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CHANGES IN THE STRUCTURE OF TELANGANA ECONOMY: AN ANALYSIS OF SECTORAL SHARES IN GSDP AND EMPLOYMENT

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ABSTRACT

Telangana became a separate state on 2 June 2014, making 2014–15 an important reference year for examining its subsequent structural transformation. This study analyses changes in the structure of the Telangana economy between 2014–15 and 2021–22 by examining two dimensions of structural change: the contribution of agriculture and allied activities, industry, and services to Gross State Value Added (GSVA), and the distribution of workers across primary, secondary and tertiary activities. The evidence is drawn mainly from the Telangana Socio Economic Outlook 2022, Directorate of Economics and Statistics publications, and Periodic Labour Force Survey (PLFS) reports of the Ministry of Statistics and Programme Implementation. At current prices, the services sector remained the dominant component of the state economy, with its share of GSVA at about 61.3 per cent in 2021–22 compared with 61.3 per cent in 2014–15. Agriculture and allied activities increased their share from 16.3 per cent to 18.3 per cent, while industry declined from 22.4 per cent to 20.4 per cent. The employment structure, however, presents a different picture. By 2021–22, primary-sector employment had risen to 50.84 per cent, secondary employment was 20.47 per cent and tertiary employment was 28.67 per cent. Thus, Telangana displayed a pronounced output–employment mismatch: services generated the largest share of value added, while agriculture and allied activities absorbed the largest share of workers. The study argues that the period witnessed a service-led and relatively capital/productivity-intensive structural transformation rather than a conventional agriculture-to-industry-to-services sequence. The COVID-19 shock also temporarily pushed labour towards agriculture and reduced the employment share of services. The article concludes that future structural transformation should focus on raising agricultural productivity, expanding labour-intensive manufacturing, strengthening distributed service-sector employment and improving the quality of jobs.

Keywords: *Telangana economy; structural transformation; GSDP; GSVA; agriculture; industry; services; employment; PLFS; sectoral change.*

I. INTRODUCTION

Structural transformation refers to the long-term reallocation of economic activity and labour from agriculture towards industry and services as an economy develops. The process is normally accompanied by changes in productivity, urbanisation, technology, occupational structure, consumption patterns and the spatial distribution of economic activity. In developing economies, the movement of workers out of low-productivity agriculture into higher-

productivity non-farm activities is generally regarded as an important mechanism through which incomes rise. Telangana provides an interesting case because its post-formation economy combined a large and productive service sector, particularly concentrated in Hyderabad, with a substantial rural population dependent on agriculture and allied activities.

The Telangana Socio Economic Outlook 2022 reports that services remained the largest contributor to state GSVA

throughout the period. At current prices, the services share was 61.3 per cent in 2014–15 and again 61.3 per cent in 2021–22, after rising above 63 per cent in some intervening years. Agriculture and allied activities increased their share from 16.3 per cent to 18.3 per cent, whereas industry declined from 22.4 per cent to 20.4 per cent. These figures indicate that the state economy became increasingly diversified in value-added terms, but not through a sustained expansion of industry's relative share. The services sector remained the principal source of value added.

Employment presents a contrasting pattern. Telangana's Economic Pulse reports that, under the usual-status measure, the primary sector accounted for 44.07 per cent of employment in 2018–19, 49.04 per cent in 2019–20, 46.35 per cent in 2020–21 and 50.84 per cent in 2021–22. Over the same years, secondary-sector employment was 21.98, 17.62, 20.44 and 20.47 per cent, while tertiary-sector employment was 33.94, 33.32, 33.21 and 28.67 per cent. The sharp increase in primary-sector employment in 2021–22 coincided with the pandemic period and the associated displacement of labour from urban and contact-intensive activities.

The central research issue, therefore, is not simply whether Telangana's economy grew, but whether the composition of

output and employment changed in a manner consistent with structural transformation. If services account for around three-fifths of GSVA while agriculture absorbs around half of the workforce, the productivity and income implications are substantial. This study accordingly compares the sectoral composition of output and employment and interprets the divergence between them.

II. OBJECTIVES

i. General Objective

The general objective of the study is to examine the changes in the structure of the Telangana economy from 2014–15 to 2021–22 by relating changes in sectoral contribution to GSVA/GSDP with changes in the sectoral distribution of employment.

ii. Specific Objectives

The study specifically seeks to trace changes in the relative contribution of agriculture and allied activities, industry and services to Telangana's GSVA; examine the changing distribution of workers among primary, secondary and tertiary sectors; identify the divergence between the sectoral structure of output and employment.

III. HYPOTHESES

- ❖ The services sector remained the dominant contributor.

- ❖ The sectoral distribution of employment did not move proportionately with the sectoral distribution of output.
- ❖ Telangana experienced service-led structural transformation without a proportionate shift of labour into services.
- ❖ Industry's share in GSVA did not increase continuously during the study period

IV. METHODOLOGY

i. Research design

The study adopts a descriptive and analytical research design based entirely on secondary data. The period selected is 2014–15 to 2021–22. The starting year represents the first full financial year after the formation of Telangana, while 2021–22 is the latest year in the selected historical window for which the Telangana Socio Economic Outlook provides a consolidated sectoral picture together with PLFS-based employment evidence.

ii. Sources of data

The principal sources are the Government of Telangana's Directorate of Economics and Statistics, Telangana Socio Economic Outlook 2022, Telangana Economic Pulse, and the annual reports of the Periodic Labour Force Survey published by the Ministry of Statistics and Programme Implementation. The state-level GSVA

shares are reported at current prices and are used to study the structure of value added. Employment comparisons use the usual-status and related PLFS classifications where available. PLFS was introduced as an annual labour-force survey from 2017–18, so a directly comparable annual employment series does not exist for 2014–15. Consequently, the employment analysis uses the earliest comparable PLFS years and explicitly distinguishes them from the output series.

iii. Measures and analytical framework

Three broad sectors are used for output analysis: agriculture and allied activities, industry including mining and quarrying, and services. For employment, primary, secondary and tertiary sectors are used.

iv. Data limitations and comparability

The GSVA estimates are subject to revisions, with years identified as TRE, SRE, FRE and AE in the state publications. The 2021–22 figures are advance estimates in the Telangana Socio Economic Outlook 2022.

V. REVIEW OF LITERATURE

i. Theoretical perspective

Classical and modern development economics has treated structural transformation as a central feature of economic development. Lewis (1954) explained development through the

transfer of surplus labour from traditional subsistence activities to a modern capitalist sector. Kuznets (1973) associated development with shifts in production and employment away from agriculture, rising productivity and increasing urbanisation. Chenery and Syrquin (1975) subsequently demonstrated that the composition of output and employment changes systematically with income and development, although the timing and magnitude of sectoral shifts differ across economies.

ii. Indian experience

Indian structural transformation has been characterised by a relatively rapid expansion of services without a correspondingly strong movement of labour into organised manufacturing. Economic Survey and national accounts literature have repeatedly highlighted the importance of services in output and exports, while employment remains substantially dependent on agriculture and informal activities. The result is a distinctive pattern in which the tertiary sector can become dominant in value added before the workforce has completed the transition from agriculture.

iii. Telangana-specific evidence

Government of Telangana publications consistently identify services as the largest

component of the state's economy. The Telangana Socio Economic Outlook 2022 reports a services share of 61.3 per cent of GSVA in 2021–22, compared with 20.4 per cent for industry and 18.3 per cent for agriculture and allied activities.

The state-level literature also emphasises the rapid growth of IT and IT-enabled services. The Telangana Socio Economic Outlook 2022 records that direct employment in IT/ITeS increased from about 3.72 lakh persons in 2014–15 to 6.29 lakh in 2020–21, with the later Economic Pulse series reporting 7.78 lakh in 2021–22. This expansion illustrates the importance of knowledge-intensive services, but it does not by itself imply that the entire state labour market has shifted towards high-productivity services.

VI. ANALYSIS

i. Overall sectoral composition of GSVA

The sectoral structure of Telangana's GSVA remained service-dominated throughout the study period. The official series gives the following shares at current prices.

Year	Agriculture & Allied (%)	Industry (%)	Services (%)
2014–15	16.3	22.4	61.3
2015–16	14.3	23.6	62.2
2016–17	14.8	21.5	63.6
2017–18	14.9	22.2	62.9
2018–19	14.7	23.5	61.8
2019–20	17.9	20.7	61.5
2020–21	19.6	19.8	60.6
2021–22	18.3	20.4	61.3

Source: Government of Telangana, Telangana Socio Economic Outlook 2022; Directorate of Economics and Statistics.

The table shows that the services sector's share remained remarkably high and stable. It rose from 61.3 per cent in 2014–15 to a peak of 63.6 per cent in 2016–17 before declining to 60.6 per cent in 2020–21 and recovering to 61.3 per cent in 2021–22. The temporary decline during the pandemic reflects the vulnerability of contact-intensive service activities. Nevertheless, the return to 61.3 per cent by 2021–22 confirms the structural strength of the tertiary sector.

Agriculture and allied activities displayed the opposite pattern. Its share was 16.3 per cent in 2014–15 and fell to 14.3 per cent in 2015–16, but it subsequently increased, reaching 19.6 per cent in 2020–21 before

settling at 18.3 per cent in 2021–22. Over the full period, the sector gained 2.0 percentage points. This does not mean that Telangana became more agrarian in a long-run structural sense; rather, the increase reflects strong agricultural performance in several years, expansion of crops and allied activities, and the relative resilience of agriculture during the pandemic.

Industry moved in the reverse direction. Its share increased from 22.4 per cent in 2014–15 to 23.6 per cent in 2015–16, but subsequently fluctuated and declined to 19.8 per cent in 2020–21 before recovering to 20.4 per cent in 2021–22. The net decline over the period was 2.0 percentage

points. Hence, the evidence does not support a sustained increase in industry's relative weight in the state's value-added structure.

ii. Changes in the agricultural sector

Agriculture and allied activities remained strategically important because of their employment intensity and rural livelihood significance. The state's Socio Economic Outlook notes that agriculture and allied activities employed 48.4 per cent of the population according to PLFS evidence and that the sector's GSVA share rose from 16.3 per cent in 2014–15 to 18.3 per cent in 2021–22. The crops subsector's GSVA at current prices increased substantially during the period, while livestock recorded a high growth rate.

The rise in agricultural contribution was supported by irrigation expansion, investment and farmer-oriented programmes. The state publication records an increase in budget allocation for agriculture and allied activities from Rs. 6,611 crore in 2016–17 to Rs. 26,822 crore in 2021–22. The contribution of crops to GSVA at current prices increased from Rs. 41,706 crore in 2014–15 to Rs. 84,785 crore in 2021–22. These developments indicate that agriculture was not simply a residual sector; it remained an important contributor to rural income and state output.

At the same time, the relatively high employment share of agriculture compared with its GSVA share indicates lower average labour productivity than in services. This should not be interpreted as evidence that agriculture is unproductive in absolute terms. Rather, it indicates that a very large number of workers share a smaller proportion of aggregate value added. Improving productivity through irrigation, mechanisation, diversification, food processing, storage, agricultural marketing and allied activities is therefore central to structural transformation.

iii. Changes in the industrial sector

The industrial sector did not experience a sustained increase in its share of GSVA during the study period. Its share was 22.4 per cent in 2014–15, reached 23.6 per cent in 2015–16 and 23.5 per cent in 2018–19, but declined to 19.8 per cent in 2020–21 before recovering to 20.4 per cent in 2021–22. The decline is significant because industrialisation is normally expected to provide a bridge between agricultural employment and modern services.

iv. Expansion and dominance of services

Services constituted the structural core of the Telangana economy. The value of services GVA at current prices rose from Rs. 2,86,011 crore in 2014–15 to Rs. 6,37,476 crore in 2021–22, an increase of about 122.9 per cent. The reported CAGR

of services GVA at current prices over the period was 12.13 per cent.

The composition of services was also diversified. In 2021–22, real estate, ownership of dwelling and professional services accounted for 33.79 per cent of services-sector GVA, while trade, repair, hotels and restaurants accounted for 27.40 per cent. Financial services, public administration, transport and communication and other services also contributed. The service-sector structure therefore cannot be reduced to IT alone; it includes a broad range of urban, household, professional, financial, commercial and public activities.

IT and IT-enabled services are nevertheless a major example of the state's service-led transformation. Direct employment in IT/ITeS increased from 3,71,771 persons in 2014–15 to 7,78,121

in 2021–22 according to the state series. This represents an addition of more than four lakh direct jobs during the period. The expansion demonstrates the state's comparative strength in knowledge-intensive services, although the concentration of these activities in Hyderabad also raises questions about regional dispersion and access to opportunities outside the metropolitan economy. □cite□turn3search2□

v. Employment structure and sectoral mismatch

The most important finding of the study emerges from comparing output shares with employment shares. Telangana Economic Pulse, based on PLFS annual reports, provides the following distribution of employment under usual status.

Year	Primary (%)	Secondary (%)	Tertiary (%)
2018–19	44.07	21.98	33.94
2019–20	49.04	17.62	33.32
2020–21	46.35	20.44	33.21
2021–22	50.84	20.47	28.67

Source: Directorate of Economics and Statistics, Telangana Economic Pulse, November 2024, based on PLFS Annual Reports.

The employment series shows that the primary sector absorbed 44.07 per cent of workers in 2018–19 but 50.84 per cent in 2021–22. The increase was especially notable in 2021–22. Secondary employment remained around one-fifth of total employment, while tertiary employment declined from 33.94 per cent in 2018–19 to 28.67 per cent in 2021–22. Thus, employment did not follow the output structure in which services generated about three-fifths of GSVA.

The pandemic provides an important explanation for this divergence. Agriculture was comparatively less affected by lockdown restrictions than contact-intensive services, construction and several urban activities. Labour displaced from non-farm activities could return to or remain in agriculture, increasing the measured primary-sector employment share. The state Economic Pulse specifically notes that primary employment peaked at 50.84 per cent in 2021–22, likely reflecting labour displacement towards agriculture during COVID-19 disruptions.

The employment data also reveal strong rural–urban differences. For 2019–20, services accounted for 68.07 per cent of urban workers but only 15.66 per cent of rural workers in Telangana. This contrast reflects the concentration of trade,

professional services, real estate, IT, finance and other tertiary activities in urban centres. The urban concentration of services is one reason why state-level output can be highly service-oriented while rural employment remains strongly agriculture-dependent.

vi. Output–employment ratio as an indicator of structural imbalance

A broad comparison of sectoral shares illustrates the magnitude of the divergence. In 2021–22, agriculture and allied activities accounted for 18.3 per cent of GSVA but the primary sector accounted for 50.84 per cent of employment. Industry accounted for 20.4 per cent of GSVA and secondary activities 20.47 per cent of employment. Services accounted for 61.3 per cent of GSVA but tertiary employment was only 28.67 per cent.

The difference is economically important. Agriculture's employment share was roughly 32.5 percentage points above its GSVA share, while services' GSVA share was roughly 32.6 percentage points above its employment share. These are not exact productivity gaps because the concepts and classifications differ, but they strongly indicate that labour is disproportionately concentrated in agriculture relative to the sector's contribution to output, while services generate a disproportionately

large share of value added relative to their employment share.

The pattern is consistent with a service-led transformation in which high-productivity urban activities expand faster than labour-intensive manufacturing. Such a transformation can raise average state income while leaving many workers in lower-productivity agriculture and informal activities. The policy challenge is therefore to connect the growth of high-productivity services with wider employment opportunities, while simultaneously increasing agricultural productivity and creating manufacturing and non-farm jobs.

vii. Role of COVID-19 in the structural changes

The pandemic interrupted the normal direction of structural transformation. In 2020–21, services accounted for 60.6 per cent of GSVA, down from 61.5 per cent in 2019–20, while agriculture rose to 19.6 per cent. Industrial share fell to 19.8 per cent. In employment, primary-sector employment subsequently reached 50.84 per cent in 2021–22, while tertiary employment fell to 28.67 per cent. The evidence therefore indicates a temporary reverse movement of labour towards agriculture during the shock period.

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However, the pandemic did not fundamentally reverse Telangana's long-term service orientation. Services recovered strongly in value-added terms in 2021–22, with the state reporting a current-price service-sector growth rate of about 20.47 per cent in that year in the later official series. This suggests that the temporary employment shock and the underlying output structure moved in different directions.

viii. Assessment of the hypotheses

The first hypothesis is supported because services remained the largest contributor to GSVA throughout the study period. The second hypothesis is also supported because the employment structure remained much more agriculture-intensive than the output structure. The third hypothesis is supported by the simultaneous dominance of services in value added and the temporary increase in primary-sector employment during the pandemic. The fourth hypothesis is also broadly supported because industry's share did not show a sustained increase between 2014–15 and 2021–22. Taken together, the evidence indicates that Telangana followed a distinctive pattern of structural transformation characterised by service dominance, persistent agricultural employment and an intermediate industrial sector.

VII. CONCLUSION

The analysis of Telangana's economy from 2014–15 to 2021–22 reveals a structural transformation that differs from the conventional sequence of agriculture followed by manufacturing and then services. Services were already the dominant sector at the beginning of the period and remained so at the end. Their GSVA share was 61.3 per cent in both 2014–15 and 2021–22, although it fluctuated during the intervening years. Agriculture and allied activities increased their GSVA share from 16.3 per cent to 18.3 per cent, while industry declined from 22.4 per cent to 20.4 per cent. The central feature of Telangana's output structure was therefore not a movement towards industrial dominance but the persistence and deepening of a service-led economy.

The employment structure tells a different story. By 2021–22, the primary sector accounted for 50.84 per cent of employment, compared with only 18.3 per cent of GSVA from agriculture and allied activities. The tertiary sector generated 61.3 per cent of GSVA but employed only 28.67 per cent of workers. This contrast indicates a substantial sectoral productivity differential and demonstrates that economic growth and employment transformation are not identical processes. Telangana has generated high-value

service output without transferring a corresponding proportion of workers into services.

VIII. LIMITATIONS

The first limitation is the absence of a directly comparable annual PLFS employment estimate for 2014–15 because the annual PLFS series begins in 2017–18. Therefore, the study cannot construct a fully consistent eight-year employment time series beginning in the same year as the GSVA series. The employment analysis consequently uses 2018–19 to 2021–22 for the main comparison and uses earlier PLFS evidence where appropriate.

IX. SUGGESTIONS

i. Strengthening agricultural productivity and non-farm linkages

The large share of workers dependent on agriculture requires a strategy focused on productivity rather than a simple reduction in agricultural employment. Telangana should strengthen irrigation efficiency, crop diversification, livestock and fisheries, storage, cold chains, food processing and farmer-producer organisations so that agricultural workers obtain greater value from existing labour and land. Stronger rural non-farm linkages can gradually create alternative employment without undermining farm incomes.

ii. Promoting employment-intensive industrialisation

The relatively stable industrial employment share and the decline in industry's output share over the full period indicate the need for broader manufacturing growth. Industrial policy should pay particular attention to labour-intensive sectors, MSMEs, food processing, textiles, engineering, electronics and local supply chains. Industrial clusters outside Hyderabad can reduce spatial concentration and provide non-farm employment to workers transitioning from agriculture.

iii. Making services more geographically inclusive

Telangana's service economy is highly productive but geographically concentrated. Expanding digital connectivity, higher education, healthcare, financial services, tourism, logistics, professional services and technology-enabled work in district headquarters and smaller towns can distribute the benefits of service-sector growth more widely. This can also reduce excessive dependence on metropolitan employment.

iv. Skill development linked to actual labour demand

Skill programmes should be aligned with sector-specific demand rather than based only on generic training targets.

Agriculture needs modern farm management and processing skills; manufacturing needs technical and machine-operation skills; and services require digital, financial, communication, data and professional capabilities. Stronger links among colleges, industrial clusters, employers and training institutions can improve the transition from education to employment.

v. Monitoring employment quality

Future assessments should distinguish between employment quantity and employment quality. Regular wage employment, self-employment, casual work, informal work, women's participation, earnings and social security coverage should be analysed alongside sectoral employment shares. Such indicators are necessary to determine whether structural change is improving living standards rather than merely changing the location of workers.

vi. Developing a balanced structural-transformation strategy

The central policy objective should be a balanced transformation in which agricultural productivity rises, manufacturing expands its employment capacity and services continue to generate high-value output and new opportunities. Telangana's experience demonstrates that a state can become service-dominated in

output while remaining agriculture-dependent in employment. Policy should therefore aim to narrow the gap between

where value is generated and where people work.

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Data note: Sectoral output shares in this article refer primarily to GSVA at current prices, while the employment analysis uses PLFS-based usual-status sectoral employment. The terms GSDP and GSVA are not identical: GSDP is the state-level counterpart of GDP, while GSVA measures sectoral gross value added. For sectoral structural analysis, GSVA shares are used because the official Telangana sectoral tables present the three-sector composition in GSVA terms.

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