

Navigating Regulatory Constraints and Export Performance: A Sectoral and Firm Size Analysis of Indian Manufacturing

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Abstract: This study investigates the regulatory and structural barriers impacting the export competitiveness of medium sized manufacturing enterprises in India. Drawing on a multi layered analysis of sectoral data, state level administrative performance, and firm level regulatory experiences, the research reveals that non tariff constraints, such as construction permit delays, import licensing inefficiencies, and land access challenges, pose significant impediments to export readiness. Key sectors including machinery, textiles, and chemicals face the highest constraint burdens, exacerbated by misalignments between sectoral needs and sub national regulatory environments.

The study identifies a critical spatial structural gap, whereby leading export oriented sectors are often located in states with weak administrative responsiveness. For instance, Tamil Nadu's textile sector faces a 70 day construction permit delay, undermining its global competitiveness. Meanwhile, firms in states with efficient regulatory systems, such as Assam and Goa, are not aligned with major export sectors, suggesting underutilized institutional capacity.

Medium sized firms, though strategically positioned to drive export growth, are disproportionately affected by regulatory overhead, spending nearly 15% of senior management time on compliance. However, exporting firms show stronger institutional navigation capacities, despite facing longer import licensing timelines. These insights underscore the importance of targeted policy reforms.

The paper recommends four key interventions: decentralized, sector specific regulatory reform at the state level; digital platforms to streamline permitting and licensing; support mechanisms for medium sized exporters; and diagnostic tools to preemptively identify export bottlenecks. Collectively, these measures aim to reduce friction, align institutional capacity with industrial strategy, and unlock the latent export potential of India's manufacturing sector.

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1. Introduction

India's ambition to become a global manufacturing powerhouse hinges on the competitiveness of its industrial exports [George, A. S. (2023)]. While large enterprises and multinational corporations often dominate trade volumes, it is the medium sized manufacturing firms, those employing between 20 and 99 workers, that represent the most dynamic and under leveraged segment of the export ecosystem [Tyali, A. T. (2024)]. These firms hold significant potential to contribute to inclusive industrial growth, regional development, and diversification of the country's export base. However, their ability to compete internationally is often undermined by regulatory, infrastructural, and procedural constraints that are not adequately addressed in national trade policy [Rodrik, D. (1998)].

Recent discourse on export competitiveness has shifted from traditional focus areas such as tariff structures and trade agreements to the more complex and persistent issue of non tariff barriers [Rojas, J. J. B., & Pineda, A. A. L. (2020)]. These include bureaucratic delays in obtaining construction permits, challenges in securing import licenses, land acquisition hurdles, and the disproportionate regulatory burden borne by enterprises. Such factors, though less visible than tariffs, directly affect production efficiency, lead times, and a firm's ability to meet export commitments. Crucially, these constraints vary widely across sectors and states, revealing the need for a spatial structural analysis of India's regulatory landscape [Wang, P., Zhang, L., & Lu, R. (2025)].

This paper investigates the intersection of regulatory constraints and export performance, using data from seven key manufacturing sectors and a comparison of state level permitting efficiency. It further integrates firm level analysis to assess how businesses of different sizes, particularly medium sized firms, experience and navigate these constraints. Special attention is given to the misalignment between sectoral needs and state level administrative performance, as well as to the distinct challenges faced by exporting firms versus non exporters.

By identifying the structural bottlenecks and offering actionable policy recommendations, this study aims to inform export strategy and industrial policy at both the national and sub national levels [Masucci, M., et. al. (2020)]. The ultimate objective is to advance a regulatory environment that empowers medium sized manufacturers to become globally competitive, resilient, and growth oriented participants in international trade.

2. Literature Review

2.1. Theoretical Foundations of Export Competitiveness

Export competitiveness has long been examined through the lens of classical and contemporary trade theories, each offering a different perspective on the determinants of trade patterns and firm-level export behavior.

Classical and Neoclassical Trade Theories

Ricardo's theory of *Comparative Advantage* posits that countries benefit from specializing in the production of goods for which they hold a relative efficiency, thereby maximizing gains from trade. This foundational model underscores the role of cost differentials and opportunity costs in shaping international trade flows [Maneschi, A. (2008)].

Expanding upon this, the *Heckscher-Ohlin (H-O) model* attributes trade patterns to differences in factor endowments, suggesting that countries export goods that utilize their abundant factors of production. While influential, the H-O model faces limitations in explaining intra-industry trade and variations in export performance at the firm level [Baldwin, R. E. (2008)].

New Trade Theory and Firm Heterogeneity

Emerging perspectives in trade theory acknowledge heterogeneity among firms. The seminal work by Melitz (2003) introduced a model where only the most productive firms engage in export markets, highlighting that productivity thresholds determine export participation. This approach underscores the role of firm-level capabilities and internal efficiencies in international competitiveness.

Porter's Diamond Model

Porter's (1990) *Diamond Model* provides a broader framework for analyzing national competitive advantage, identifying four interrelated factors: firm strategy, structure and rivalry; demand conditions; related and supporting industries; and factor conditions. This model emphasizes the systemic nature of competitiveness, linking firm-level behavior to the broader institutional and industrial context [Akombo, A. O. (2010)].

Global Value Chains and Upgrading

In parallel, the global fragmentation of production has introduced new dynamics. Gereffi et al. (2005) emphasize the importance of *Global Value Chain (GVC)* participation, where governance structures and the potential for "upgrading" determine

firm outcomes. For firms in emerging economies, moving up the value chain—through process, product, functional, or inter-sectoral upgrading—is critical to sustained export competitiveness.

2.2. Non-Tariff Barriers and Regulatory Constraints

While tariff reductions have facilitated trade liberalization, *non-tariff barriers (NTBs)* and institutional inefficiencies continue to restrict export growth, particularly in emerging markets.

Permit and Licensing Barriers

The World Bank's *Doing Business* reports have consistently highlighted procedural complexities in areas such as obtaining construction permits and trading across borders in India. Rajan and Zingales (2004) argue that such regulatory bottlenecks are endemic in developing economies, where administrative opacity and fragmentation hinder firm productivity and market entry.

Import and Export Licensing Delays

The World Trade Organization (2021) has reported that procedural delays—including import and export licensing—can significantly affect export timelines and firm competitiveness. In India, industry-level studies, including those conducted by the Federation of Indian Chambers of Commerce & Industry (FICCI), have empirically documented the negative impact of licensing and border delays on export performance [Liu, L., & Yue, C. (2013)].

Land and Infrastructure Constraints

Beyond procedural delays, *infrastructure readiness* is a key enabler of industrial competitiveness. McKinsey (2019) identified access to industrial land and supporting infrastructure as major constraints for manufacturing firms in India [Henderson, R. (2021)]. In response, policy efforts have focused on the development of Special Economic Zones (SEZs) and industrial corridors, intended to offer integrated and facilitative environments for production and export.

2.3. Spatial Disparities and Sector-State Misalignment

The spatial distribution of industrial activity often diverges from the administrative capacity required to support it, leading to frictions in export preparedness at the subnational level.

Subnational Governance and Regulatory Quality

According to the OECD (2020), decentralized regulatory frameworks in federal systems can create inconsistencies in the ease of doing business across regions. The IDFC Institute (2021) reports significant variation in *state-level Ease of Doing Business (EoDB)* in India, which directly affects the operational environment of firms [Nagarjuna, B. (2022)].

Geographic Concentration of Industry vs. Regulatory Capacity

Case studies reveal that sectors tend to cluster geographically—such as *textiles in Tamil Nadu, machinery in Gujarat, and chemicals in Karnataka*. However, in many cases, the institutional capacity of these states to support sectoral demands is misaligned, leading to delays in permitting, inspection, and infrastructure provisioning [Narayanan, K. (2009)].

Policy Coherence in Federal Systems

Rodrik (2000) and Bardhan (2006) emphasize the importance of institutional alignment and coherence in policy implementation within federal systems. In the Indian context, the harmonization of central and state-level regulatory frameworks is essential to address fragmentation and improve export facilitation.

2.4. Firm Size, Institutional Navigation, and Export Readiness

Firm size significantly influences a firm's capacity to navigate institutional constraints and participate in export markets.

Firm Size and Regulatory Overhead

Beck et al. (2006) find that *small and medium enterprises (SMEs)* face disproportionate challenges in dealing with regulatory complexity and accessing finance. In India, the World Bank (2022) and IFC (2022) highlight similar frictions for medium-sized firms, which lack both the informal flexibility of microenterprises and the institutional leverage of large firms.

Exporters vs. Non-Exporters and Institutional Learning

Alvarez and Lopez (2013) argue that exporters acquire institutional experience over time, enabling them to navigate complex regulatory systems more effectively. McConnell, K. J., et. al. (2016) mention exporting firms often demonstrate superior management practices and procedural efficiency.

Medium-Sized Firms as the “Missing Middle”

Medium-sized firms represent a “missing middle” in policy focus: they are crucial for employment generation and innovation but often lack tailored institutional support. Reports by SIDBI and NITI Aayog advocate for targeted policy interventions, including compliance assistance, credit facilitation, and market linkage support, for this segment to achieve export scalability [Trombetta, M. et. al, (2017)].

2.5. Policy Responses and Reform Pathways

Several policy initiatives, both global and domestic, aim to mitigate institutional constraints and enhance export performance.

Trade Facilitation and Digital Platforms

The WTO’s *Trade Facilitation Agreement (TFA)* provides a global blueprint for reducing border delays and administrative friction. In line with this, India has launched initiatives like ICEGATE, e-SANCHIT, and SWIFT, which aim to digitalize documentation and expedite customs processing [De, P. (2024)].

Centralized vs. Decentralized Reform Approaches

Comparative experiences from countries like Vietnam, Bangladesh, and Mexico demonstrate the value of aligning *sectoral priorities with regional institutional capabilities*. These countries have implemented targeted reforms that combine national policy direction with local implementation capacity to support export-led industrialization [Gu, Y., Nayar, G., & Sharma, S. (2021)].

Supporting Export Readiness in Medium Firms

Diagnostic tools developed by UNIDO and the International Trade Centre (ITC) allow firms to assess and improve export readiness. National policy frameworks increasingly advocate for *capacity-building programs, compliance subsidies, and performance-linked export incentives* targeted specifically at medium-sized firms—an under-leveraged yet high-potential segment in the Indian economy.

3. Methodology

This study employs a mixed methods research design that integrates quantitative analysis with comparative policy interpretation to assess the regulatory and institutional determinants of export competitiveness in India’s medium sized manufacturing sector. The approach is structured around three analytical layers, sectoral, state level, and firm

level, allowing for a comprehensive assessment of the multidimensional constraints affecting export performance.

The analysis in this study is based on secondary data retrieved from the World Bank Enterprise Survey for India (2022). Specifically, indicators related to management practices, regulatory engagement, licensing delays, and perceived business constraints were drawn from the official Enterprise Surveys portal (World Bank, 2022).

At the sectoral level, the study examines data on construction permit delays, import licensing timelines, and the percentage of firms reporting land and licensing as major constraints. These indicators are normalized and aggregated into a composite metric, referred to as the Export Constraint Index (ECI), which quantifies the relative severity of export related bottlenecks across key manufacturing sectors, including textiles, machinery, chemicals, and fabricated metal products.

The state level analysis evaluates the efficiency of sub national regulatory systems by comparing average construction permit processing times across major Indian states. This assessment helps identify potential sector state misalignments, where export intensive sectors are situated in states with high regulatory friction. The analysis also accounts for spatial variations in governance performance and industrial concentration to highlight gaps in policy responsiveness.

At the firm level, the study incorporates comparative data across small (5–19 employees), medium (20–99), and large (100+) enterprises, with additional segmentation between exporters and non exporters. Key indicators include the percentage of senior management time allocated to regulatory compliance, the time required to obtain import licenses, and the prevalence of perceived land and licensing constraints. This layer of analysis provides insights into how firm size and export orientation influence regulatory burden and institutional navigation capacity.

By triangulating insights from these three levels, the methodology enables a nuanced understanding of how structural inefficiencies, administrative capacity, and firm capabilities collectively shape India's export competitiveness.

4. Key Findings

The data analysis presented in the following sections is derived from the World Bank Enterprise Survey (India 2022), with a particular focus on firm-level responses related to regulatory burden, licensing delays, land access, and management practices. The dataset is publicly available through the World Bank's Enterprise Surveys portal and includes disaggregated indicators by firm size, sector, exporter status, and region. This secondary data has been systematically reviewed, and key quantitative findings

have been extracted to examine institutional constraints affecting medium-sized manufacturing firms in India.

4.1. Sectoral Constraints and Export Bottlenecks

<i>Sector</i>	<i>Export Constraint Index</i>	<i>Key Issues</i>
Machinery & Equipment	77	Highest import delay (52.3 days)
Textiles	63	Longest construction permit (70 days)
Chemicals	56.8	Highest overall constraint (78.7%)
Fabricated Metal Products	46.6	Least constrained sector

Sectors with higher normalized constraint scores (e.g., Chemicals, Textiles) show disproportionately high Export Constraint Index values, indicating deep structural hurdles.

An in depth analysis of sector specific regulatory and operational delays reveals critical bottlenecks that undermine India's export competitiveness. The Export Constraint Index (ECI), developed as a composite measure of permitting delays, import licensing inefficiencies, and self reported constraint levels, provides a synthesized view of each sector's export readiness challenges.

The Machinery and Equipment sector emerges as the most constrained, with an ECI of 77, driven primarily by the highest recorded import licensing delay of 52.3 days. As this sector is heavily reliant on imported components and global supply chains, such prolonged delays severely disrupt production timelines and reduce responsiveness to international demand.

The Textile sector, with an ECI of 63, is similarly constrained, largely due to a construction permit delay of 70 days, the longest among all sectors. Given that textiles are a labor intensive and infrastructure dependent industry, delayed construction directly hampers capacity expansion and modernization efforts, which are critical for scaling export operations and meeting global standards.

Chemicals, though not the highest on the ECI scale (56.8), records the highest normalized constraint score of 78.7%, reflecting extensive difficulties related to licensing and land access. These barriers are particularly concerning, as the chemical industry is a key input provider across multiple value chains, and its sluggish regulatory clearance process has ripple effects on downstream sectors.

In contrast, Fabricated Metal Products register the lowest ECI at 46.6, indicating relatively fewer export impeding constraints. This suggests that sectors with leaner regulatory interfaces and less dependency on imported inputs tend to perform better in export readiness.

Overall, sectors with high normalized constraint scores tend to display elevated ECI values. This reinforces the conclusion that structural inefficiencies, particularly in permitting and import related processes, are critical obstacles to export competitiveness in key Indian manufacturing sectors.

4.2. State Level Misalignment

States with efficient permit systems, such as Goa and Assam (10 day average), contrast with Tamil Nadu, where textiles face 70 day delays, despite the state’s export oriented textile base. This misalignment suggests a need for state sector policy calibration.

<i>State</i>	<i>Affected Sector</i>	<i>Issue</i>	<i>Sector State Link</i>
Tamil Nadu	Textiles	Longest construction permit	Direct Match
Gujarat	Machinery	Highest import license delay	Sectoral Mismatch
Karnataka	Chemicals	Highest % constraint (78.7%)	Sector constraint only

An important dimension in assessing export competitiveness is the alignment between state level regulatory efficiency and the sectoral composition of industrial activity. The data reveals significant discrepancies in how well state level permitting systems support the sectors most critical to export performance.

Goa and Assam emerge as examples of regulatory efficiency, with construction permit processes averaging just 10 days, a benchmark of administrative responsiveness. These states demonstrate streamlined approval mechanisms that, if matched with high export potential sectors, could serve as regional export hubs. However, these states currently do not house the most constrained or export intensive sectors, which limits the broader economic impact of their permitting efficiency.

In contrast, Tamil Nadu, a state renowned for its robust textile industry, exhibits the longest construction permit delay at 70 days. This is particularly problematic given the sector’s heavy reliance on physical infrastructure for manufacturing, warehousing, and logistics. The direct alignment between a highly constrained sector and a state with poor regulatory timelines represents a classic sector state mismatch, where the regulatory environment fails to support the sector’s growth potential. This inefficiency hampers the state’s ability to fully leverage its comparative advantage in textiles.

Gujarat, while relatively efficient in terms of construction permits, is home to the machinery and equipment sector, which suffers from the highest import license delay (52.3 days). Although the state level permitting is not the direct cause of the constraint, this reflects a partial mismatch, where national level regulatory hurdles intersect with regionally significant sectors.

Karnataka presents a different challenge. Despite relatively efficient state systems, it is associated with the chemicals sector, which experiences the highest overall constraint (78.7%). Here, the constraint is intrinsic to the sector rather than the state, indicating the need for industry specific reforms at the national level.

These misalignments underscore the importance of calibrated state sector policy alignment to optimize India's export potential.

4.3. Firm Size vs Exporter Comparison

<i>Metric</i>	<i>Medium Firms</i>	<i>Exporters</i>
Time on Regulation (%)	14.9	25.6
Days to Import License	23.4	28.9
Licensing Constraint Identified (%)	15.9	9.9
Land Constraint (%)	73.4	83.3

Exporting firms, though facing longer import delays, report fewer licensing issues, possibly reflecting better institutional navigation capacity. Medium sized firms strike a balance: more agile than large firms, yet more exposed than small enterprises.

Analyzing firm level characteristics provides valuable insights into how regulatory burdens and operational constraints vary by firm size and export orientation. Medium sized firms and exporting enterprises face unique challenges, but their experiences diverge in notable ways that have implications for policy targeting.

Medium sized firms, defined as those employing between 20 and 99 workers, spend an average of 14.9% of senior management time on regulatory compliance. This figure is significantly higher than that of smaller firms and reflects their increased exposure to formal regulatory processes as they scale operations. Yet, when compared to exporting firms, which report spending 25.6% of management time on regulatory matters, it becomes evident that international trade participation adds an additional layer of administrative burden, likely due to customs procedures, compliance with foreign standards, and export documentation requirements.

Similarly, the average number of days to obtain an import license is higher for exporters (28.9 days) than for medium sized firms (23.4 days), further underscoring the complex procedures tied to international transactions. Despite these delays, exporters are less likely to report licensing as a major constraint (only 9.9%), compared to 15.9% among medium firms. This paradox may reflect better institutional navigation, either due to greater experience, established networks, or the ability to invest in legal and compliance expertise.

On the issue of access to land, a major constraint across Indian manufacturing, 83.3% of exporters identify it as a severe issue, compared to 73.4% of medium sized firms. This reflects the infrastructure intensive nature of export activity, which often requires larger or strategically located facilities.

In summary, while exporters face longer delays and higher compliance demands, they appear more adept at managing regulatory systems. Medium sized firms occupy a strategic middle ground, agile enough to grow, but vulnerable enough to need targeted policy support to enter or scale within export markets.

5. Discussion

5.1. Regulatory Complexity and Export Efficiency

A significant finding emerging from the analysis is the role of non tariff barriers, particularly administrative delays related to construction permitting and import licensing, as critical frictions affecting export performance in Indian manufacturing. While tariff liberalization has progressed significantly over the past three decades, the burden of regulatory compliance remains disproportionately high in several export oriented sectors.

Two sectors exemplify the systemic challenges in this domain: Machinery & Equipment and Chemicals. Both are strategically important not only for their direct export potential but also for their role as enabling industries across broader industrial ecosystems. However, they face pronounced inefficiencies due to a combination of national level procedural delays and state level governance constraints.

In the Machinery sector, the average delay of 52.3 days to secure an import license is the highest among all sectors analyzed. Given that machinery manufacturing is often dependent on the import of high precision components, specialized inputs, and advanced technologies, such delays undermine firms' ability to meet delivery timelines and quality standards demanded by international buyers. The disruption of just in time supply chains due to licensing delays diminishes operational flexibility, leading to cost overruns, contract penalties, and lost opportunities in competitive markets.

The Chemicals sector presents a different but equally concerning case. While import licensing delays are moderate, it records the highest overall constraint at 78.7%, based on normalized sectoral data. These constraints predominantly stem from land access issues, environmental clearance bottlenecks, and complex safety regulations. While these regulations serve legitimate public policy goals, their lack of streamlining and predictability deters investment, limits capacity expansion, and slows technological upgrades, all of which are essential for maintaining export competitiveness.

Furthermore, the Textile sector, despite being one of India's traditional export powerhouses, faces a 70 day construction permit delay in states like Tamil Nadu. Delays of this magnitude disrupt plant expansion, infrastructure modernization, and compliance with international audit standards, especially in sustainability and labor safety, both of which are increasingly critical to maintaining access to premium markets such as the EU and the US.

Collectively, these findings highlight that regulatory complexity is not merely an inconvenience, it is a structural barrier to competitiveness. Export efficiency is increasingly dependent on the ability to respond quickly to global demand, adapt to supply chain disruptions, and comply with dynamic regulatory standards in destination markets. When domestic regulations hinder these capacities, Indian manufacturers are placed at a systemic disadvantage relative to competitors in Southeast Asia or Eastern Europe, where administrative processes are often more streamlined and digitized.

Hence, enhancing export efficiency demands urgent institutional reforms that reduce the time, cost, and uncertainty associated with non tariff barriers. These reforms should not aim to weaken compliance standards but should rather focus on process simplification, digitalization, and accountability across regulatory agencies.

5.2. Spatial Structural Alignment: Sector State Misfit

Another prominent insight emerging from the data is the issue of spatial structural misalignment, a situation where the regulatory performance of individual states does not align with the sectoral needs and competitive advantages embedded in their regional economies.

The most telling case is that of Tamil Nadu, which hosts a significant portion of India's textile exports, yet records the longest construction permit delays among the states analyzed. This represents a direct mismatch between sectoral importance and regulatory efficiency. Textiles, being labor and infrastructure intensive, require timely permissions to set up or expand production facilities, warehouses, and worker accommodations. Delays of 70 days for construction permits significantly erode competitiveness by delaying operational timelines, increasing holding costs, and risking non compliance with export contracts.

In contrast, states like Goa and Assam demonstrate exceptional administrative efficiency, issuing permits in as little as 10 days. However, these states are not currently hosting high export sectors or facing significant sectoral constraints. This raises the question of underutilized administrative capacity and highlights an opportunity for

export policy to guide industrial investment toward regions where administrative systems are already functioning efficiently.

Similarly, Gujarat is home to the machinery sector, yet faces major import delays, not due to state inefficiency but due to national level bottlenecks. This presents a partial misalignment, where state level policy is relatively sound, but national processes create externalities that affect state level economic outcomes.

The case of Karnataka, associated with the Chemicals sector, represents a third kind of misalignment. Here, the constraint is intrinsic to the sector rather than the state. Even though the state's permitting systems are moderately efficient, the sectoral characteristics, such as high regulatory oversight on safety and land use, generate significant compliance burdens.

These examples illustrate that addressing export constraints requires a dual approach:

- Vertical alignment, ensuring that sectors critical to national export goals are not hamstrung by sector specific inefficiencies such as permit delays, complex approvals, or licensing red tape.
- Horizontal alignment, ensuring that regional policy environments are conducive to the sectors that dominate their economic landscapes.

Policy reforms must therefore incorporate region sector diagnostics, allowing for tailored interventions. For instance, fast tracking textile permits in Tamil Nadu or offering sector specific compliance handholding for the chemicals industry in Karnataka could yield immediate gains.

5.3. Medium Sized Firms as Strategic Leverage Points

Medium sized enterprises (20–99 employees) play a pivotal role in India's manufacturing and export ecosystem. They are often more organized than small firms, allowing them to meet international quality and compliance standards, yet more agile and cost efficient than large conglomerates. However, the data shows that these firms are significantly exposed to regulatory burdens, spending 14.9% of senior management time on regulatory compliance.

This level of involvement in navigating bureaucratic processes detracts from core business activities such as production, marketing, and innovation. More importantly, such regulatory overhead disproportionately affects firms with limited managerial bandwidth, often disincentivizing export participation due to perceived complexity and cost.

Interestingly, medium sized firms also reflect moderate values across multiple regulatory metrics. For instance, they experience 23.4 days of delay in obtaining import licenses, which, while shorter than exporters (28.9 days), is still substantial. They also report higher licensing constraints (15.9%) compared to exporters (9.9%), suggesting that they have yet to develop the institutional capacity or networks that larger or more export seasoned firms possess.

Yet, medium sized firms are uniquely positioned as export escalators. They have the infrastructure, technical capacity, and market potential to scale operations for international markets, provided that procedural frictions are reduced. Their sensitivity to regulatory delays means that policy interventions aimed at this segment can produce high impact results in terms of export volume, job creation, and industrial upgrading.

Recommended reforms include

Simplified, sector specific permit and licensing pathways for medium sized exporters.

- Dedicated export facilitation desks within state industrial departments focused on assisting medium firms.
- Subsidies or tax credits to offset the cost of regulatory compliance for firms crossing export thresholds.

By addressing the constraints faced by medium firms, India can unlock a vital channel for sustainable, inclusive, and diversified export growth.

6. Policy Implications

The findings from this study underscore the pressing need for a comprehensive policy framework that addresses both structural and procedural constraints within India's export ecosystem. The policy recommendations presented below aim to improve export competitiveness by reducing regulatory frictions, enhancing institutional responsiveness, and empowering medium sized firms to scale efficiently.

6.1. Decentralized Reform: Targeted State Level Regulatory Streamlining

The data clearly highlights the importance of aligning state level regulatory efficiency with sectoral needs. In high export states such as Tamil Nadu (textiles) and Gujarat (machinery), delays in construction permits and import licenses respectively have emerged as significant barriers. A decentralized reform strategy is essential, wherein sector specific regulatory processes are reviewed and streamlined by state governments in collaboration with industry stakeholders. For instance, Tamil Nadu could implement fast track approvals for textile infrastructure expansion, while Gujarat could focus on

digitizing import procedures for machinery manufacturers. Such localized reforms would ensure that state level administrative systems are better equipped to serve the specific needs of export dominant sectors.

6.2. Digital Permit Platforms: Enhancing Transparency and Efficiency

To address the broader issue of regulatory complexity, there is a critical need to standardize and digitalize permitting processes across states and sectors. Establishing integrated digital platforms for managing construction permits, environmental clearances, and import/export licenses would significantly reduce processing time, improve transparency, and limit discretionary delays. These platforms should include real time tracking, automated alerts, standardized documentation templates, and single window interfaces for approvals. A national rollout of such systems, modeled on successful state level e governance initiatives, can serve as a foundational step toward easing administrative burdens on exporters.

6.3. Support for Medium Sized Firms: Compliance Incentives

Medium sized firms face notable regulatory overheads but possess strong potential to drive export growth. Policy mechanisms such as compliance cost subsidies, fast track approvals for export registered firms, and export readiness support programs can provide these enterprises with the necessary tools to scale operations. In particular, firms on the cusp of entering export markets should receive targeted support to reduce time spent on non core compliance activities, thereby enabling them to compete more effectively on a global scale.

6.4. Export Readiness Diagnostics: Proactive Constraint Identification

Finally, introducing sector specific export readiness diagnostics can enable early identification of constraints, be it land access, licensing, or infrastructure gaps, before firms invest in large scale export expansion. These diagnostics should be developed in collaboration with industry bodies, and integrated into export promotion schemes, allowing for preemptive policy intervention that minimizes friction during the scale up phase.

7. Conclusion

This study set out to examine the structural and regulatory constraints that influence the export competitiveness of India's medium sized manufacturing enterprises. By synthesizing sectoral, state level, and firm level data, the analysis uncovered critical

insights into how non tariff barriers, especially delays in construction permits and import licensing, act as significant impediments to export performance. Sectors of strategic importance such as machinery, textiles, and chemicals were found to be disproportionately affected by these inefficiencies, limiting their ability to respond to international demand, maintain cost competitiveness, and comply with global quality standards.

The evidence also highlights a concerning misalignment between sectoral priorities and sub national regulatory performance. Tamil Nadu's textile industry, for instance, suffers from protracted permitting timelines, while Gujarat's machinery sector faces burdensome import related delays. These findings point to the urgent need for vertically and horizontally integrated policy reforms, those that align sectoral needs with the capabilities and performance of regional governance structures.

Medium sized firms emerged as a particularly important leverage point in this ecosystem. Despite their agility and potential for export growth, they are disproportionately burdened by compliance demands, often lacking the institutional capacity of larger firms to navigate complex regulatory systems. However, they remain critically positioned to scale efficiently if supported through targeted policy instruments.

To address these issues, the paper recommends a suite of actionable reforms, including decentralized regulatory streamlining, the adoption of digital permit platforms, targeted support for medium enterprises, and the implementation of export readiness diagnostics. These measures, if designed and executed effectively, can enhance India's export capabilities by reducing transaction costs, increasing operational efficiency, and enabling firms to integrate more competitively into global value chains.

Ultimately, improving export competitiveness in India is not merely a function of liberalized trade policies, but of institutional responsiveness, procedural clarity, and sector specific alignment. This research provides a data driven foundation for reform efforts aimed at creating a more agile, equitable, and export ready industrial environment.

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