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India's Journey of Industrial and Agricultural Change: Independence, Liberalization, and the Contemporary Era

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ABSTRACT

This study critically examines the structural transformation of India's agriculture and manufacturing sectors from 1960 to 2025, with a focus on three distinct phases: pre-liberalization (1947–1991), post-liberalization (1991–2014), and the contemporary period (post-2014). The primary objective is to analyze sectoral growth trends, employment dynamics, value addition, and urban–rural shifts within the Indian economy. The research employs World Bank time-series data and utilizes trend analysis and regression techniques to evaluate long-term changes across these sectors. The findings suggest that agricultural value addition increased at an average annual rate of approximately 3.04%, whereas the manufacturing sector experienced higher absolute increases in value addition but demonstrated relatively limited employment absorption. The proportion of employment in agriculture declined by approximately 0.79% annually, concomitant with a significant urban population growth, indicative of ongoing structural transformation. Nevertheless, sectoral imbalances continue to exist, particularly concerning productivity and income distribution. The study advances the field by synthesizing sectoral growth, employment trends, and urbanization within an integrated empirical framework, emphasizing the necessity for targeted policy measures to promote inclusive and sustainable economic development in India.

Keywords: Structural transformation, agriculture, manufacturing, employment, urbanization, value addition, time-series analysis, India.

INTRODUCTION

Agriculture and manufacturing have historically occupied a pivotal role in India's economic development, notably in generating employment and facilitating structural transformation. At the point of independence in 1947, India was characterized by minimal industrialization, a heavy dependence on agriculture, and limited productivity across various sectors. Over the years, the economy has experienced substantial transformation, particularly following the economic liberalization reforms of 1991, introduced under the leadership of Prime Minister P.V. Narasimha Rao and Finance Minister Dr. Manmohan Singh. These reforms signified a shift towards market-oriented policies, enhanced global integration, and industrial expansion. Despite ongoing economic expansion, structural disparities persist. The agricultural sector continues to employ an disproportionately large proportion of the workforce (approximately 46%) while accounting for a markedly lower share of the gross domestic product (around 16%), thereby indicating low productivity. Conversely, the manufacturing sector, although contributing a greater share to economic output, has not correspondingly increased its employment levels. These patterns exemplify an incomplete structural transformation, wherein labor reallocations and productivity enhancements remain uneven across various sectors.

The evolution of India's economic framework can be generally segmented into three distinct phases: the pre-liberalization era (1947–1991), the liberalization period (1991–2014), and the post-2014 epoch, marked by strategic policy initiatives such as "Make in India" and significant institutional reforms, including the establishment of NITI Aayog. Each phase exemplifies unique policy strategies and developmental trajectories in agriculture and manufacturing sectors. This study investigates the

impact of these policy regimes on sectoral growth, employment trends, value addition, and urbanization patterns within India. Utilizing time-series data from the World Bank, the paper conducts an analysis of long-term changes in agriculture and manufacturing sectors and assesses their implications for structural transformation and economic development.

The following research objectives guide the study:

RO1: To analyze growth trends in agriculture and manufacturing across different policy periods;

RO2: To examine changes in employment composition within these sectors;

RO3: To evaluate sectoral contributions to value addition and economic output;

RO4: To assess the relationship between sectoral growth and urban–rural population dynamics.

By addressing these objectives, the paper aims to provide a comprehensive understanding of India's structural transformation and identify key areas for policy intervention.

LITERATURE REVIEW

The trajectory of India's economic development has been extensively analyzed across three principal phases: the post-independence period, characterized by state-led industrialization; the post-liberalization phase, marked by market-oriented reforms; and the contemporary era, emphasizing global competitiveness and institutional restructuring. Existing scholarly literature underscores substantial advancements in income levels, poverty alleviation, and human development indicators over time (Adhia, 2015; Sen, 2023). Nonetheless, these improvements have not been uniformly distributed across all sectors, notably in agriculture and manufacturing. Extensive research indicates ongoing structural challenges within the agricultural sector, including low productivity, a declining share of GDP, and persistent reliance on employment (Siddiqui, 2025). Although policy measures such as subsidies and technological advancements have enhanced output and food security, they have also elicited concerns regarding environmental sustainability and fiscal sustainability (Deveshwar & Panwar, 2024). These findings imply that agricultural growth in India has been relatively sluggish and uneven despite the support of policy initiatives.

In contrast, the manufacturing sector is regarded as a pivotal driver of economic growth and structural transformation, especially within developing economies (Marconi et al., 2016). Research exploring initiatives such as "Make in India" emphasizes the importance of industrial policy, infrastructure development, and technological advancement in boosting competitiveness and value addition (Prabhakar, 2024). Nonetheless, empirical data suggest that manufacturing growth in India has not resulted in proportional employment creation, thereby raising concerns regarding "jobless growth." Comparative and region-specific studies further underscore the significance of structural transformation in guiding urbanization trends and regional development. For example, Goodburn (2025) examines Special Economic Zones in India and China, illustrating how policy frameworks impact industrial expansion and spatial reorganization. Likewise, Gururani (2020) emphasizes the influence of urban expansion in redefining agrarian economies, especially within rapidly developing areas such as Delhi NCR.

Recent literature also emphasizes the increasing significance of digital infrastructure and financial inclusion in facilitating economic transformation. Sreenu and Verma (2024) illustrate those technological advancements, including fintech and digital platforms, substantially enhance economic development and operational efficiency through improved access to financial resources. Notwithstanding these contributions, extant research predominantly investigates agriculture, manufacturing, employment, and urbanization separately. There exists a scarcity of studies that synthesize these dimensions within a comprehensive empirical framework spanning an extended temporal horizon. Additionally, the policy period after 2014, marked by institutional reforms and a renewed emphasis on manufacturing and digital transformation, has been insufficiently examined in time-series analytical research. This research addresses these deficiencies through a combined analysis of the agricultural and manufacturing sectors concerning employment trends, value addition, and urban–rural interactions, utilizing long-term data from the World Bank. By implementing an integrated methodology, the publication offers a more thorough comprehension of India's structural transformation and its consequences for inclusive and sustainable development.

Bassed on the literature following research questions were formulated:

RQ1: Has the growth rate of the Agriculture and Manufacturing sectors improved within the economy since independence?

RQ2: What impact do these sectors have on the Urban and Rural population of the country?

RQ4: What impact do these sectors have on the Value Addition in the economy?

RQ5: How is the employment composition changing within these sectors?

RQ6: In Agriculture, how are certain components changing, such as Agriculture, Forestry, and Fishing?

RQ7: In manufacturing, how are certain components, such as textiles and Clothing, changing?

METHODOLOGY

This research adopts a quantitative, time-series methodology to examine structural transformations within India's agricultural and manufacturing sectors. The analysis utilizes secondary data sourced from the World Bank's World Development Indicators (WDI), encompassing the period from 1960 to 2025, contingent upon the availability of data for specific variables.

Data and Variables

The study utilizes the following key variables:

i. Agricultural value added (constant 2015 US$)
ii. Manufacturing value added (constant 2015 US$)
iii. Employment in agriculture (% of total employment)
iv. Urban population
v. Rural population

Sectoral components, including agriculture, forestry and fishing, and manufacturing sub-sectors such as textiles and clothing. All monetary variables are expressed in constant 2015 US dollars to account for inflation and enable comparison over time.

Analytical framework

The study employs descriptive trend analysis and regression techniques to investigate long-term patterns and relationships among variables. Time-series data are utilized to analyze growth trends, structural shifts, and sectoral dynamics across three distinct phases: pre-liberalization (1960–1991), post-liberalization (1991–2014), and the period following 2014. To estimate trends, the study employs a linear regression model of the following form:

$$Y_t = \alpha + \beta t + \epsilon_t$$

where Y_t represents the dependent variable, t denotes time, α is the intercept, β is the trend coefficient, and ϵ_t is the error term. Furthermore, certain relationships between variables, such as urbanization and employment shifts, are analyzed through simple regression techniques to determine directional correlations. The analysis employs spreadsheet-based statistical tools for regression estimation and visualization. The study relies on aggregate secondary data at the national level, which may not fully account for regional discrepancies.

RESULTS

The empirical analysis reveals significant structural changes in India's agriculture and manufacturing sectors over the study period.

Population Dynamics and Urbanization

The findings reveal that the urban population experiences an annual increase of approximately 13.6 million, whereas the rural population expands by roughly 10.1 million each year. This differential growth signifies a gradual yet consistent transition towards urbanization. The surge in urban population growth, especially post-1991, implies that economic liberalization and the proliferation of non-agricultural opportunities have facilitated migration from rural to urban regions. Concurrently, the ongoing growth in the rural population indicates that the process of structural transformation remains unfinished.

Employment Shifts in Agriculture

The proportion of employment within the agricultural sector decreased by roughly 0.79% per year, signifying a gradual transition of labor away from this sector. This pattern aligns with the process of structural transformation, whereby labor moves from low-productivity agriculture to sectors with higher productivity levels. Nevertheless, the comparatively sluggish rate of decline indicates that agriculture still employs a substantial segment of the workforce, thereby reflecting restricted employment opportunities in manufacturing and other industries.

Sectoral Value Addition

Agricultural value addition increased at an average rate of approximately 3.04% annually (constant 2015 US$), indicating modest but steady growth. In contrast, manufacturing value addition demonstrated more substantial absolute increases over time, reflecting industrial expansion and policy support. However, despite higher output growth, the manufacturing sector has not exhibited a commensurate increase in employment, implying an uneven structural transformation.

Structural Transformation and Sectoral Imbalance

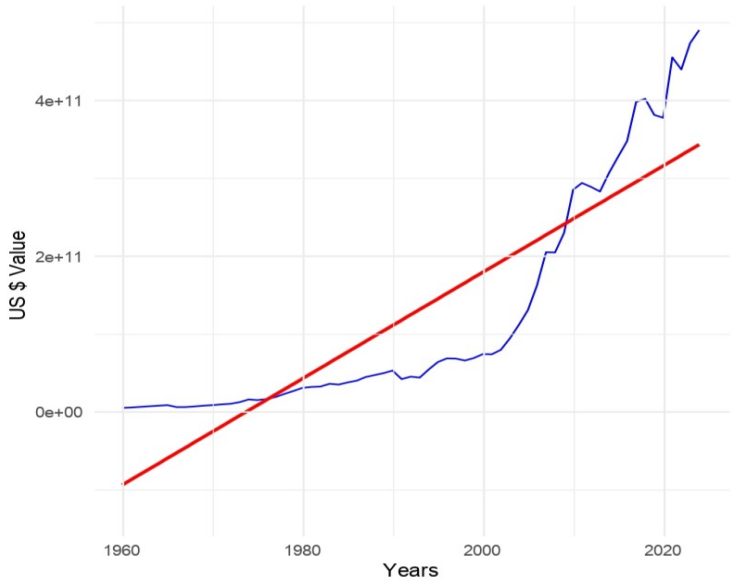
The combined trends of increasing urban populations, decreasing proportions of agricultural employment, and the rising value addition in both sectors suggest that India is experiencing a structural transformation. However, the persistence of a

substantial agricultural workforce, coupled with its comparatively low contribution to GDP, underscores ongoing productivity disparities. This signifies that the transition from an agrarian to an industrial economy remains incomplete and unbalanced.

Interpretation of Trends Across Policy Phases

The analysis across various policy periods indicates that the post-1991 liberalization phase markedly expedited urbanization and growth in manufacturing sectors. The period following 2014 demonstrates sustained momentum, especially in manufacturing value addition, reinforced by policy initiatives. Nonetheless, the anticipated extensive transfer of labor into manufacturing has not entirely materialized, highlighting structural limitations such as skill deficiencies and the limited expansion of labor-intensive industries.

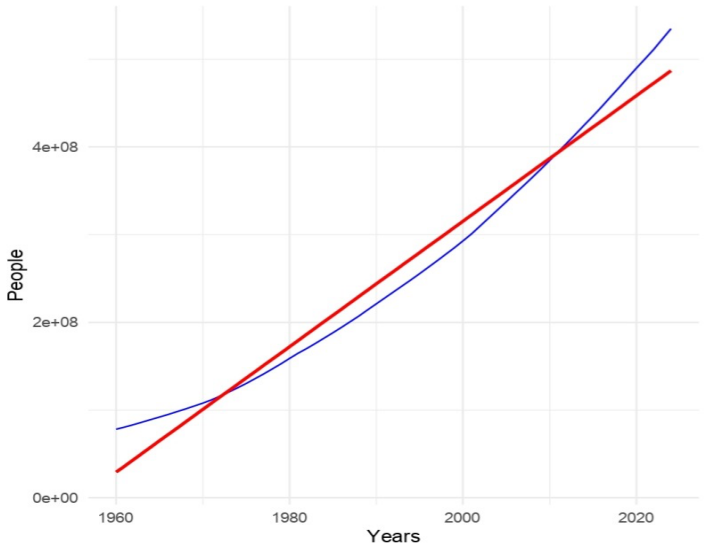
Figure 1: *Manufacturing Value Added (Current 2015 US$), 1960–2025.*



Source: World Bank (2025)

Figure 1 illustrates a sustained increase in manufacturing value addition over time, with a particularly accelerated growth following economic reforms. This signifies an expansion of industrial activity; however, the pattern indicates limited absorption of employment.

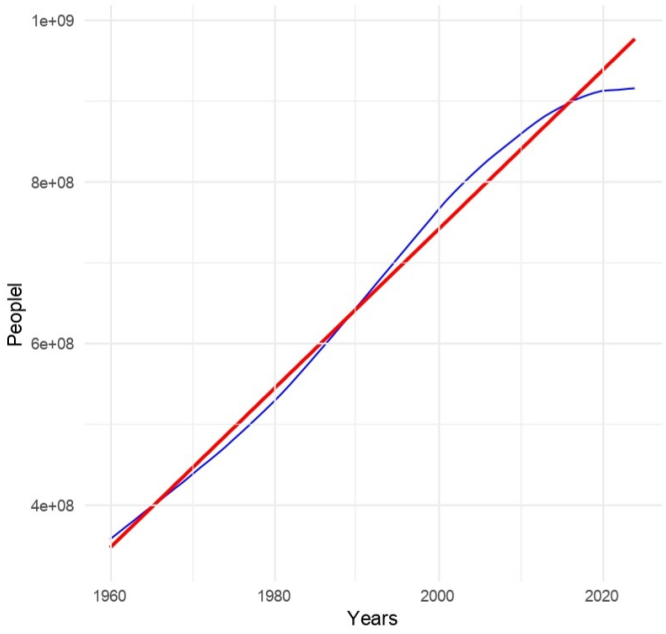
Figure 2: *Urban Population in India, 1960–2025.*



Source: World Bank (2025)

Figure 2 demonstrates a consistent growth in the urban population throughout the duration of the study. This trend indicates expanding urbanization and a gradual transition towards non-agricultural industries.

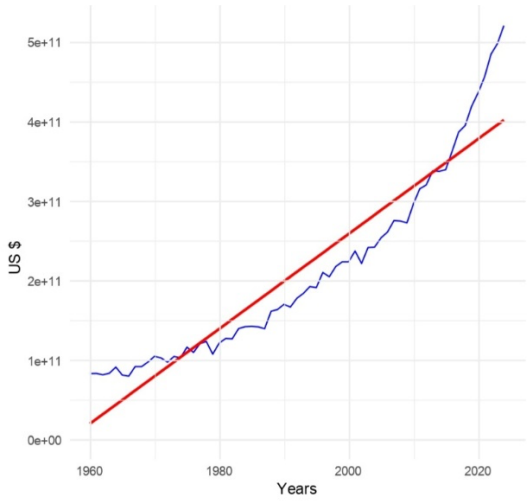
Figure 3: *Rural Population in India, 1960–2025.*



Source: World Bank (2025)

Figure 3 demonstrates that the rural population has persisted in its growth, albeit at a diminished rate compared to urban regions. This indicates a gradual demographic and structural transition.

Figure 4: *Agriculture, Forestry and Fishing Value Added (Constant 2015 US$), 1960–2025.*



Source: World Bank (2025)

Figure 4 illustrates a consistent increase in agricultural value added, albeit at a relatively moderate rate. This indicates gradual improvements in conjunction with enduring structural constraints.

POLICY RECOMMENDATIONS

Based on the empirical findings of the study, the following policy recommendations are proposed:

i. Facilitating Labor Transition from Agriculture to Manufacturing: The decline in agricultural employment (approximately 0.79% annually) indicates a gradual shift of labor away from agriculture. However, the pace remains slow. Policy efforts should focus on facilitating labor transitions through targeted skill development programs, vocational training, and industry-linked education initiatives to absorb surplus agricultural labor into manufacturing and related sectors.

ii. Promoting Labor-Intensive Manufacturing Growth: Although manufacturing value addition has increased significantly, employment generation has not kept pace. This suggests the need to promote labor-intensive industries such as textiles, food processing, and small-scale manufacturing through incentives, credit access, and infrastructure support to enhance employment absorption.

iii. Strengthening Agricultural Productivity and Incomes: Agricultural growth has remained moderate (around 3.04% annually), highlighting the need for productivity improvements. Policies should focus on technological adoption, irrigation infrastructure, supply chain efficiency, and market access to improve farm incomes and reduce structural dependence on agriculture.

iv. Managing Urbanization through Infrastructure and Planning: The rapid increase in urban population reflects ongoing structural transformation. To sustain this transition, investments in urban infrastructure, housing, transportation, and basic services are essential to accommodate population growth and ensure balanced regional development.

v. Enhancing Value Addition through Skill Development and Innovation: The observed increase in value addition across sectors indicates growth potential; however, further gains require improvements in workforce skills and technological capability. Policies should emphasize skill development, digital integration, and innovation-driven growth to enhance productivity and global competitiveness.

vi. Ensuring Policy Effectiveness and Monitoring: Existing initiatives, such as “Make in India,” require continuous monitoring and evaluation to ensure their effectiveness in generating employment and driving industrial growth. Strengthening institutional mechanisms for policy implementation and impact assessment is necessary for sustained outcomes.

CONCLUSION

This study investigated the structural transformation of India’s agriculture and manufacturing sectors from 1960 to 2025, with particular emphasis on growth patterns, employment dynamics, value addition, and shifts in urban and rural populations. The results reveal that both sectors have experienced growth in value addition; however, the pace and nature of their transformation have been inconsistent. Agricultural growth has been modest, with an average annual increase of approximately 3.04%, accompanied by a declining yet significant share of employment. Conversely, the manufacturing sector has exhibited stronger output growth but has not proportionally generated employment opportunities. The results further emphasize a consistent increase in urban population, indicative of ongoing structural transformation and migration towards non-agricultural sectors. Nevertheless, the continued growth of the rural population and the persistence of a substantial agricultural workforce imply that the transition remains incomplete. These patterns reveal structural imbalances, especially concerning productivity disparities and employment absorption across sectors.

The analysis of various policy phases indicates that the liberalization reforms implemented after 1991 have considerably influenced industrial growth and urbanization. Meanwhile, the period following 2014 has maintained this trajectory through specific policy initiatives. Nevertheless, the anticipated substantial migration of labor into the manufacturing sector has not entirely come to fruition, highlighting structural limitations such as skill deficiencies and the restricted expansion of labor-intensive industries. Based on these findings, the study emphasizes the necessity for policy interventions that promote labor-intensive manufacturing, enhance agricultural productivity, and support efficient urbanization. Strengthening skills development, improving infrastructure, and ensuring the effective implementation of existing policies will be pivotal in achieving inclusive and sustainable growth. The study is limited by its reliance on aggregate national-level data and does not account for regional variations. Future research can extend this analysis by incorporating state-level data, sector-specific productivity measures, and more advanced econometric techniques to better understand the dynamics of structural transformation in India.

ETHICAL DECLARATION

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