

Export-Led Growth or Jobless Expansion? Econometric Analysis Vis-A-Vis Employment Elasticity of Exports in 21st Century India

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ABSTRACT

This paper investigates the intricate connection between Indian export and employment growth for the period 2000–2023. Based on several data sources such as DGFT, NSSO, PLFS, RBI and AS), the paper uses descriptive analysis, trend growth rates and comparative methods to empirically find out if India's significant export expansion has been able to create productive employment. We find a paradox: while the total exports of India grew from \$60.8 billion in 2000-01 to \$744.7 billion in 2022-23 at annual compound growth rate (CAGR) of 12.4%, no commensurate increase is seen in the formal employment numbers. The paper finds substantial sectoral heterogeneity in employment elasticities, with basic labour-intensive sectors having the higher job-creating potential relative to capital intensive and services exports. The main findings suggest that there are structural changes in the export composition towards less labour-intensive sectors, regional concentration of benefits from exports and the increasing importance of services exports which create fewer jobs per dollar of exports. The paper concludes with policy suggestions to improve the employment intensity of India's export basket through targeted initiatives in labour-intensive manufacturing, skill formation and regional diversification.

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1. INTRODUCTION

1.1 Background and Context

The explosive opening out to the international market place of the 21st century has seen India being tied into globalised trading patterns -exports playing lead role in this economic drama. From a low share of 12.4 per cent of the GDP in 2000-01 by the end of 2022-23 India's exports increased to 22.5% of its GDP. This process of growth has been accompanied by substantial structural change in the export basket, away from traditional commodities and towards more sophisticated manufactures as well as high value services. But this export success tale has run parallel to stubborn labour employment creation challenges, especially in the formal sector. India's demographic dividend (viz. over 12 million new entrants to the workforce year after year) means that comprehension of the export-employment nexus is not an academic academic, it is a policy imperative. The export-led growth model was also successful in East Asian economies, such as those of China, South Korea and Taiwan. While it aimed not only at earning foreign exchange but also at technology transfer, productivity enhancement and employment generation. Following traditional trade theory, labour-surplus countries like India are to specialise in and export goods intensive in unskilled labour so as to create employment based on comparative advantage. But India's story of the 21st century tells a more nuanced reality, somewhat similar to what some economists call "jobless growth": where economic growth sees an increase but job generation remains muted...



1.2 Research Problem and Significance

The present research intends to fill this gap by looking at anecdotal evidence on changing export performance-employment linkages in the new millennium. Although the pathways of India's export performance and employment challenges have both been dealt with in several studies, there remain rather few comprehensive examinations that bridge these two dimensions over the entire post-2000 period. The previous literature tends to be limited in methodology - aggregative national data obscuring differences across sectors and regions; inadequate attention is also paid to the increasing services exports sector, and little account is taken of structural breakings and policy shocks. There are a number of important contributions that this study offers the field. First, it is a work that has the entire 21st century in mind - with its major policy turns, global economic crises and structural transformations. A second is that it does not characterize the analysis by sectors, regions and skill levels to reveal heterogeneity. Third, it explicitly investigates the expanding services export sector and its potential unique employment effects. Fourth, it uses insights from a range of data sources to 'triangulate' findings and strengthen robustness. Lastly, it offers policy suggestions that are supported by empirical data rather than theoretical ideals.

1.3 Research Objectives

The main goals of this study are:

To study the transformation of India's export structure and quantity from 2000 to 2023. To characterize trends and patterns of employment over the same twenty years, differentiating between formal and informal jobs. An analysis on the relationship between exports performance and employment growth at aggregate, sectoral, and regional levels. To distinguish factors that mediate the relationship between exports and employment (like skill mismatch, technological change or institutional obstacles). To draw policy implications to boost employment intensity of its export-led growth.

1.4 Methodology Overview

A mixed-methods approach is adopted in this study that includes: quantitative analysis on secondary data and qualitative data from policy documents/ literature. The quantitative analysis uses the time-series database of DGFT for export statistics, NSSO and PLFS for employment figures, RBI for macro variables, and ASI on organised sector employment. Methods of analysis consists of trend, descriptive statistics, correlation and decomposition analyses. Data ranges from 2000-01 to 2022-23, covering important economic events such as the Global Financial Crisis, demonetization, introduction of GST and COVID-19 pandemic.

2. LITERATURE REVIEW-

2.1 Theoretical Foundations

The connection between exportation and level of employment is empirically from the theoretical legacy, as discussed in section (3), guided by several theories. Classical trade theory, based on the Heckscher-Ohlin (HO) model, predicts that countries export goods which are relatively intensive in their abundant factor of production. For labour surplus countries such as India, this means specialisation in labour-intensive goods for exports and would automatically lead to creation of employment. The theory of Stolper-Samuelson also indicates that trade liberalization would favour the abundant factor of production so that workers in labour-abundant countries should benefit from increased trade. Newer theories have a more nuanced view. The New Trade Theory, initiated by Paul Krugman, focuses on economies of scale and imperfect competition which may lead to a focus of export success in sectors/industries that cultivate increasing returns instead of factor endowments. According to the Heterogeneous Firm Theory developed by Marc Melitz, only the most productive firms are able to export and these firms tend to use capital intensive production processes which will reduce jobs. The literature of development economics further complicates the picture by introducing institutional effects, market imperfections and structural rigidities that might hinder the straightforward translation of export expansion into employment growth. These are the labour market regulations; skill mismatches; and the infrastructure bottlenecks as well as financial markets imperfections that specifically affect SMEs with employment potential.

2.2 Empirical Evidence from India

In the early research of post-liberalization India, employment effects from export growth were found to be positive but small. Common elasticities of this kind¹⁴ in the '90s and early 2000s were between 0.2 and 0.4, implying that an increase by 10% in exports would lead to an additional employment growth between 2-4 percent. These studies pointed towards more robust employment effects in legacy labour-intensive sectors of textiles, garments and leather goods as opposed to capital-intense sectors. Relatively newer evidence suggests that the relationships between exports and employment have been weakening. A number of causes have been described in the literature: Structural Transformation of Exports: Nagaraj (2014) and Thomas (2021) note the movement in India's export basket from traditional labour intensive lines to more capital, skill intensive products such as petroleum products, engineering goods and pharmaceuticals. This structural shift has lowered the overall employment content of exports. Services Exports Dominance: Recent research by Sen and Srivastava (2020) suggests the strengthening dominance of services exports, especially software and IT enabled services.

Although such exports are good for jobs, they employ fewer workers per dollar of export compared to manufacturing sectors and have limited backward linkages with the rest of the economy.

Technology and Capital Deepening: Mehrotra et al. (2014) report capital deepening in Indian manufacturing, where firms have now resorted to replacing labour with capital, even within traditional labour intensive industries. This pattern is particularly strong for firms that export, the larger and most technology-intensive ones. **C.Re2 Informality and Fragmentation** Existing literature shows that export expansion has typically involved informality and fragmentation of production, since formal exporting firms often draw on networks of informal suppliers and subcontractors (Goldar 2019; Saha 2021). This provides jobs, it's true, but often in fragile and low-productivity environments. **Regional disparities:** Saha and Sen (2022) find wide regional variation in the export-employment nexus with coastal states displaying a more robust connection compared to their landlocked counterparts. These differences have been explained by the unequal development of regional infrastructure, industrial agglomerations and policy environments.

2.3 International Comparative Evidence-

Comparative analyses are useful in contextualising the Indian experience. China's strategy of export-led growth brought massive employment, especially in manufacturing, through exclusively labor-intensive assembly operations in global value chains. However, recent findings have indicated that China employment elasticity has also been reduced with its export baskets shifting towards higher value added goods. Vietnam is a more modern example of how to generate jobs through successful export-led growth. Analysts credit Vietnam's success to integrating strategically into global value chains, investment in infrastructure and reforms that boated the business environment which attracted labour-intensive manufacturing. There are cautionary examples from Latin America, where "jobless export growth" has been observed in several countries as a result of capital-intensive export structures and skill-biased technological change combined with weak domestic production linkages.

2.4 Research Gaps

Notwithstanding this extensive literature, there are a few gaps. First, the majority of the studies concentrate on merchandise or service exports separately, and few studies integrate them. Second, regional factors and space spillovers receive insufficient consideration. Third, very few studies span the whole 21st century, especially the post-2015 period where there are major policy initiatives such as "Make in India" and production-linked incentive schemes. Fourth, much of the existing literature is not nuanced with respect to quality of employment and concentrates solely on quantity. In this article, we fill in these gaps by conducting an extensive industry and country analysis over time.

3. DATA SOURCES AND METHODOLOGY

3.1 Data Sources

To be comprehensive and robust, the current study taps into multiple data sources:

Primary Trade Data:

.DGFT: Monthly export-import database 2000-01 - 2022-23 at product level, destination and ports. RBI: BOP, Services Exports bay Breakup, REER Indices. Ministry of Commerce and Industry: Policy papers, export promotion programs, and sector-specific pro-poor measures.

Employment and Labour Market Data:

National Sample Survey Office (NSSO), Employment-Unemployment surveys 1999-2000, 2004-05, 2009-10 and 2011-12: for detailed labour force statistics. PLFS: Annual rounds 2017-18 through 2022-23 allowing for high frequency employment information to be collected. Annual Survey of Industries (ASI) : Data on employment, wages and output of the organized manufacturing sector. Centre for Monitoring Indian Economy (CMIE): Consumer Pyramids Household Survey offering monthly estimates of employment. Labour Bureau: Information on employment and wages in organised sector.

Macroeconomic and Sectoral Data:

. Central Statistics Office (CSO): National accounts statistics, input output tables and sectoral value-added data. World Bank: World Development Indicators, for international comparative data. UNCTAD: Data on trade and global value chains. Industry Associations: Sectoral numbers of the associations, such as NASSCOM, TEXPROCIL and Pharmexcil.

3.2 Methodology

The analytical strategy is grounded in a number of methodological traditions:

Trend Analysis :Descriptive statistics and graphic analysis to explore the export-employment patterns over time. Compound annual growth rates and structural change indices have been calculated. Identification of turning points and break periods related to policy changes or external shocks.

Comparative Analysis: Employment intensity compared across various export sectors. An analysis of export and employment performance at regional level. International contrast with some selected developing countries.

Correlation and Association Analysis: Calculation of correlation coefficients between export growth with employment growth. Examination of lead-lag relationship by employing time-series methods. Study association between the structure of exports and composition of employment.

Decomposition Analysis: Decomposition of export growth into “The extensive margin (new products/markets) and the intensive margin (existing products/ markets)”. Estimation of work condition desegregation by formal/informal condition, skill level and sex.

Policy Analysis: Analysis of key export and employment policies and their effects. Alignment of trade policy objectives and employment outcomes reviewed. Study Period and Periodization: 2000-01 to 2022-23 (appearances from) Four sub-periods are defined and processed: Phase 1: 2000-01 to 2007-08 (Pre-GFC) Stage 2: 2008-09 to 2013-14 (Post-Crisis Adjustment). Phase 3: Policy reform period (2014-15 to 2019-20) Fourth phase (2020-21 to 2022-23) Pandemic and

Table 1: India's Export Performance: Key Indicators (2000-2023)

Indicator	2000-01	2010-11	2020-21	2022-23	CAGR (%)
Merchandise Exports (\$ billion)	44.5	251.1	291.8	422.0	10.9
Services Exports (\$ billion)	16.3	132.9	206.0	322.7	15.2
Total Exports (\$ billion)	60.8	384.0	497.8	744.7	12.4
Export/GDP Ratio (%)	12.4	21.8	19.0	22.5	-
Share in World Exports (%)	0.7	1.5	1.8	2.2	-

Source: DGFT, RBI, World Bank; CAGR: Compound Annual Growth Rate 2000-01 to 2022-23

Recovery.

4. EVOLUTION OF INDIA'S EXPORTS: 2000-2023

4.1 Aggregate Trends and Patterns

The export odyssey of India in the 21st century is one of the most extraordinary metamorphic stories in world trade. From a small base of \$60.8 billion in 2000-01, aggregate exports (goods and services) amounted to \$744.7 billion in 2022-23, an almost twelve times increase over two decades. The CAGR of 12.4 per cent was well above the global growth in trade during this time frame.

There are several interesting patterns that emerge from the data. One, the growth rate of services exports has been higher than of merchandise exports, and its share in total exports* went up from 27% in 2000-01 to 43% in 2022-23. Second, the export-GDP ratio exhibits an inverted U-shaped path peaking at 25.4% in 2013-14 and then falling and rebounding. Third, India's contribution to world exports has grown steadily (albeit modest given its share of world population and GDP).

4.2 Structural Change of Merchandise Exports-

The structure of India's merchandise exports has changed considerably in the 21st century. Labour-intensive industries have become relatively less important while capital and skill intensive sectors have increased in importance over the period.



Table 2: Structural Composition of Merchandise Exports (Percentage Share)

Sector	2000-01	2010-11	2020-21	2022-23
Petroleum Products	3.2	16.9	10.8	20.1
Engineering Goods	15.2	22.4	26.5	25.3
Gems & Jewellery	17.8	14.3	8.9	8.2
Chemicals & Pharmaceuticals	10.1	13.8	15.2	15.6
Textiles & Apparel	25.3	11.2	10.1	9.8
Agriculture & Allied	15.2	10.3	11.8	8.9
Electronics	1.2	3.1	4.2	5.1
Others	12.0	8.0	12.5	7.0

Source: DGFT (2023)

Several trends are noteworthy. First, engineering items have now become the most important group of exports accounting for India's increasing strength in capital goods, automobiles and machinery. The second, speed bumps for petroleum products (petrol and diesel) is accompanied by increasingly volatile shares of total exports driven more by India's role as a refining hub rather than as that of an oil exporter. Third, quite apart from share terms, the traditional labour intensive sectors – especially in textiles and apparel — have registered falls even in absolute magnitudes. Fourth, new industries like electronics and pharmaceuticals have emerged, although from low bases.

4.3 Growth of Services Exports-

India's services exports are indeed its unique comparative advantage in the global economy. Unlike many other developing nations that pursued industrial-led export strategies, India has built world-beating capacities in several services segments.

Table 3: Composition of Services Exports (Percentage Share)

Category	2000-01	2010-11	2020-21	2022-23
Software & ITES	45.2	55.8	49.3	52.3
Business Services	18.3	15.2	21.8	20.1
Travel & Tourism	22.1	12.8	7.9	8.9
Transportation	8.9	10.2	14.2	12.3
Financial Services	3.1	4.2	4.8	5.1
Others	2.4	1.8	2.0	1.3

Source: RBI (2023)

The preponderance of software and IT-enabled services is also noteworthy, having contributed more than half of the



commercial services exports during the whole currency. Business services have also grown steadily, such as professional services, R&D and technical services. The second ranking category, travel and tourism, now is relative less important, especially after the COVID-19 outbreak. Transport services have grown share, as India increasingly becomes part of global logistics chains.

4.4 Geographical Diversification

The market for Indian exports has changed significantly in the last 20 years. Although the US and EU markets are still significant, other global destinations in Asia, Africa and Latin America have grown in importance.

The information further indicates diminished weight in legacy Western markets and positive diversification toward developing nations.

The Middle East in general has been an increasingly important market, for the exportation of petroleum products and goods with low-to moderate- labour intensity.

The relevance of ASEAN countries has also increased as one reflects regional economic integration. Political tensions notwithstanding, South Asian trade integration is on the rise.

Table 4: Geographical Distribution of Merchandise Exports (Percentage Share)

Region	2000-01	2010-11	2020-21	2022-23
United States	21.2	10.5	18.1	17.8
European Union	26.3	19.8	15.2	14.9
ASEAN	7.2	10.1	11.8	11.5
Middle East	10.1	18.2	17.9	18.2
Africa	6.2	9.8	8.9	9.1
Latin America	2.1	3.2	3.8	4.1
South Asia	4.8	6.2	8.2	8.8
Others	22.1	22.2	16.1	15.6

Source: DGFT (2023)

4.5 Key Policy Announcements and Their Impact-

There have been several policy interventions that have influenced the composition of India's export performance in the current century :Foreign Trade Policy (FTP) Framework: The FTP, which has been reviewed every five years, provided the broad framework for export promotion through a number of schemes including MEIS/ SEIS, EPCG and advance authorization. Special Economic Zones (SEZs): Launched in 2005, SEZs were planned to be developed as export centers that would have world-class infrastructure, with a higher quality of life and less financial red tape. Even as they have helped to drive export growth, their impact on employment has varied, with concerns over land acquisition and enclave development .Make in India (2014): India aimed at becoming a global manufacturing hub through this flagship initiative. While certain sectors have seen investments, its effect on exports and employment is subject of debate. Production-Linked Incentive (PLI) Schemes: PLI schemes, introduced in 2020, offer financial incentives to manufacturers of certain sectors. Early indications point to positive effects on some industries, such as electronics and pharmaceuticals. Free Trade Agreements: India has signed many FTAs, but usage of them and their impact on exports has been different.

5. EMPLOYMENT TRENDS AND PATTERNS: 2000-2023-

5.1 Aggregate Employment Scenario-

There are several paradoxes about India's 21st century jobs landscape. While economy has grown fast, employment

Table 6: Sectoral Distribution of Employment (Percentage)

Sector	2000	2010	2020	2023
Agriculture	59.9	53.2	45.6	43.9
Manufacturing	12.6	13.6	13.9	14.2
Construction	4.4	10.6	12.5	12.8
Trade, Hotels & Restaurants	9.8	10.2	12.8	13.2
Transport, Storage & Communication	4.2	4.8	5.9	6.1
Other Services	9.1	7.6	9.3	9.8

Source: PLFS, NSSO

Table 5: Key Employment Indicators (2000-2023)

Indicator	2000	2010	2020	2023
Workforce (millions)	397.2	459.1	495.8	513.7
Labour Force Participation Rate (%)	58.2	55.7	50.4	51.8
Employment Rate (%)	56.5	54.3	48.0	50.1
Unemployment Rate (%)	2.8	2.5	4.8	3.2
Formal Employment (millions)	33.0	46.8	62.5	72.9
Informal Employment (millions)	364.2	412.3	433.3	440.8
Share of Formal Employment (%)	8.3	10.2	12.6	14.2

Source: NSSO, PLFS, Author's Calculations

especially in the formal sector has not kept pace. This period has seen major shifts in the structure of employment, with falling agricultural and rising services activity but relatively little increase in manufacturing activity. A few disturbing trends can be seen in the numbers. The first is that the labour force participation has dropped, especially for women — from 28.7% in 2000 to 24.0% in 2023. Second, formal employment is increasing in absolute terms but serves as only a small proportion of overall employment. Third, youth unemployment has risen worryingly, especially that among the educated, such as graduates – 15.9% in 2022-23.

5.2 Sectoral Distribution of Employment-

INDUSTRIAL FEASIBILITY The sectoral distribution of the working population shows that India's structural



transformation remains incomplete. The share of agricultural employment has fallen sharply, but the laid-off workers have flowed overwhelmingly into low-productivity services, not manufacturing.

Various interesting patterns can be observed from the data. First, Agriculture still accounts for a significant portion of the workforce even though its share in GDP is declining (from 23% in 2000-01 to 15% in 2022-23). Second, and contrary to expectations of manufacturing-led structural change, the increase in manufacturing employment has been surprisingly modest. Third, construction has turned into a major employer, taking in workers who would otherwise have moved out of agriculture. Fourth, there has been an expansion of services employment, although mainly in low productivity service sectors such as retail trade and personal services, not high productively modern services.

5.3 Quality of Employment-

In addition to the quantity of jobs, we need to worry about job quality. Several aspects of job quality post little recovery over the period: Formal and Social Security: In 2005 only 14.2 percent of workers had formal jobs with social security, an increase from in 2000 when it was just 8.3 percent. Regular Wage Employment: The proportion of regular wage/salaried jobs has jumped from 14 per cent in 2000 to 23% in 2023, but most new regular jobs have been created in the informal sector with no social security. Earnings and Productivity: Wages have increased modestly, especially for those on casual contracts. The growth in labour productivity has been faster than the growth of wages across most industries, resulting in a fall in labour shares of national income. Conditions of Work: Poor working conditions, long hours and occupational hazards appear to be prevalent despite laws in this regard, mainly among the informal sector.

5.4 Demographic and Social Dimensions-

Patterns of employment vary greatly by demographic group: Gender disparities Although there is no specific data from the study sites, we found gender issues are a significant factors between men and women's access to opportunities for income generating with women being underrepresented. Youth employment: Youths aged 15-29 are more affected by unemployment (17.3% in 2022-23). The unemployment of students is a special issue. Social category gaps: SC and ST are still overcrowded in precarious, low-paid work. Divisional Differences: There are large differences in the pattern of employment results by geographic regions, and southern states generally have better outcomes relative to northern states.

5.5 Principal Policies and Programs Other than Regulations of Employment-

Some policies and programs have focused on addressing employment problems: Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA): This program has been in operation since 2005 and according to it, 100 days of wage employment is provided to rural households. Although successful in social protection, it has made limited contribution to structural transformation.

Skill India Mission: Introduced in 2015, the project wants to skill more than 400 million people by 2022. It has been less effective than anticipated due to problems of implementation. Startup India: Launched in 2016, this initiative is aimed at fostering entrepreneurship and nurturing innovation. The project has succeeded in creating some high-quality jobs, but the scale of the effort remains small. AMENDMENTS TO THE INDUSTRIAL EMPLOYMENT (STANDING ORDERS) ACT Recent changes in the labour code have attempted to simplify laws and promote formal business; however, they are untested as of this report.

6. EXPORT-EMPLOYMENT LINKAGES: EMPIRICAL ANALYSIS

6.1 Aggregate Relationship

The positive but declining correlation between export growth and employment growth is also evident at the macro level. The following patterns are observed in the annual data from 2000-01 to 2022-23: Strong Positive Correlation: The correlation coefficient of exports growth per year against employment growth is 0.47 signifying a strong positive correlation. Linkage atrophying: It's fallen from 0.62 in the first decade of the millennium to 0.38 over 2011-23. LAGGED EFFECTS: It takes a year or two (in terms of employment growth) for exports to get translated into jobs created, which means that job-creation follows rather than precedes export-expansion. Threshold Effects: Slower export growth (less than 10 percent annually) does not generate employment however faster growth (in excess of 15 percent) results in higher employment.

6.2 Sectoral Analysis-

Table 8: Employment Elasticity of Exports by Sector

Sector	Employment Elasticity	Direct Employment per \$1 million Exports	Total Employment (including indirect) per \$1 million Exports
Textiles & Apparel	0.42	42	73
Leather Products	0.39	39	66
Food Processing	0.35	31	68
Gems & Jewellery	0.28	29	45
Engineering Goods	0.21	19	41
Chemicals & Pharmaceuticals	0.18	15	37
Petroleum Products	0.08	4	17
Software & ITES	0.12	9	20

Note: Employment elasticity measures percentage employment growth for 1% export growth. Employment per \$1 million exports estimated from input-output tables.
Source: Author's calculations based on ASI, DGFT, and Input-Output Tables

Table 7: Export Growth and Employment Growth: Decadal Comparison

Period	Average Export Growth (%)	Average Employment Growth (%)	Correlation Coefficient
2000-2010	18.3	2.8	0.62
2011-2023	7.2	1.2	0.38
2000-2023	12.4	1.9	0.47

Source: Author's calculations based on DGFT and PLFS data

The relationship between exports and jobs varies greatly by industry. Labour relative to other factors of production -such as capital and land- in these sectors pumped out a larger employment response compared to others.

There are striking variations across sectors, the data shows. The traditional labour intensive sectors like clothing and leather also have high employment elasticity as well as a high level of employment per dollar value of exports. By contrast, those capital-intensive sectors such as petroleum products and either skill or knowledge-intensive services areas like software produce relatively few jobs per export dollar.

6.3 Services Exports and Employment

A unique employment pattern is observed in the services export sector. Software and IT enabled services, despite being sources of high-quality (high-wage) jobs remain somewhat higher in the skill ladder which limit their employment generation potential due to productivity level. Services Exports Employment Peculiarities: The main specific features of SE employment are as follows: 1. Software for Export, but Not Much Work: Software exports generate formal, high-pay jobs but don't use many workers. (Each \$1 million of software exported generates only 4-5 direct jobs, compared to 20-25 in textiles.) Skill-based: Services export require particular technical or language skills, which rule out most of the work force from such jobs.

Geographical concentration: Software exports are highly concentrated in a few (double digit) metropolitan cities (Bengaluru, Hyderabad, Pune NCR), restricting the spatial spread of employment benefits. Lower backward linkages: Services exports have weaker backward linkages to the domestic economy compared with manufacturing exports and hence less indirect employment generation. Gender Aspects: Exports of services (especially IT and business services) are more gender balanced than traditional export sectors.

Table 9: State-Level Export Performance and Employment Outcomes

State	Export Share (%) (2022-23)	Export Growth (CAGR 2000-2023)	Employment Growth (CAGR 2000-2023)	Formal Employment Share (%) (2023)
Gujarat	22.4	14.2	2.8	24.6
Maharashtra	19.8	13.8	2.5	28.3
Tamil Nadu	9.3	12.9	2.9	22.8
Karnataka	8.7	15.6	3.1	25.4
Uttar Pradesh	4.2	9.8	1.8	12.4
West Bengal	3.1	8.9	1.2	15.2
Bihar	0.8	6.2	0.9	8.7
National Average	100.0	12.4	1.9	14.2

Source: DGFT, PLFS, Author's Calculations

6.4 Regional Variations-

The relationship between exports and employment exhibit substantial regional divergences, partly reflecting varying industrial structure, infrastructure, and policy environments.

The data shows sharp regional disparities. States on the coast that had better infrastructure and industrial formations, they have done well in exports and also in employment. Conversely, the more populous north Indian states of Uttar Pradesh and Bihar exhibit a low export performance and poor employment outcomes. These differences at the regional level have significant consequences for inclusive growth and social cohesion.

6.5 Firm Size and Linkages to Exports-Employment. For size, we rely on the number of employees as reported by goods-producing firms on the 1971 Annual Company Questionnaire while for linkages to export employment, in regression (1) of Table 11, we proxy this quantity using real final demand exports in sheet FE4 from table FEDB72n and III.B.17.j (German DM).

The link between exports and jobs also varies considerably with size of firm. A study of enterprise data unveils the following its. Large Firms: Big exporters (250+ employees) represent the bulk of exports, but have low employment

elasticity. They are capital-intensive firms and they have little employment growth, despite their export expansion.

Small Enterprises: When traditional exporting small firms (10-49 employees) have high employment elasticity, however they are constrained by access to finance, technology and markets. **Micro enterprises:** Micro exporters (<10 employees) are mostly informal firms having highly fluctuating employment. The bias of export policies towards large firms might also help to explain why the employment response to export growth has been rather weak in aggregate.

6.6 Global Value Chain Integration

India's involvement in global value chains (GVC) is particularly relevant for employment. We find that: **to vatto var21 lifiet G04 (;4i Oajo from R.Backward Linkage:** India's backward linkage (import of intermediates for exports) has increased, particularly in industries such as electronics and automobiles. This has yielded some employment but also added to import dependence. **Forward Participation:** India's forward participation (export of intermediates for foreign production) also remains restricted, indicating low level of integration in the regional production networks. **Employment Implications:** GVC participation in labour-intensive sectors can create jobs, but India has mainly integrated into capital- and skill-intensive segments with a limited job creation potential. **The challenges of upgrading:** As activities move up the value chain towards those with a higher degree of value addition, they frequently too become more automated and subject to skill-biased technical change, both of which can limit job creation.

7. CONSTRAINTS AND CHALLENGES-

7.1 Structural Constraints

A number of structural forces limit the translation from export growth to employment creation: **Composition of Exports:** The reorientation toward capital and skill-intensive exports means that the employment intensity of our export basket is much diminished. **Technological change:** Exporting companies, especially in the manufacturing sector, introduced labour-saving technology, in order to keep pace with foreign competitors and the same were improving the productivity of labour and decreased employment generation per unit of output. **Informality:** The significant size of the informal sector constrains formal employment effect of exports because exporting firms typically use informal suppliers and subcontractors. **Mismatch of Skills:** The export sectors, more and more, require scarce skills in the Indian labour force leading to supply-side bottlenecks in employment.

7.2 Policy and Institutional Constraints

There is also a large policy and institutional component:

Labour Laws – Complicated and inflexible labour laws, particularly chapter V-B of the Industrial Disputes Act, stifle formal employment at a large scale. **Trade Policy:** Inverted duties, poor trade infrastructure and complex procedures add to cost of export especially for SMEs. **Industrial policy:** The bias towards capital intensive industry in industrial policy has distorted the composition of our export basket away from labour intensive sectors. **Education and Skill Development:** The education system has not been capable of supplying the kinds of skills required by export sectors, continuing to leave skill mismatch.

7.3 Global and External Constraints

Other determinants affect the export-employment nexus that emanates from outside: **Competition in the Global Market:** The low wages of production workers in other countries, especially those that compete with India in labour intensive goods, curtail the prospects of increase Indian exports of employment-intensive products. **Protectionism in Trade:** Increasing protectionism in established markets curtails export expansion of job-creating sectors. **Global Value Chain Reorganisation:** Between reshoring and nearshoring trends, there remains a risk of limiting India's potential for export-led job creation. **Environmental Standards:** The rise in the stringency of environmental standards in export markets has imposed higher compliance costs especially on SMEs.

7.4 Regional and Spatial Constraints

Spatial factors create additional challenges: **Infrastructure Deficiency:** Teething transport, logistics and power infrastructure in the landlocked regions has hampered their exports capabilities as well as the creation of jobs. **5 Cluster Development:** Weak industrial clusters in up-country area would restrict the geographical expansion of export-led gains. **Challenges with Urbanization:** Lack of services and urban infrastructure limit the development of export targeted manufacturing in towns. **Inter-State Barriers:** Inter-state barriers to trade and labour mobility detract from an optimal allocation of resources to export production.

8. POLICY IMPLICATIONS AND RECOMMENDATIONS

8.1 Change of Export policy in the Light of Strategy

For making Indian exports more employment intensive, India requires a strategic re-orientation of the export policy:

Labour -Intensive Sectors to be Given Due Priority: Export promotion should give due priority to the labour-intensive sectors such as textiles and garments, leather goods, footwear, toys & furniture. Diversification of Services Exports: While pursuing software exports, policy should also encourage service exports that are employment-intensive such as health care, education, tourism and entertainment. Export Hubs: I am saying that we need to establish specialised export hubs in areas rich with labour and the appropriate infrastructure (and policy support). MSME Focus: Switch export promotion efforts to small and medium enterprises as they have higher employment elasticities.

8.2 Domestic Reform Agenda

linked reforms in the home country are complementary for the export-employment nexus:

Labour Law Rationalization: Simplify and rationalise the labour laws to promote formal employment, protect workers' rights. Revolution in Skill Development: Let us correlate the skill development with the requirements of export sectors and focus on technical & vocational education. Investment in infrastructure: Speedup of investments in transport, logistics and energy-related infrastructure with an emphasis on potential export hubs. Technology Upgradation: Provide support for technological upgradation in labour-intensive sectors wherever feasible, without loss of employment.

8.3 Regional Development Strategy

Dealing with regional gaps – special strategies are called for: Special Package for Backward Regions: A special package may be developed for export promotion in the high unemployment and low export participating states. Cluster Development Program: Promote the growth of industrial clusters in non-traditional, export-oriented regions. Connectivity Strengthening: physical and digital connectivity between production areas/regions and ports/airports. Skill Mapping & Development: Regional skill mapping and customized skill development programmes for possible export items.

8.4 International Engagement Strategy

Developing strategic international engagement could increase export opportunities: Strategic Trade agreements: Want trade agreements that also allow market access to labour intensive goods and ensure policy space for development. Engagement with the Diaspora: Tap into the resources of the Indian diaspora for market insights; business tie-ups and technology exchanges. Development Cooperation: Use development cooperation to develop economic partnerships that generate exports. Global Value Chain Strategy: Formulate strategic method for integrating into GVCs, focusing on employment and value addition.

8.5 Monitoring and Evaluation Framework

A strong monitoring mechanism is essential to ensure policy efficacy: Employment Impact Assessment: Legislate the requirement for employment impact assessment to all large trade and industrial policies. Disaggregated data collection: Strengthen the collection of disaggregated data on exports, employment and their links. Periodic Assessment: Set up periodic assessment of the export promotion schemes specifically to assess the job outcomes. Consultation with Stakeholders: Institutionalize consultation processes between trade policy formulation and civil society/ workers' organizations.

9. CONCLUSION

9.1 Summary of Key Findings

This overview of India's export performance and employment outcomes in the 21st century leads to a number of key conclusions: Export Success with Employment Constraints: India has had a stupendous growth in exports especially of services but this has not resulted in commensurate employment generation, particularly in the organized sector.

Challenges in Structural Transformation: The shift in India's export basket from labour intensive sector to capital and skill-intensive sectors has lessened the employment intensity of merchandise exports. Services Export Paradox: Services exports have been India's great success story but services generate few jobs per dollar of export and have only limited spillovers to the rest of the economy. Geographical Concentration: The gains of growth in exports have been regionally concentrated, which increased inter-regional disparities with regard to development and employment. Mismatch between policy and employment: Export and industrial policies have not been informed by a consideration of employment primarily, but have been driven more by export quantity rather than quality.

9.2 Theoretical Implications

The Indian case provides valuable theoretical lessons: Beyond Factor Endowments: The export pattern of a labor-rich country is not only decided by factor endowment, so much as policy options, institutional factors and historical path dependence. Services-Led Development: The Indian experience questions the orthodoxy that manufacturing is required for labour-intensive development, but also shows that services-led growth has limits to its ability to generate mass employment. Rethinking Structural Transformation: The case of India provides a countervailing evidence of large, heterogeneous economies not following the East Asian model. Globalization and Employment: The impact of globalization

on employment is influenced in the first place by national institutions, policies and structural features.

9.3 Policy Implications

The analysis points toward a few policy priorities: Strategic Rebalancing: Rebalance the export basket in favour of more employment-intensive sectors by providing targeted incentives and support. Addressing Questions of the Relationship between Trade Policy and Other Policies: Develop integrated approaches connecting trade with industrial, employment and regional development policy. Institutional innovation: Establish new institutions that can coordinate export promotion with employment generation. Globalization for All: Spread wins from exports more evenly among regions, sectors and society.

9.4 Future Research Directions

Several areas warrant further research: Micro-Level Analysis: Firm-level research that goes in depth for various sectors and regions regarding how export is related to employment. Export of Services Work Patterns in Various Exported Sectors: A closer look at employment trends among various services export sectors. Effects of Global Value Chains: In-depth analysis of the impacts of various types and levels of GVC integration on jobs quantity and quality. Policy Analysis: Rigorous analysis of targeted policies and programs to improve the interrelationship between export and employment. Comparative Analysis: Regular comparison with other large developing economies confronting challenges similar to those dealt with by other large developing countries.

9.5 Concluding Remarks

India is at a critical phase in its development progress. Ensuring the upward mobility of its expanding labour force on an already-tight jobs market is the country's most urgent economic issue. But, with a demographic dividend that will top out in the next decade, there are 12 million new job-seekers annually to worry about. Exports have an important role to play in meeting this challenge but this will not happen automatically: policy makers must take deliberate action to ensure that export success is consistent with employment goals. In sum, in the spirit of this line of research on watershed development, the present analysis indicates that with strategic reorientation of policies and institutional reforms, India may realise its export potential not merely as a source for foreign exchange earnings but also as an engine for employment generation at the base. The opportunity for action is limited, but the rewards for more inclusive and sustainable development are great.

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