVCs) has become imperative. While moving up the value chain offers significant opportunities for learning and growth, it also imposes steep entry barriers for developing nations, such as stringent quality standards and the need for speed and adaptability. Indian MSMEs must align swiftly with these escalating demands by focusing beyond conventional cost-reduction techniques. To remain competitive and navigate market complexities, fostering entrepreneurial behaviour and organisational innovation, as well as enhancing marketing, branding, and international market access capabilities, are essential. Strengthening the link between technology and innovation will further bolster MSME competitiveness and support robust upstream integration into GVCs.

To further facilitate their competitiveness, it is imperative to understand the competitive landscape, market analysis, and regulatory aspects in both domestic and global markets. This knowledge will enable MSMEs to diversify their products and establish a presence in both national and international markets. A simplified regulatory framework, good governance, accessible finance, proper infrastructure and availability of foreign market information will help MSMEs to channelise towards product diversification.

To strengthen the link between taxation and economic activity, India's tax structure for MSMEs must reduce compliance costs, simplify implementation, and improve accessibility. Simplified tax compliance

encourages more enterprises to formalize, granting them better access to finance and collaboration opportunities. Given the widespread perception of unfairness in the current tax system, many MSMEs remain informal. Streamlining income tax procedures, guided by past experiences, taxpayer feedback, perceived fairness, and global best practices, is essential for fostering a more equitable and effective tax policy framework.

The report further sheds light on the "missing middle" problem, denoting the underrepresentation of medium-sized enterprises in the manufacturing sector, particularly within developing nations. Owing to the substantial costs associated with compliance, the regulatory burden aggravates and prevents enterprises from organically expanding in size and harnessing economies of scale in production. This must be addressed through a comprehensive policy framework that considers the unique needs of small and medium-sized enterprises. This framework possesses the potential to foster growth, incorporate labour and industrial structure and prioritise bringing these enterprises into the policymaker's frame of reference.

To sum up, the report is a deep dive into comprehensively analysing the India-centric policies affecting MSMEs and evaluating their competitiveness. It also examines their integration into Global Value Chains (GVCs) and offers strategic policy recommendations to navigate future challenges. All this is crucial in the present context, where multiple MSMEs have started carving their space in the Indian market.

I thank all stakeholders involved in the preparation of this report, especially our knowledge partner, the Institute for Competitiveness. I hope this report will serve as a medium to instil the competitive spirit among MSMEs operating in India and enable them to boost the country's innovation ecosystem.

(Dr. V.K. Saraswat)

New Delhi
24.02.2025

MESSAGE

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As India works towards realising its vision of a Viksit Bharat @ 2047, the Micro, Small, and Medium Enterprises (MSMEs) sector will be at the heart of this transformation. These enterprises are not just the backbone of our economy; they are the engines of innovation, job creation, and inclusive growth. By empowering MSMEs, we unlock the potential to boost exports, foster entrepreneurship, and build a globally competitive economy that is resilient, self-reliant, and sustainable.

The MSME sector has evolved into a vibrant, dynamic force that touches every corner of India. With over 63 million MSMEs employing more than 111 million people, this sector drives 30% of our GDP and nearly half of our total exports. Its ability to create millions of jobs with relatively modest capital investment makes it the second-largest employment generator after agriculture. For a labour-intensive economy like India, MSMEs are not just an important contributor—they are a growth catalyst that holds the key to prosperity, particularly in rural and semi-urban areas where opportunities for skill development and economic participation are critical.

These enterprises are essential in ensuring balanced industrial growth. They not only meet domestic needs but also serve global markets, contributing 36.9% of India's gross manufacturing value. The resilience displayed by MSMEs, particularly in times of crisis, is a testament to their foundational strength. Even during the unprecedented disruptions caused by the COVID-19 pandemic, MSMEs proved their resilience by not only maintaining but also recovering their contribution to the economy, demonstrating their pivotal role in economic recovery and stability. A major thrust of the Government has been on formalization of enterprises. Formalization is an important enabler for providing an identity to the MSME enterprises and ease of doing business. As on 26.12.2024, as many as 5.70 crore MSMEs, with an employment of 24.14 crore are registered on Udyam Registration Portal and Udyam Assist Platform (UAP).

This report serves as a crucial guide to understanding the myriad challenges and opportunities within the MSME sector by examining the competitiveness of MSMEs through a cluster approach for manufacturing sectors and analyzing the current policy landscape. Developing actionable insights related to policy is essential for effective decision-making and achieving our goals. Through a comprehensive assessment of India's Micro, Small, and Medium Enterprises (MSMEs) sector, the report focuses on key challenges such as access to finance, skill development, market access, and regulatory frameworks that impact the overall competitiveness of MSMEs in the country. By addressing these areas, the report not only provides invaluable insights that will shape the future of India's economic landscape but also aims to empower MSMEs, promote sustainable growth, and enhance their contribution to the Indian economy. As we chart the path towards India becoming a developed economy by 2047, this in-depth analysis will be instrumental in crafting strategies that enhance the competitiveness, sustainability, and scalability of MSMEs.

I would like to commend the NITI team for driving this insightful body of work. This report not only highlights the sector's current significance but also serves as a roadmap for empowering MSMEs to realize their full potential. It is a clarion call for all stakeholders—government, industry, and academia to come together, innovate, and create an ecosystem that supports the growth and prosperity of MSMEs. In doing so, we will not only secure the future of the MSME sector but also accelerate India's journey towards Viksit Bharat 2047.

Dated: 17th February, 2025

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[B.V.R. Subrahmanyam]

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Date: 17.02.2024

In the dynamic landscape of India's economy, Micro, Small, and Medium Enterprises (MSMEs) play a pivotal role in fostering innovation, generating employment, and contributing significantly to GDP. The year 2020 marked a transformative period for MSMEs with the introduction of a streamlined classification process, applying a unified criterion across manufacturing and service sectors. This pivotal change laid the foundation for a more conducive and sustainable business environment, essential for nurturing the growth and resilience of MSMEs.

The impetus to develop a framework for enhancing MSME competitiveness emerged from the recent reforms taken by the government of India to incentivize MSMEs towards greater competitiveness and efficiency. Central to these reforms is the integration of MSMEs into Global Value Chains (GVCs). By positioning MSMEs within GVCs, the framework facilitates better market access, enhances quality standards, and promotes technological adoption. This integration is vital for MSMEs to remain competitive in a globalized economy, enabling them to leverage international best practices and innovations.

To foster competitiveness, the report adopts a nuanced cluster methodology, focusing on five key sectors: Automotive, Textile Manufacturing, Chemical, Pharmaceutical, and Food Processing and Manufacturing. Clusters, as defined by Porter, are geographic concentrations of interconnected companies, specialized suppliers, service providers, and associated institutions in a particular field. By analyzing these clusters, the report uncovers synergies and dynamics that can be harnessed to drive MSME growth.

A significant strength of the report lies in its utilization of the Indian Cluster Database, complemented by data from the Periodic Labour Force Survey (PLFS). This combination offers a granular view of the Indian economy's configuration, highlighting various clusters' spatial distribution and robustness across districts and states. The PLFS data, covering detailed information on wages and employment within 5-digit National Industrial Classification (NIC) industries, provides invaluable insights into labor dynamics and economic activities within MSMEs.

The successful completion of this report is a testament to the collaborative efforts of numerous stakeholders. I extend my heartfelt gratitude to the Hon'ble Vice Chairman, Shri Suman Bery and CEO of NITI Aayog for their visionary leadership and unwavering support. I also thank Hon'ble Member Dr VK Saraswat and CEO, NITI Aayog Shri BVR Subrahmanyam for their continuous guidance in this exercise. Finally, I would also like thank the Institute for Competitiveness and my dedicated team at Vertical Industry/MSME for their invaluable contributions and insights, which have been instrumental in shaping a robust framework for enhancing MSME competitiveness in the Indian context.

(Ishtiyaque Ahmed)

स्वच्छ भारत

MESSAGE

AMIT KAPOOR
Honorary Chairman,
Institute for Competitiveness

MSMEs form the backbone of India's economic landscape and serve as the cradle of entrepreneurship. They encompass a diverse spectrum- from traditional artisans and craftspersons with legacies spanning decades to cutting-edge defence and advanced engineering enterprises. These businesses preserve the nation's rich heritage and lay the groundwork for a dynamic future. To bridge this rich legacy with the challenges of the present, it is essential to delve into the factors shaping MSME competitiveness and identify pathways to overcome these barriers for sustained growth and innovation.

The central tenet of this study is to unravel the complexities of MSME competitiveness. MSMEs face challenges that, if addressed, can unlock significant growth. High-risk perception and costs limit formal lending to MSMEs. Inadequate finance hinders R&D investment and upgrades. Many SMEs lack access to global technology and struggle with domestic innovations due to limited resources and high costs. MSMEs struggle to access capacity-building opportunities due to financial illiteracy, skill gaps, and lack of awareness of government initiatives. Most MSMEs operate informally, restricting their access to finance and global markets. They face difficulties in branding and understanding market trends, which limits expansion, leaving them vulnerable to market fluctuations due to weak branding and limited product variety.

Focusing on MSMEs in five key sectors- automotive, textile manufacturing, chemical, pharmaceutical, and food processing this study employs a cluster-based approach to analyse the performance of MSMEs in India. By integrating firm-level data from CMIE's Prowess database with labour force data from the PLFS and utilising Porter's Diamond model alongside NIC codes, the research offers a comprehensive view of MSMEs' economic structure, cluster distribution in India, and regional strengths. This analysis is enriched by an evaluation of the MSME policy framework at both national and state levels, assessing its effectiveness and regional coordination to better understand the collective impact of these policies. This combined approach bridges gaps in existing literature, providing actionable insights for designing targeted cluster programs and policies to foster MSME growth, innovation, and sustainability.

I extend my heartfelt gratitude to Shri Ishtiyaque Ahmed, Senior Adviser (Industry & Foreign Investment), and his team at Vertical Industry/MSME at NITI Aayog for their support throughout the preparation of this report. I also thank Shri Suman Bery, Vice Chairperson of NITI Aayog, and Shri B. V. R. Subrahmanyam, CEO of NITI Aayog, for their encouragement, which has been instrumental in shaping the focus of this study. Finally, I would also like to acknowledge the entire Research Team at the Institute for Competitiveness (IFC) for their critical input and tireless efforts, which have helped immensely to give this report its present shape. This report, in its current form, is a testament to the commitment and collaborative efforts of everyone involved, ensuring its relevance and meaningful impact for all stakeholders.

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The author is grateful to Shri Suman K. Bery, Vice Chairman, NITI Aayog, Dr VK Saraswat, Member, NITI Aayog and Shri B.V.R. Subrahmanyam, CEO, NITI Aayog, for their unwavering support throughout the preparation of the report. Their guidance and encouragement were invaluable throughout the entire process. The role of leadership was instrumental in facilitating the development of this report.

Furthermore, the author extends heartfelt gratitude to Shri Ishtiyaque Ahmed, Program Director, Industry and Foreign Investment Division, and his team for their support throughout the report's preparation. His steadfast support and incisive feedback were pivotal in shaping the report's direction and depth.

Finally, the author would also like to acknowledge the entire research team at the Institute for Competitiveness for their critical input and tireless efforts, which have helped immensely to give this report its present shape. This report, in every form, results from the commitment and collaborative efforts of everyone involved, ensuring its relevance and meaningful impact for all stakeholders.

AMIT KAPOOR
Honorary Chairman,
Institute for Competitiveness

Executive Summary

This report is structured into four key chapters, each designed to deepen our understanding of India's Micro, Small and Medium Enterprises (MSMEs) competitiveness.

The exploration begins by examining the challenges faced by Micro, Small, and Medium Enterprises (MSMEs) and progresses toward a detailed analysis of competitive frameworks, cluster dynamics, and policy effectiveness. Each chapter builds upon the previous one, culminating in robust recommendations for strengthening MSME competitiveness.

The opening chapter "**Understanding MSMEs Challenges for Enhancing Competitiveness**" delves into the array of challenges confronting MSMEs—ranging from financial constraints and technological gaps to skill shortages and regulatory hurdles. By thoroughly examining these barriers, the chapter lays a foundation for identifying key areas that require strategic intervention. Overcoming these challenges is pivotal for creating an environment where MSMEs can thrive and compete effectively.

Building on the insights from the first chapter, the second chapter "**Competitiveness Framework – MSMEs and the Path to Prosperity** " introduces a competitiveness framework rooted in cluster theory. This framework charts a path to prosperity by emphasizing the role of collaborative ecosystems, where enterprises, suppliers, and institutions work in synergy. By leveraging these clusters, MSMEs can enhance efficiency, spur innovation, and respond more adeptly to market demands, thus gaining a competitive edge.

The third chapter "**Understanding MSMEs Competitiveness in India Using Clusters Approach"**. The cluster approach is employed to comprehensively understand the performance and dynamics of Small and Medium Enterprises (SMEs) within the Indian economy. Periodic Labour Force Survey (PLFS) data indicates that 74.3 percent of workers engaged in proprietary and partnership enterprises are involved in the non-agriculture sector. This information is instrumental in comprehending the nature of employment within these enterprises and highlights the significance of activities in informal sector. Understanding SMEs' performance from PLFS data allows for a more nuanced analysis of their contribution, employment patterns, and overall impact on the informal sector. This, in addition to UDYAM registration portal, can contribute to filling the gaps in understanding the MSMEs. The UDYAM portal data reveals that a significant proportion, specifically 81 per cent, of MSMEs operate as proprietorships, with 80 per cent falling into the Microenterprise category. Recognising the prevalence of such ownership structures, it becomes crucial to analyse and assess the performance of these enterprises collectively, which the cluster approach facilitates.

The **final chapter** is the review of the policy landscape governing MSMEs at national and state level, evaluating the effectiveness of current measures aimed at bolstering competitiveness. It reveals that despite numerous policies, gaps in awareness, stakeholder engagement, and adaptability limit their impact. The chapter concludes with recommendations for a more robust, adaptive policy framework that responds to the evolving needs of MSMEs, emphasizing continuous monitoring, feedback integration, and data-driven adjustments.

Learnings and Recommendations from National-Level Policies

1. Access to Finance

- One of the foremost learnings at the national level pertains to the crucial role of the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) in facilitating credit for MSMEs. However, the Trust currently operates without the desired level of regulatory oversight, leading to challenges in balancing fund availability with the financial discipline required for sustainable growth. Bringing the CGTMSE under a robust regulatory authority could help mitigate these concerns.
- Another important measure is to use CGTMSE to promote women's entrepreneurship. This could be done by increasing the guaranteed coverage to 100% for businesses led by women founders. Additionally, reducing CGTMSE premium rates can significantly increase its adoption by micro and small enterprises, which often struggle to afford higher premiums. Transparency around premium rates is also essential, and banks should be required to disclose these details on their websites or on the CGTMSE portal.
- Beyond strengthening CGTMSE, **Non-Banking Financial Companies (NBFCs)** have emerged as a vital source of credit for MSMEs, especially micro-sized enterprises in remote areas. Their quicker lending decisions, niche specialization, and faster services have contributed to NBFCs' rapid growth in the MSME credit space. However, NBFCs' borrowing costs from banks are typically high due to collateral requirements and risk premiums, making it challenging for them to offer competitive interest rates to MSMEs. This situation underlines the need for better on-lending structures and the provision of lower-rate wholesale funding to NBFCs. The Standing Committee on Finance (17th Lok Sabha) acknowledged this gap and suggested the **Small Industries Development Bank of India (SIDBI)** expand its balance sheet to provide more extensive wholesale financing to NBFCs. While the Ministry of Finance has indicated that SIDBI is well-capitalized for its projected growth, the Committee insists on further scaling SIDBI's role to directly invest in smaller NBFCs, thereby improving their governance, operational capacity, and access to affordable funds.
- Another recommendation involves reinstating earlier norms under Priority Sector Lending (PSL), allowing bank loans extended to NBFCs for further lending to MSMEs to be classified as indirect finance to MSMEs. This would incentivize banks to support NBFCs, especially when combined with credit insurance schemes by IRDAI that could mitigate NBFCs' risk perceptions and encourage the flow of credit to micro-enterprises. In combination, these reforms aim to strengthen the credit ecosystem for MSMEs and promote financial inclusivity.

2. Addressing Skilling Challenges Faced by MSMEs

Skilling remains a cornerstone for MSME competitiveness and growth. Present data indicates that a significant percentage of India's workforce falls under Skill Level 1 (low-skilled) and Skill Level 2 (semi-skilled), with fewer workers at higher skill levels. According to the Periodic Labour Force Survey (PLFS), the proportion of the workforce aged 15 to 59 lacking formal vocational or technical training, while declining, still remains substantial. To bridge this skills gap, forging partnerships

between government bodies, educational institutions, and industries can prove invaluable. These collaborations can create new, dynamic curricula and training modules, including shorter, flexible programs, that meet the evolving needs of MSMEs. To ensure training relevancy, boards or councils mandated with periodically reviewing and updating occupational standards should be formed. Further, cost-sharing or grant-based models to subsidize the costs of training and technology adoption for micro-enterprises can go a long way in encouraging widespread participation. By identifying granular skill demands, states can better align training programs with industrial requirements, thus boosting MSME productivity.

3. Technological Development in MSMEs

Enhancing Supply Chains

The technological development of MSMEs is closely linked with robust supply chain integration. Improved supply chains can help MSMEs harness global value chains (GVCs), boosting their exports and competitiveness. Although India's GVC participation has risen over the years, it remains below that of major economies and regional competitors. The government can facilitate process innovation, reduce costs, and improve product management within MSME clusters by prioritising efficient logistics, digital linkages, and smart trade infrastructure. Streamlining supply chains also brings broader benefits, such as stabilizing food prices by reducing bottlenecks in essential commodities. In sectors like textiles and food processing, targeted initiatives—ranging from building electronic linkage platforms to funding trade fairs—can spur innovation and market access.

Enhance Risk Management through Digital and Insurance Solutions

MSMEs benefit greatly from affordable digital risk management solutions, particularly those in sectors with extended supply chains like food processing. Real-time monitoring tools, such as sensor-based tracking, can reduce inventory risks, optimize logistics, and limit damage during transit. Insurance combined with these digital tools adds another layer of protection against operational shocks. Drawing on experiences from countries like Thailand and Malaysia, where combining sensor-based tracking with insurance has proven successful, India could encourage a similar model for its MSMEs. Collaborations between insurance providers and technology firms that offer training, awareness, and affordable insurance packages could greatly enhance MSME resilience.

Integrating AI in MSMEs

Artificial Intelligence (AI) holds immense potential for MSMEs, but adoption barriers remain high. Many MSMEs lack familiarity with India's data protection laws and are unaware of how to ensure data compliance when integrating AI. Government-led awareness campaigns and simplified guidelines on data protection can encourage responsible AI use and reduce the risk of non-compliance. A shortage of qualified AI professionals is another critical hurdle: many MSMEs lack the in-house expertise to evaluate, select, and implement AI solutions. Collaborative platforms connecting MSMEs with academic institutions, AI consultants, and larger tech companies can bridge this skills gap. Affordability is another persistent challenge, especially with AI tools, as computing infrastructure and training costs remain prohibitive for smaller enterprises. Targeted financial assistance—such as grants, subsidies, tax incentives, or low-interest loans—and cloud-based, pay-as-you-go AI solutions can make advanced technologies more accessible. Such interventions would align with the finding that most MSMEs want AI to be both affordable and equitably accessible.

4. Increasing Institutes for Collaboration (IFCs)

Institutions for Collaboration (IFCs), as conceptualized by Porter and Emmons, include both formal and informal actors that foster cluster development. These bodies support R&D, productivity enhancement, and process innovation, all vital to MSMEs that typically struggle with limited resources. India's Micro and Small Enterprises-Cluster Development Programme (MSE-CDP) has instituted Common Facilitation Centres (CFCs). Still, there is a pressing need to elevate them to align with the standards of robust IFCs.Strengthening existing or emerging IFCs could involve consolidating membership, fostering knowledge networks among universities, private entities, and research institutes, and promoting consistent information sharing. Such collaborative entities can accelerate product development, bridge skill gaps, and ensure that MSMEs have better access to the latest technologies. Additionally, re-examining property rights frameworks is important to build trust among stakeholders, so that proprietary information shared within IFCs remains protected.

Learnings from the State's MSME policies

The widespread adoption of state-level MSME policies has fostered a conducive environment for enterprise growth, yet awareness and effective utilization remain limited. States should improve information dissemination through targeted awareness campaigns, ensuring that MSMEs fully understand and access available schemes. Enhanced stakeholder engagement during policy formulation, incorporating direct feedback from MSMEs and industry stakeholders, can tailor support measures to actual needs, addressing critical gaps like inadequate financial and technical support. Not all states have MSME specific policies, states which have those policies it is not updated. In access to finance, states should reconsider existing interest subsidy schemes that often exclude micro-enterprises due to restrictive turnover requirements. Alternative financing mechanisms—such as cash-flow-based lending, equity financing, factoring, and venture capital—should be explored to meet the unique needs of smaller firms. Expanding structured insurance frameworks beyond isolated examples can offer essential risk mitigation, enabling MSMEs to invest more confidently.

Market access for MSMEs can be improved by addressing capacity constraints in diversification and scaling. Expanding export incentives to include smaller enterprises and investing in digital marketing and e-commerce training can bridge skills and resource gaps. Partnerships with logistics providers and investments in infrastructure will facilitate seamless supply chains, allowing MSMEs to penetrate broader domestic and global markets. States should design modular, short-term, and flexible training programs to bolster skill development, particularly targeting rural micro-enterprises. Free or highly subsidised online or on-site training can reduce opportunity costs and update workforce skills in line with industry advancements.

Improving access to technology and infrastructure requires a tiered approach. States should focus on foundational needs such as reliable power, co-working spaces, and shared machinery for micro-units while supporting advanced R&D for medium and larger enterprises. Efforts to reduce infrastructure costs—through renewable energy solutions, shared power facilities, and affordable industrial park rentals—will enhance operational stability. Finally, consistent monitoring,

evaluation, and transparent communication would benefit policy formulation and implementation. Strengthening stakeholder participation via MSME-specific forums, refining industrial statistics, and public sharing of policy evaluation data will foster evidence-based decision-making and continuous improvement, ultimately creating a more resilient and competitive MSME ecosystem at the state level.

Learnings from Cluster-Level Analysis

1. Rethinking Clusters for MSME Development

India's cluster policy dates back to 1987 and draws upon ideas of collective efficiency. However, it diverges from global best practices from developed countries such as the United States and the European Union. These regions use cluster mapping as a sophisticated tool for informing policy decisions and promoting cross-border collaborations.

There is a need for India to reimagine its cluster development approach; policymakers must redefine clusters . Clusters are not just sectors – they capture the geographic footprint of economic activities, not because they belong to the same statistical classification but because industries are systematically related through local spillovers and linkages. The Indian definition of clusters aligns more closely with the concepts of Collective Efficiency (as proposed by Schmitz) and certain elements of Flexible Specialization (according to Piore and Sabel) A well-structured cluster policy can unlock synergies between SMEs, research institutions, universities, and Institutes for collaborations, forming robust ecosystems. Personalized services to SMEs—such as diagnosing innovation capabilities, mapping out growth roadmaps, and bridging technology gaps—can catalyze productivity gains. By fostering stronger ties between universities and industries, clusters can facilitate knowledge transfer and accelerate the commercialization of research.

2. Cluster-Specific Recommendations

Textile Manufacturing and Apparel

Many textile clusters rely heavily on upstream activities like raw material processing.Policymakers can encourage a move toward downstream activities that add higher value—such as designing finished garments or specialized fabric. This pivot could involve partnering with design schools, modernizing capital equipment, and fostering digital supply chain linkages, as highlighted by the Economic Survey 2024's emphasis on upgrading weaving and processing segments. Notable regions with strong textile specializations include Surat, Ludhiana, and Tiruppur, where reinforcing cluster efficiency can foster economies of scale, streamline production, and improve branding for global markets.

Food Processing Cluster

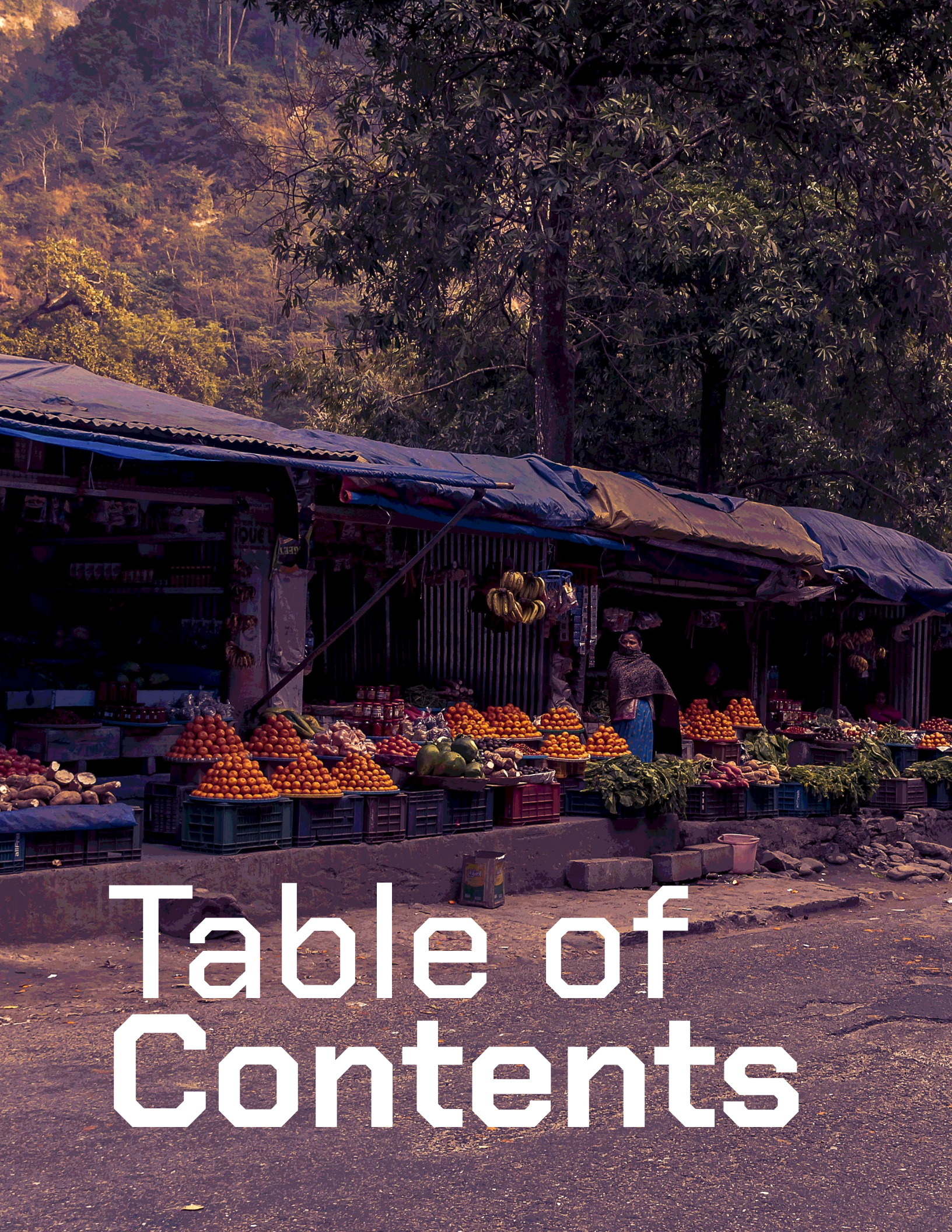
India's food processing sector exhibits regional fragmentation, which undercuts its growth potential. Linking farmers with processors is crucial, ensuring a seamless flow of raw materials and fostering value addition. Sensor-based tracking systems combined with cargo insurance, as seen in Malaysia and Thailand, can reduce losses in transit. State-level branding guidance for agricultural products, the creation of specialized food parks, and technology upgradation are also crucial. Strengthening this cluster is particularly urgent in the country's northeastern and eastern belts, which remain underutilized despite their agricultural diversity.

Chemical Cluster

Enterprises in chemicals often face skilled labor shortages and complex regulatory requirements. Streamlining product approvals, fostering compliance training, and enabling marketing support can reduce the cost burden on smaller firms. Collaboration with local universities to expand the pool of researchers, engineers, and chemical experts can fill knowledge gaps, while improved marketing and supply chain optimization can help MSMEs move downstream in the value chain.

Automotive Cluster

Automotive MSMEs typically prioritize tangible assets over R&D and innovation. Encouraging a shift toward intangible investments through tax incentives or grants could help firms develop more sophisticated offerings. Dependence on large players for supply contracts often leaves smaller enterprises with limited bargaining power. By creating platforms that offer direct market linkages and promoting cooperative frameworks in the value chain, MSMEs can enhance technical skills and diversify their client bases. Regions like Gurgaon, Rewari, and Pune already exhibit cluster advantages, and targeted policy support can strengthen their innovation ecosystems.



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Introduction

GVCs serve as critical facilitators of the international exchange of investment, knowledge, and managerial practices that are in line with global standards, thereby significantly bolstering domestic businesses

Within the realm of global economics, micro-, small- and medium-sized enterprises (MSMEs) emerge as the cornerstone of prosperity, embodying the largest and most influential segment across all economies (Storey, Pinch, & Mason, 1991). They constitute a vast majority of businesses worldwide and play a pivotal role in job creation and global economic growth.

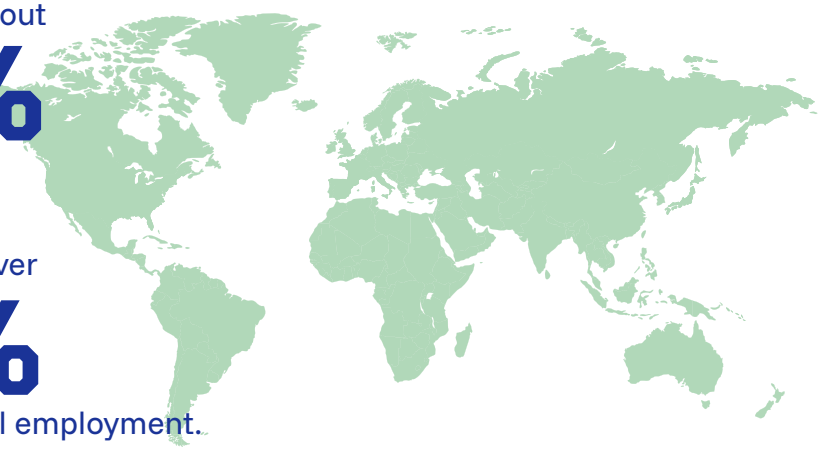
They make up about

90%

of businesses globally and are responsible for over

50%

of the total global employment.



Despite being the largest business segment globally in terms of numbers, SMEs have been found to participate less in Global Value chains (GVC) than the large enterprises. (Chaisse & Rodríguez-Chiffelle, 2019)

Participation in Global Value Chains (GVC) refers to the extent to which a nation's exports are embedded within multi-stage international trade processes. This concept refers to the integration of domestic value added into the exports of other nations, as well as the incorporation of foreign value added into a nation's exports. The proportion of a nation's total exports that is comprised of GVC participation provides a quantitative assessment of the extent to which its export sector relies on GVCs. GVC metrics also play a crucial role in assessing the extent to which sectors depend on international manufacturing networks. (UNCTAD, 2013).

India remains a fringe player in GVC. India's impact remains modest, representing only 1.5% of global GVC exports or $241 billion as of 2017, with the largest share, about 10%, heading to the United States.

GVCs are crucial for engaging with the global market, by concentrating on the development of specialised products and specialising in particular segments of the production chain. Furthermore, GVCs serve as critical facilitators of the international exchange of investment, knowledge, and managerial practices that are in line with global standards, thereby significantly bolstering domestic businesses. Gaining access to these globally recognised best practices offers emerging economies unparalleled prospects for growth and the augmentation of their export capabilities. (Mitra, Gupta, & Sanganeria, 2020)

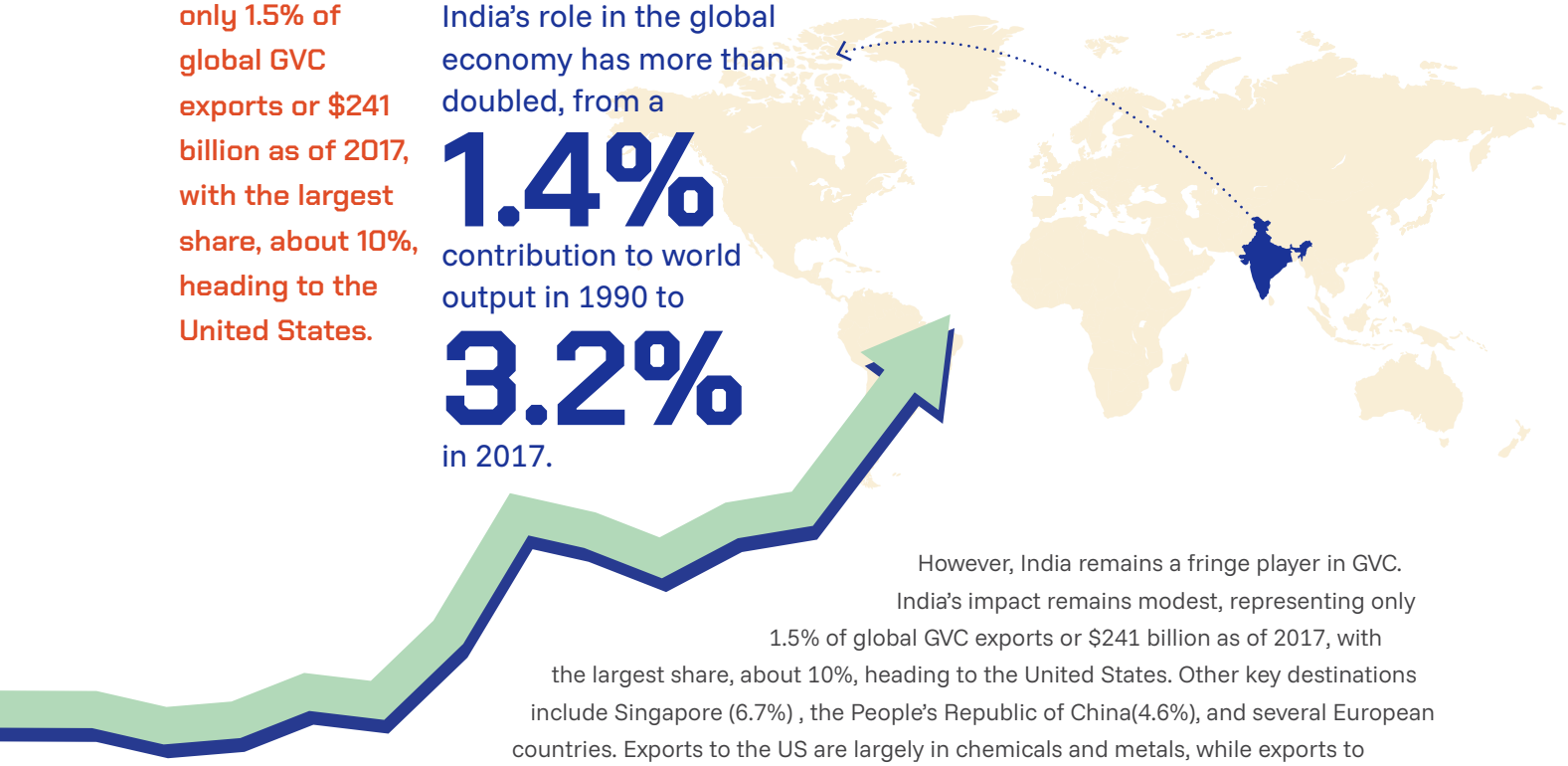
India's role in the global economy has more than doubled, from a

1.4%

contribution to world output in 1990 to

3.2%

in 2017.



However, India remains a fringe player in GVC. India's impact remains modest, representing only 1.5% of global GVC exports or $241 billion as of 2017, with the largest share, about 10%, heading to the United States. Other key destinations include Singapore (6.7%) , the People's Republic of China(4.6%), and several European countries. Exports to the US are largely in chemicals and metals, while exports to China are predominantly raw materials. In contrast, services such as equipment rental and transportation are the main GVC exports to Singapore. Additionally, India's exports to the European Union are diverse, ranging from metals to machinery rental services, as well as textiles and electronics being significant GVC exports. (Mitra, Gupta, & Sanganeria, 2020).

With approximately 63 million Micro, Small, and Medium Enterprises (MSMEs) operating in India, predominantly within sectors at the forefront of Global Value Chain (GVC) exports, their integration into these chains is very important. However, they encounter a multitude of challenges that hinder their ability to enter or advance within a value chain. MSMEs in developing countries frequently find themselves constrained to lower value-added stages of production due to the prohibitive investment and expertise required for more sophisticated operations, risking functional downgrading or being perpetually confined to less profitable niches. Additionally, while ascending a value chain presents more favorable opportunities for learning and growth, it simultaneously imposes steeper entry barriers. These include stringent quality standards, and the need for speed and adaptability, making it crucial for smaller firms in these nations to align swiftly with the escalating demands.

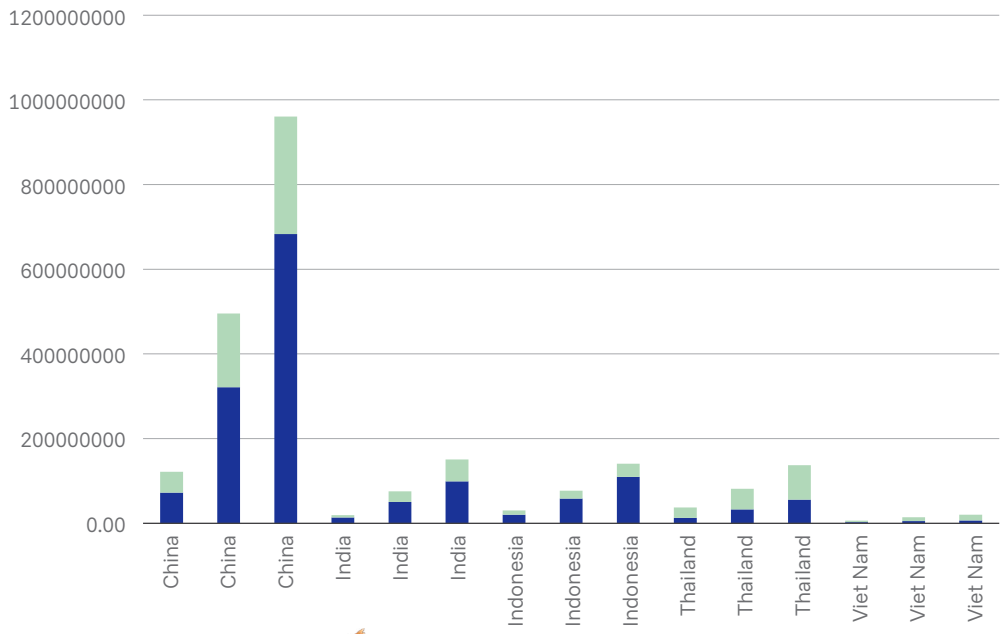
To successfully address these barriers, it's essential to focus beyond cost reduction techniques. Enhancing efficiency, improving the quality of products and services, and speeding up production and delivery are key. This improvement relies on better use of resources and labor, fostering a culture of learning and innovation, upgrading processes, and broadening sales avenues. Adopting such a comprehensive approach is vital for MSMEs aiming to integrate themselves in the global value chain. (Caspari, 2003)

Fig. 1

GVC participation in selected Asian Economies

DVX
FVA

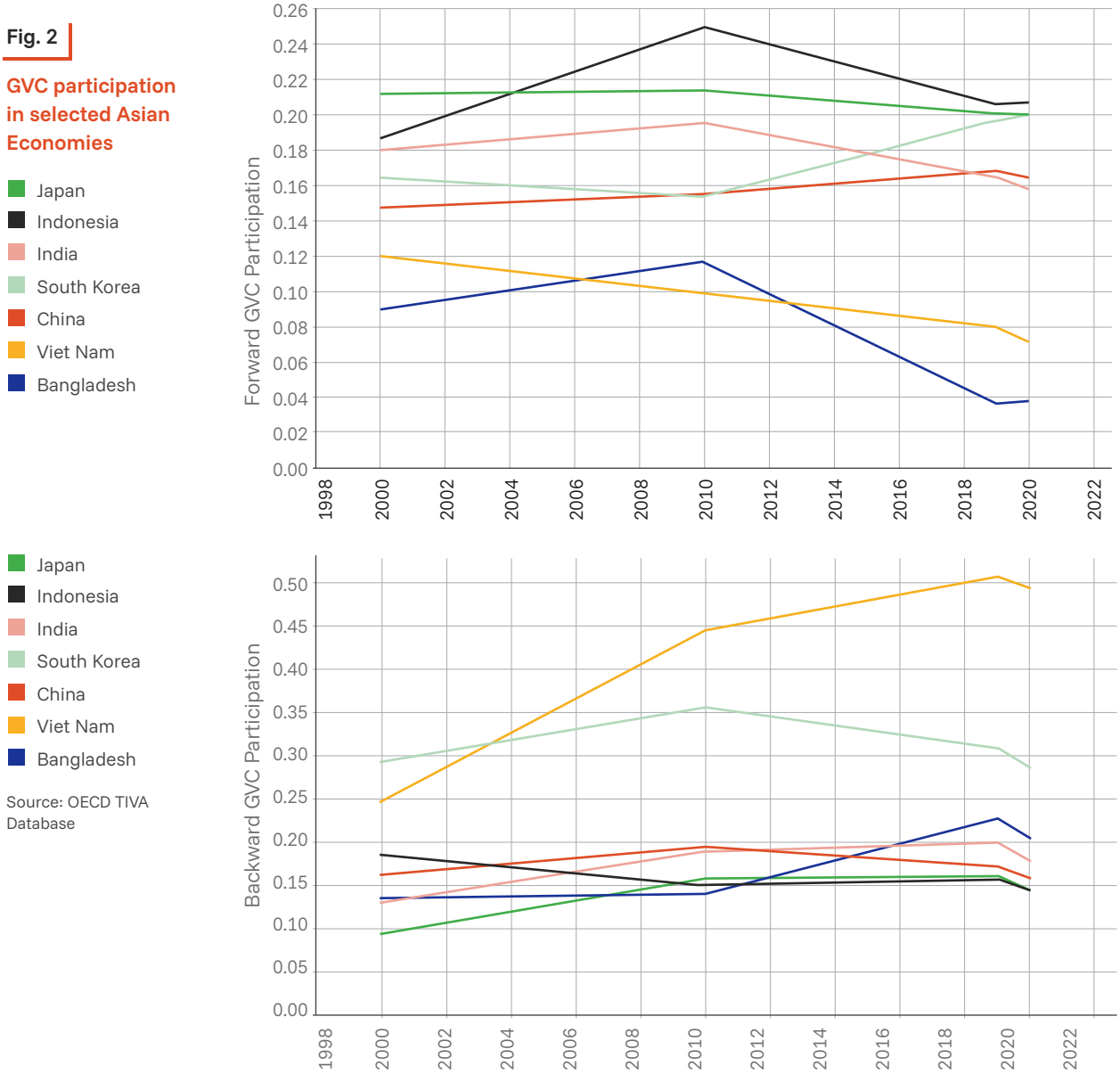
Source: UNCTAD-Eora Global Value Chain Database



A low FVA-to-DVX ratio, where a lower (or higher) ratio implies a more active involvement in upstream (or downstream) tasks within global value chains (GVCs). A lower ratio indicates a heightened concentration on supplying primary products or engaging in natural resource-intensive and low-value-added activities. This characteristic positions India among developing countries, offering insights into its distinct role in GVCs and its focus on specific segments of the production chain.

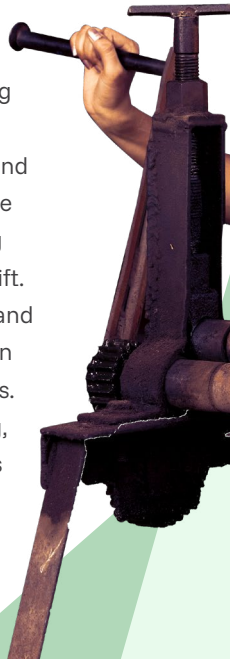
Fig. 2

GVC participation in selected Asian Economies



Source: OECD TIVA Database

From the above graphs, it is clear that India's performance relative to peer Asian countries has remained stagnant in backward global value chain (GVC) participation, while witnessing a decline in forward GVC participation reveals important insights into the country's positioning within the global economic landscape. This insight suggests both challenges and opportunities for India, particularly in the context of its economic development and the role of micro, small, and medium enterprises (MSMEs). India has been successful in integrating into upstream stages but is facing challenges in downstream activities as the dynamics shift. In that case, the country's strength lies in supplying essential components, raw materials, and intermediate goods to global value chains. The declining trend in forward GVC participation implies a need to address challenges in distribution, marketing, and sales of finished goods. In this context, the emphasis shifts to enhancing India's capabilities in marketing, branding, and accessing international markets for the final products. Indian MSMEs, recognising this strength in upstream integration, can focus on building stronger connections with global manufacturers and optimising their role as suppliers of critical components.



Role of MSMEs in India's GVC participation rate

In India, the Micro, Small, and Medium Enterprises (MSME) sector is of significant importance due to its substantial contribution to employment, production, and exports. Based on the latest data from the Ministry of Statistics & Programme Implementation, in the fiscal year 2021-22, the MSME Gross Value Added (GVA) accounted for 29.2% of India's Gross Domestic Product (GDP). Likewise, the share of MSME manufacturing output in India's total manufacturing output for the same period stood at 36.2%, and MSME-specified products represented 45% of India's total exports (PIB, 2023).

MSMEs have also created a total of

120% Million Jobs

generated across various industries in India.

They are an important link in the supply chain in various sectors like food processing, agriculture, chemicals, electronics, textiles, and so on. The Indian government's strategic efforts in areas like competitiveness, quality improvement, finance, and technology have led to a significant shift in the sector, moving from basic consumer goods production to the manufacturing of advanced products (Ghouse, 2014). Indian MSMEs, despite their impressive metrics, remain a step behind global MSMEs. They hold a strategic advantage with supportive domestic demand and a thriving manufacturing sector. Yet, they are predominantly engaged in midstream activities that yield low-value addition and a lack of trade efficiency. Strategic improvements in these areas could elevate Indian MSMEs to meet international benchmarks and norms, consequently fortifying their roles in supply chains and facilitating their integration into global value chains.

According to World Bank data on Micro, Small, and Medium Enterprises (MSMEs) 2022, there are significant differences in the performance of MSMEs businesses ((World Bank, 2022), (PIB, 2022)).

Table: 1

Performance Comparison of India's MSMEs with other Countries.

MSME obstacles/challenges	India	South Asia	All countries
Biggest Obstacle	**Access to Financial Sources (21.5%)**	**Political Instability (17.9%)**	**Access to Financial Sources (15.3%)**
Gender Representation (enterprises having female ownership participation) (%)	**3.9%**	**13.8%**	**32.9%**
Annual Labour Productivity Growth (%)	**-4.3%**	**-3.1%**	**-2.8%**
Real annual sales growth (%)	**-1.5%**	**0.8**	**0.7**
Innovation and Technology (firms globally introduce new products or services) (%)	**5.8%**	**24.9%**	**36%**
Customs (number of days to clear direct exports and imports from customs)	Exports - 17.3 days Imports - 31.5 days	Exports – 12 days Imports – 7.4 days	Exports – 14.1 days Imports – 12.3 days

Source- (World Bank, 2022)

However, the comparison of MSMEs across the different economies is difficult and can be misleading as the criteria for categorizing MSMEs vary globally. They are defined by a number of factors and criteria, such as location, size, age, structure, organization, number of employees, sales volume, worth of assets, and ownership through innovation and technology (OECD, 2018), (Sobir, 2020). In many countries, SMEs are defined primarily by the number of employees, while India, under the MSMED Act of 2006, defines MSMEs based on investment in plant and machinery (Khatri, 2019).

In response to evolving economic dynamics, India underwent a significant overhaul of its MSME definition in 2020. Recognising the limitations of the earlier framework, particularly with distinct thresholds for manufacturing and service units featuring relatively low financial limits, a reformed definition was introduced. Implemented on July 1, 2020, this new definition incorporates a composite set of criteria, considering both investment in plant and machinery/ equipment and annual turnover. The revisions sought to achieve several overarching goals. Firstly, they aimed to expand the MSME sector by increasing the investment and turnover thresholds, providing a more comprehensive evaluation of business size across sectors. By removing limitations on growth for existing MSMEs, the government incentivized their expansion without compromising access to crucial support programmes.

Additionally, the adjustments targeted the simplification of classification and the reduction of regulatory burdens for MSMEs. A single set of criteria applicable to both the manufacturing and service sectors streamlined the classification process, contributing to a more business-friendly environment. Furthermore, the government's vision extends to promoting a

more competitive MSME sector. The reforms incentivize these enterprises to enhance competitiveness and efficiency by allowing MSMEs to grow within the MSME classification. This strategic approach positions them to effectively compete with larger companies and facilitates better integration into the broader economy. Revisions in the MSME definition also influence the extent to which MSMEs are influenced by tariff liberalisation. Higher benefits of liberalisation can be accrued by introducing more flexible limits on investment for MSMEs (Mukherjee & Chanda, 2021). This adjustment aims to align with contemporary economic realities, establish a more objective classification system, and facilitate a conducive environment for business operations. (Ministry of MSME, 2023).

Prioritizing the government's capacity to flexibly adapt and adopt a forward-thinking policy approach is crucial for effectively addressing the growing complexities within and around the MSME sector. This takes precedence over mere alterations in definitions and is essential for ensuring true inclusivity. This adaptability is crucial in creating an enabling ecosystem that supports the growth and resilience of businesses in an ever-changing world. The first step towards this is understanding the challenges faced by MSMEs and what drives the competitiveness of MSMEs across regions and industries is a prerequisite. This paper aims to comprehensively analyse India-centric policies affecting MSMEs, evaluate their competitiveness, examine their integration into Global Value Chains (GVCs), and offer strategic policy recommendations to navigate future challenges.

The first step towards this is understanding the challenges faced by MSMEs and what drives the competitiveness of MSMEs across regions and industries is a prerequisite.

Outline of the Paper

This paper is structured into four key chapters, each meticulously designed to contribute to the comprehensive understanding of Small and Medium Enterprises (SMEs) competitiveness.

Chapter 01

Understanding MSMEs Challenges for Enhancing Competitiveness

In this initial chapter, we explore the challenges faced by Micro, Small, and Medium Enterprises (MSMEs). By scrutinizing these challenges, we aim to lay the groundwork for a profound comprehension of the intricate dynamics influencing their competitiveness.

Competitiveness Framework: MSMEs and the Path to Prosperity

Building upon the insights garnered from the challenges delineated in the first chapter; the second chapter explores the competitiveness framework and cluster approach's concept. This framework serves as a guiding compass, charting the trajectory for MSMEs on the path to prosperity.

Chapter 02

Understanding MSMEs Competitiveness in India Using Clusters Approach

In the third chapter, we adopt a nuanced approach by leveraging the Clusters methodology to comprehend the competitiveness of MSMEs in 5 sectors in the Indian context. By exploring the synergies and dynamics within clusters, we seek to uncover unique insights that contribute to a more tailored understanding of competitiveness.

Chapter 03

Chapter 04

Policies for MSMEs in India

The final chapter of this paper delves into the policy landscape governing MSMEs in India. We aim to unravel their efficacy in enhancing competitiveness by scrutinising existing policies. This evaluation serves as a crucial step towards proposing recommendations for a more robust and adaptive policy framework.

Throughout this exploration, our overarching objective is to identify challenges and provide a forward-thinking perspective on understanding MSME competitiveness. We emphasize the importance of adaptability in policy formulation and strategic approaches, essential for addressing the evolving intricacies within and surrounding the MSME sector. Through this paper, we have strived to contribute meaningfully to the ongoing discourse on SME competitiveness.

Chapter 1

Understanding MSMEs Challenges for Enhancing Competitiveness

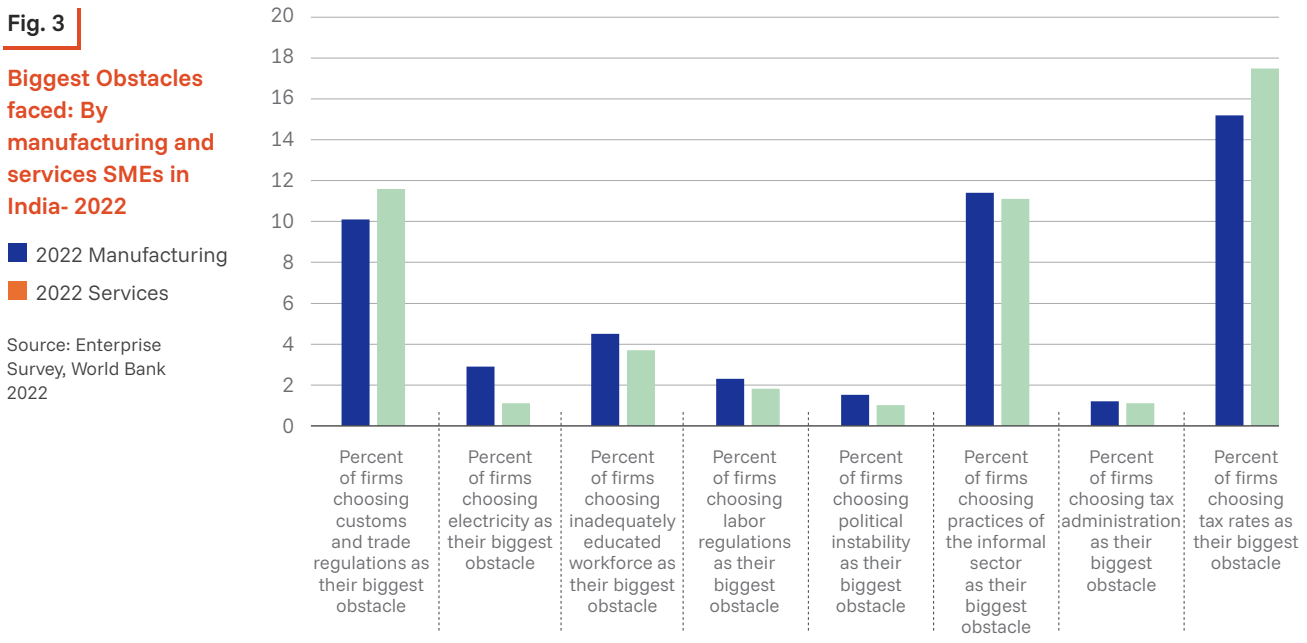
GVCs serve as critical facilitators of the international exchange of investment, knowledge, and managerial practices that are in line with global standards, thereby significantly bolstering domestic businesses

Indian MSMEs grapple with a myriad of challenges, ranging from difficulties in timely access to information, irregular and inappropriate financial resources, shortage of quality human capital, access to credit and low-cost technology, and the prevalence of large-scale informality that impedes their growth trajectory (Kapoor, 2023). According to an enterprise survey by the World Bank, the following are the biggest obstacles SMEs face in India.

Existing research highlights key obstacles hindering the growth and competitiveness of Micro, Small, and Medium Enterprises (MSMEs) in India. A thorough examination and comprehension of these concerns are crucial for developing successful strategies and interventions to overcome the challenges MSMEs encounter, thereby enhancing their resilience and competitiveness in the Indian economy.

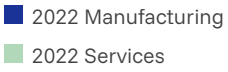
Fig. 3

Biggest Obstacles faced: By manufacturing and services SMEs in India- 2022

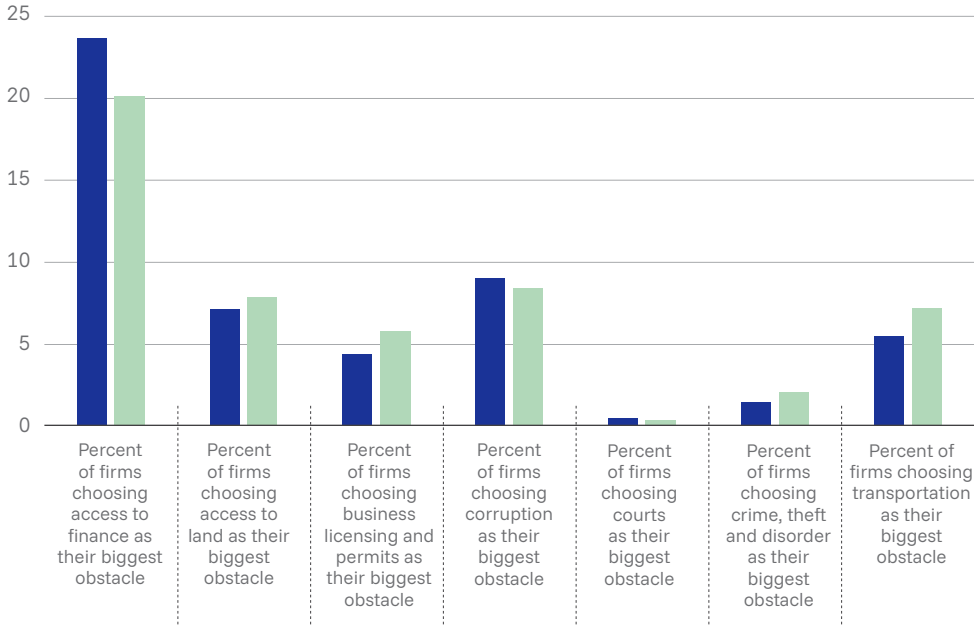


Source: Enterprise Survey, World Bank 2022

Biggest Obstacles faced: By manufacturing and services SMEs in India- 2022



Source: Enterprise Survey, World Bank 2022



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Challenges MSMEs face are:

1. Formalisation

Informal firms rarely undergo formalisation. Only 9% of the registered firms start out as unregistered. (Porta & Shleifer, 2014). MSMEs dominate the informal sector, ILO estimates about 90% of the informal sector are MSMEs[3] (ILO, 2023). These unregistered, informal firms tend to be constrained to an ecosystem associated with low income and low entry barriers; disjoint from the formal space (Ishengoma & Kappe, 2006) (Mehrotra & Giri, 2019)). This informality within firms significantly hampers their integration into Global Value Chains (GVCs). Enhanced integration into GVCs is predominantly influenced by two critical factors: competitiveness and connectivity (ADB, 2015). For firms to bolster their competitiveness and connectivity, an enabling environment must allow them to effectively leverage policy frameworks and market mechanisms.

[3] https://www.ilo.org/employment/units/emp-invest/informal-economy/lang--en/index.htm#:~:text=The%20informal%20economy%20comprises%20more,Small%20Enterprises%20(MSEs)%20worldwide

The contribution of MSMEs compared to their proportion in the total firms is abysmal due to multiple internal, external, and firm-level factors. Internal factors include the quality of human capital, utilization of technology, and working capital; external factors include access to financial services, social and business security services, infrastructure, and so on. Other firm-level factors, such as linkages with other firms, hinder their growth (Ishengoma & Kappe, 2006).

Against this background, formalization can be a solution. The advantage of formalization is access to a range of government subsidies and rewards, legally binding business agreements, tax advantages, access to established financial channels, and additional motivators. With improved access to these resources, enhancing productivity becomes more feasible through technological advancements in production and digitalization and is the primary step toward establishing MSMEs in the Global Value Chain. (Kapoor & Kowadkar, Gradual shift from informal to formal for MSMEs, 2022). However, there are disadvantages to formalization as well in the current business and regulatory environment, especially in developing economies. Research points out that small and medium enterprises (SMEs) with a higher degree of formality still face the same obstacles as those with a higher level of informality, along with high cost of operation and reduction in government exemptions (Weder, 2003).

In India, there have been a few initiatives that are changing the formalization landscape of MSMEs. The Aadhaar Memorandum (UAM), the previous platform for registering MSMEs in India, had 1.02 crore registrations from September 2015 to June 30, 2020.

Various countries have been addressing the need to formalize small businesses. Kenya introduced the Micro and Small Enterprise Act in 2012, creating an authority to support these enterprises. China has established Employment Service Organizations, like the SCESO in Shanghai, to help informal businesses with various aspects of establishment and operation. South Africa's 1994 national small business strategy aims to assist SMEs in becoming more competitive and connected to formal markets, with the National Productivity Institute providing training and support. These efforts highlight a global commitment to empowering small and informal businesses.

In India, there have been a few initiatives that are changing the formalization landscape of MSMEs. The Aadhaar Memorandum (UAM), the previous platform for registering MSMEs in India, had 1.02 crore registrations from September 2015 to June 30, 2020. The Udyam portal replaced UAM on July 1, 2020, to simplify registration. In just two years, Udyam has garnered over 90 lakh registrations, nearing the 1 crore mark (MSME Desk, 2022). The Udyam database is merging with NCS, e-Shram, and ASEEM portals to formalize micro-enterprises. Currently, Udyam has around 95 lakh MSMEs registered. The MSME Ministry is addressing the delayed payments issue by collaborating with state governments. The Udyam Registration Portal (URP) by the Ministry of MSME, Govt. of India, facilitates online MSME registration and

provides Unique Registration Numbers (URN) and Udyam Assist Certificates (UAC). URN is crucial for MSMEs to access priority sector lending. However, several of the estimated 6.34 crore MSMEs, mainly Informal Micro Enterprises (IMEs), remain unregistered due to various barriers. To help IMEs formalize, an 'Assist Methodology' is proposed. Designated Agencies (DAs) like banks, NBFCs, and MFIs will assist IMEs in registration. The central URN will play a key role in MSME formalization, making Udyam-registered IMEs eligible for priority sector loans and facilitating digitalization (MSME Formalisation project, 2023). Along with this, GST has eased tax compliance and influenced formalization. However, stringent labour laws, tax burden, complex regulations and extensive costs as a result of formalization acts as deterrents for the formalization of MSMEs

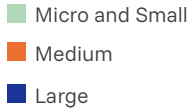
Adoption of an all-of-economy approach that addresses a multitude of challenges faced by enterprises at all levels- from reasons to stay unregistered and issues after formalization to assessing the degree of formalization necessary in an economy is vital.

2. Access to Finance

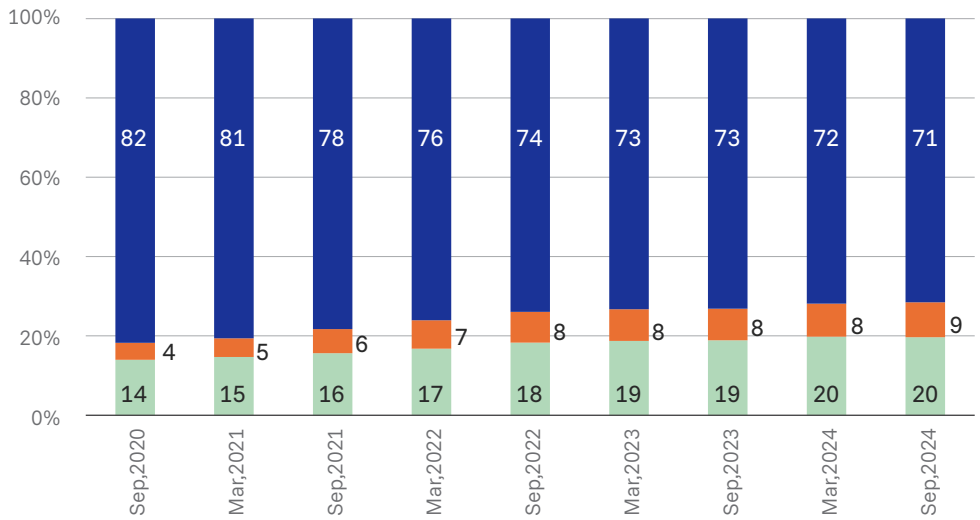
Released by RBI, Statements I and II set out data on the sectoral deployment of bank credit collected from 41 select scheduled commercial banks, accounting for about 95% of the total non-food credit deployed by all scheduled commercial banks.

Fig. 4

Change in share of Sectoral Deployment of bank credit in the across industries



Source: RBI Sectoral Deployment of Bank Credit – September 2024, September 2023, and September 2022



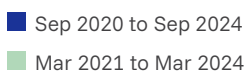
A compilation of data from these statements for the latest month, which is September, in conjunction with older data released by RBI for the same months in the past four years, shows that the credit share of

Micro and Small enterprises has consistently increased, rising from 14% in September 2020 to 20% in September 2024

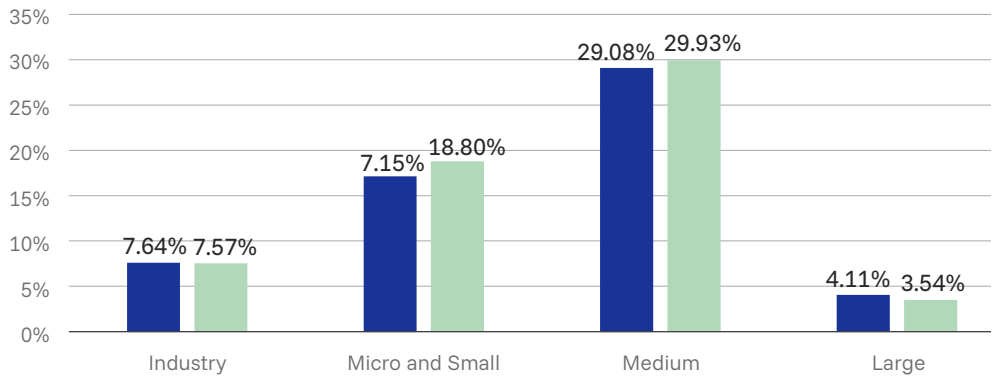
While the growth is slower compared to micro and small enterprises, the share of medium enterprises has gradually increased from 4% in September 2020 to 9% in September 2024. This reflects a positive trend for MSMEs in terms of bank credit deployment. Efforts by financial institutions and governments to enhance credit flow to these sectors have been successful.

Fig. 5

CAGR of the Sectoral Deployment of Bank Credit

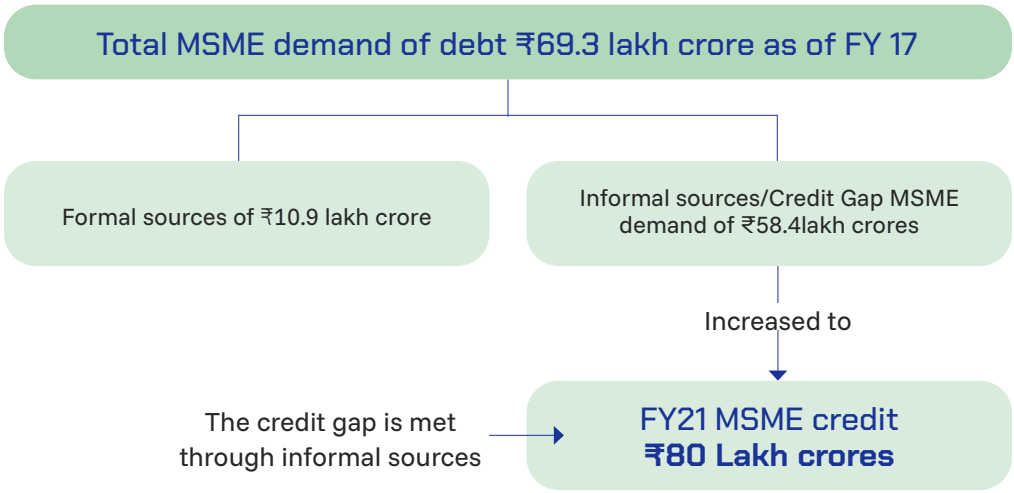


Source: RBI Sectoral Deployment of Bank Credit – September 2024, September 2023, and September 2022



Additionally, credit growth in the Micro and Small and Medium Segments from September 2020 to September 2024, at a CAGR of 17.15% and 29.08%, respectively, was much higher than the industrial average of 7.64%.

However, even with these metrics of rising credit availability to MSMEs, there has been high incidence of credit gap in the sector. The perception of SMEs as high-risk and commercially unviable entities has resulted in limited SMEs receiving formal financial assistance (Ambrose, 2012). Indian banks, in particular, are hesitant to finance small enterprises due to reasons such as the inability to provide collateral, high levels of nonperforming assets, high transaction costs, and difficulties in verifying the creditworthiness of applicants (Prasad, 2006). Along with this, the financial services that banks offer are often insufficient to meet the needs of early-stage SMEs in India (Banerjee, 2006).



Source: IFC Report on Financing India's MSME Nov 2018; Industry Report on Small Business Loans in India, Five-Star Business Finance and CRISIL, November 2021

In fiscal 2017, only 16% of the Rs 69.3 trillion MSME credit demand was met through formal financing, leaving a credit gap of Rs 58.4 trillion, primarily filled by informal sources with interest rates of 30% to 60%. The gap widened further due to the 2020 economic slowdown and the COVID-19 pandemic. Despite relief from schemes like ECLGS, by fiscal 2021, only 19% of the Rs99 lakh crore credit demand was formally met, with CRISIL estimating the credit gap to have grown to Rs80 lakh crore.

Accessing external finance from sources other than banks is costly, limited, and poses a challenge to SMEs despite being essential for long-term growth and goals (Biswas, 2014). Due to constraints in accessing bank credit, MSMEs are forced to employ alternative sources of finance. While accessing finance from formal institutions, MSMEs face several barriers, including the need for collateral or guarantees, inflexible policies, high lending rates, lengthy procedures, entrepreneurs' limited financial knowledge of available schemes, high service fees and complex regulatory frameworks (Singh & Wasdani, 2016) , (Ambrose, 2012)). This restricted access to financial resources hampers the growth and survival prospects of Indian MSMEs. Barriers have also been examined in the context of gender (Irwin & Scott, 2010), firm size, the

length of lending relationships, and the use of overdraft credit (Bebczuk, 2004). The Reserve Bank of India (2005) has identified several issues in financing SMEs, including inadequate access to finance for small firms due to a lack of financial information and non-formal business practices, limited access to private equity, venture capital, and secondary market instruments, fragmented markets for inputs and vulnerability of products to market fluctuations, limited access to technology and product innovations, lack of awareness of global best practices, and significant delays in settlement of dues and payment of bills by large-scale buyers. A reduction in the cost of credit, time barriers and documentation is necessary to ease the procurement of finance (Grant Thornton, FICCI, 2011)

To increase access to finance, confidence in the abilities of MSMEs and remedial measures for investors is necessary.

Some of the reasons for the low financial inclusion of SMEs are no effective management tool in place, lack of knowledge of banking guidelines, and ineffective mechanisms to weigh the creditworthiness of the company (Subramanian & Nehru, 2012). To increase access to finance, confidence in the abilities of MSMEs and remedial measures for investors is necessary.

3. Skill Gap

Between 2014 and 2022, the number of skilled employees in medium, small, and large enterprises witnessed significant growth, with increases of 19.94%, 20%, and 12.72%, respectively, as reported in the World Bank Enterprise Survey data.

Nonetheless, the increase in skilled labour is relatively modest compared to the development pace seen in the past decade. A significant mismatch exists between the quantity and calibre of available skills and the skills needed. This discrepancy is highlighted by the Global Innovation Index ranking (WIPO, 2023), revealing a 3.9 percentage point decline in knowledge-intensive hiring from the already modest 12.96% recorded in 2022. This continues to hinder the development of MSMEs.

The diversity and scattered structure of MSMEs call for focused skill development programs.

A 2009 study by NCAER on India's Textile and Clothing sector found that there is a massive gap between the availability of skilled labour and the needs of the industry. It recommends industry-specific skill development and revisions in labour law to overcome these barriers. They point out that a highly skilled labour pool is required to move towards value products, which is required for the development of the industry through innovation and R&D. MSMEs are also unable to hire skilled labourers on the managerial level due to the informal nature of the industry and better employment opportunities available for such skilled workers due to the informal nature of the industry and better employment opportunities available for such skilled workers (Khatri, 2019). The scarcity of skilled labour is a significant obstacle for MSMEs, hindering their capacity to innovate, enhance production standards, and scale their operations. These are essential steps for establishing a strong foothold in Global Value Chains.

The diversity and scattered structure of MSMEs call for focused skill development programs. Cluster-based targeting of skills training, developing sector-specific occupational standards, exploring cost-sharing models for skills training of existing employees, and clearly understanding the needs of unregistered MSMEs will help bridge the skill gap and enhance SMEs' competitiveness (Sinha & Pental, 2017).

4. Technology and Innovation

Given the significance of the MSME sector, it is crucial to ensure the competitive position of Indian SMEs, both on the national and international stages, with technology and innovation serving as pivotal factors. Research has highlighted the importance of investing in Research and Development (R&D) activities, improving quality control processes, and fostering innovation ecosystems to enhance MSME competitiveness (C, 2013); (Kanerva, Arundel, & Rene). Moreover, the ability to adapt and incorporate emerging technologies, such as digitalization and automation, is increasingly vital for competitiveness (OECD, 2019). On the Innovation front, India holds the 40th position among 132 economies in the 2023 Global Innovation Index by WIPO (PIB Delhi, 2023), assessing innovation through 80 indicators. Indian manufacturing relies heavily on labour-intensive activities, hindering their potential in GVCs. Despite improvements since 2015, India's innovation performance needs enhancement, especially within MSMEs, to boost competitiveness.

Research highlights the challenges faced by small and medium-sized enterprises (SMEs) in India regarding technology and innovation. Patchouri & Sharma (2016) found that smaller firms often rely on domestic sources for technology, with only a small fraction sourcing from abroad or collaborators. Singh (2019) identified several issues impeding technology innovation implementation in Northern India's small firms, such as inadequate human resource management, difficulty in acquiring affordable raw materials, and unreliable power supply. Unlike their counterparts in developed economies, these factors limit SMEs' access to international technology and innovation. In the Philippines, Ceuto et al. (2022) explored the drivers and barriers to digital innovation among MSMEs, citing a lack of digital skills, digital market challenges, and insufficient internet infrastructure as significant hurdles.

Despite government efforts to boost small-scale industries, technological stagnation persists, hindering the sector's progress (Bhavani, 2002).

In many developing nations, a substantial proportion of small and micro businesses are established out of necessity for mere survival. In such cases, entrepreneurial spirit is one of the key factors in the survival of enterprises, as it enables businesses to adapt to evolving economic circumstances (Ligthelm, 2010) . In order to adapt to market dynamics, maintain competitiveness, and enable the enterprise to navigate market complexities, entrepreneurial behaviour and organizational innovation have a significant impact on overall performance and enable enterprises to adapt to market dynamics, maintain competitiveness, and navigate market complexities (Oyong, 2019).

Understanding the associations between technology and innovation and engaging in coordinated actions between technology and innovation will fortify the competitiveness of SMEs.

5. Product Diversification

Lack of diversification and innovation in product design is a key deterrent to MSME growth in India. Indian MSMEs with diversified products and services witnessed a growth in customer base by 18%, as compared to players with limited diversification. Despite this, a lack of awareness of market trends, lack of technical knowledge for product diversification, and the high investment cost required in machinery, skilling, and marketing discourage MSMEs from diversifying (Mitra, Nikore, & Gupta, 2021)

India's SMEs have been unable to establish a distinct brand value, internationalise their products and establish themselves as important players in the value chain. Excessive costs of product development, lack of effective selling techniques, unsophisticated marketing, lack of market research, and lack of funds for implementing expensive software, projects themselves as major barriers to SME competitiveness. (March-Chorda, 2002), (Xiong, 20016)). These barriers lead SMEs to remain local and distanced from GVCs, as they produce low-technology products (Pradhan & Das, 2013) that have low profitability and are misaligned with market needs.

Strategies that address the issues relating to complex regulations, accessibility to finance, infrastructure, and export promotion which can be employed at both individual and national levels are necessary. A simplified regulatory framework, good governance, accessible finance, proper infrastructure, and availability of foreign market information will help SMEs in the promotion of their products (Bonga, 2017) . It is imperative to gain a thorough understanding of the competitive landscape, market analysis, and regulatory aspects in both domestic and global markets. This knowledge will enable MSMEs to diversify their products and establish a presence in both national and international markets.

It is evident that tax systems for MSMEs should be designed to align tax compliance requirements with the capacity of SMEs.

6. Tax compliance

Taxes and the economy are closely interconnected, and whenever there is a significant change in the tax system, it becomes crucial to assess its impact on the relevant industry and the associated businesses (Bhalla, Sharma, & Kaur, 2023).

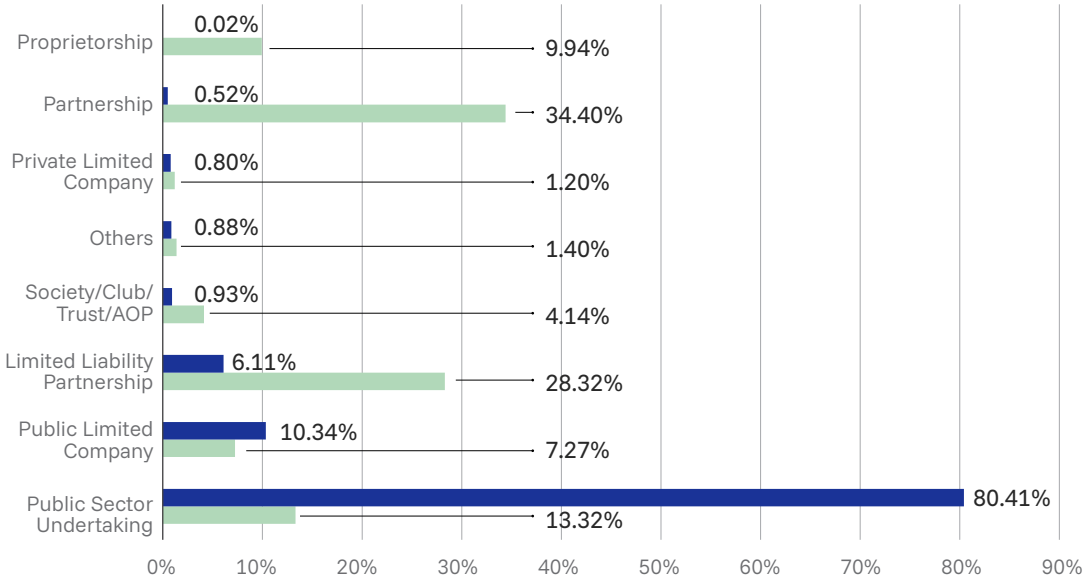
A recent Enterprise Survey Study (World Bank, 2022) revealed that tax rates and compliance was one of the top three business environment constraints for small, medium and large enterprises, with its prominence as a constraint having risen from 2014 to 2022. This barrier is clearly reflected in the imbalance in GST tax revenue. As of June 2023, Proprietorships that form a maximum of 80.41% taxpayer base contribute only roughly 13.32% of the total revenue from GST (GSTN, 2023).

It is evident that tax systems for MSMEs should be designed to align tax compliance requirements with the capacity of SMEs. The tax system for SMEs should minimise compliance costs and enhance accessibility on the MSME end and should be easy to administer and implement on the authorities' side ((Ponorica & Al- Saedi), (Awasthi, 2011)). Tax compliance brings more enterprises into the formal sectors, providing better access to finance, and opportunities for collaboration. (World Bank, 2011).

This restructuring is especially important in India as most SMEs perceive the tax system to be unfair and inequitable, and tend to stay out of the formal economy. The simplification of income tax procedures for SMEs, informed by past experiences, perceived fairness, taxpayers' ability, taxpayer feedback, and lessons from other tax systems, is recommended to form a solid foundation for sound tax policy decisions ((Gabriela and Juhi (2015), (Awasthi, 2011), (Ponorica & Al- Saedi), (Musimenta , Muhwezi, & Akankunda, 2017)).

Fig. 6

Contribution to GST Revenue from Different Constitutions of Business



Source- GSTN, 2024

Good and Service Tax (GST) has been one of the most impactful tax reforms in India. In the context of GST's impact on MSME (Bhalla, Sharma, & Kaur, 2023) highlight the positive impact of the GST system on business performance, citing enhanced operational efficiency and transparency in the indirect tax structure. It also highlights the benefits of input tax credits and the prevention of stock leakages, which have contributed to improved MSME performance by reducing working capital blockages. While GST has these advantages and has increased tax neutrality, it also introduces challenges such as the need to reduce the basic exemption limit, differentiate tax rates for luxury goods and services, manage business costs, and decrease GST compliance expenses

Tax compliance proves to be a vital determinant in the growth of SMEs and has a major multiplier effect. Not only from the point of view of competitiveness of MSMEs but tax compliance is an important factor contributing to the country's tax revenue

A brief overview of the research on other developing economies and tax compliance reveals a similar picture. Tax compliance of Indonesian SMEs is influenced by the probability of audit, tax knowledge, and the perception of equity and fairness (Inasius, 2018) . Turnover growth of SMEs in Cameroon is affected by tax regulations and the time required to comply with tax (Akinboade, 2015) . In China, a positive relationship between tax compliance and digital finance was observed (Ouyang, Liu, & Li, 2023) . In Vietnam, corruption has a significant and negative effect on Tax compliance, as is the case in many developing nations (le et al, 2020, (Awasthi, 2011)

Tax compliance proves to be a vital determinant in the growth of SMEs and has a major multiplier effect. Not only from the point of view of competitiveness of MSMEs but tax compliance is an important factor contributing to the country's tax revenue (Sihombing, 2021) .Hence, as stated, revamping tax systems to account for the tax-to-turnover ratio of small enterprises, tax-paying abilities, industry structure, and administrative inefficiencies is necessary.

7. Infrastructure

A deficiency in infrastructure support in developing nations challenges SMEs' growth prospects (Olawale & Garwe, 2010). In India, inadequate infrastructure support is one of the major non-financial barriers faced by MSMEs (Singh & Paliwal, 2017). A major concern for the growth and development of MSMEs, as reported by the Small Industries Development Bank of India (SIDBI) in 2010, is the lack of infrastructure support. According to a survey by PHDCCI, the Indian MSME sector has identified several obstacles to business growth, including inadequate infrastructure, outdated labour laws, multiple taxes, and the uncooperative attitude of government officials (PHD Chamber of Commerce and Industry , 2022). Furthermore, many MSMEs in rural and semi-urban areas still face a lack of essential infrastructure such as power, roads, and communication services, which hinders their efficiency and overall development.

Inadequate infrastructure is one of the key reasons why MSMEs in India, despite being competitive have failed to establish themselves in the global market. They continue to face bottlenecks due to a lack of adequate transportation facilities like railways, waterways, roadways and airways, high cost of transportation, poor public transport, low/no access to a reliable power supply, poor drainage systems, lack of proper communication channels, lack of appropriate storage facilities, inadequate marketing facilities, lack of funds, and so on. (Prakash, Kumar, & Verma, 2021) (Singh & Paliwal, 2017)

The Ministry of Micro and Small Enterprises has actively participated in this regard, and there have been various attempts by the government to create infrastructure-focused schemes (such as the Infrastructure Development Programme, Scheme of Fund for Regeneration of Traditional Industries, and so on). In 1998 it established 'The Integrated Technology Upgradation and Management Programme' (UPTECH). This policy was revised twice and later renamed "Micro and Small Enterprises – Cluster Development Programme (MSE – CDP)" in 2010. The scheme has a cluster-based approach to highlight the needs and requirements of a sector. This scheme aimed to develop market-linked infrastructure development where development facilities and centralised distribution are in collaboration with state governments, setting up exhibition centres and establishing testing centres to tap the international markets. This initiative, which spans across various clusters throughout India, ensures the maintenance of product quality for both domestic production and international export.

Even though such forward-looking initiatives have been undertaken, the implementation of these policies has been inefficient. A need for revising policy objectives according to the changing dynamics, accountability and convergence in all tiers of government with respect to the administration and implementation of these policies is crucial. A collaboration between private and public stakeholders for expansion and diversification of resources will make policies holistic in their approach as well as increase their impact on the economy.

8. Policy Environment

Government policies have a significant impact on entrepreneurship, and the right approach depends on factors like attitudes of the population on starting businesses, the workforce, government size and role, the current state of entrepreneurship, and the situation of small and medium-sized businesses (SMEs) (Asghar, Paghaleh, & Khaksar, 2011).

Over the years various policies, schemes and initiatives such as ECLGS, Startup India, SAMRIDH, Startup India Seed Fund scheme (to SMEs, MSMEs), and Atmanirbhar Bharat along with tax reforms have created a favourable environment and given room for SMEs to scale (Kadaba, Aithal, & Sharma, 2023). While these efforts are contributing to the development of MSMEs, there is limited awareness about the support systems and resources created to assist this sector. Furthermore, enterprises face challenges comprehending and accessing these initiatives. A need for thorough surveys to identify the technical and financial requirements of MSMEs for a better understanding of the ground reality and engagement of larger enterprises with advanced expertise will bolster the growth of MSMEs (Khatri, A Study of the Challenges of the Indian MSME Sector, 2019) .

Despite the implementation of several government initiatives, there exist visible deficiencies within this sector that require attention. A crucial measure in bridging these gaps involves conducting impact evaluations of pivotal government programs and formulating policies that target the key variables impacting the growth of MSMEs (Gautam, 2022) . However, a thorough examination reveals a notable deficiency in current research. There is a need for an investigation into the alignment between government policies and the needs and challenges encountered by the MSME sector, along with an evaluation of the effectiveness of these initiatives. his will aid in addressing the intricacies and implementing tailored strategies necessary for resolving the complexities in this sector.

9. The “Missing Middle” Problem

The “Missing Middle” phenomenon, a term denoting the underrepresentation of medium-sized enterprises in the manufacturing sector, particularly within developing nations, has prompted significant research. Initially highlighted by Dhar and Lydall (1961), this phenomenon was identified through the conspicuous absence of firms employing between 50 to 499 workers within Indian manufacturing employment data. Building upon this foundation, Tybout (2000) observed that not only are small and mid-sized enterprises absent in impoverished nations, but that this absence might be attributed to stringent business regulations. These regulations seemingly favor larger entities, leaving smaller firms to grapple with compliance challenges disproportionate to their limited resources.

Through an empirical analysis, Krueger (2009) reveals a U-shaped curve characterising the size distribution of manufacturing employment in India, where the smallest firms (6-9

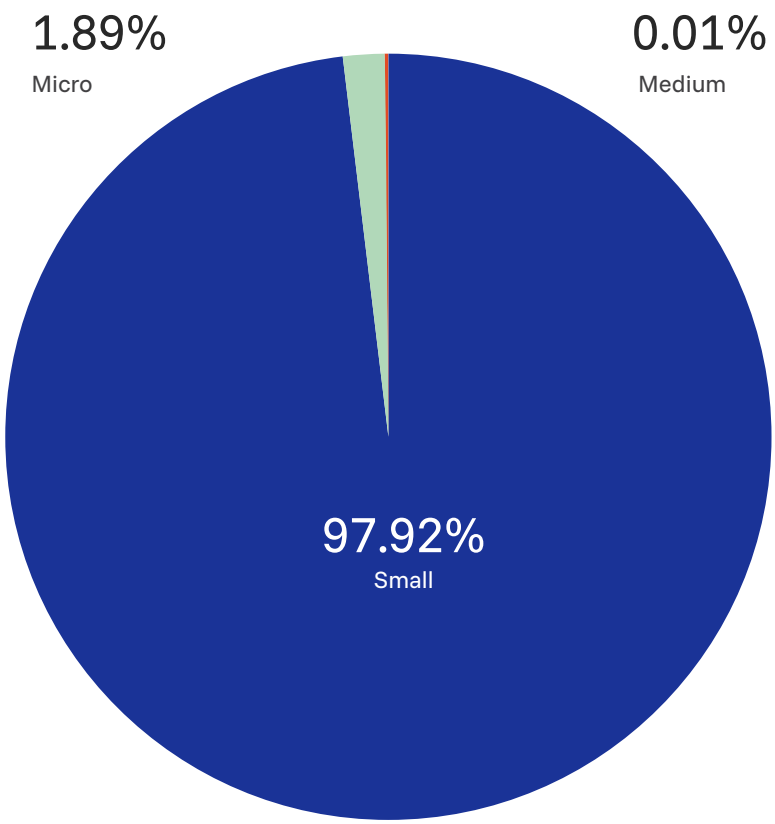
workers) were most prevalent, and those employing 50-99 workers were least represented. She argued that excessive regulations intended to protect workers within the organized sector inadvertently stifled small firm growth, as expansion led to prohibitive cost increments. Nagaraj (2018) posits that the industrial labour market in India is characterised by a stark dualism, highlighted by highly efficient, urban-based manufacturing, as opposed to traditional, subsistence-oriented informal employment. Abreha, Cirera, Davies, and Fattal–Jaef (2022) empirically demonstrate in sub-Saharan Africa that medium-sized firms contribute modestly to employment, a situation exacerbated by informal firms and regulatory distortions rather than the size of new entrants. Echoing this, Little (1987) identified a historical bimodal employment distribution resulting from state-led heavy industrialisation favouring large factories and small cottage industries, creating a gap in the middle. This missing middle is more pronounced in India than in other Asian economies, suggesting a unique set of organisational and technological challenges within its manufacturing sector (Hasan & Jandoc, 2010).

According to the Udyam Registration portal, as of November 2023, out of 3,06,24,320 MSMEs registered, 3,05,60,814 are classified, among which, there are about 97.92% micro, 1.89% small and 0.01 % medium enterprises.

Fig. 7

Percentage of Micro, Small and Medium of Registered MSMEs

Source: UDYAM Registration Portal (https://udyamregistration.gov.in/Government-India/Ministry-MSME-registration.htm)



Mehrotra and Giri (2019) use integrated data from formal and informal firms in India to analyse enterprise size distribution, particularly in the manufacturing sector, and to identify factors contributing to micro and small firm concentrations. Their findings reveal that over 90% of Indian MSMEs are micro-enterprises, employing 40% of the workforce, with a missing presence of small enterprises. The concentration of micro-firms is attributed to factors like low productivity, limited access to finance, and regulatory barriers. Notably, there is a dearth of small and medium-sized enterprises, with a significant proportion falling into the Own Account Enterprises (OAEs) category. Policymakers have largely overlooked these small units, as have the enterprises in the unorganised sector. Their research implies that there is not only a missing middle but a missing small as well. They argue for a new policy framework that addresses specific constraints, advocating for policies that foster growth while creating an enabling environment for MSME development. (Mehrotra & Giri, 2019)

Policymakers have largely overlooked these small units, as have the enterprises in the unorganised sector. Their research implies that there is not only a missing middle but a missing small as well.

Globally, the extent of labour regulations tends to rise in correlation with the size of factories and businesses. Due to the substantial costs associated with compliance, these regulations pose a compliance burden and prevent enterprises from organically expanding in size and harnessing economies of scale in production. This gives rise to the “missing middle”.

The missing middle phenomenon in India is a complex challenge, but it is one that must be addressed through a comprehensive policy framework that takes into account the unique needs of small and medium-sized enterprises. This framework should foster growth, take into account labour and industrial structure, and prioritise bringing these enterprises into the policymaker's frame of reference.

Chapter 2

Competitiveness Framework:

MSMEs and the Path to Prosperity

Porter highlights the importance of building microeconomic capabilities in the national business environment where firms compete, without which the broader macro-framework would not bear fruit . This understanding is especially significant in the Indian business scenario which harbours a majority of small enterprises.

While the crucial role played by MSMEs in fostering shared prosperity is widely recognised, both government and business leaders continue to grapple with the question of how to effectively address the challenges hampering SME development and competitiveness. This acknowledgement is coupled with the acceptance of various challenges MSMEs face that impede their growth and competitiveness. The urgency of addressing longstanding challenges such as limited access to credit markets, inadequate market linkages, and outdated technology has become even more pronounced (Daño-Luna, Maribel, & Francisco, 2018). This heightened urgency is driven by the evolving structure of the marketplace, the constraints posed by limited resources, the management capabilities (Deniz, 2013), (Hautz, 2014), and the ongoing need for continuous capacity building. In this context, improving competitiveness emerges as the sole pathway to survival (Chobanyan & Laurence, 2006).

Emerging in the 1980s, the concept of competitiveness was studied by Buckley, Pass, and Prescott (1988) by examining extant literature which reveals the difficulty in measuring competitiveness at the levels of country, industry, firm, and product (Buckley, 1988). Michael Porter (1990), in his book 'The Competitive Advantage of Nations', outlined a new approach to competitiveness. A concept that was approached mainly through a macroeconomic lens or a focus on resources inherent to a location, took on a productivity-based framework in this seminal work. This break-away from other conceptions of competitiveness emphasized that it is not about what a location possesses, but how productively the firm or the nation uses available resources.

Porter highlights the importance of building microeconomic capabilities in the national business environment where firms compete, without which the broader macro-framework would not bear fruit . This understanding is especially significant in the Indian business scenario which harbours a majority of small enterprises. The expectations and actions of firms, customers, suppliers, and associated institutions must be taken into consideration. The competitiveness framework thrust on assessing microeconomic foundations of economic activity will help in capturing this aspect.

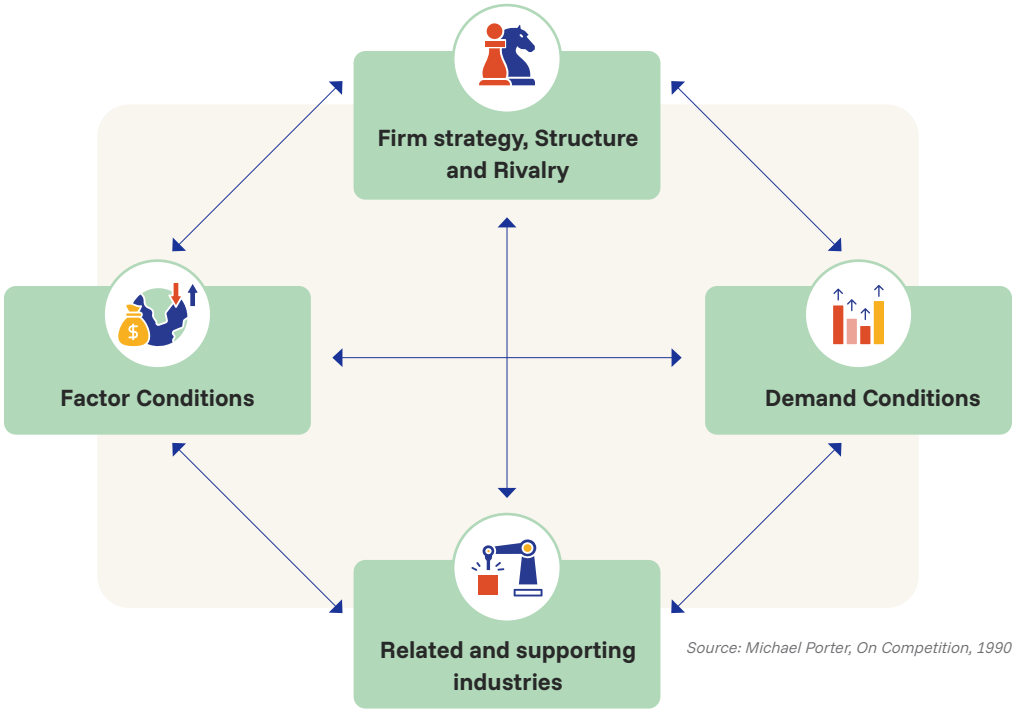
The Microeconomic pillar is composed of two essential components

The quality of the business environment in the nation **&** The presence of related and supporting industries.

This approach transcends the mere geographic proximity of producers or industries. It considers the interconnections between diverse firms and institutions within a given location.

Porter's Diamond Model

Using the diamond model as a tool to measure national competitiveness, Porter has proposed a competitiveness gauge to assess the business environment of a nation or a firm. The diamond model is, thus, an integral aspect of the microeconomic pillar of the competitiveness framework (Ketels, 2017). This model comprehensively considers factor conditions, demand conditions, related and supporting industries, the structure of strategy, and rivalry. These factors make up the national environment where companies are born and learn how to compete.

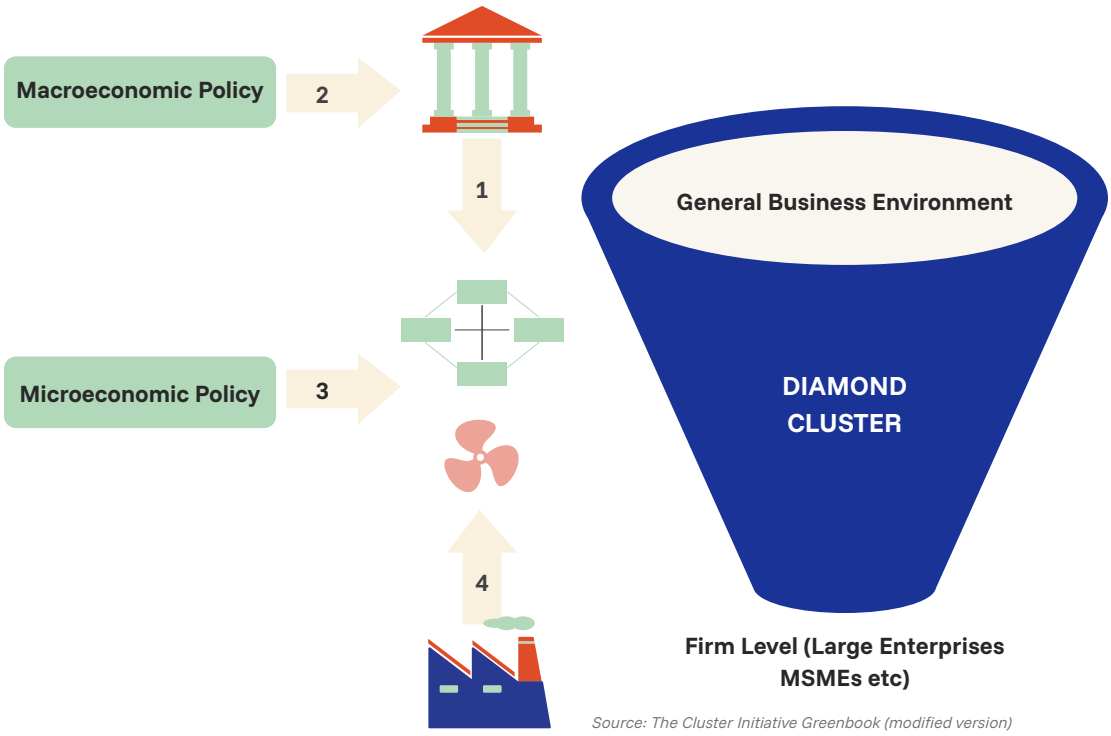


Source: Michael Porter, On Competition, 1990

Factor Conditions encompass a nation's intrinsic resources and capabilities, spanning skilled labor, infrastructure, and natural resources. The quality and quantity of these factors intricately shape the overall competitiveness of a country. Demand Conditions, another facet of the model, pivot on the nature and extent of demand within the domestic market, acting as catalysts for innovation and product development. A sophisticated and demanding local market serves as a driving force, compelling firms to enhance their offerings through continuous improvement and innovation. The aspect of Related and Supporting Industries underscores the significance of robust, interconnected industries and supportive infrastructure, collectively contributing to the competitiveness of a particular industry. The

synergy among these industries within clusters creates a mutually reinforcing environment, fostering overall competitiveness. Lastly, Firm Strategy, Structure, and Rivalry delineate the conditions governing the creation, organization, and management of companies, coupled with the intensity of domestic competition. The presence of vigorous domestic competition is highlighted for its potential to spur innovation and operational efficiency among firms. Each factor in this model and the interplay of the four together affect essential ingredients for achieving international competitive success. Some economies have an interplay of these four factors that harbours an environment conducive to growth for certain companies.

The diamond model provides nuanced insights into the dynamics of competitiveness. Transitioning from this microeconomic perspective, the overarching business environment illustrated in the figure below, exerts deterministic forces originating from historical, geographical, and culturally-bound institutions (1). In contrast, policy choices provide opportunities for citizens to actively sculpt the future of their society. On the economic front, macroeconomic policies (2) wield influence over the general business environment, while microeconomic policies (3), inclusive of cluster initiatives designed to optimize the functioning of the microeconomic "engine," directly impact the diamond and clusters. Furthermore, strategies formulated within firms and entrepreneurial activities (4) serve as proactive forces that significantly contribute to shaping both clusters and society at large (Sölvell, Lindqvist, & Ketels, 2003). This interconnected framework underscores the symbiotic relationship between macroeconomic forces, microeconomic dynamics, and entrepreneurial endeavors in driving national competitiveness.



Source: The Cluster Initiative Greenbook (modified version)

We move forth to understand the other essential component of the microeconomic aspect of competitiveness – i.e., Related and Supporting Industries or the presence of clusters in the next section.

Clusters Concept Evolution

The role of clusters in enhancing the competitiveness at firm level (including MSMEs is exceedingly important particularly in the current era of globalization. It was first mentioned by Alfred Marshall, who laid the foundation for understanding the externalities within clusters (Marshall, 1920). Post this various models, such as the Collective Efficiency Model (Schmitz, 1995), Flexible Specialization Model ,and Diamond Model (Porter M. E., Clusters and the New Economies of Competition, 1998) were employed for the analysis of clusters (Neven & Dröge, 2001).

There are differences in each model: **Piore and Sabel's Flexible Specialization Model views a cluster as an industrial district comprised of small enterprises engaged in a complex network of competition and cooperation, emphasizing value creation, holistic approaches, and the dynamic aspects of the cluster.** Each model contributes unique insights, collectively enriching the understanding of clusters in diverse contexts. In contrast, Schmitz's Collective Efficiency Model conceptualizes a cluster as a group of producers engaged in similar activities in close proximity, focusing on factor conditions, demand conditions, externalities, joint action, flexibility, economies of scope, innovation, and product differentiation. Whereas Porter's Diamond Model defines a cluster as a network of interconnected firms and institutions in a specific field located within a particular geographical area, emphasizing firm strategy, structure, rivalry, factor conditions, demand conditions, and related and supporting industries.

Out of all models, Porter's definition of cluster has found extensive application in advanced economies but has been notably overlooked in research on developing nations[7].

Cluster Approach: Unravelling Divergences in Adoption in India

While acknowledging the advantages, the Government of India has initiated cluster-forming endeavours and devised strategies to amplify this ecosystem's scale for MSMEs. The Ministry of Micro, Small and Medium Enterprises (MSME), Government of India (GoI) has adopted the Cluster Development approach as a key strategy for enhancing the productivity and competitiveness as well as capacity building of Micro and Small Enterprises (MSEs) and their collectives in the country.

The Ministry of Micro, Small and Medium Enterprises (MSME) defines clusters as following

> A cluster is a group of enterprises located within an identifiable and as far as practicable, contiguous area or a value chain that goes beyond a geographical area and producing same/similar products/complementary products/services, which can be linked together by common physical infrastructure facilities that help address their common challenges. The essential characteristics of enterprises in a cluster are
>
> (a) Similarity or complementarity in the methods of production, quality control & testing, energy consumption, pollution control, etc.,
> (b) Similar level of technology & marketing strategies/practices,
> (c) Similar channels for communication among the members of the cluster,
> (d) Common market & skill needs and/or
> (e) Common challenges & opportunities that the cluster faces.

The Indian definition outlined above, emphasises clusters as groups of enterprises facing similar challenges, which could include common issues in production methods, quality control, marketing, and infrastructure. It involves significant government intervention through the establishment of SPVs and the allocation of grants to support the development of Common Facility Centers (CFCs). The government is actively involved in planning and funding. The Indian definition of clusters exhibits a closer alignment with the concepts of Collective Efficiency as proposed by Schmitz and certain elements of Flexible Specialization articulated by Piore and Sabel, rather than adhering to Porter's Diamond Model. The emphasis on enterprises situated within a discernible geographic area engaged in the production of similar or complementary products/services, coupled with the establishment of common physical infrastructure to address shared challenges, closely corresponds to the principles of Collective Efficiency. This model underscores the importance of collaboration and collective actions among firms within a cluster to enhance their overall competitiveness.

Furthermore, the reference to Common Facility Centers (CFC) offering diverse facilities such as processing, training, marketing, and raw material depots suggests a level of flexibility and specialisation within the cluster. The concept of shared infrastructure capable of addressing various needs of enterprises aligns with the fundamental tenets of Flexible Specialisation.

Porter's approach on Clusters

Clusters are geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition. Clusters also often extend downstream to channels and customers and laterally to manufacturers of complementary products and companies in industries related by skills, technologies, or common inputs (Porter M. E., Clusters and the New Economies of Competition, 1998).

Porter asserts that

> A cluster is the manifestation of the diamond at work
>
> *- (Porter M. E., Clusters and the New Economies of Competition, 1998)*

Clusters exert a positive influence on competition in three primary ways. Firstly, they enhance the productivity of firms situated within the geographic confines of the cluster. Secondly, they serve as catalysts for innovation, driving its direction and pace, which underpins future growth in productivity. Lastly, they stimulate the formation of new enterprises, contributing to the cluster's expansion and reinforcement. Clusters make opportunities for innovation more visible and make innovations possible by aiding connections between stakeholders. (Porter M. E., Clusters and the New Economies of Competition, 1998).

It is a dynamic framework that places a strong emphasis on value creation and the enhancement of competitiveness (Neven & Dröge, 2001) . Moreover, a significant advantage of the Porter model is that it does not assume an initial starting point nor an ideal to be strived for (Neven & Dröge, 2001) ; instead, it proposes processes that make a cluster move from one stage to another. These attributes of the diamond model have made it an effective and widely adopted tool for the study of clusters nationally and internationally, especially SME competitiveness.

The current interpretation of the Indian definition diverges from Porter's framework and the globally accepted definition of clusters by developed economies like the U.S. and European Union.

Reasserting Porter's definition of clusters:

> Clusters are not merely an agglomeration of firms but rather a proximate group of interconnected firms by commodities and complementarities.
>
> *- (Porter M. E., Clusters and the New Economies of Competition, 1998).*

Porter also highlights the role of natural clusters that arise without significant government intervention.

Clusters are not just sectors – they capture the geographic footprint of economic activities, not because they belong to the same statistical classification but because industries are systematically related through local spillovers and linkages. Clusters that emerge around specific factors and compete primarily on factor endowments tend to be shallow (Ketels, 2017). Porter also highlights the role of natural clusters that arise without significant government intervention. While government policies can influence clusters, the emphasis is on the organic development of clusters driven by market forces. While the Indian definition does touch upon factors like common challenges, it doesn't explicitly emphasize the determinants outlined in Porter's Diamond Model.

The Indian definition of clusters aligns more closely with the concepts of Collective Efficiency (as proposed by Schmitz) and certain elements of Flexible Specialization (according to Piore and Sabel), rather than adhering strictly to Porter's Diamond Model. However, users of these models, whether directly or indirectly, often appear disjointed in their application, seeking answers beyond the confines of the chosen framework and underscoring the need for a more comprehensive approach. In this context, Porter's Diamond Model emerges as inherently superior, with its foundational principles grounded in extensive research that spans various countries and industries, providing a more robust and versatile framework for analysis. The consequence of a narrow definition of clusters results in a myopic outlook, which undermines the growth potential of these clusters and directly impacts their scalability and competitiveness.

In India, the Porter framework has not been tested to a great extent, but there are case studies that have used it have affirmed its validity and called for more extensive applications of the model in this setting. An examination of the Textile Cluster in Tirupur, also known as Textile hub of India (Trivikram, Bhalla, Fraser, & Nicholson, 2011) indicates a prevalence of small enterprises and a deficiency in brand equity. However, there has been an improvement in competitiveness observed in Tirupur, as well as in other international knitwear clusters, after the termination of the Multi-Fiber Agreement. Constraint-free access to primary materials (cotton) and robust Institutions for Collaboration (IFCs) bolster the Tirupur cluster. The cluster is renowned for its capacity to fulfil orders with short lead periods of two to four weeks and for the entrepreneurial spirit of its SME members. Poor infrastructure support (in terms of electricity, ports, and roads), inadequate R&D, pollution, and relatively high logistics costs plague the cluster. A Study of Andhra Pradesh Clusters (Joshi, 2020) shows that the labour-intensive manufacturing sectors, like Food Processing and textile and apparel, that currently build their competitiveness based on Government facilitation need labour management and a change of orientation to cater towards global markets. Capital as well as labour-intensive manufacturing sectors such as Minerals and Metals and Heavy Engineering, which are already embedded into the national value chain, should undertake a series of steps to elevate their competitiveness and integrate themselves into the global value chain. A study (Jhamb, 2016) which utilised Porter's model to analyse the different determinants of competitive advantage of the Sports Goods Cluster at Jalandhar concludes that the cluster mainly depends on factor conditions, i.e., raw material availability and skilled labour. Along with this, sophisticated customers, machinery suppliers and competitors enhance the cluster's growth. The study suggests that the cluster should focus on developing specialised and advanced factors and timely implementation of government policies to upgrade competitive advantage from fundamental factors of production. These national and international studies reveal that specific issues hindering growth within various industries can be discerned and effectively addressed through cluster analysis using the diamond model.

Chapter 3

Understanding MSMEs competitiveness in India using Clusters

GVCs serve as critical facilitators of the international exchange of investment, knowledge, and managerial practices that are in line with global standards, thereby significantly bolstering domestic businesses

Clusters play a vital role in enhancing the competitiveness of MSMEs, particularly in the current era of globalisation. Various theoretical frameworks, such as flexible specialization and collective efficiency, have been crafted to examine the dynamics of clusters. Notably, one widely recognized paradigm, Porter's diamond model, has found extensive application in advanced economies but has been notably overlooked in research on developing nations, especially in the context of India. This section of the paper would critically evaluate the relevance and applicability of Porter's cluster approach for 5 sectors in India:

Automotive

Textile Manufacturing

Chemical

Pharmaceutical and Food Processing

Manufacturing Clusters

This is based on data sourced from the Periodic Labour Force Survey (PLFS), the panorama benefits from extensive coverage of the Indian labour force, offering detailed information on wages and employment within 5-digit National Industrial Classification (NIC) industries at the district level. The data is aggregated into cluster categories, formulated by aligning the 5-digit NIC codes with Benchmark Cluster Definitions initially developed in the U.S. and subsequently applied in various other economies. This Indian cluster database affords a comprehensive view of the overall configuration of the Indian economy, the spatial distribution of specific cluster categories across the country, and the cluster portfolios of each Indian district and state. The information derived from this database is instrumental in identifying India's prominent clusters, as well as evaluating the robustness of cluster portfolios in different districts and states.

This methodology is based on India cluster panorama report. (Kapoor, Ketels, Debroy, & Negi, 2023). The objective of this section of paper is to bridge the gap between these two realms of literature, bringing attention to the untapped potential of Porter's model in unravelling the intricacies of clusters in countries like India.

Under-standing Cluster approach using PLFS & Prowess data

The cluster approach is employed to comprehensively understand the performance and dynamics of Small and Medium Enterprises (SMEs) within the Indian economy. The UDYAM portal data reveals that a significant proportion, specifically 81 percent, of MSMEs operate as proprietorships, with 80 per cent falling into the Microenterprise category. Recognising the prevalence of such ownership structures, it becomes crucial to analyse and assess the performance of these enterprises collectively, which the cluster approach facilitates.

Table: 2

Performance Comparison of India's MSMEs with other Countries.

	Percentage		
Organisation Type	**Micro**	**Small**	**Medium**
Proprietary	**98.67**	**1.28**	**0.05**
Hindu Undivided Family	**97.42**	**2.41**	**0.17**
Partnership	**90.00**	**9.28**	**0.72**
Co-Operative	**97.54**	**1.97**	**0.48**
Private Limited Company	**90.70**	**7.90**	**1.39**
Public Limited Company	**91.64**	**5.80**	**2.56**
Self Help Group	**99.87**	**0.12**	**0.01**
Others	**99.78**	**0.20**	**0.02**
Limited Liability Partnership	**92.77**	**6.33**	**0.90**
Society	**96.91**	**2.62**	**0.47**
Trust	**96.47**	**2.79**	**0.73**

Source: UDYAM (2020- jan 13 2025)

PLFS data contributes valuable insights by classifying proprietary and partnership enterprises as part of the informal sector. PLFS is a household-level survey conducted by the National Statistical Office (NSO) to assess India's labour market. It gathers data on employment, demographics, industry, education, and wages. For our analysis, we use data from surveys between 2017-18 and 2022-23, which cover annually both formal and informal economic activities at the state and district levels. and is a longitudinal exercise. This categorisation is pivotal in understanding the landscape within which a substantial portion of SMEs operates. Specifically, the data indicates that 74.3 percent of workers engaged in proprietary and partnership enterprises are involved in the non-agriculture sector. This information is instrumental in comprehending the nature of employment within these enterprises and highlights the significance of activities in informal sector.

Understanding SMEs' performance from PLFS data allows for a more nuanced analysis of their contribution, employment patterns, and overall impact on the informal sector. This, in addition to UDYAM data, can contribute to filling the gaps in understanding the MSMEs. Understanding SME performance using PLFS data offers a holistic perspective on economic activity, aiding in the formulation of cluster programmes, targeted strategies and policies to foster the growth and sustainability of these enterprises.

When we look at formalisation of MSMEs in these manufacturing sectors, we find that:

NIC Code	Description	Share
10	Manufacture of food products	18.58
13	Manufacture of textiles	8.83
14	Manufacture of wearing apparel	7.65
20	Manufacture of chemicals and chemical products	2.38
27	Manufacture of electrical equipment	2.13
21	Manufacture of pharmaceuticals, medicinal chemical and botanical products	0.90
29	Manufacture of motor vehicles, trailers and semi-trailers	0.81
11	Manufacture of beverages	0.87
30	Manufacture of other transport equipment	0.59

Source: UDYAM (2020- jan 13 2025)

The firm-level data utilized in this study is sourced from the Prowess database, which is administered by the Centre for Monitoring the Indian Economy. Prowess aggregates information predominantly derived from the income statements and balance sheets of publicly listed companies. The database encompasses companies that collectively contribute to over 70 percent of the economic activity within the organized industrial sector of India. (Topalova, 2004)

To further gauge the value added by Micro, Small, and Medium Enterprises (MSMEs) across various industries—food processing, manufacture of transport equipment, textile, chemical, and pharmaceuticals—we leveraged firm-level data from the Centre for Monitoring Indian Economy's (CMIE) Prowess database. This database encompasses crucial information extracted from profit and loss accounts and balance sheets of Indian enterprises to offer insights into sales, investments, assets, and ownership type of firms.

CMIE Prowess database – Methodology

Step: 1

Definition of Segments and Value-Added Calculation

In the initial step of this analysis, segments for the computation of value added were identified using the National Industrial Classification Codes. The chosen segments for this calculation are outlined as follows:

NIC Division/ Group Code	NIC Name
101	Processing and preserving of meat
102	Processing and preserving of fish, crustaceans and molluscs
103	Processing and preserving of fruit and vegetables
104	Manufacture of vegetable and animal oils and fats
105	Manufacture of dairy products
106	Manufacture of grain mill products, starches and starch products
107	Manufacture of other food products
108	Manufacture of prepared animal feeds
110	Manufacture of beverages
13	Manufacture of textiles
14	Manufacture or wearable apparel
201	Manufacture of basic chemicals, fertilizer and nitrogen compounds, plastics and synthetic rubber in primary forms
202	Manufacture of other chemical products
203	Manufacture of man-made fibres
29	Manufacture of motor vehicles, trailers and semi-trailers
30	Manufacture of other transport equipment

Step: 2

Data Extraction

For the fiscal years 2014-2022, data extraction was performed, covering indicators such as changes in stock, compensation to employees, insurance premiums, miscellaneous expenditures, packaging costs, power/fuel/water charges, purchase of finished goods, raw materials, rent/lease, repairs/maintenance, sales, and total income.

Step: 3

Identification of Enterprises

In the process of 'Filtering and Identification Based on Sales Thresholds,' a meticulous approach was adopted to specifically delineate Micro, Small, and Medium Enterprises (MSMEs). This involved the application of a discerning sales-based filter, isolating companies

with sales figures falling within the Rs.2500 million range. The primary objective of this filter is to precisely identify and distinguish MSMEs from larger corporations. The analysis is strategically tailored to concentrate on enterprises within the delineated MSME category by implementing a defined sales threshold. This deliberate refinement enhances the precision of the examination of MSMEs, allowing for a more nuanced understanding which distinguishes MSMEs from larger corporations.

Step: 4

Data Cleaning

To ensure data accuracy, firms with missing values on the aforementioned indicators were systematically filtered out during the cleaning process.

Step: 5

Value-Added Calculation and Analysis

The cost of intermediate consumption was computed by aggregating relevant expenses, enabling the determination of value added (total income minus cost of intermediate consumption) for each fiscal year. Subsequently, the year-on-year percentage increase in value-added was calculated and visually presented, providing a comprehensive overview of industry dynamics.

Limitations

Limited Sample Size:

The dataset's relatively small sample size may limit its representativeness of the broader MSME landscape in India, as it predominantly includes firms adhering to standardised bookkeeping practices. This exclusion may introduce potential inaccuracies in assessing the true value added by diverse enterprises, especially micro-enterprises that may not follow such practices.

Missing Values:

A significant number of missing values in the dataset poses a challenge to the reliability and comprehensiveness of the analysis. The absence of data points may result in gaps in crucial indicators, affecting the accuracy of value-added calculations. This limitation underscores the need for cautious interpretation of findings.

Methodological Variations:

The proprietary data collection methodology employed by the Centre for Monitoring the Indian Economy (CMIE) may deviate from national and international standards. This distinction should be considered in interpreting the analysis's findings.

Cluster Level Analysis

GVCs serve as critical facilitators of the international exchange of investment, knowledge, and managerial practices that are in line with global standards, thereby significantly bolstering domestic businesses

1. Textile Manufacturing and Apparel

The examination of both textile manufacturing and apparel clusters is indispensable for obtaining a thorough comprehension of the textile sector's multifaceted dynamics. Delving into the textile manufacturing cluster offers insights into the initial stages of the supply chain, encompassing processes like spinning, weaving, and fabric production. This understanding is crucial for assessing the economic activity and trade dynamics associated with raw material processing.

Conversely, examining the apparel cluster provides a holistic perspective on downstream activities, from design to finished product, shedding light on value addition, employment trends, and export earnings. Together, these analyses contribute to a nuanced understanding of the sector's global competitiveness, supply chain integration, and aid in the formulation of targeted policies to foster sustainable growth and innovation throughout the entire textile industry.

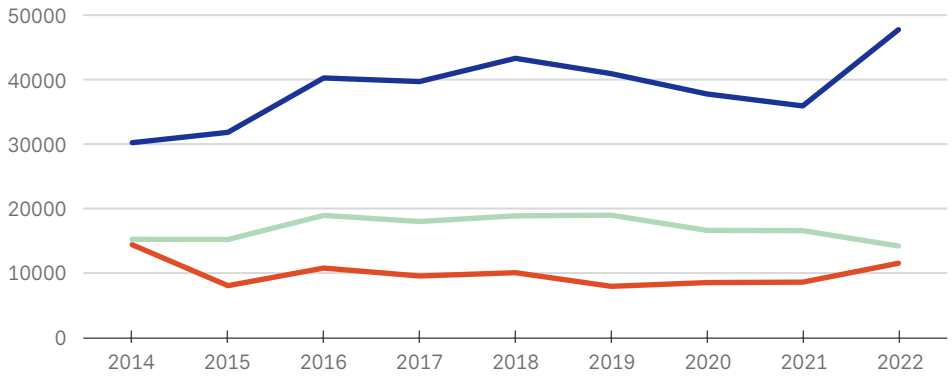
Value addition in Textiles Manufacturing and Apparel sector

The analysis of SMEs assessed showcases value addition within the textile manufacturing sector, focusing on activities such as spinning, weaving, and finishing, the manufacturing of other textiles, and the production of apparel. This reveals critical insights into the sector's global dynamics spanning from 2014 to 2022.

Fig. 8

Value addition in firms with sale <250 crores

- Textile Manufacturing Spinning, weaving and finishing
- Apparel Manufacture of wearing apparel
- Textile Manufacturing Manufacturing of other textile



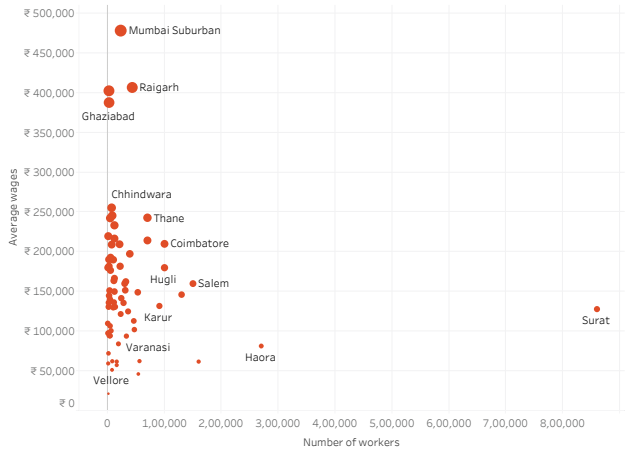
» The "**Spinning, weaving, and finishing**" sub-cluster appears dominant in terms of value addition. A significant increase, particularly in 2022, shows that the 339 enterprises under this NIC consistently exhibit higher value addition than other sub-clusters. However, the dominance of "spinning, weaving, and finishing" is often considered an upstream activity in the textile production process, potentially raising concerns due to lower value addition compared to downstream activities.

» Conversely, the "**Manufacturing of other textile**" sub-cluster experienced fluctuations, responsive to global economic conditions and market demand, with a notable increase in 2022 signifying potential resurgence amid changing market dynamics.

» In the context of the textile industry, downstream activities, such as the "**Manufacture of wearing apparel**," involve creating final consumer goods with higher potential for value addition. Concerns arise as the SMEs related to final manufacturing stages exhibits lower value addition, indicating potential challenges for sector competitiveness in global value chains.

Workforce Trends

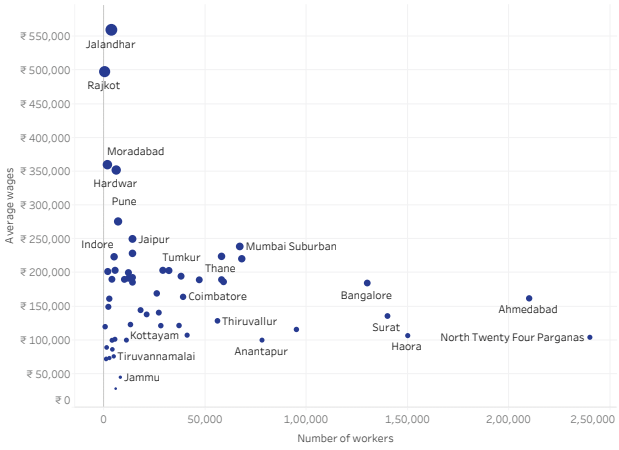
Fig. 9 **Textile Manufacturing Top 100 Districts**



Average wages

₹ 21,528 ₹ 100,000 ₹ 200,000 ₹ 300,000 ₹ 300,000 ₹ 478,261

Apparel- Top 100 Districts



Average wages

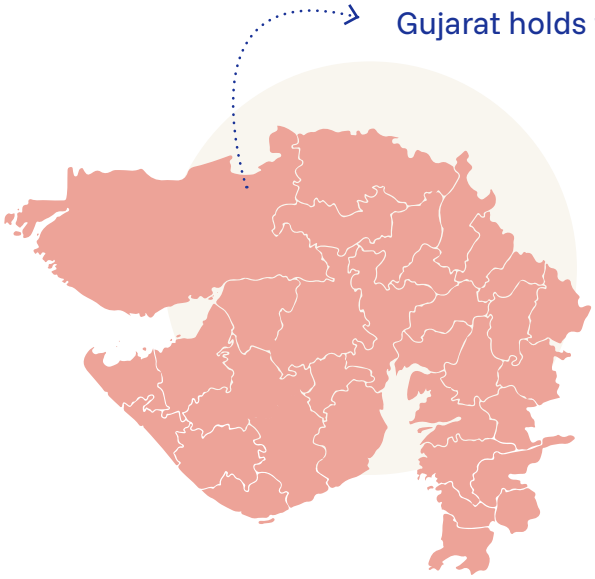
₹ 28,100 ₹ 200,000 ₹ 400,000 ₹ 559,910

Textile Manufacturing

In 2022-23, the textile manufacturing cluster in India encompassed a workforce of 53 lakh, reflecting a notable 15.86% reduction from the 63 lakh workers recorded in 2017-18. The overall productivity of this cluster demonstrated only marginal increase of 1.16% over the six-year period.

A state-level analysis reveals that

Gujarat holds the highest share in the national textile workforce at



23% exhibiting a workforce growth more than 6 % since 2017-18.

Contrastingly, Tamil Nadu and Uttar Pradesh experienced a decline in their workforce shares during the same period.

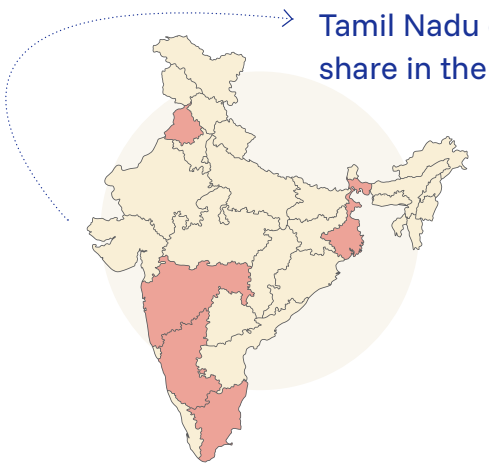
Examination of the district-level distribution indicates that Surat in Gujarat and Tirupur in Tamil Nadu have the highest average wages and workforce participation within the cluster, capturing high total workforce, respectively. On examining Gujarat, Surat demonstrates a stark contrast with Ahmedabad in terms of workforce share and average wages in gujarat, with the former accounting for 70% of the workforce but displaying lower productivity than Ahmedabad.

A similar trend is observed in Uttar Pradesh, where Ghaziabad productivity is high but constitutes less than of the total workforce of UP in textile, while Bareilly, with a 15.41% workforce share, contributes merely 1.24% to the state's average wage. **This uneven trend suggests specialized expertise in certain areas and lower output in others within these states' textile manufacturing clusters.**

Apparel

In the fiscal year 2022-23, the apparel cluster in India engaged a workforce of approximately 19 lakh individuals, reflecting a decline of 13.42% in employment and a 9.07% decrease in wages since 2017-18.

Tamil Nadu emerged as the leading state with the highest share in the workforce at **19.02%**



followed by West Bengal, Karnataka, Maharashtra, and Punjab, contributing 16.24%, 13.76%, 11.21%, and 7.759%, respectively.

Among these states, only West Bengal experienced an increase in the number of workers by 3.39%, followed by Gujarat with a 2.13% growth. **Tamil Nadu also secured the highest share in average wages at 12.80% in 2020-21, succeeded by Delhi and Karnataka with shares of 9.66% and 8.32%, respectively.** Notably, West Bengal, ranking second in workforce share among states, exhibited a nominal 2.93% share in total wages.

Conversely, Haryana, with a 0.39% workforce share, held a substantial 8.31% share in average wages. In Tamil Nadu, Tirupur dominated with a remarkable 49.81% share in workforce, experiencing an increase from 43.45% in 2017-18. However, subsequent districts, such as Erode, Tiruvallur, and Coimbatore, displayed significantly lower workforce shares. The top five positions in share of wages mirrored the workforce distribution, with Tirupur commanding 46.68%, followed by Coimbatore, Erode, and Tiruvallur. In Karnataka, Bangalore emerged with the highest workforce share at 70.09%, yet its share in average wages was a modest 7.78%. Conversely, Kolar and Hassan, with workforce shares of 0.57% and 0.73%, respectively, led the state in average wages, emphasizing regional disparities in productivity within the apparel cluster.

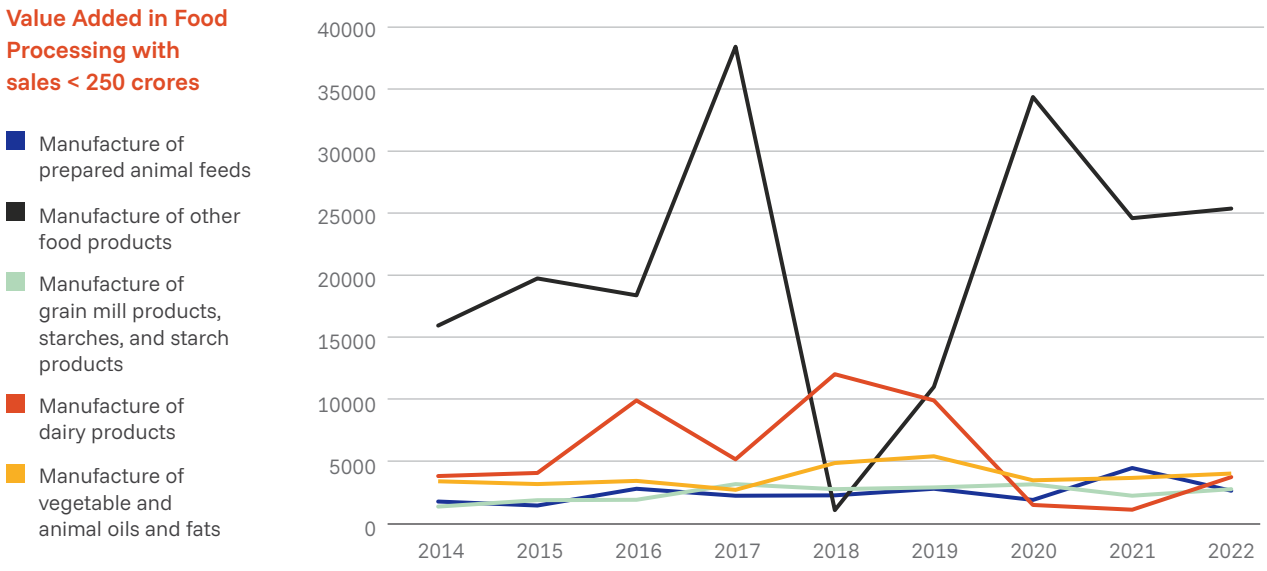
2. Food Processing

Value addition in the Food Processing Cluster

The analysis of value added in 433 enterprises across various NIC codes of 101-108 from 2014 to 2022 provides insights into the performance and trends within different activities. The presence of both upstream and downstream activities highlights the interconnectedness of the local and traded cluster, indicating that a disruption in one may affect the others.

Fig. 10

Value Added in Food Processing with sales < 250 crores



Upstream Activities

» The NIC code 107, involving the **manufacture of other food products**, stands out with a significant increase in value added over the years, especially in 2016 and 2020, showcasing a robust growth trajectory.

» Conversely, Enterprises related to NIC code 108, i.e **manufacture of prepared animal feeds**, experienced fluctuations, with a substantial decrease in 2020. The % increase in value added indicates varying degrees of value addition across different enterprises.

» Enterprises associated with the NIC codes of upstream activities, **such as the manufacture of grain mill products, starches, and starch products** (106) and the manufacture of **vegetable and animal oils and fats** (104), show moderate and consistent growth. This suggests a stable foundation for these industries, contributing significantly to the overall value added.

» On the other hand, NIC code 105, enterprises encompassing **the manufacture of dairy products**, displays a mixed performance, indicating potential challenges or changing market dynamics.

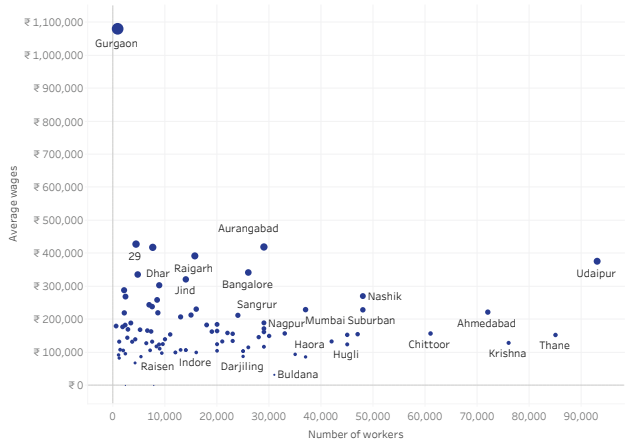
Downstream Activities

» Enterprises in NIC codes 107 and 108 seem to be dominant, emphasising the importance of processed food products. However, the fluctuations in value addition in enterprises under NIC 108 since 2020 raise concerns about its resilience. This could be attributed to external factors impacting the supply chain or market demand.

Workforce Trends

In the examination of the food processing sector, two distinct segments are under scrutiny: Food Processing and Local Food and Beverages Distributions.

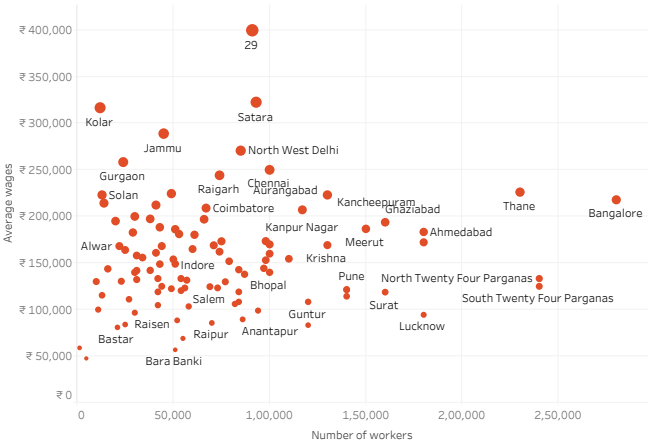
Fig. 11 Food Processing and Manufacturing



Average wages

• ₹ 0 • ₹ 200,000 • ₹ 400,000 • ₹ 600,000 • ₹ 800,000 • ₹ 1,080,723

Local Food and Beverage processing and distributio



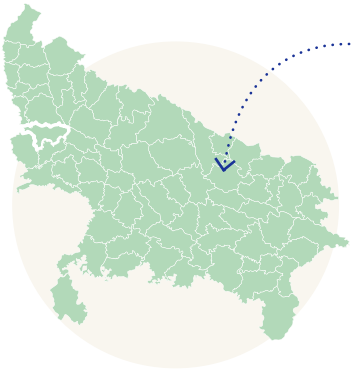
Average wages

• ₹ 47,639 • ₹ 100,000 • ₹ 200,000 • ₹ 300,000 • ₹ 399,770

The food processing and manufacturing cluster in India engaged approximately

43 Lakh workers in 2020-21,

experiencing a notable 16% increase in average wages since 2017-18.



» Uttar Pradesh emerged as the leading state, boasting the highest share in both workforce and wages for this cluster at

11.65% & 10.22%.

Maharashtra, Tamil Nadu, West Bengal, and Rajasthan followed with shares of 10.26%, 9.02%, 8.97%, and 7.59% in workforce, respectively. Notably, with the exception of Ladakh, Mizoram, and Sikkim, all states demonstrated activity in the food processing sector, with lower participation in Lakshadweep, Meghalaya, Chandigarh, and Daman and Diu.

» Punjab, despite contributing a modest 3.98% to the workforce, commanded a 5.54% share in average wages, while West Bengal, with an 8.9% workforce share, only held a 3.35% share in average wages.

Upstream Activities

» Uttar Pradesh continued to dominate with a 15.12% share in workforce and a 9.85% share in average wages. Maharashtra, West Bengal, and Bihar followed with shares of 8.45%, 7.9%, and 7.5% in workforce, respectively. Notably, despite having lower workforce shares (4.99% and 4.38%), Madhya Pradesh and Rajasthan made substantial contributions to average wages, with shares of 5.82% and 5.4%, respectively. West Bengal, with a high workforce share of 7.9%, held a comparatively low share of 2.41% in total average wages for the cluster.

» Whereas, delving into the food processing and manufacturing cluster in Uttar Pradesh, a notable 11.78% increase in the workforce and a substantial 34.61% increase in total wages were observed in 2020-21 compared to 2017-18. The cluster displayed a dispersed pattern across districts of Uttar Pradesh, lacking significant specialization.

» Notably, Ghaziabad, Varanasi, Sitapur, and Balarampur covered the highest share in wages, while Shahjahanpur, Pilibhit, Kapur Nagar, and Jhansi contributed the most to the workforce. This lack of concentrated specialisation may be attributed to the state's large size and population.

» Similarly, in Maharashtra, districts such as Pune, Sangli, Kolhapur, and Nashik held substantial shares in the workforce, with Pune leading at 14.50%. However, their shares in average wages were slightly lower, indicating a disparity in productivity. Mumbai Suburban,

with a 9.91% share in wages, employed only 3.57% of the workforce in the food processing cluster. Thane contributed 5.82% to total wages with a 4.91% share in the workforce. Despite Pune having the highest workforce share, its contribution to wages was only 4.55%. This trend was also observed in other districts, suggesting a nuanced relationship between workforce distribution and wage contribution in Maharashtra's food processing sector.

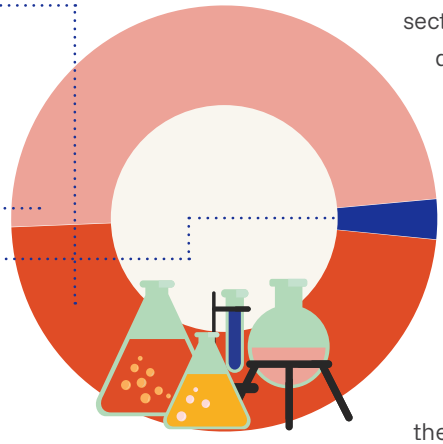
3. Chemical Products

Value addition in the chemical sector

48%
basic chemicals, fertilizer and nitrogen compounds, plastics, and synthetic rubber

49%
Other Chemical products

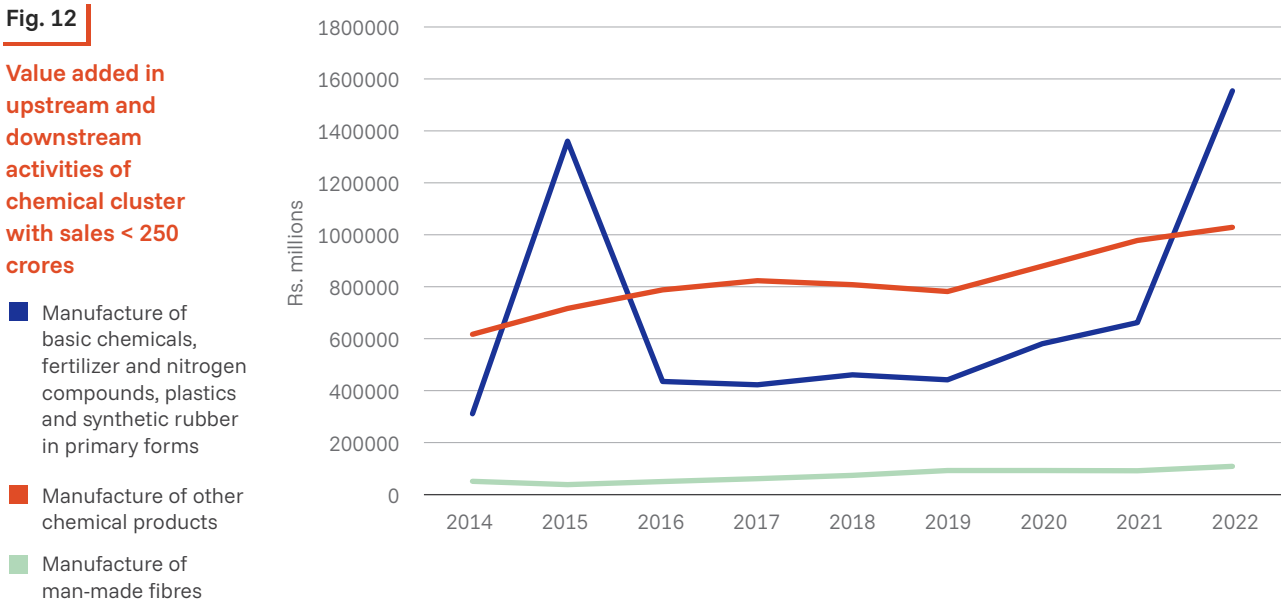
3%
Basic man-made fibres



The comprehensive analysis of value addition in the Chemicals sector from 2014 to 2022 takes into account the specific distribution of enterprises within cluster . Out of the total 1512 enterprises assessed, the manufacture of basic chemicals, fertilizer and nitrogen compounds, plastics, and synthetic rubber in primary forms constitutes 48%, highlighting its substantial presence in the industry. The steady and remarkable increase in value addition in this sub-cluster underscores its dominant role, particularly in upstream activities. Similarly, the manufacture of other chemical products, representing 49% of the assessed enterprises, displays consistent growth, especially in 2022, indicating the prominence of downstream activities. The manufacture of man-made fibres, although comprising 3% of the enterprises, exhibits noteworthy fluctuations and an overall positive trend, emphasizing the need for careful consideration in the analysis.

Fig. 12

Value added in upstream and downstream activities of chemical cluster with sales < 250 crores

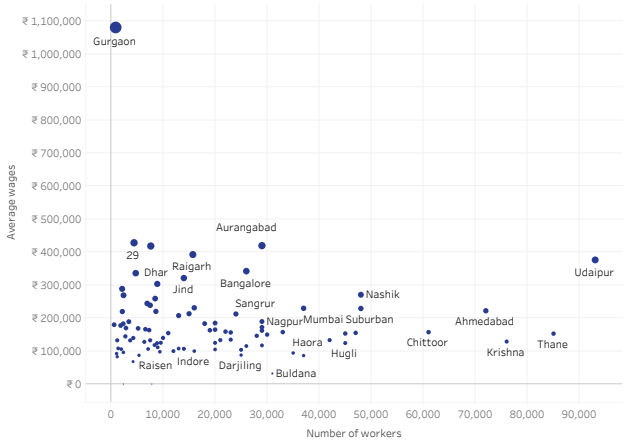


In light of these insights, the Chemicals sector portrays a dynamic landscape where both upstream and downstream activities coexist and contribute significantly to the overall value addition. The dominance of basic chemical production, coupled with the growth in other chemical products, highlights the sector's adaptability and competitiveness. The relatively smaller share of enterprises involved in the manufacture of man-made fibres suggests a specialized niche within the industry, warranting focused attention in understanding its unique dynamics. This nuanced analysis underscores the importance of considering the diverse composition of enterprises when evaluating the performance and trends within the Chemicals sector.

Workforce Trends

In the fiscal year 2022-23, the chemical industry in India was analyzed across two distinct clusters: upstream chemical and downstream chemical. The cumulative workforce within these clusters amounted to approximately 8.4 lakh workers, constituting 0.34% of the total payroll across all clusters.

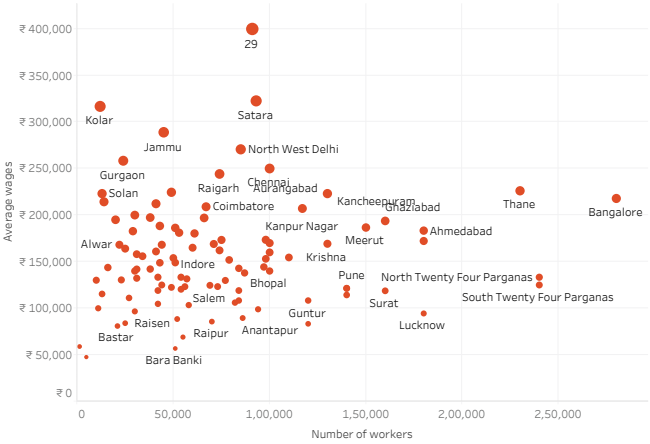
Fig. 13 Top 100 Districts - Downstream Chemical Clusters



Average wages

• ₹ 0 • ₹ 200,000 • ₹ 400,000 • ₹ 600,000 • ₹ 800,000 • ₹ 1,080,723

Top 100 Districts - Upstream Chemical Cluster



Average wages

• ₹ 47,639 • ₹ 100,000 • ₹ 200,000 • ₹ 300,000 • ₹ 399,770

In the downstream chemical cluster

» Virudhunagar in Tamil Nadu emerged as the district with the highest workforce share at 16.31%, followed by Thane in Maharashtra (7.83%), Bharuch (6.36%), and Valsad (4.73%) in Gujarat. Notably, these districts witnessed substantial increases in workforce shares compared to 2017-18.

» Mysore, Karnataka, claimed the highest share in average wages at 11.78%, despite having a modest 1.96% share in the workforce. Conversely, districts with high workforce shares, such as Virudhunagar, exhibited lower shares in average wages (0.30%). Gujarat, Tamil Nadu, and Maharashtra dominated in terms of both workforce and average wage shares at the state level.

In the upstream chemical cluster

» Thane and Bharuch again emerged as the leading districts with 10.17% and 8.90% shares in the workforce, respectively. Gujarat maintained the highest state-level share in the workforce (27%) and average wage (14.45%) for upstream chemical clusters, despite experiencing declines in both workforce and average wages from 2017-18 to 2020-21. Maharashtra, Jharkhand, and Tamil Nadu followed suit in terms of state-level shares.

» Gujarat's nine districts with upstream chemical clusters exhibited varying workforce and average wage shares. Bharuch led with 32.89% in workforce and 17.27% in average wages, while Vadodara contributed 25.06% to the workforce and 8.27% to average wages. Kheda experienced a notable increase from 0.5% to 9.6% in workforce share and from almost 0% to 17.48% in average wage share from 2017-18 to 2020-21.

» Jharkhand, with three districts in the upstream chemical cluster, witnessed Purbi Singhbum commanding the highest workforce share at 81.25%, while Sarai Kela-Kharsawan exhibited a noteworthy 76.87% share in average wages with an 8.05% workforce contribution. Ranchi contributed 10.70% to the workforce and 13.48% to average wages. The state exhibited growth in both workforce and average wages shares from 2017-18, indicating the evolving landscape of chemical clusters.

4. Automotive

Value addition in Automotive Sector

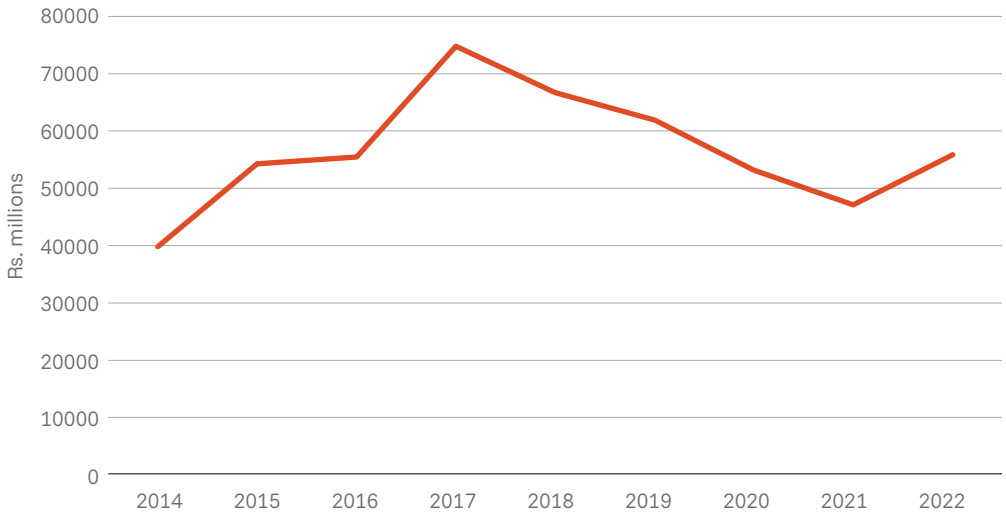
The examination of value added by 327 enterprises with yearly sales less than 250 crore, covering the period from 2014 to 2022, provides crucial insights into the automotive industry's performance:

» The steady and continuous growth observed between 2014 and 2017 indicates a resilient and expanding automotive industry throughout this time period. However, a notable contraction occurred in 2018, characterised by a decline of 10.81%. This decline suggests that the industry may have faced potential challenges or disruptions during that particular fiscal period. The aforementioned negative trajectory continued into 2019 and 2020, during which it experienced additional declines of 7.17% and 14.09%, respectively. These figures seemingly arose from the influence of wider economic conditions, global trends, and sector-specific obstacles.

» A significant recovery emerged within the automotive industry in 2021, marked by a value-added growth of 18.5%. The observed resurgence may indicate effective industry adjustments, recuperation from previous obstacles, or an improved market environment. The positive trajectory of expansion continued through 2022, reaching its pinnacle with a value-added of 55,892.8, surpassing the levels recorded in 2020.

Fig. 14

Value addition in automotive sector with sales <250 crores



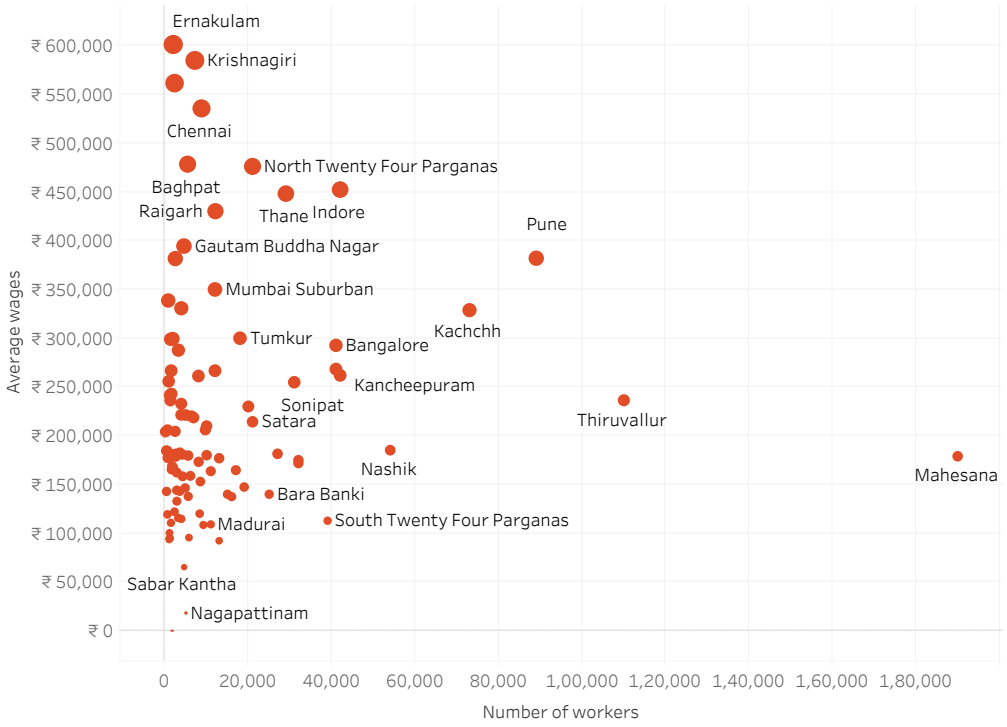
Workforce Trends

The automotive sector in India employed an estimated 14 lakh workers during 2022-23. Despite an 18% increase in the total workforce from 2017-18, there was a noteworthy 14% decrease in the overall wages within the cluster during the same period. District-level analysis revealed distinct patterns, with Bokaro, Nagpur, Mysore, Gurgaon, and Southwest Delhi exhibiting the higher productivity with a comparatively lower share in the workforce. In contrast, Pune, Ahmedabad, Kolhapur, Rewari, and Tiruvallur have the highest workforce share but lower productivity.

Within the automotive sector, Maharashtra maintained its preeminent position by securing the highest share in average wages at 17.67%, followed sequentially by Tamil Nadu, Gujarat, Jharkhand, and Haryana.

Fig. 15

Automotive-
Top 100 District



Further, the analysis of districts in Maharashtra indicated varied dynamics, with Pune leading in workforce share (48.59%) but having a relatively low productivity as its average wage share in Maharashtra is just 7.8%. Whereas, in Tamil Nadu, Tiruvallur held the highest share in both workforce (23.57%) and average wages (11.27%). Gujarat showcased a diverse landscape, with Ahmedabad leading in workforce share (69.41%) and Mehsana leading in average wage share (16.59%). The intricacies of these trends underscore the need for nuanced strategies in the automotive industry, taking into account regional variations in workforce distribution and average wages.

Chapter 4

Policies for MSMEs in India

Porter highlights the importance of building microeconomic capabilities in the national business environment where firms compete, without which the broader macro-framework would not bear fruit . This understanding is especially significant in the Indian business scenario which harbours a majority of small enterprises.

Evaluation of National-Level Policies for MSMEs in India

In this chapter, we delve into a comprehensive analysis of the policy landscape governing Micro, Small, and Medium Enterprises (MSMEs) in India, aiming to augment our understanding of the challenges faced by these enterprises. While our analysis discerns the relevance of the objectives outlined in these policies, it also sheds light on areas where policy implementation can be refined, emphasizing the imperative for heightened sustainability.

In the next step, we broaden our perspective to encompass the schemes and initiatives implemented by various state governments in India, thereby creating a more detailed depiction of the decentralised policy ecosystem. Our investigation uncovers a certain disjointedness in state-level policies, indicative of a lack of uniformity and synchronised efforts across regions. This revelation underscores the necessity for a more cohesive and coordinated approach among states to fortify the collective impact of MSME policies. As we traverse through this chapter, we endeavour to unravel the intricacies of these policies, offering insights into their effectiveness, collaborative potential, and opportunities for refinement to foster a more conducive environment for the flourishing MSME sector in India.

The enactment of the MSMED Act in 2006 marked a pivotal milestone in creating a conducive policy framework for advancing the MSME sector in India. This legislation not only provided a definitive classification for MSMEs as opposed to the previous “Small Scale Industries” but also established a foundation for bolstering their competitiveness. Before this Act, small industries in India were referred to as Small Scale Industries (SSIs) under the Industrial Development and Regulation (IDR) Act of 1951[9] , which encompassed tiny, cottage, traditional, and village enterprises. The MSMED Act of 2006 established a legal framework, defining the concept of an ‘enterprise’ to include manufacturing and service entities and categorising them into three tiers: **Micro, Small, and Medium. The classification of MSMEs varies globally, relying on diverse factors like turnover, workforce size, and investment.**

[9] https://www.dcmsme.gov.in/publications/circulars/circularmay1994.html

Both the Government of India and state governments have been proactive in introducing many schemes and policies to bolster this sector.

In India, historically, the definition was contingent on the number of employees as per the Industrial Development and Regulation (IDR) Act of 1951. However, due to challenges in obtaining accurate employment data and the fact that most enterprises in India are Own Account Enterprises, informal, and/or employ very few labourers due to the complexity in labour laws (Khatri, A Study of the Challenges of the Indian MSME Sector, 2019), the focus shifted to using investments in plant, machinery, and equipment as a reliable proxy. Recently, there has been a shift towards a turnover-based definition due to issues with data reliability and to account for depreciation in the definition on the basis of plant and machinery. The original investment-based criteria set in 2006 doesn't fully align with the present cost index of plant and machinery (Sinha U. K., 2019). Additionally, many MSMEs operate informally, without proper accounting practices, making it challenging for them to fit within the current definition criteria, highlighting the necessity for periodic adjustments in line with evolving economic conditions. As a move to overcome these shortcomings, in July 2020, the Ministry of Micro, Small and Medium Enterprises revised the definition of MSMEs to take into account the changing circumstances by giving primacy to the classification on the basis of turnover rather than investment in plant and machinery[10] . Given the changing circumstances, it's crucial to shift the focus of this important legislation towards making it easier for MSMEs to operate in the market. The goal is to tackle key challenges like limited infrastructure, informal practices, adopting new technologies, building capacity, establishing market linkages, accessing credit, and securing investment.

Both the Government of India and state governments have been proactive in introducing many schemes and policies to bolster this sector. Yet, MSMEs continue to grapple with issues concerning formalisation, access to technology, timely and adequate financial support, enhancement of competitiveness, availability of skilled workforce, and market linkages. India has a range of institutions dedicated to addressing the challenges faced by MSMEs. The Ministry of MSME oversees policy formulation for its holistic advancement, and various organisations under the Office of Development Commissioner MSME execute these policies. The MSMED Act of 2006 encompasses provisions to promote and nurture the MSME sector. SIDBI serves as the principal financial institution supporting MSME financing and development. RBI and SEBI establish overarching policies to facilitate financial backing for the sector. While these bodies have played a crucial role through legislation and policies in driving sectoral growth, crafting targeted policies in areas such as infrastructure, formalisation, technology integration, linkages, credit accessibility, and prompt payments to MSMEs, and ensuring their effective implementation, has proven to be a challenge for all stakeholders.

This section aims to assess the execution of the measures brought about at the national level to uplift MSMEs. The evaluation of the schemes under consideration is grounded in a multi-dimensional approach, drawing from a combination of audit reports by the Comptroller and Auditor General of India (CAG), annual reports by the implementation authorities of the schemes, and existing academic literature. The success of any scheme can be gauged by the physical and financial progress carried out under the scheme, as well as its socio-economic impact. This information is made available by the CAG of India in their annual audit reports. These reports were leveraged as a critical source of evidence. Additionally, a review of academic literature pertaining to the schemes for the MSME sector in India was conducted. The literature review served to contextualise the evaluation within the broader academic discourse, providing empirical insights and comparative analyses with schemes of peer economies.

[10] Revised Classification of MSMEs w.e.f 1st July 2020

Examination of Key policies designed to assist MSMEs

1. Credit Guarantees Trust for MSMEs

Financial inclusion for MSMEs is imperative for economic growth. However, the persistent credit gap excludes them from India's formal financial institutions. A significant reason for the limited access to bank financing in this industry is the banks' perception of high risk when lending to micro and small enterprises (MSEs). The challenge of providing collateral, especially for very small businesses seeking small loans and first-generation entrepreneurs, makes it harder for them to access finance for their enterprise. (Ministry of Micro, Small & Medium Enterprises)

In response, the Ministry of Micro, Small, and Medium Enterprises, in collaboration with the Small Industries Development Bank of India (SIDBI), established the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) in 2000. The main objective was to offer a collateral-free guarantee for loans and advances, which include term loans and working capital assistance, provided by lending institutions to both new and existing Micro and Small Enterprises. Additionally, lending institutions are required to pay guarantee fees, annual service fees, and other charges as determined by the Government of India and SIDBI (About CGTMSE, 2023).

CGTMSE has five schemes under its umbrella:

Credit Guarantee Scheme for Banks (CGS-I):

The scheme provides credit guarantees of up to ₹5 crore for unsecured loans to MSMEs. This includes special benefits for certain groups, such as women, SC/ST entrepreneurs, and those in aspirational districts. A 'Hybrid Security Model' is available for partially collateralised loans.

Credit Guarantee Scheme for NBFCs (CGS-II):

It was launched in 2017 to help NBFCs provide easier access to credit for MSMEs.

Credit Guarantee Scheme for Subordinate Debt (CGSSD):

The Scheme, launched in June 2020, provided credit to stressed MSMEs. It ended on March 31, 2023. The aim was to help MSME promoters infuse funds into their businesses through equity, quasi-equity, or sub-debt.

Credit Guarantee Scheme for PM SVANidhi (CGS-PMS):

This scheme was launched to help street vendors affected by the COVID-19 pandemic. It provided working capital loans and encouraged them to formalise their businesses and adopt digital payments.

Credit Guarantee Scheme for Co-Lending (CGSCL):

The RBI introduced the co-lending model, which aims to improve credit access for underserved sectors. It combines the lower cost of funds from banks with the wider reach of NBFCs. The CGTMSE launched the CGSCL in February 2022 to further support this model, providing guarantee coverage for loans extended jointly by banks and NBFCs.

Fig. 16

Approved Guarantees and Amount by CGTMSE

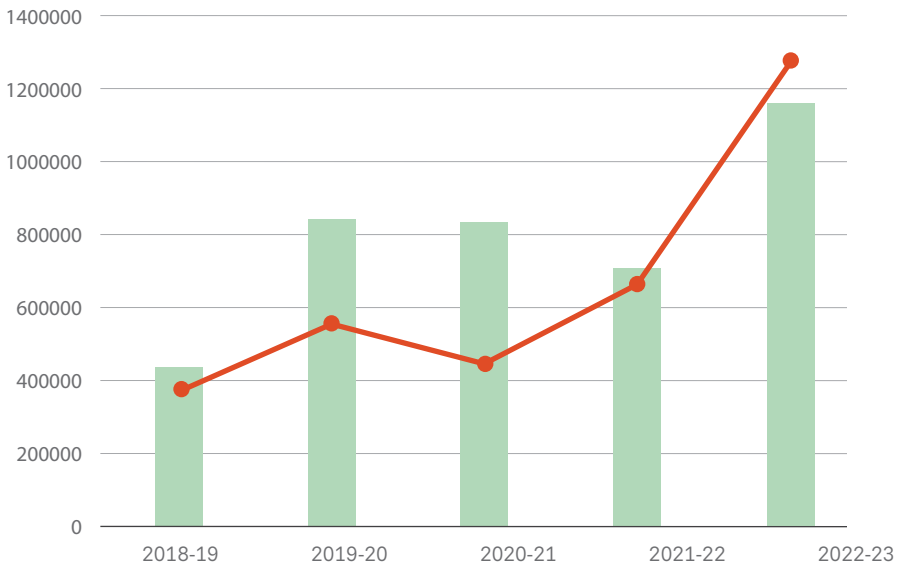
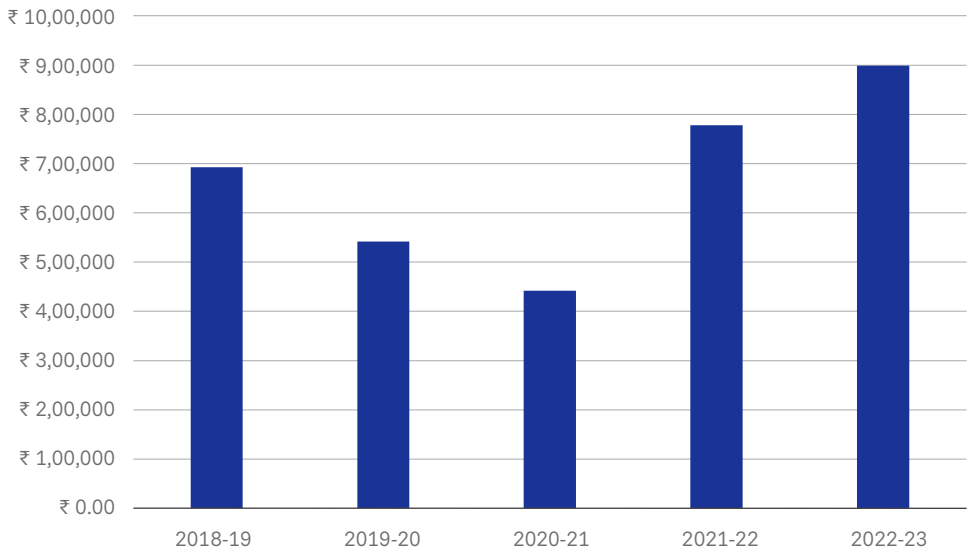


Fig. 17

Average size of Loans approved by CGTMSE



In the last five years, from 2018-19 to 2022-23, the number of approved guarantees has increased significantly, with 2022-23 reaching 11,65,786 approvals, a substantial rise from 4,35,520 in 2018-19 at a CAGR of 27.91%. The guarantee amount has shown consistent growth, especially a sharp rise in 2022-23 to ₹1,06,474 crore, almost doubling the previous year's amount of ₹55,218 crore. The dip observed in the above graph in 2020-21 can be attributed to the Covid-19 pandemic. The sharp increase starting 2021-22 perhaps resulted from the launch of PM SVANidhi Scheme.

Additionally, the CGTMSE's average loan size peaked in 2022-23 at ₹8,98,801, the highest in the last five years, rising from ₹6,92,689 in 2018-19 at a CAGR of 6.73%.

Issues in the Scheme

In the 46th report of the Standing Committee on Finance (17th Lok Sabha) titled "Strengthening Credit Flows to the MSME Sector", it was highlighted that only a few MSME enterprises are managing to get collateral-free loans under the Government schemes, with majority being compelled to furnish adequate collateral even after being eligible for collateral-free loans. As more than 99 percent of the MSMEs belong to the micro sector they typically have no collateral to offer to banks.

This concern remained in the committee's 68th report about "Action taken by the Government on the Observations/Recommendations contained in the Forty-Sixth Report (17th Lok Sabha) on the subject 'Strengthening Credit Flows to the MSME Sector".

The CGTMSE, operating as a registered trust, relies on a 4:1 ratio of contributions from the Government of India and SIDBI to its corpus fund. Member Lending Institutions (MLIs) must register and form a formal agreement with CGTMSE to access guarantees for MSE credit. MLIs include commercial banks that enter into an agreement CGTMSE and can apply guarantee cover in respect of eligible credit facility sanctioned to any eligible borrower[11]. However, procedural inefficiencies are evident.

These issues affect both the institutions and the MSMEs they serve. Institutions struggle with a lack of regulatory support and procedural consistency, leading to resource misallocation. Operational challenges include accountability lapses, delayed settlements, and a slow claim process.

[11] https://www.cgtmse.in/Home/VS/94

In Asia's developing countries, the primary institutional credit mechanism is Credit Guarantee Schemes (CGSs), which have effectively addressed information imbalances and expanded credit access for SMEs.

For MSMEs, the burden of high guarantee fees on top of already significant interest rates makes accessing the scheme costly. Recognising these challenges, experts have recommended increasing the guarantee cover, absorbing guarantee fees, streamlining procedures, and offering truly collateral-free loans under certain conditions. Responding to this, a restructured CGTMSE scheme was introduced in April 2023, with a notable ₹9,000 crore boost from the Union Budget FY 2023-24 to guarantee an additional ₹2 lakh crore for MSEs. The scheme's updates include halving the guarantee fees for loans up to ₹1 crore and reducing the minimum fee to 0.37% annually. The guarantee cap has been raised from ₹2 crore to ₹5 crore, and the threshold for claim settlements without legal action has been increased to ₹10 lakh. ((Mund, 2020) (Anu & Lakshmisree, 2013; Anu & Lakshmisree, 2013)).

MSMEs also face NPA challenges, as RBI's classification criteria (principal or interest payment remained overdue for 90 days) doesn't align with the sector's working capital cycle. Extending the classification period to 180 days, which takes into consideration the enterprise's payment abilities and allows restructuring without downgrading accounts, can provide breathing space for MSMEs[12] .

For CGTMSE to effectively address credit access challenges, a comprehensive policy framework with robust checks and balances is essential, enabling both borrowers and lenders to fully utilise the credit system.

Key Takeaways from other countries

In many developing nations in Asia and the Pacific, the credit system is mainly centred around banks, with nonbank financial institutions playing a minor role. The lack of credit infrastructure, such as credit and collateral registries, contributes to information imbalances that hinder credit access (Asian Development Bank, 2022).

In Asia's developing countries, the primary institutional credit mechanism is Credit Guarantee Schemes (CGSs), which have effectively addressed information imbalances and expanded credit access for SMEs. These schemes share the default risk with financial institutions, allowing SMEs to navigate traditional credit assessments and institutional preferences.

When comparing India's CGTMSE with similar schemes in other countries like Korea's KODIT, Japan's JFC, Malaysia's CGCM, and Indonesia's PUJKI, it's evident that India's CGTMSE has a smaller corpus or fund size. This smaller corpus has also increased at a slow pace and selective provision of services by the Indian CGS. Some of these schemes have evolved into credit information bureaus, providing SMEs with reliable risk assessments, along with provision of services that facilitate access to finance and ensure efficient operations with strong risk management practices. In contrast, CGTMSE lacks additional support services for MSMEs and has limited direct interaction with them. (Asian Development Bank, 2022)

This approach, focused on aiding sound financial decision-making and risk mitigation rather than merely offering access to a select group of formalised MSMEs, can significantly amplify the scheme's impact.

These restrictions hinder the competitiveness of Indian MSMEs despite their proportion in the economy. The competitiveness of MSMEs extends beyond credit access; it encompasses the entire credit utilisation process. Recognising and improving services related to credit access, ensuring efficient resource allocation at the enterprise, government, and institutional levels, and creating an enabling environment based on ground-level challenges is crucial. This approach, focused on aiding sound financial decision-making and risk mitigation rather than merely offering access to a select group of formalised MSMEs, can significantly amplify the scheme's impact.

2. Assistance to Training Institutions Scheme

The Assistance to Training Institutions Scheme, overseen by the Ministry of Micro, Small and Medium Enterprises, Government of India, is a centrally sponsored initiative. It extends financial aid to training institutions, aiming to enhance skill development within the MSME sector. The scheme's primary objectives encompass upgrading training infrastructure, creating and delivering innovative programs, and imparting skills to a significant number of individuals for the MSME sector's benefit (Invest India, 2023).

Under this programme, it was found that from 2012-13 to 2019-20,

87% of the allocated 17,615 training programs were completed,

training approximately 87% of the target of 4.7 lakh persons.

However, investigation into the scheme's performance by the CAG audit (Comptroller and Auditor General of India, 2021) reveals several critical aspects of the training programs under review.

- Assigning training programs to unauthorized agencies and setting training targets for institutions without considering their capacity and staff strength led to overburdened staff and inefficient training.
- The Ministry neglected to assess the necessary skills before designing skill development programs.
- The Ministry's sanction orders failed to establish targets for training institutes regarding indigenous entrepreneurship, wage employment, or trainee self-employment. There was an absence of post-training employment or entrepreneurship targets and monitoring mechanisms.
- Invoices and a number of completed trainings were fabricated. About 70% of the recorded trainees were legitimate, with instances of duplicate and unclear duplicate trainees. The unutilised training funds were neither reported to the Ministry nor returned by the institutions, highlighting a lack of transparency and accountability in financial management

The primary objectives are to foster the growth of MSMEs, enhance their participation in public procurement, and ensure equitable opportunities for them.

The Ministry failed to realise the intended results of the schemes primarily due to the absence of a proper assessment of necessary skills, skill gaps, and the trade-offs involved in conducting these trainings. Additionally, there were no requirements set by the Ministry for training institutions to ensure the employability of trainees and guarantee the desired outcomes of the training programs.

The scheme's incapacity to effectively address a fundamental skilling issue discourages enterprises from engaging in government programs. This, in turn, deprives them of affordable and relevant training opportunities, forcing them to rely on costly upskilling courses that are hard to access. This obstacle significantly hampers the scalability and competitiveness of MSMEs.

3. Public Procurement Policy 2012, for Micro and Small Enterprises

The Public Procurement Policy for Micro, Small, and Medium Enterprises (MSMEs) in India mandates that central government ministries and departments should procure at least 25% of their annual goods and services from MSMEs, with an additional 4% from MSMEs owned by Scheduled Castes and Scheduled Tribes. The fundamental motive of this Policy is to advance and develop Micro and Small Enterprises by aiding them in marketing their products and services. The primary objectives are to foster the growth of MSMEs, enhance their participation in public procurement, and ensure equitable opportunities for them. These objectives rely on principles of competitiveness, adherence to sound procurement practices, and the execution of supplies in accordance with a system that is fair, transparent, competitive, and cost-effective. To promote greater involvement of MSEs in government procurement, Central Public Sector Enterprises (CPSEs) are encouraged to conduct Vendor Development Programmes or Buyer-Seller Meets, particularly for SC/ST entrepreneurs (Public Procurement Policy, 2016)[13] .

The CAG Audit (Comptroller and Auditor General of India, 2018) encompassing various procurement practices and compliance within the Central Public Sector Enterprises found that there have been shortcomings in procurement targets and compliance, payment issues to vendors, outstanding dues, billing practices, and conducting vendor development programs. This necessitates a need for stronger regulations, better financial management, transparency in transactions and clearer policy communication and enforcement mechanisms. The handling of complaints and grievances also raised concerns. While complaints were received, it was found that they were not adequately processed through the grievance cell. Furthermore, the outcomes of these complaints were not updated on the portal, indicating a lack of transparency and accountability in addressing vendor concerns. Nodal officers, important for coordination and communication not appointed by all CPSEs. The website was rarely updated with procurement plans or updates.

[13] Evidence to support achievements of participation in Vender Development Programmes could not be furnished hence the successful execution for the same cannot be verified (https://msme.gov.in/sites/default/files/Vendor_Development_Programme_Ancillarisation.pdf)

This highlights India's challenges related to the capacity of policy administration, leading to significant issues and uncertainties in the implementation of SME support measures. Along with this, anti-competitive practices like corruption meddle with schemes like public procurement in India leading to artificial inflation in prices (Patil, 2017) . In a nation where the missing middle persists with a missing small as well, these schemes are crucial as they offer opportunities for such enterprises to engage in the market. The inefficiency in these programs not only hampers competition among existing enterprises by restricting diversity and inadvertently favouring larger businesses, but it also establishes obstacles to the entry of new and emerging small businesses.

3. Micro and Small Enterprises: Cluster Development Programme (MSE-CDP)

MSME Cluster Development is a program of the Government of India that aims to promote the growth and development of MSMEs by developing and upgrading their clusters. The objective of the scheme is to enhance the productivity and competitiveness of Micro and Small Enterprises (MSEs) for their holistic development. This involves providing financial assistance in the form of a Government of India (GoI) grant to establish Common Facility Centres (CFCs)[14] provide shared services to enterprises in existing clusters and for upgrading or establishing new Industrial Areas, Estates, and Flatted Factory Complexes. The scheme also involved the establishment of a Special Purpose Vehicle (SPV)[15] to leverage resources, enhance access to public resources, and improve linkages to credit and marketing competitiveness (Comptroller and Auditor General of India, 2021).

Applying for the MSE-CDP consists of a ten-step procedure according to the recently revised guidelines (Ministry of MSME). Such a complicated procedure may prove to be a hindrance and beyond the scope of the limited capabilities of Micro- and Small-Enterprises. Additionally, the project approval process requires the applicants to produce multiple documents, including a project appraisal report and registered land documents, thus increasing the compliance burden on the enterprises. According to the newly released guidelines in 2022, the digital portal for the scheme would be revamped to include photographs of ongoing projects, a map of clusters across India,

[14] A Common Facility Centre (CFC) is defined as an infrastructural hub for processing, training, marketing, raw material depot, effluent treatment, complementary production processes, testing laboratory, and ancillary activities for MSMEs (https://msme.gov.in/sites/default/files/ModifiedGuidelinesofMSE_0.pdf)

[15] A Special Purpose Vehicle (SPV) is a company registered under Section 8 of Companies Act set up for the purpose of running projects under MSE-CDP. A company registered under Section 8 of the Companies Act is a non-profit organization with limited liability that aims to promote charitable activities, art, science, education, and sports. (https://msme.gov.in/sites/default/files/FAQs-MSE-CDP.pdf, https://www.icsi.edu/media/webmodules/publications/FAQs_on_Section_8_Companies.pdf)

The Central Government in India has established a range of policies to bolster the MSME sector.

workflow of the scheme, and proposals to ensure transparency among applicants (Ministry of MSME, 2022). An inspection of the portal revealed that the aforementioned updates had not been made since the inception of the new guidelines in 2022. Furthermore, the guidelines indicate that UDYAM Data on detailed NIC Classification and PIN Codes of registered enterprises have been used to formulate detailed cluster maps of all states. This data is not available for perusal in the public domain.

Currently, 111 out of the 208 sanctioned Common Facility Centres (CFCs) in India have not been completed, and 111 out of 309 Infrastructure Development (ID) Projects are still ongoing. (Ministry of MSME). 1,018 initiatives have been implemented across 964 clusters in 29 States and 1 Union Territory as part of the program. A total expenditure of Rs. 75.01 Crore has been utilised during the financial year 2015-16, up to March 30, 2016, under the Micro and Small Enterprises-Cluster Development Programme (MSE-CDP) to implement diverse interventions[12]. However, inadequate planning and implementation of the project, the inability to complete and operationalise the Common Facility Centre (CFC) due to delayed plot allotment to Special Purpose Vehicle (SPV) members, insufficient infrastructure development, and the failure to secure the remaining grant from the Government of India (GoI), not only led to the non-achievement of scheme objectives but also made the expenditure of ₹8.89 crore, including a GoI grant of ₹5.67 crore, invested in establishing the CFC unproductive. (Comptroller and Auditor General of India, 2021) (PIB, 2023) (Ministry of Micro, Small and Medium Enterprises, 2023)

The limited effectiveness of a widely acknowledged competitiveness tool, such as cluster development, can be attributed to the incomplete adoption and application of this concept within the Indian context. The definition and formation of clusters in India are narrow and restrictive, considering geographical proximity as the main criterion. However, successful frameworks using cluster analysis consider complementarities, linkages and interconnections. Italy, a success story in cluster development, encompasses supporting industries in its programme and bases its analysis on "specialisation, cooperation and flexibility." (Report of the Expert Committee on Micro, Small and Medium Enterprises, 2019). Indian MSMEs need a framework that considers both preceding and succeeding complementarities, forming a comprehensive system that enhances competitiveness across all facets of their growth.

Evaluation of State Policies

The Central Government in India has established a range of policies to bolster the MSME sector. These central schemes, while beneficial nationally, require state-level policies tailored to local industrial needs for MSMEs to be effective. State-level MSME policies, however, have not been the focus of extensive research and lack of consistent evaluation and detailed performance data. In our study, we adopted a structured approach to assess state-specific MSME policies across India. Initially, we collected policy documents from each state, categorizing them by the presence of a dedicated MSME policy or recent updates to their industrial policy. We then pinpointed four crucial pillars for MSME development and examined the initiatives each state implemented under these pillars. Through a comparative analysis, we evaluated the breadth and impact of these initiatives, offering insights into their potential effects on India's MSME sector. However, our study was limited by the inability to perform

deep, on-the-ground analyses due to a lack of comprehensive data on policy implementation. This limitation restricted our ability to suggest highly effective policy recommendations. Our research serves as an initial, comprehensive step towards understanding state policy impacts on MSMEs and paves the way for future studies, contingent on the availability of more detailed data on policy performance.

The Central Government has implemented numerous policies to support the MSME sector, as discussed in detail in the preceding section. While these central schemes are designed to serve the entire nation, **effective state-level policies are crucial for the growth of MSMEs as State-specific policies can be tailored to the unique requirements of industrial units within a particular state and can assist these units in addressing the specific challenges they face.** The MSME policies at the state level is a subject that has not drawn much focus in the literature. The state policies thus have suffered from a lack of regular evaluations and scrutiny. There is also lack of information on the performance of such policies as even though these policies are implemented, there is lack of information regarding their performance at the grass roots level. In this section, we employed a structured methodology to evaluate the MSME policies of various states in India. Initially, we gathered policy documents from each state, classifying them based on whether they possessed a dedicated MSME policy document or had recently updated their industrial policy. Subsequently, we identified four fundamental pillars critical to MSME development and proceeded to scrutinize the initiatives implemented by each state under these identified pillars.

Our research serves as an initial, comprehensive step towards understanding state policy impacts on MSMEs and paves the way for future studies, contingent on the availability of more detailed data on policy performance.

Through a systematic comparative analysis, we assessed the scope and coverage of these initiatives. This methodological approach facilitated a nuanced evaluation of state-level policies, shedding light on their potential impact on the thriving MSME landscape in India. While we recognise the limitations inherent in our study, particularly our inability to conduct in-depth on-the-ground performance and implementation analyses of these policies, which consequently constrains our capacity to provide highly efficient policy recommendations for the states, the primary challenge we encountered during our analysis was the unavailability of comprehensive data regarding the execution of these policies. Our study would have been significantly more reflective of the actual on-the-ground conditions and outcomes of these schemes had there been access to high-quality data on the performance of these policies. However, our work can be taken as a very thorough first step towards making such an analysis of state policies and can lead to further research on the topic.

There are some significant efforts made by a few states to promote MSME development in the country. However, there is a general lack of adequate emphasis on this sector among state governments. The evidence for the lack of emphasis lies in the fact that only 15 out of the 28 states[16] have a specialised MSME policy in the country; for the other 13 states, either the MSME sector forms a small part of the elaborate industrial policy, or there is the absence of MSME-specific policies in the state. Although there has been a lack of adequate focus from the states on the sector, the states have made some progress in providing some impetus to the MSME units, especially in recovering the costs of setting up new businesses. There is a capital investment subsidy provided to the states, usually up to 25%, that helps MSMEs set up their plant and machinery and covers major capital expenditure for the same. The Stamp duty exemption of up to 100% is being provided to the sector, which incentivises the firms to set up and eventually formalise. To ascertain that the MSMEs are producing quality products and able to market their product better, the firms are encouraged to get certified through subsidies and reimbursement for costs incurred for certification. In addition to the financial incentive, a single window clearance system is established to make the process simpler for the units. Introducing the Zero Defect Zero Effect (ZED) certification is a new concept in the policy space. Acquisition of the ZED certification helps the firms publicise the fact that they have sustainable production methods and are able to market their products better, especially in the foreign market. While the state government's initiatives represent a positive step towards addressing the challenges faced by MSMEs in the country, these policies fall short of adequately addressing the fundamental issues that hinder their growth and success.

[13] The states with MSME policy are Andhra Pradesh, Assam, Chhattisgarh, Goa, Haryana, Madhya Pradesh, Meghalaya, Odisha, Sikkim, Tamil Nadu, Uttar Pradesh, Kerala, Rajasthan, Uttarakhand and West Bengal. Detailed appendix

Learnings and Recommendations

GVCs serve as critical facilitators of the international exchange of investment, knowledge, and managerial practices that are in line with global standards, thereby significantly bolstering domestic businesses

1. Learnings and Recommendations from National-Level Policies

A. Access to Finance

i. Overhauling CGTMSE fund for Growth and Accessibility of MSME Credit

The Trust managing the CGTMSE fund lacks regulatory authority and oversight in its operations, governance, and access to state-owned funds. The government should bring the Trust under a regulatory authority to balance fund availability with financial discipline and support low-end entrepreneurial activities. Guarantee coverage should be raised to 100% for units led by women promoters to encourage women entrepreneurship. Also, there is a need to reduce CGTMSE premium rates to encourage even more wider adoption by micro and small enterprises. Lowering CGTMSE premium rates will expand access for micro and small enterprises. Also, to enhance transparency, the details of applicable CGTMSE premiums should be disclosed on participating banks' websites or the CGTMSE portal for every member bank.

ii. Scaling up NBFCs

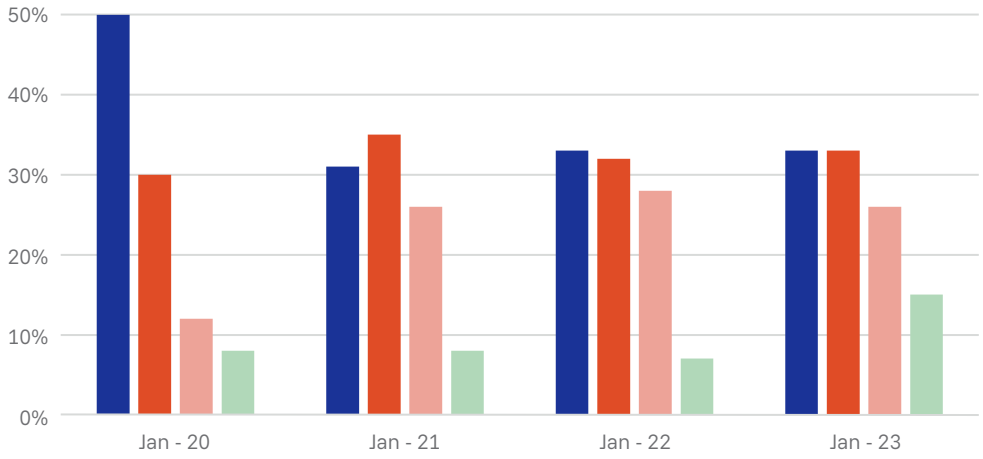
Non-Banking Financial Companies (NBFCs) are increasingly becoming a preferred source of credit for MSMEs, particularly micro-sized enterprises, due to their ability to reach remote areas, make quicker lending decisions, provide prompt services, and specialise in niche segments. During Q1 of FY24, NBFCs accounted for 14% of MSME credit demand, witnessing the fastest growth at 39%. The time-series graph below shows that while private banks have a large share of originations and continue to grow, NBFCs are growing their share in small and medium segments

Fig. 18

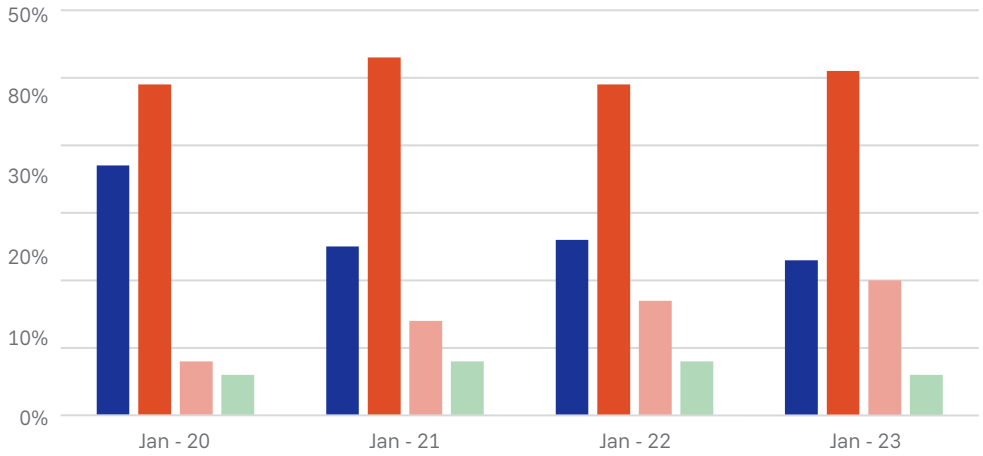
MSME Loan Disbursement/ Origination by Lender

PSB
Private
NBFC
Others

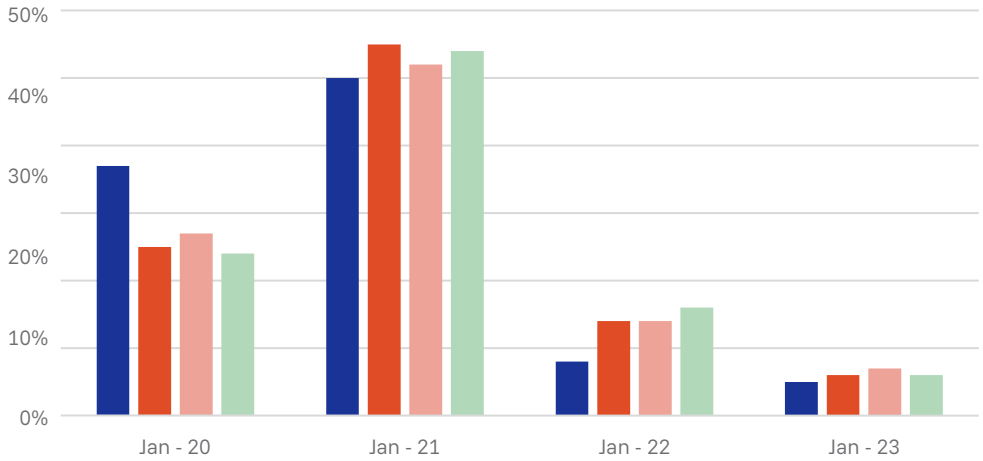
Micro



Small



Medium



This highlighted the need for SIDBI to expand its balance sheet to better support the financial institutions serving MSMEs

However, a major challenge for NBFCs lies in offering credit at competitive interest rates, which typically range between 15-25%, depending on the borrowing costs they face from banks. Assessing the creditworthiness of MSMEs also remains a time-intensive process, requiring significant effort to analyse cash flows and build accurate credit scores. Additionally, banks often lend to NBFCs based on collateral, further driving up borrowing costs and limiting their ability to offer affordable credit. The lack of access to lower-rate funding and inefficiencies in the on-lending process further restrict NBFCs' capacity to meet the MSME sector's credit needs effectively.

The 46th report of the Standing Committee on Finance (17th Lok Sabha), titled “Strengthening Credit Flows to the MSME Sector”, observed that SIDBI's loan portfolio in FY21 stood at only ₹1.56 lakh crore, which was significantly smaller—around one-fourth—of NABARD's ₹6.03 lakh crore portfolio during the same period. This highlighted the need for SIDBI to expand its balance sheet to better support the financial institutions serving MSMEs. To address this, the Committee recommended strengthening SIDBI’s equity base, noting that an enhanced capital base would substantially boost SIDBI’s ability to provide wholesale financing to NBFCs catering to the MSME sector.

While the Ministry of Finance (in the 68th report about “Action taken by the Government on the Observations/Recommendations contained in the Forty-Sixth Report (17th Lok Sabha) on the subject ‘Strengthening Credit Flows to the MSME Sector”) responded that SIDBI is currently well-capitalized to meet its projected growth, the Committee emphasised the importance of further scaling SIDBI’s role as the principal financial institution for MSMEs. Given the challenges NBFCs face in accessing wholesale financing and raising funds at competitive rates, the Committee suggested that SIDBI could play a pivotal role by investing in smaller NBFCs to improve their capacity and corporate governance, thereby transforming them into stronger financial intermediaries.

To further support the MSME sector, the Committee proposed several measures: loans from banks to NBFCs for on-lending to MSMEs should be classified as indirect finance to MSMEs under Priority Sector Lending, as was the case before 2011. Additionally, the introduction of credit insurance by IRDAI through insurance companies could help mitigate risk perceptions for NBFCs and MFIs, enabling greater credit flow to MSMEs, particularly micro-enterprises. These steps would ensure that SIDBI’s role becomes more impactful and aligned with the needs of the MSME sector.

SOME TAXATION ISSUES OF MSMEs

- The Finance Act 2023 introduced a new rule, Section 43B(h), which requires businesses to pay their MSME suppliers within 45 days to claim tax deductions. This has caused significant concern among MSMEs, as it can disrupt their cash flow and lead to potential financial losses since buyers (of MSMEs' products) can reorient their sourcing and purchasing preferences to non-MSME sellers. Many industry bodies, such as CAIT and CMAI, have appealed to the government to reconsider the implementation of this rule, citing its potential negative impact on the MSME sector.

- MSMEs face complex GST compliance requirements, including filing multiple returns (e.g., TCS, ISD, and annual returns) across states. This demands significant administrative effort and technical expertise, which MSMEs often lack. Usually, it's the proprietor himself managing accounting and book-keeping tasks.

- Issues relayed to Input Tax Credit: When payments extend payment terms beyond 180 days (sometimes due to specific terms in the agreement), the input tax credit can be reversed. This means working capital blockages for MSMEs and the additional burden of reclaiming ITC upon payment.

B. Addressing skilling challenges faced by MSMEs

The data shows that a significant portion of the workforce is concentrated in Skill Level 1 (low-skilled) and Skill Level 2 (semi-skilled) categories, while highly skilled workers (Skill Levels 3 and 4) remain limited. At the same time, for example, there have been significant advancements in India's Biotech Innovation Ecosystem. Over nine years, for example, BIRAC has facilitated the creation and support of 4,800 startups and entrepreneurs and helped establish 95 bio-incubators across 21 states/UTs. This has led to the creation of 35000 high-skilled jobs. Such developments call for investments in STEM education, and initiatives like the Skill India Mission should be tailored to the requirements of a fast-evolving job market, emphasising innovation and technological advancements.

Analysis of PLFS data shows that a substantial proportion of the workforce aged 15 to 59 lacks formal vocational or technical training. While the proportion has decreased from 91.9% in 2017-18 to 72.6% in 2022–23, it still indicates a significant gap in formal skill development for a substantial segment of the Indian workforce. Creating partnerships between industries, educational institutions, and the government can help design curriculum and training modules that equip workers with skills relevant to future job markets. Implementing shorter courses, online/hybrid training and on-site training options can accommodate the diverse needs of MSMEs.

The government in Andhra Pradesh recently proposed an important initiative: a Skill Census.

Occupational standards tailored to MSME needs should be created and regularly updated to ensure relevance and quality. Further, boards or councils which continually review and update training curricula to keep pace with industry changes and technological advancements should be created.

To upskill and train, affordable and more accessible cost-sharing models can be explored. These can also be explored by providing grants to micro-enterprises that can offset the costs of training and technology adoption initiatives. They can also include options for training existing and new employees.

The government in Andhra Pradesh recently proposed an important initiative: a Skill Census. Such an exercise can comprehensively assess current skill levels across the state's regions and sectors. All states can undertake this activity. This will help map out the exact skills that are deficient and in line with industry demands at a granular level.

C. Technological Development in MSMEs

i. Enhancing Supply Chains

Enhancing supply chain linkages for the technological development of MSMEs is critical to improving their efficiency, competitiveness, and global participation. Governments play a pivotal role in this process by fostering collaborative initiatives across sectors, strengthening supply chain integration, and addressing key impediments to growth. Here are several reasons why this is essential:

Efficient supply chains enable MSMEs to integrate into GVCs, facilitating their involvement in international trade. Despite progress, India's GVC participation (40.3% of gross trade in 2022) lags behind not only major economies like the USA (43.7%) and Japan (46.6%) but also regional competitors like South Korea (56.2%) and Malaysia (60%) as per Economic Survey 2024. Enhancing supply chain linkages can help bridge this gap, fostering economic growth and global competitiveness. Supply chains act as critical drivers for increasing the Gross Value Addition (GVA) of MSMEs by streamlining operations and reducing inefficiencies. Investments in supply chain technology, such as electronic linkages in the textile industry, can lead to process innovation, better quality control, and improved product management, thus boosting GVA and operational efficiency. Pressure within supply chains significantly impacts prices, especially for essential commodities like food. By addressing bottlenecks and enhancing supply chain efficiency, governments can help stabilize food prices, a crucial factor in ensuring food and nutrition security. Complex supply chains influence competitive export pricing, even within domestic markets. By simplifying procedures, improving trade infrastructure, and facilitating trade measures, MSMEs can offer globally competitive pricing, enhancing their export potential. Targeted government initiatives can unlock sectoral potential. For instance, investments in electronic supply chain infrastructure in textiles and government support for MSMEs in food processing through trade fairs and export promotion programs can drive innovation, quality improvement, and market access. Agriculture and allied sectors, integral to India's economy, face challenges like climate change and resource sustainability.

Enhancing supply chain infrastructure in agriculture, horticulture, and food processing can help unlock employment potential, sustain food security, and support adaptation efforts in the face of geopolitical and technological threats to manufacturing and services.

ii. Enhance Risk Management through Digital and Insurance Solutions

Indian MSMEs must be introduced to affordable, digital risk management solutions that help businesses track supply chains, monitor inventory, and manage logistics in real time. Technologies such as sensor-based tracking for goods or automation tools for inventory management can reduce operational risks. It will require developing tailored insurance products that combine traditional risk transfer with innovative digital tools (e.g., IoT-based risk monitoring) for MSMEs to be encouraged to adopt insurance solutions that protect them against economic shocks, such as pandemics or natural disasters. For beverages and food-related value chains in Malaysia and Thailand, insurance combined with sensor-based cargo tracking devices has proved to be an important and holistic resilience solution to reduce the risk of damage to property and goods in transit states a report about MSME resilience in Thailand and Malaysia by United Nations Development Programme (UNDP). These solutions not only mitigate risks but also address them and help to build further customised solutions, especially for distribution partners or aggregators. Further, MSMEs must be educated on the importance of digital tools and insurance for business continuity and growth. Insurance providers and tech firms can partner to offer training and affordable packages to enhance MSMEs' resilience.

iii. Integrating AI in MSMEs

Integrating Artificial Intelligence (AI) into MSMEs presents multiple challenges that hinder widespread adoption, as per a joint study by Nasscom and Meta . Many MSMEs struggle to understand and comply with India's data protection laws. This lack of awareness makes it difficult for businesses to manage data responsibly and comply with legal requirements. Also, MSMEs need better guidance on complying with legal frameworks while integrating AI. Lack of clear understanding of the legal landscape can result in unintentional non-compliance. MSMEs should receive accessible, simplified guides and training programs on data protection laws. The government and industry bodies can create awareness campaigns and offer workshops to help businesses

IFCs serve as instrumental entities in cluster development, contributing significantly to product research and development (R&D).

understand how to safeguard data and build compliant operations. Governments and industry associations should provide targeted guidance, including mentorship programs and resources that demystify the legal aspects of AI adoption. A dedicated legal compliance resource centre can help MSMEs navigate the complexities of data protection and other AI-related regulations.

An important aspect is the lack of availability of expertise on AI with MSMEs. In the study, 74% of MSMEs acknowledge AI's potential but lack the in-house expertise to identify and integrate suitable AI tools into their workflows. 72% of MSMEs reported difficulty accessing the training needed to upskill their workforce for AI implementation. The absence of trained staff makes understanding complex algorithms and data science methodologies difficult. A collaborative space for MSMEs with academic institutions, startups, and AI consultants can help to bridge the skills gap. Governments and private players should create affordable, accessible training platforms focused on AI and digital skills. Industry partnerships can help create training programs tailored to the specific needs of MSMEs, offering both online courses and hands-on workshops to build the AI expertise required for successful implementation.

59% of MSMEs face financial limitations that hinder their ability to invest in AI technologies, which include high costs of AI tools, compute infrastructure, and training. Additionally, 91% of MSMEs believe AI should be democratically available and affordable. For example, MSMEs could be provided financial support, such as subsidies, grants, or low-interest loans, to help them invest in AI. Public-private collaborations can offer affordable AI solutions, including cloud-based models that reduce upfront costs. Further, offering tax incentives or special funding programs for MSMEs adopting AI technologies can ease financial constraints.

iv. Increase Institute for Collaborations (IFCs)

As defined by Porter and Emmons in (Institutions for Collaboration : Overview . Background note, January 2003), IFCs encompass both formal and informal actors that actively promote the establishment and growth of clusters among involved stakeholders. IFCs serve as instrumental entities in cluster development, contributing significantly to product research and development (R&D). Their influence extends beyond product development, encompassing the enhancement of productivity, fostering innovation, and optimising processes through innovative methodologies. The proximity of IFCs to any cluster is paramount, as it substantially contributes to its overall productivity and innovative capacity.

For MSMEs, forging connections with IFCs proves particularly beneficial, providing them with opportunities to upgrade their technology. Given the inherent constraints of limited resources and capabilities faced by MSMEs, IFCs emerge as invaluable partners in undertaking essential research and innovation endeavours. In the Indian context, the Micro and Small Enterprises-Cluster Development Programme (MSE-CDP) has incorporated Common Facilitation Centres (CFCs). These CFCs are designed to furnish shared infrastructural facilities to MSMEs. However, a compelling need exists to elevate the sophistication of these CFCs to align them with the high standards set by IFCs. Strengthening IFCs demands a strategic approach involving membership consolidation and expansion.

To achieve this, initiatives should foster collaboration and knowledge networks among universities, research institutes, and private entities. Such collaborative efforts will facilitate seamless R&D and knowledge exchange, thereby enhancing the overall capabilities of IFCs and, consequently, the clusters they support. Furthermore, it is imperative to establish forums for the timely sharing of industry information. A thorough review of the property rights framework is essential to mitigate the risks associated with companies divulging trade details through IFCs to other industry players.

Some technological solutions to enhance credit flow of MSMEs under development:

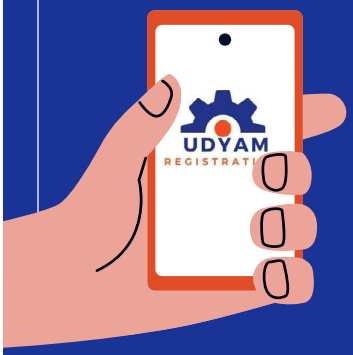
GST SAHAY App

GST SAHAY is a digital lending platform that aims to provide MSMEs with easy and quick access to credit. It leverages the power of technology and the vast amount of data generated by the Goods and Services Tax (GST) system to assess the creditworthiness of MSMEs. GST SAHAY aims to address the challenges MSMEs face in accessing credit, particularly those that lack traditional collateral.

GST SAHAY utilises the GST invoices generated by MSMEs as collateral to assess their creditworthiness. This means that MSMEs can access credit based on their business transactions rather than traditional collateral like property. The platform is entirely digital, making it easy for MSMEs to apply for and receive loans. The use of technology and the integration with the GSTN (Goods and Services Tax Network) allow for faster loan processing and disbursement. Integrating GSTN with the Account Aggregator (AA) framework is crucial in making GST SAHAY a reality. This integration will allow seamless access to financial data, making the credit assessment process even more efficient and transparent.

UDYAM Portal and Udyam Assist Portal (UAP)

The Ministry of MSME is actively working to transform the UDYAM Portal into a comprehensive one-stop solution for MSMEs. This involves integrating the portal with other relevant platforms, collaborating with SIDBI to develop the Udyam Assist Platform, and utilizing the Digilocker platform for secure document storage.
The Ministry launched the Udyam Assist Portal (UAP) on January 11, 2023, to further extend support to the informal sector. This portal aims to facilitate the onboarding of Informal Micro Enterprises (IMEs), enabling them to access the benefits of Priority Sector Lending. The UAP empowers IMEs to tap into various financial and non-financial support schemes by simplifying the registration process and providing a digital platform.



Source: 68th report of Standing Committee on Finance (2023-24) "Action taken by the Government on the Observations/Recommendations contained in the Forty-Sixth Report (17th Lok Sabha) on the subject 'Strengthening Credit Flows to the MSME Sector".

2. Learnings from States' MSME policies

Examining the landscape of MSME policies across various states and union territories reveals the existence of schemes and incentives to support them. However, the mere existence of these policies falls short of ensuring their efficacy. A substantial challenge arises from the lack of awareness among MSMEs regarding these policies, impeding their macro-level utilisation. Furthermore, the prevailing policies often inadequately address the substantial challenges faced by MSMEs, primarily stemming from the omission of various stakeholders during the policy formulation process. **To augment the formulation of effective policies, policymakers must prioritise regular consultations with stakeholders at all levels.**

At the individual level, MSMEs confront disproportionate challenges in navigating and deriving benefits from available schemes. Inherent limitations in financial, technical, and administrative capabilities impede their access to opportunities, preparation of tender documents, and fulfilment of contractual obligations. Financial constraints frequently hinder their participation in schemes that necessitate substantial investments.

The response of state governments to these challenges has been less than comprehensive. Existing policies lack the requisite depth to effectively target individual-level challenges. State governments ought to identify and prioritise specific issues, concurrently working to enhance awareness about existing schemes. The current piecemeal approach in policy design and implementation underscores the urgent need for a more cohesive, strategic, and inclusive approach to fortify businesses in the MSME sector. This necessitates addressing individual-level challenges and ensuring the effective implementation and widespread dissemination of these schemes.

Access to Finance

Access to finance remains a significant challenge for MSMEs in India, despite efforts by state governments to address this issue. Many states have introduced capital-intensive subsidies to reduce the financial burden of establishing or expanding businesses. While such policies are helpful, they often focus solely on the initial stages of an enterprise's life cycle, overlooking the unique financial needs of MSMEs at later stages. States like Uttar Pradesh, Jharkhand, and Manipur have introduced interest subsidy schemes for both term loans and working capital requirements. However, these subsidies often come with minimum turnover requirements, excluding micro-enterprises from benefiting. To address this, policies must focus on reducing eligibility barriers and catering to the financing needs of MSMEs throughout their lifecycle. Additionally, there is a lack of support for financing instruments beyond traditional bank credit. While states like Haryana, Gujarat, Odisha, and Himachal Pradesh have incentivised SME listings on stock exchanges such as the BSE SME platform and NSE EMERGE, this option primarily benefits high-end SMEs with strong financial knowledge and records. Smaller firms, which often lack bookkeeping expertise and financial literacy, are left out. To bridge this gap, state policymakers need to explore alternative financing options, such as cash-based lending, equity financing, factoring, leasing, and venture capital, while ensuring smaller MSMEs receive targeted support.

MSMEs tend to allocate a small subset of their investments in research, design, and product development.

Insurance coverage is another neglected area. Except Manipur, which offers subsidies on insurance premiums for MSMEs, most states lack structured frameworks to help businesses safeguard against unforeseen risks and losses. Moreover, no state-level initiatives currently focus on assessing financial literacy or providing interventions to enhance it, leaving MSMEs ill-prepared to navigate complex financial systems. Comprehensive and inclusive policies are essential to address these gaps and ensure financial stability for MSMEs nationwide.

Access to Markets

MSMEs in India face significant challenges in accessing markets due to limited production capacity, lack of branding, and a focus on serving only local markets. While the public procurement policy aims to support micro and small enterprises (MSEs) by offering competitive pricing opportunities, medium enterprises remain excluded, disincentivising growth.

Furthermore, most state governments have not taken sufficient steps to enhance the competitiveness of MSME products and services in local or international markets. Only a few states, such as Andhra Pradesh, Madhya Pradesh, Sikkim, Tamil Nadu, Tripura, and Kerala, have implemented export incentives, highlighting a critical gap in fostering export competitiveness. These states also support MSMEs with initiatives like quality certifications, market research, and buyer-seller meetups.

At the same time, Bihar and Haryana provide additional benefits such as freight reimbursements and e-commerce platforms like “Made in Haryana.” However, most states lack proactive measures, leaving MSMEs ill-equipped to compete globally. To address this, coordinated state-level efforts are needed to empower MSMEs with targeted regulatory, administrative, and policy interventions, enabling them to access global markets effectively.

A study by J-PAL on Indonesia suggested that the rapid growth of e-commerce and logistics services is crucial for developing micro, small, and medium enterprises (MSMEs) in developing countries. Investment in transport infrastructure can lead to better business outcomes while also promoting economic growth and improving household welfare.

Moreover, MSMEs should focus on developing innovative products, particularly in high-tech sectors such as semiconductors and biotechnology, with state-level initiatives tailored to districts that provide an enabling environment for integration into global value chains.

MSMEs tend to allocate a small subset of their investments in research, design, and product development. Their cooperation within the value chain is often driven by dependence on larger market players, leaving most SMEs with little freedom to choose the markets in which they operate.

» Among the SMEs in textile manufacturing, collaboration with Indian and international design schools, investment in new product technologies, and partnership with high-end retail outlets need to be promoted.

» For chemical product sector SMEs, state governments should focus on expanding the talent pool of engineers and researchers by increasing domestic and international collaboration with students.

Additionally, providing training and workshops on modern marketing techniques, including digital marketing, can help MSMEs diversify into by-products and develop niche markets to boost their competitiveness. In the chemical products sector, state governments can focus on strengthening the marketing capabilities of SMEs to help them move downstream in the value chain. This can be achieved by creating collaborative platforms that connect SMEs with specialised marketing agencies or consultants in the chemical industry, enabling them to refine marketing strategies, target audiences effectively, and enhance their overall competitiveness. By addressing these sector-specific needs, state governments can significantly contribute to the growth and sustainability of MSMEs.

To address these challenges, tailor-made policies are needed to ensure last-mile connectivity and extend training benefits to micro-enterprises, particularly in rural India.

Skill Development

MSMEs in India face significant challenges in accessing capacity-building opportunities due to financial illiteracy, operational skill gaps, and limited awareness of government schemes. Despite the critical need for skill development, only eight states—such as Andhra Pradesh, Bihar, Goa, Chhattisgarh, Haryana, Karnataka, Kerala, and Rajasthan—currently provide partial subsidies for employment training. However, these initiatives fall short of addressing the dynamic skill requirements of MSMEs, as the training curricula are often outdated and misaligned with the sector's evolving needs. Own Account Enterprises (OAEs) and nano-enterprises face additional hurdles, including high opportunity costs associated with lengthy training programs that divert focus from daily operations. To address these challenges, tailor-made policies are needed to ensure last-mile connectivity and extend training benefits to micro-enterprises, particularly in rural India. These programs must be accessible, free of charge, and specifically designed to meet MSMEs' unique skill and technology needs, enabling their sustained growth and success in diverse settings.

Access to technology and infrastructure

Access to technology and infrastructure remains a critical challenge for MSMEs, despite initiatives like the National Credit Linked Capital Subsidy for Technology Upgradation (CLCS-TU) and state-level schemes such as Kerala's Industry Varsity Linkages, Haryana's Credit Linked Advanced Technology Adoption scheme, and subsidies for technology purchases in Odisha and Punjab. While these programs aim to enhance technological adoption, their reach is often limited to medium and high-earning small enterprises, focusing on advanced technologies like automation, IT systems, and IP registration. Unfortunately, the vast majority of micro-enterprises—forming the backbone of the MSME sector—remain excluded as these schemes fail to address their basic technological needs, making scalability a persistent issue.

India's States must develop sector-specific MSME policies to support micro and small-sized firms by upgrading their outdated technologies, enhancing productive capacity, and ensuring equitable benefits to ensure coordinated and integrated development at the regional level.

For example, under the 14th 5-year plan (2021-25), China has aimed to accelerate the digital transformation of its enterprises by constructing network infrastructure, modern industrial platform systems and intelligent workshops/smart factories within the subsectors of its textile industry.

Efforts to provide quality infrastructure through industrial parks with MSME-specific reservations have shown promise, but high rental costs often make them inaccessible to smaller firms. While the Central government's Common Facility Centers are a positive step, **states must establish their own infrastructure to support micro-enterprises through co-working spaces and shared facilities tailored to their unique requirements.** Moreover, addressing operational inefficiencies in existing industrial parks, as highlighted in CAG reports in the previous section, is crucial before expanding new facilities.

Uninterrupted power supply is another pressing issue. States have focused on making power affordable through connection charge reimbursements (e.g., Gujarat) and per-unit subsidies (e.g., Madhya Pradesh). Still, affordability alone does not resolve the problem of irregular supply. MSMEs, especially micro-enterprises, cannot afford backup power solutions like generators, making power outages a significant obstacle to their efficiency and productivity. Governments could address this by introducing subsidies or tax credits for renewable energy solutions, such as solar panels, or by developing industrial clusters with shared power facilities and resources. Collaborative interventions, such as partnerships with IFC for sector-specific solutions, would also help bridge infrastructure gaps and ensure sustainable growth for MSMEs.

Policy formulation, feedback and communication

A significant challenge faced by state-level policies in the country is the absence of consistent monitoring and evaluation. Despite the existence of numerous policies, the issues plaguing the MSME sector persist. A primary reason for this is the lack of awareness among potential beneficiaries regarding these policies.

Increased awareness is critical to ensuring that the schemes introduced for the sector reach and benefit the intended recipients. Additionally, the introduction of policies alone is insufficient; their performance needs continuous evaluation by states to gauge their effectiveness in achieving objectives. The lack of evaluation results in a dearth of informative evidence, hindering independent research and the formulation of key recommendations for policy improvement. Before considering augmenting or altering existing policies, a thorough evaluation of their implementation and performance through timely government-conducted surveys is imperative.

The Economic Survey 2024 recommended upgrading statistics on industry to aid policy making. It stated that state-level industrial production and employment indices, which measure and communicate the changes in India's manufacturing setup, are needed to understand regional patterns. The economic survey also recommended polishing information about cross disbursement of bank credit industry industry-wise monthly gross financial flows through domestic and external equity and debt routes and other financing sources. Furthermore, making the evidence from these assessments public would facilitate further research in the field.

Another issue is the inadequate interaction between stakeholders and policymakers in MSMEs. The lack of engagement has led to policymakers overlooking grassroots challenges faced by enterprises, such as Owner-Operated Enterprises (OAEs) and women-owned enterprises. These enterprises face unique challenges that differ from capital- and technology-intensive enterprises. Many policies focus on technology upgrading, neglecting OAEs and women-led enterprises that may not be as technology-intensive. To identify and address such issues more effectively in future policy formulation, increased participation of stakeholders, including representatives and lobbyists of MSMEs, is crucial. Establishing MSME-specific forums could serve as a foundational step for enhanced participation and improved policy formulation in the sector.

The Union Budget presented in July 2024, and the Economic Survey 2024 highlighted various struggles of MSMEs and listed several specific solutions. These were:

A. MSMEs face challenges in securing affordable and timely funding due to lack of collateral, credit history, high interest rates, complex documentation, and lengthy processing times, leading to an estimated credit gap of ₹20-25 lakh crore. To address this, the Economic Survey 2024 recommends strengthening support systems to make MSME projects more attractive to banks and other financiers. This could be done by mobilizing private capital through innovative financing instruments like venture capital and impact investing. The Union Budget announced Capital Investments for Technological Upgradation scheme. The new credit guarantee scheme has been introduced to support machinery and equipment purchases without requiring collateral or third-party guarantees:

» This scheme allows businesses to secure term loans for capital investments more easily.

» A dedicated self-financing guarantee fund will pool credit risks, offering coverage of up to ₹100 crore per applicant, enabling access to larger loan amounts.

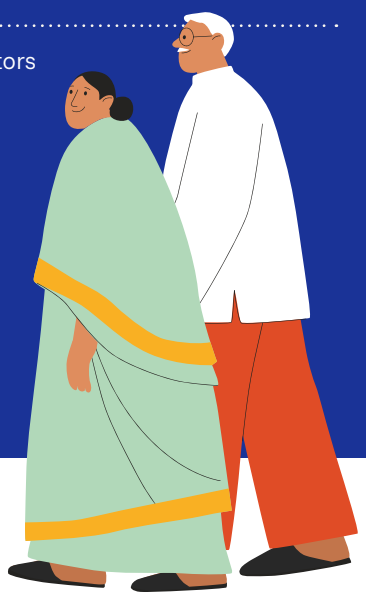
» Borrowers must pay an upfront guarantee fee and an annual fee based on the reduced loan balance.

B. Extensive regulations and compliance requirements, particularly from state governments, limit MSME growth and job creation. Threshold-based incentives often discourage expansion, as businesses aim to stay within limits. The Economic Survey suggests that states should simplify regulations and reduce compliance burdens to allow MSMEs to focus on growth. This can be achieved by gradually easing compliance through single-window clearance, digitising processes, and providing tools to help MSMEs manage these efficiently. The Union Budget 2024 announced a new credit assessment model to tackle informality. In this model, Public sector banks will now develop in-house capabilities to assess MSMEs using a new model based on their digital footprint.

» This approach aims to be more comprehensive than traditional methods relying solely on assets or turnover and will also include MSMEs lacking formal accounting systems.

» This scheme takes on the challenges of inadequate access to finance that small firms face due to a lack of financial information and non-formal business practices.

C. The Economic Survey 2024 highlighted that most MSMEs, especially in sectors like textiles and apparel, operate on a small scale, limiting efficiency and economies of scale. Beyond closing the credit gap, the focus should be on deregulating the MSME sector, enhancing physical and digital connectivity, and developing an export strategy to expand market reach. Modernizing industrial statistics in India is crucial for better policymaking. This includes updating the index of industrial production, creating state-level indices, and gathering data on MSME production and employment, enabling more targeted support for industrial growth. In this regard, the Union Budget announced the following schemes:



1. Enhancing Institutional Support and Financial Assistance to Boost MSME Cash Flow:

» The limit of Mudra loans under the 'Tarun' category is to be increased from Rs.20 lakh to Rs.10 lakh for those who have successfully repaid previous loans.

» New mechanism for banks and financial institutions to MSMEs during their stressed period.

» The turnover threshold for buyers for mandatory onboarding on the TReDS platform will be reduced from 500 crore to 250 crore.

» SIDBI will open new branches to expand its reach to serve all major MSME clusters within 3 years and provide direct credit to them. With the opening of 24 such branches this year, the service coverage will expand to 168 out of 242 major clusters.

2. MSME Units for Food Irradiation, Quality & Safety Testing:

» Financial support to set up 50 multi-product food irradiation units in the MSME sector.

» E-Commerce Export Hubs will be set up under public-private partnership (PPP) mode for MSMEs and traditional artisans to sell their products in international markets.

3. Learnings from Cluster-level Analysis

Rethinking clusters for MSME development

India's cluster policy, established in 1987, is rooted in the amalgamation of collective efficiency and flexible specialisation, diverging significantly from strategies employed by developed nations following Michael E. Porter's cluster approach. Notable examples include the United States and the European Union, which utilise cluster mapping initiatives to inform policy decisions and promote cross-border collaboration.

For instance, the United States, through the Cluster Mapping Initiative led by the Harvard Business School Institute for Strategy and Competitiveness, employs data and insights to shape economic development strategies at various governance levels. Similarly, the European Union, over the past thirty years, has been promoting cluster mapping through initiatives like the European Cluster Observatory (ECO) and the European Cluster Collaboration Platform (ECCP). ECO collects and disseminates data, while ECCP fosters cross-border collaboration among businesses, research institutions, and clusters, particularly focusing on small and medium-sized enterprises (SMEs).

In the Indian context, clusters cater to diverse markets, spanning local, regional, national, and international levels. However, the success of these clusters should not be solely gauged by international market links. Instead, there should be a shift towards emphasising product diversification and enhancing local technological capabilities. While export-oriented strategies are crucial, acknowledging the strong presence of a large, segmented domestic market is essential—a dimension sometimes overlooked in discussions on value chain analyses.
To enhance the cluster development program for micro and small enterprises in India, revisiting the definition of clusters is imperative. Regional policymakers can leverage cluster policies as a pragmatic and convenient place-based organising principle, demonstrating political commitment, pursuing an innovation policy mix, efficiently mobilising public resources, and prioritising strategic regional sectors. Personalised services to SMEs, addressing regional research and innovation weaknesses, should be offered. These services can assess and review the innovation capabilities of private companies, providing roadmaps for improvement. Additionally, clusters can be pivotal in promoting university-industry collaboration, essential for fostering innovation, knowledge transfer, and strengthening regional competitiveness. Clusters should actively encourage broader collaboration among public and private research and technology organizations, serving as catalysts for collaborative innovation activities between universities and industries.

Cluster specific Recommendations

A dominance of upstream activities is observed in almost all clusters. This may suggest reliance on raw material processing and intermediate production stages rather than focusing on higher-value end products, which can challenge enterprise competitiveness.

Cluster	Recommendations	Regions to focus on
Textile Manufacturing and Apparel	» **SMEs in Textile Manufacturing should focus** on high-value product design, local branding, customisation, integrated supply chain services, and higher product quality. Overall, India's GVC integration should move toward higher value-generating downstream activities such as readymade garments (or clothing or apparel. » **To achieve these objectives without increasing costs,** they should collaborate with overseas and Indian design schools, invest in new product technology, partner with high-end retail outlets, link supply chains electronically, and invest in capital equipment and local training institutions for process innovation, product management, and quality control. » The Economic Survey 2024 highlighted technological obsolescence as a significant contributor to problems in the textile and apparel industry. This necessitates investment in technology upgradation, especially in weaving and processing segments. » Improving the brand image of Indian apparel and garments is needed to increase the unit value realisation (UVR).	The analysis indicates regional specialisation in » **Textile manufacturing** in Surat, Panipat, Sant Ravidas Nagar, Ludhiana, Varanasi, Imphal East, Tiruppur, Namakkal, and Erode. » **Apparel manufacturing** in Tiruppur, Ludhiana, Haulakandi, Bangalore, Erode, Supaul, Coimbatore, Kaushambi, Gautam Buddha Nagar and Sant Ravidas Nagar To ensure economies of scale happen, districts around these regions should become more competitive.

Food Processing Cluster	» Agri-food policy actively directed at developing a link between production and processing is the need of the hour. For example, GoI efforts to put Millet Indian products on the global map » Maximise value added throughout the supply chain by improving current processes and through innovation. For Example: Combining goods-in-transit insurance with sensor-based cargo tracking devices can help reduce damage to property and goods in transit » Stagnant market share in food products; Need to diversify into other by-products -and develop other niche markets. » At the state level, branding guidance for agricultural products for MSME projects and food cluster formation is needed.	The analysis indicates regional specialisation in: » **Food Processing and Manufacturing** in Tinsukia, Dakshin. Bastar Dantewada, Kiphire, Mahoba » **Local Food and Beverage Processing and Distribution** This cluster is present in most of the districts of India. It must be noted that regional specialisation is almost low and stagnant, as more than 60 % of districts have lower LQ, which lies between 2 and 0. Since it's a traded cluster and employs most of the MSME sector, immediate steps are required to improve the productivity of this cluster across India. Strengthening efforts in the northeastern and eastern belts of India are urgently needed. Due to the uniqueness and diversity of the food products, these belts demonstrate huge potential for integration in GVCs.
Chemical Cluster	» For SMEs involved in chemical products, the integrated ecosystem is crucial, but the biggest challenge is attracting and retaining skilled workers. » State governments should focus on expanding the pool of engineers and researchers through increased collaboration domestically and international students. » Due to their lower bargaining power, SMEs face higher barriers to regulatory and compliance efforts regarding products. To further minimise risk, compliance and regulatory efforts need to be streamlined. » Moreover, building stronger marketing capabilities is imperative to facilitate progress downstream in the value chain. » Investments in Industry 4.0, such as predictive maintenance, data analytics, and supply chain optimisation tools, can enhance productivity and reduce costs » Reducing dependence on imported raw materials, particularly from China, can be crucial for MSMEs. Exploring alternative domestic suppliers or developing more resilient supply chains can lower input costs.	The analysis indicates regional specialisation in: » **Upstream Chemical Products** in Bharuch, Gwalior, Gandhinagar, Medak, Nainital, Valsad, Palamu, Raigarh and Uttara Kannada, Samba, Palwal and Ujjain » **Downstream Chemical Products** in Virudhunagar, Dadra and Nagar Haveli, Prayagraj, Bharuch, Karaikal, Sagar and Thoothukkudi More focus must be placed on targeting MSMEs and strengthening their dominance in both sub-clusters.

Automotive Cluster	**» Investment in Intangible Assets** MSMEs in the automotive cluster prioritize tangible assets over intangible ones like research and development (R&D), design, and innovation. This limits their ability to develop unique products and compete globally in a rapidly evolving automotive sector. This requires a shift in focus towards R&D, product development, and innovation through tax incentives and grants. It also necessitates establishing dedicated innovation hubs and incubation centers to assist MSMEs in adopting advanced technologies and fostering a culture of creativity. **» Dependence on Larger Market Players** MSMEs often operate as suppliers or subcontractors in the value chain, with limited freedom to explore markets independently. This dependence restricts their growth and bargaining power. Promote cooperative frameworks within the value chain to ensure knowledge sharing and skill development. Create platforms that connect MSMEs directly to global markets, enabling them to expand their operations beyond a dependent role. **» Foster "Design and Innovation" Culture** Support MSMEs to transition into design-focused enterprises by providing training programs, incubation centres, and financial assistance for innovation projects	The analysis indicates regional specialization in automotive clusters such as Gurgaon, Saraikela-Kharsawan, Rewari, Udham Singh Nagar, Faridabad, and Pune, showcasing higher Location Quotient.

Key Takeaways

Access to Finance to fund MSME growth

- While MSMEs have gained better access to loans, a significant credit gap still exists in the sector. To address this issue, recommendations include reforming the CGTMSE by enhancing regulatory oversight and further reducing risk premiums for borrowers seeking CGTMSE funding.

- Given their success in providing credit to MSMEs, especially in remote areas, NBFCs need to scale up their operations. A crucial step in this process is for the SIDBI to play a significant role by providing funding to help NBFCs improve their capacity and governance structures.

- At the state level, lowering eligibility barriers for schemes that offer subsidies for capital and interest on loans will better address the financing needs of MSMEs throughout their lifecycle.

Skilling and Manpower Growth

- The manpower needs of MSMEs in India demand significant investments in STEM education. To meet the requirements of a rapidly evolving job market, training programs must be aligned with current industry needs and provide last-mile connectivity, particularly for micro-enterprises located in rural areas.

- Additionally, it is crucial to address the existing skills gap by reforming formal vocational education and technical training. There should be a focus on improving financial literacy and operational skills to effectively bridge these gaps.

- To expand and enhance existing training initiatives, more states should offer partial subsidies for employment training. It is important to ensure that training curricula are regularly updated and relevant to the changing needs of the MSME sector.

- Moreover, skill development initiatives must be made easily accessible, especially for MSMEs that face challenges due to their location or size. These initiatives should be designed to be practical and immediately applicable to daily operations.

Technological Development and Innovation

- Indian MSMEs need to strengthen supply chain linkages with additional requirements of affordable digital risk management solutions to track supply chains, monitor inventory, and manage logistics in real time.

- There is a need for tailored insurance products that combine traditional risk transfer methods with digital tools to enhance the resilience of MSMEs. As AI becomes increasingly indispensable in business processes, it is essential to create awareness campaigns and offer workshops. Accessible training platforms and collaborative environments should be established for exchanging ideas and learning. Additionally, subsidies, grants, and low-interest loans can help MSMEs invest in AI technologies.

- Tailored policies are necessary to support the technological upgrading of micro and small enterprises, addressing their basic technology needs and enhancing their productive capacity. Furthermore, states should develop MSME-specific infrastructure, such as co-working spaces, industrial parks, and shared facilities. These initiatives should be complemented by policies that make rental costs more affordable for smaller firms to help micro-enterprises access quality infrastructure.

- Technology upgrades are needed to overcome technological obsolescence, especially in weaving and processing segments in textile manufacturing and apparel clusters. Investments in Industry 4.0 are essential for chemical clusters.

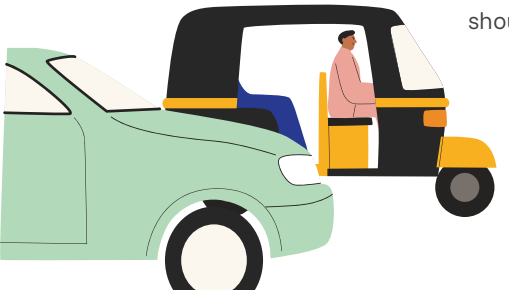
Enhance the role and effectiveness of the Institute for Collaborations (IFCs)

- The role and effectiveness of IFCs must be enhanced to support cluster development, particularly for MSMEs, by fostering research, innovation, and technology upgrades. This involves building knowledge networks among universities, research institutes, and private entities to expand IFC memberships, establishing forums for sharing industry information to streamline R&D and reviewing property rights frameworks to mitigate risks in sharing trade details.

- Upgrading Common Facilitation Centres (CFCs) under the MSE-CDP to meet IFC standards will bolster their impact. Strengthened IFCs can drive productivity, innovation, and competitiveness within the MSME sector, significantly contributing to its growth.

Enhancing Access to Markets, a better Supply Chain Management to Enhance the Quality of Products and Export Competitiveness

- Implement export incentives and enhance digital and e-commerce platforms, similar to initiatives in states like Haryana, Bihar, Andhra Pradesh, and Tamil Nadu. Support measures should include quality certifications, market research, and buyer-seller meetups.



- Additionally, focus on high-tech sectors such as semiconductors and biotechnology. Establish district-level initiatives that help integrate micro, small, and medium enterprises (MSMEs) into global value chains.

- Among the SMEs in textile manufacturing, collaboration with Indian and international design schools, investment in new product technologies, and partnership with high-end retail outlets need to be promoted. State governments should focus on expanding the talent pool of engineers and researchers for chemical product sector SMEs by increasing domestic and international collaboration with students. They also need to support strengthening the marketing capabilities of SMEs to advance downstream in the value chain and enhance their competitiveness. Reducing dependence on imported raw materials can promote the segment's sustainable growth.

- The state government should invest in electronic supply chain linkage for SMEs in textile manufacturing. This would involve investing in capital equipment and local training institutions to foster process innovation, product management, and quality control.

- In Food processing, state governments can help the MSMEs by supporting international trade fairs, exhibitions, export promotion programs, training and workshops on marketing techniques and digital marketing geared towards diversifying into by-products and developing niche markets.

Monitoring, Evaluation, and Stakeholder engagement

- There is a critical need to raise awareness among potential beneficiaries about existing policies and schemes for MSMEs to ensure they reach the intended recipients. State governments must enhance outreach and communication to ensure policies are accessible and understood by MSMEs. Regular surveys and assessments to monitor the performance of MSME policies provide a basis for evidence-based improvements.

- Policymakers need to engage more effectively with MSME stakeholders, including representatives of Owner-Operated Enterprises (OAEs) and women-owned enterprises, which face unique challenges that are often overlooked.

- MSMEs in informal sectors also need to be captured in the government/public datasets. Analysing this data using statistical methods will help derive insights and identify areas for improvement towards reducing informality in the MSME sector

Conclusion

The analysis of the MSME landscape in India faces several challenges stemming from the limitations of the available data. One notable concern is the limited sample size of the dataset, which may compromise its representativeness in the broader MSME sector. The inclusion bias towards firms adhering to standardised bookkeeping practices raises questions about the accuracy of assessing the value added by diverse enterprises, particularly micro-enterprises that may not follow such practices.

Additionally, the dataset is plagued by a significant number of missing values, posing a challenge to the reliability and comprehensiveness of the analysis. These gaps in crucial indicators can affect the accuracy of value-added calculations, emphasising the need for cautious interpretation of findings. Moreover, the methodological variations in the data collection employed by the Centre for Monitoring the Indian Economy (CMIE) introduce another layer of complexity. The proprietary nature of this methodology may deviate from national and international standards, requiring careful consideration in interpreting analysis results.

To address the limitations mentioned, in the study we have used Michael Porter's approach to understand SME cluster development. We used PLFS (Periodic Labour Force Survey) data, underscoring the rationale for this inclusion. Given the scarcity of regular data specific to MSMEs, we advocate for utilising available sources like PLFS data as an interim measure. In our opinion, until a comprehensive and regularly updated dataset becomes available, policymakers and researchers should give due consideration to this data, particularly for its potential in understanding cluster-led developments in India. The PLFS data facilitates a focus on state and district-specific requirements, providing valuable insights that can aid in formulating targeted strategies for the growth and development of the MSME sector. This approach acknowledges the current data constraints while emphasising the importance of leveraging existing resources to inform more effective policy decisions and research initiatives.

The broader issue of insufficient data on Indian MSMEs, particularly concerning employment trends, export contribution, and GVC integration, further compounds the challenges. The lack of robust data impedes effective study of these factors, posing a substantial hurdle for policymakers seeking to formulate strategies for the MSME sector. While the UDYAM database stands as the sole regularly updated source, its limitations in capturing detailed data on economic activity for employment, exports, and productivity restrict its utility. Furthermore, the existing databases, including UDYAM and Prowess, fall short in providing comprehensive insights into value addition, exports, and GVC integration, highlighting the necessity for their enhancement.

Addressing these limitations is crucial for guiding an urgent and comprehensive examination of the MSME sector. Specifically, improvements in the functionality of the UDYAM portal, such as incorporating cluster-specific data and addressing the absence of NIC-level data categorised by states, are essential steps. This enhancement is pivotal in establishing a foundation for more informed policy decisions and fostering the competitiveness of MSMEs in India.

State level MSME policy

State	Link	Focus	MSME or Industrial	Year
Recently Updated				
Andhra Pradesh	MSME POLICY 2015-2020	Micro and Small	MSME	2015-2020
Arunachal Pradesh	Industrial and Investment Policy 2020		Industrial	2020
Assam	The Assam MSME (Facilitation of Establishment and Operation) Act, 2020	Micro and Small		2020
Bihar	Bihar Industrial Investment Promotion Policy (Textile & Leather Policy), 2022		Industrial	2022
Chhattisgarh	MSME POLICY – CHHATTISGARH STATE (2019-24)	Micro and Small		2019-24
Goa	Compendium of MSME Policy and Incentive Schemes of Goa			2022
Gujarat	Gujarat Industry Policy 2020		Industry	2020
Haryana	Haryana MSME Policy 2019	Micro and Small		2019
Himachal Pradesh	The Himachal Pradesh Industrial Investment Policy, 2019		Industry	2019
Jharkhand	Jharkhand Industrial and Investment Promotion Policy 2021		Industry	2021
Karnataka	Government of Karnataka INDUSTRIAL POLICY 2020-2025		Industry	2020-25
Madhya Pradesh	MP MSME Development Policy, 2021	Micro and Small		2021
Meghalaya	Meghalaya Procurement Preference Policy for Micro and Small Industries	Micro and Small		2021
Odisha	Odisha-MSME-Policy-2022	Micro and Small		2022
Punjab	Punjab Industrial and Business Development Policy 2022		Industrial	2022
Sikkim	Sikkim Micro, Small and Medium Enterprises Policy, 2022	Micro and Small		2022
Tamil Nadu	Micro, Small and Medium Enterprises Policy - 2021	Micro and Small		2021
Tripura	Introduction of Trlpura Industrlal Investment' Promotion Incentive Scheme (TIIPISI. 2022		Industrial	2022
Uttar Pradesh	UTTAR PRADESH MICRO, SMALL AND MEDIUM ENTERPRISES PROMOTION POLICY - 2022	Micro and Small		2022
Not updated recently				
Kerala	MSME Schemes for Kerala State			
Maharashtra	The Industrial Policy of Maharashtra	Industrial		
Rajasthan	Rajasthan MSME Policy 2015	MSME		2015
Uttarakhand	Uttarakhand Policies & Incentives	MSME		
West Bengal	MSME Policy 2013-18	MSME		MSME
No policy document				
Manipur				
Nagaland				
Telangana				

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