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An Analysis of Sectoral Growth Pattern in Indian States： A Zone Wise Study in Post−Liberalization Period

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Abstract －

The three sectors–agriculture, industry, and services–are the backbones of growth and the key to achieve India's economic goal of $5 trillion USD． Researchers and policy−makers have taken notice of these three sectors' aggregate growth and contributions because they have demonstrated dynamic patterns throughout India's economic history． Using a zone wise state framework, descriptive statistics and regression, this study examines the connections between growths in the state economy's agricultural, industrial, and service sectors． The analysis suggests that the service sector plays a significant role in determining the overall growth rate of the all states economy through demand connections with other sectors of the economy, notwithstanding the huge increase in the services sector's share in GDP over the years． In the analysis, Southern state zone is a highest and north east state zone is a lowest contributor in country’s GDP． If we look sector wise contribution of gross domestic product, we will see that in agriculture sector, central zone states contribute highest in agriculture sector and southern and western zone states contribute highest in industry sector． In service sector, southern zone states contribute highest in this sector． According to the socio economic status, north east zone states have seen highest unemployment rate and western zone states have seen lowest unemployment rate．

Keywords － State Gross Domestic Product, Unemployment rate, Literacy rate, Life expectancy

Introduction－

The Indian economy's sectoral makeup has changed structurally over time． The change in the proportions of the agricultural, industrial, and service sectors in the gross domestic product may be the best way to illustrate the movement of GDP． The Indian economy has transformed from being predominantly agro−based in the 1970s towards pre−dominant in the services sector in the 1990s． The change in composition is probably going to have a big impact on how demand and supply are linked across different sectors, which might have a big impact on how the Indian economy grows and develops． The developed nations' experiences in this area reveal that there is a significant lack of sectoral balance in the economic process overall． Hence, the process of economic growth may be sped up by focusing investment on the right sectors. More economic activity in other sectors would be stimulated by the "key" sectors, which would have a higher multiplier impact on growth and development. This current problem has significant short- and long-term impacts in the Indian context. In light of the recent economic slowdown, a thorough knowledge of sectoral links is a top concern. Yet, the problem also becomes crucial when developing long-term strategy to maintain an 8% real GDP growth rate. The implementation of monetary and credit policy is now also affected by this issue. The Reserve Bank has intermittently raised the bank rate and the cash reserve requirement (CRR) in the recent past to encourage the growth process.

With a GDP of roughly 3.2 trillion dollars, India's economy grew to become the sixth largest in the world. As measured by purchasing power, India ranks third in the world. The varied development patterns in the sectoral composition caused by the structural change of the Indian economy under various policy regimes resulted in significant variances in the nation's economic growth. As a result of the large drop in agriculture's contribution during the import substitution era (1960-80), also known as the inward-looking policy era, the country's per-capita gross domestic output increased. According to the majority of economists, India's structural shift from a primary sector to a non-primary sector economy during this time of substitution regime replaced the dominance of agriculture with non-agricultural industrial expansion.

The policies of economic liberalisation and the consequent effects of globalisation enhanced India's domestic and foreign trade capacities during the reform phase (the time after the years 1991-1992), bringing it on level with other emerging nations. Following independence, Indian officials made deliberate attempts to expand the agricultural industry with the aid of the green revolution and following advancements in farming techniques. According to data from 2019, India's contribution to the global economy from agriculture (14.39%) is significantly higher than the global average (6.4%).

Throughout the liberalisation era (1980-2004), the structural shift from agricultural to industry grew steadily (but relatively more slowly than it had during the previous substitution phase). The licence raj system undermined the advantages of sustainable commerce, created unfair competition among businesses, and even raised levels of corruption throughout the nation. In order to further boost agriculture's economic contribution, the post-1991 economic reform regime gave it greater attention; as of this write (2019), the primary sector's contribution to India's GDP was around 14%.During the reforms' period (abolition of license raj system) the opening of the economy resulted in exploring the full potential of the industry by its diversification from basic traditional iron and steel to jute and automobiles. As per the year ending 2019, the share of India's industry sector to the country's GDP stood at around 29%, almost double of agriculture contribution.

Innovative services have been added to the traditional service sector, which includes banking, finance, telecommunications, and business process outsourcing and is today recognised as the backbone of the economy, accounting for around 57% of GDP, as a result of advances in science and technology. India has emerged as the greatest supplier of the finest technological talent with a significant demographic dividend thanks to the development of information technology (IT) and IT-enabled services, and it has also established itself as one of the world's main IT centres. The country has experienced more inclusive growth as a result of recent advancements in banking and financial services, making it simpler to implement the urgently required economic reforms for financial inclusion. In comparison to agriculture and manufacturing, the service sector offers more job options due to innovations and client feedback loops. The diversification and privatisation of several services, like the travel, tourism, and medical industries, among others, have raised the competences of the service sectors. The country's transition from a primary to tertiary economy offers advantages and problems of its own, too.

Literature Review -

S. Solanki, K. M. Inumula, and A. Chitnis (2020) highlighted a dynamic co-relationship among industrial sector contribution and agricultural sector contribution in economic development. In the long run, one percent change in industrial sector contribution causes an increase of 3.42 percent in the economic growth and an increase of 1.12 percent in the primary sector contribution, while in the short run industrial and service sector contributions showed significant impact on economic development and agriculture sector. The changing composition of sector contribution is going to be an important activity for the policymakers to monitor and control where the technology and integration of sectors play a significant role in economic development.

Soni, S., & Subrahmanya, M. H. B. (2020) study investigates the economy's and sectoral growth trajectory considering the disruption caused by pandemic and answers the pertinent question: 'Will India attain its dream of US$ 5 trillion economy, if yes, when and how?' The results of empirical analyses reveal that India will join US$ 5 trillion club by 2027-2028, 3 years later than the original target of 2024-2025. This growth trajectory requires that the productive sectors be bolstered consistently by reforms and stimulus and thereby they exhibit recovery post-COVID-19.

Margaux MacDonald & TengTeng Xu (2022) find that on a cyclical basis, a negative shock to credit or a rise in macro vulnerability all shift the distribution of growth to the left, with lower expected growth and higher negative tail risks; over the long term, the results indicate that higher credit growth, arising from better capitalized banks with lower NPLs, is associated with higher GDP growth.

Sastry, D. V. S., Singh, B., Bhattacharya, K., & N. K. Unnikrishnan. (2003) examines the linkage of growth among the agriculture, industry and services sectors of the economy, using both an input-output (1-0) and a simultaneous equation framework. Despite the substantial increase in the share of the services sector in GDP over the years, the 1-0 tables suggest that the agricultural sector still plays an important role in determining the overall growth rate of the economy through demand linkages with other sectors of the economy.

Chennakrishnan, P. (2021) explains agriculture remains the dominant supporter of Indian populace. The thriving industry and service sectors depend on the agricultural sector for their development. The inter-linkage among the three sectors could not be undermined at any cost. It is the massive absorbent of labour force even though the disguised unemployment exists in varied magnitud study identified that the growth rate of contribution of

Dr. V. Suthacini1&M. Balageetha(2019) study also reveals slow shifting of economic sector from agriculture to industry and industrial to service which result in negligible growth in GDP even after a long time period. The study also exhibits that GDP has a strong positive relationship with service and agricultural sector and negligible relationship with industrial sector. This study suggests the policy makers to concentrate their attention on key areas of all economic sectors which can contribute more to GDP growth and thereby to achieve economic growth.

The overall GDP has been used in all studies to determine the country's sectoral allocation. The country's state-by-state sectoral distribution and the share of state GDP in the GDP of the entire country have obtained less research.

Objective -

An analysis of zone wise states sectoral growth pattern in India

Methodology -

In the present study, time-series-level data has been used from the Handbook of Statistics on Indian States (2021-2022), and the evaluation of sector-wise growth in states has been conducted. The sectoral growth trend in Indian states was the subject of this study. The goal of this study is to explore the various aspects of the state's sectoral pattern and how socioeconomic factors influence sectoral growth. We have classified states into six zones in accordance with the Administrative Divisions of India, which are under the ministry of home affairs, in order to analyse the sectoral growth pattern by state. States are divided into six zones, as per the Administrative Divisions of India, and they are as follows: -

Table 1: List of zone wise states

Zone	States
Northern Zone	Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan
Central Zone	Uttar Pradesh, Chhattisgarh, Uttarakhand, and Madhya Pradesh
Eastern Zone	Bihar, Jharkhand, Orissa and West Bengal
Western Zone	Goa, Gujarat, Maharashtra
Southern Zone	Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Telangana
North east Zone	Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Tripura, Sikkim

Sources: Administrative Divisions of India, Ministry of home affairs

Statistical tools such as descriptive statistics and frequency distribution used for examines the trends and Pattern of sector wise growth pattern of zone wise states.

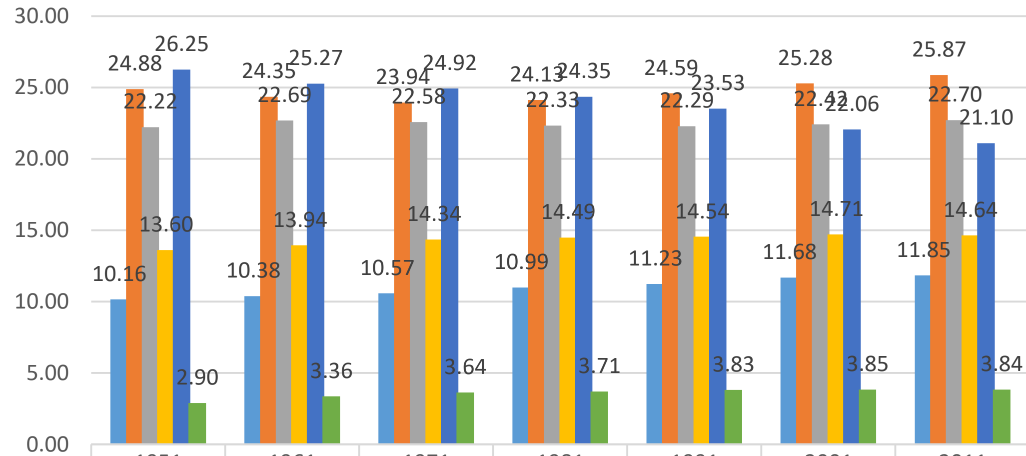
Results –

Zone wise state Population: trend and pattern

One of the most significant contributing factors to the "early development" of Western nations was the population. An expanding population meant more hands at work and more money to spend on newly manufactured items. At a certain point, though, the increased population starts to strain our economy's finite resources. More so, especially in the case of developing nations. It further depresses already poor standards of living, eliminates opportunities for capital production, and increases the number of unemployed people in the population. In order to make any real development in the overpopulated, undeveloped countries, the rate of population growth must be controlled.

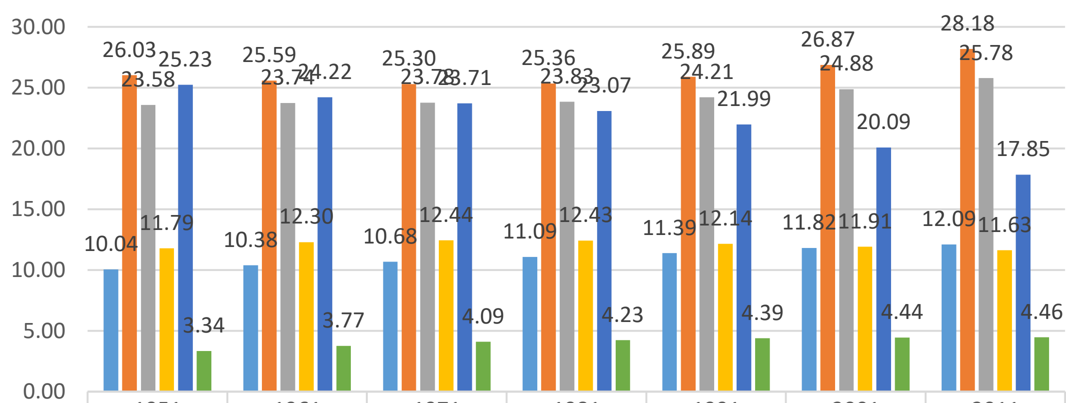
Population growth plays an important part in the sectoral growth pattern of the country. But it depends on the population's development. If the population grows, it will be a boon for the country's development. If we analyse the zone-wise population share rate, in graph 1.1, we see that the southern zone had the highest rate of population growth in 1950. But it has improved and been able to reduce it to 5% in a decade. Other zone states are stagnant after five decades. If we analyse rural and urban sectors wise, in graph 1.2 and 1.3, most of the rural population share of the total rural population is in the central zone state and the eastern zone state. Whereas in urban sectors, the populations of southern and western zone states are high.

Graph 1.1: zone wise share in total population



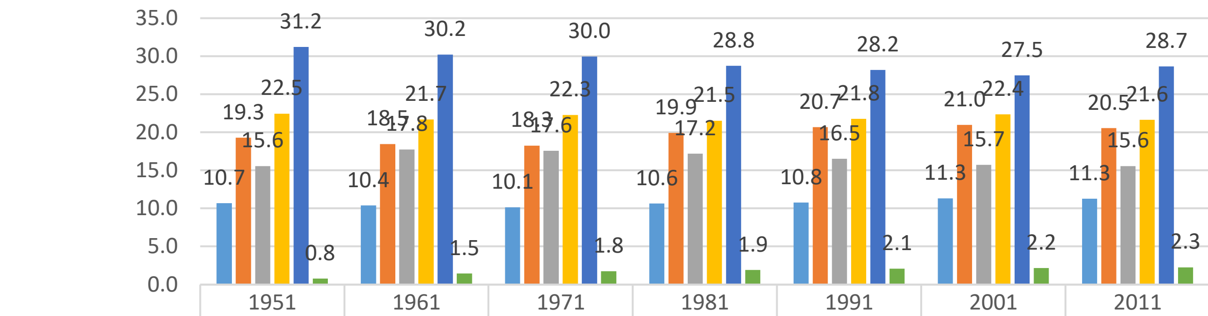
	1951	1961	1971	1981	1991	2001	2011
Northern Zone	10.16	10.38	10.57	10.99	11.23	11.68	11.85
Central Zone	24.88	24.35	23.94	24.13	24.59	25.28	25.87
Eastern Zone	22.22	22.69	22.58	22.33	22.29	22.42	22.70
Western Zone	13.60	13.94	14.34	14.49	14.54	14.71	14.64
Southern Zone	26.25	25.27	24.92	24.35	23.53	22.06	21.10
North East Zone	2.90	3.36	3.64	3.71	3.83	3.85	3.84

Graph 1.2: zone wise share in total rural population



	1951	1961	1971	1981	1991	2001	2011
Northen Zone	10.04	10.38	10.68	11.09	11.39	11.82	12.09
Central zone	26.03	25.59	25.30	25.36	25.89	26.87	28.18
Eastern Zone	23.58	23.74	23.78	23.83	24.21	24.88	25.78
Western zone	11.79	12.30	12.44	12.43	12.14	11.91	11.63
southern zone	25.23	24.22	23.71	23.07	21.99	20.09	17.85
North east zone	3.34	3.77	4.09	4.23	4.39	4.44	4.46

Graph 1.3: zone wise share in total urban population



	1951	1961	1971	1981	1991	2001	2011
Northern zone	10.7	10.4	10.1	10.6	10.8	11.3	11.3
Central Zone	19.3	18.5	18.3	19.9	20.7	21.0	20.5
Eastern zone	15.6	17.8	17.6	17.2	16.5	15.7	15.6
Western zone	22.5	21.7	22.3	21.5	21.8	22.4	21.6
Southern zone	31.2	30.2	30.0	28.8	28.2	27.5	28.7
North east zone	0.8	1.5	1.8	1.9	2.1	2.2	2.3

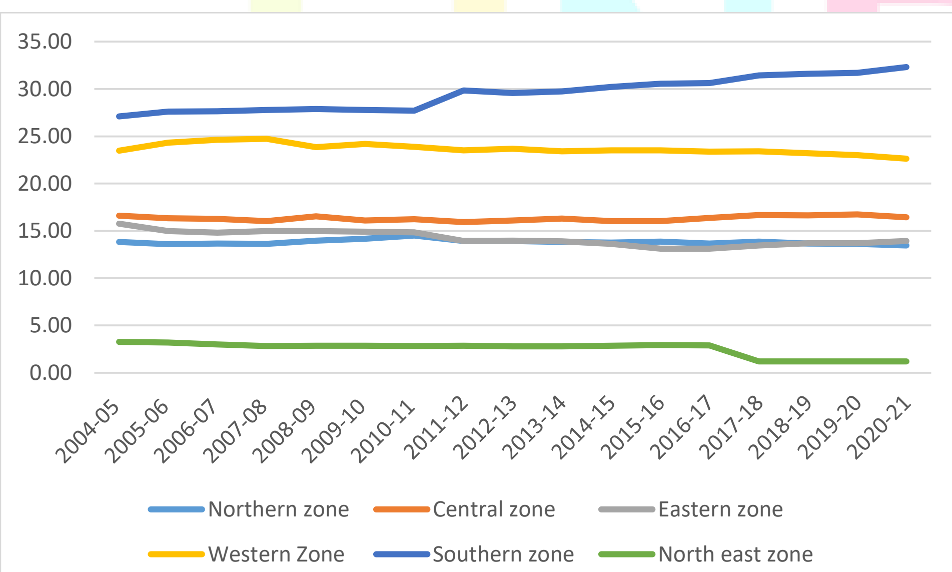
Sources： RBI, Handbook of statistics on Indian states（2021–22）

Zone wise state Gross Domestic product at current price： share and pattern –

An economy's Gross Domestic Product（GDP） is a measure of overall output． More specifically, it is the total monetary worth of all finished products produced in a country or area over a given time period． The capacity and resources required to deliver the public goods and services that their population require, such as healthcare, education, social protection, and fundamental public services, are gained when economies grow and states are able to tax that revenue．

The gross state domestic product（GSDP）, which is the total volume of all finished goods and services produced within the boundaries of the state within a specific time period, often a year． If we analysis the zone contribution in the GDP at current price． Southern zone contribution has highest and it is going to increased year to year where as other state stagnant at some level．

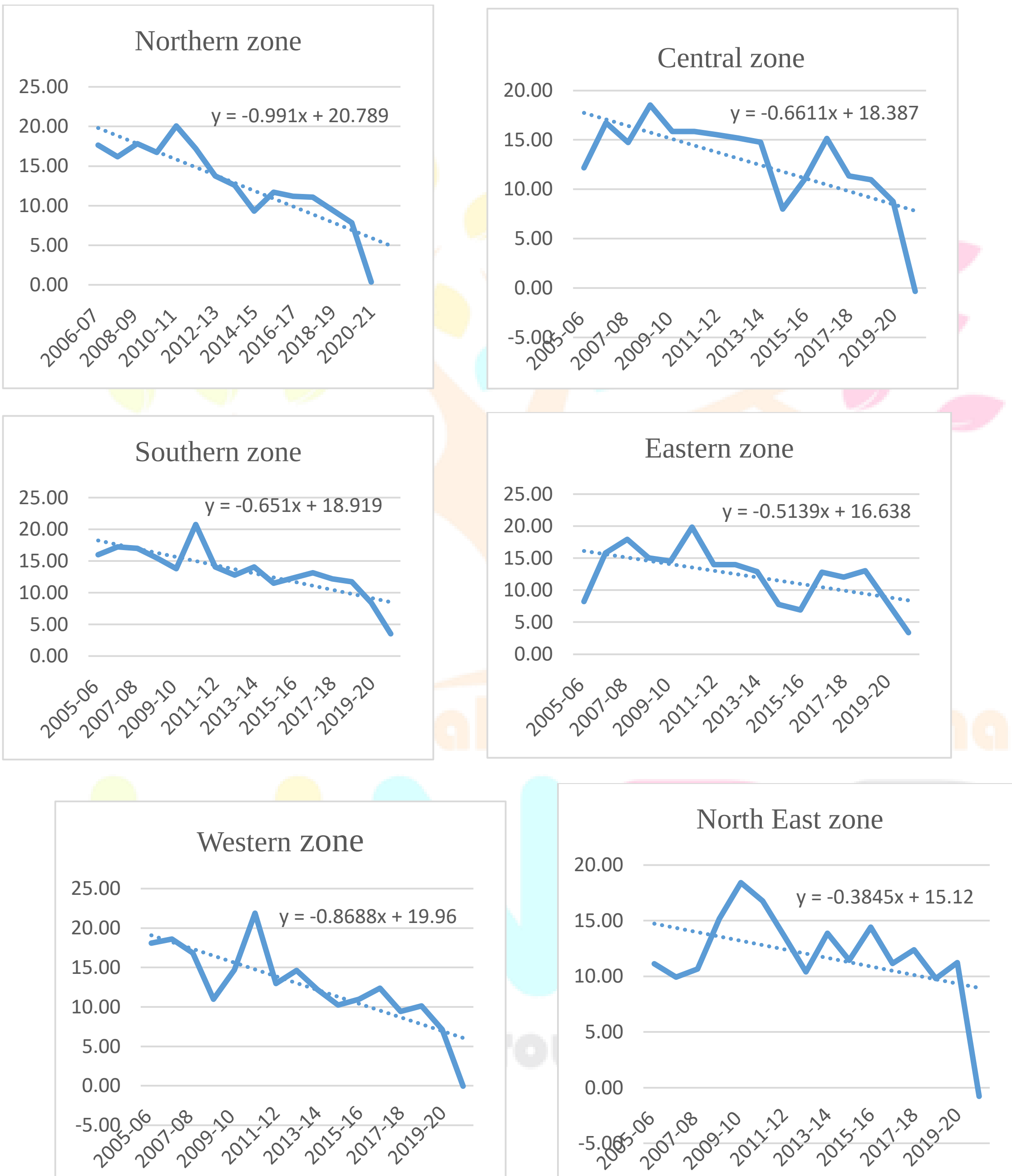
Graph 2．1： zone wise states contribution in gross domestic product at current price



Sources： RBI, Handbook of statistics on Indian states（2021–22）

When we look at rates of growth by zone, we can observe that they are all decreasing. When we compare zones, the northern zone's trend line and regression equation show that it was most negatively impacted during that time, whereas the north-east zone experienced the least amount of decline relative to other zones. In the graph 2.2, we can see that the highest steeper line has northern zone and least impact zone is north east zone.

Graph 2.2: Growth rate of state domestic product at current price zone wise:



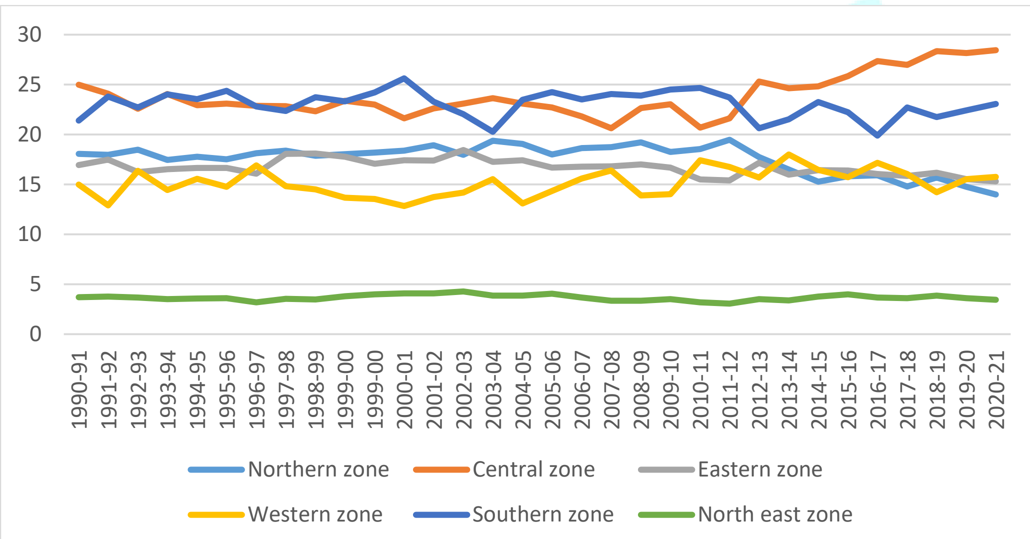
Sources : RBI, Handbook of statistics on Indian states (2021-22)

Zone wise states share and pattern in different sector –

Agriculture sector –

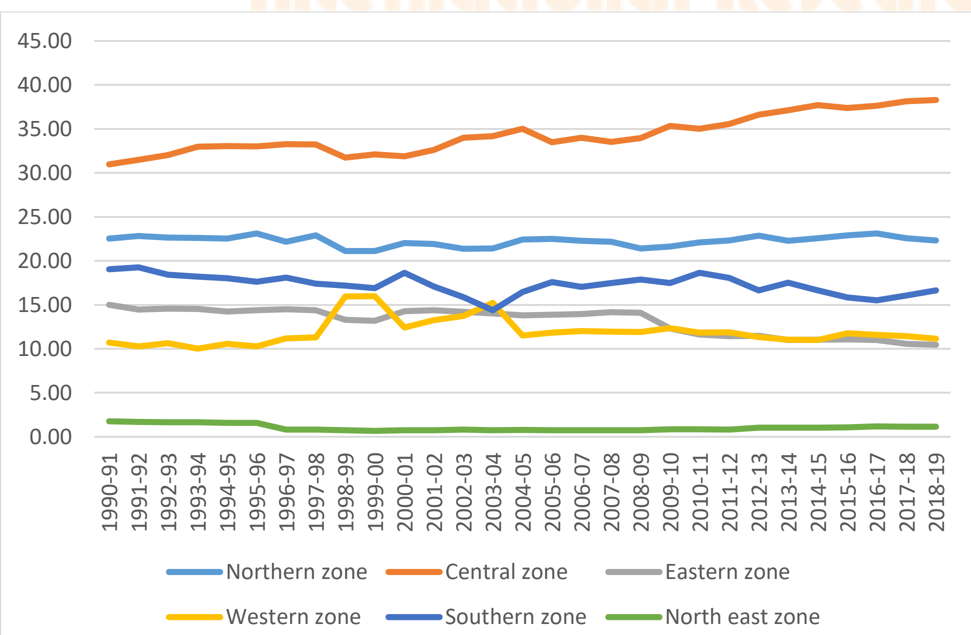
India's primary source of employment, particularly in the vast rural areas, is without a doubt agriculture and the related businesses. Also, it substantially contributes to GDP (gross domestic product). In terms of food security, rural employment, and environmentally friendly practises like soil conservation, sustainable natural resource management, and biodiversity protection, sustainable agriculture is essential for comprehensive rural development. As we compare zone wise contribution in agriculture sector, we see that central and southern zone state is contributed highest in this sector. As we see trend in graph, central zone participation in this sector is slightly increased. Other zone state contribution is slightly going down.

Graph 3.1: zone wise states contribution in agriculture sector

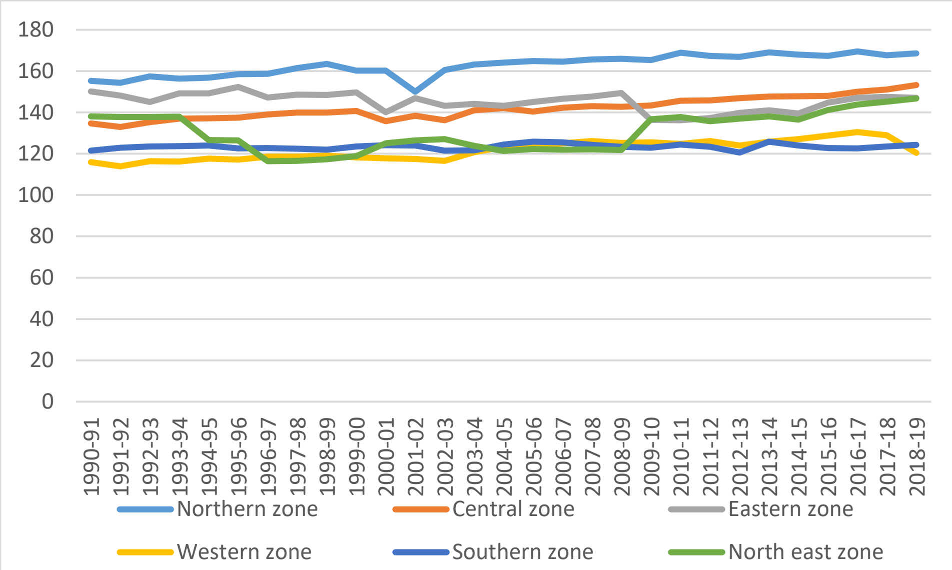


Sources: RBI, Handbook of statistics on Indian states (2021-22)

Net irrigated area



Crop intensity zone wise

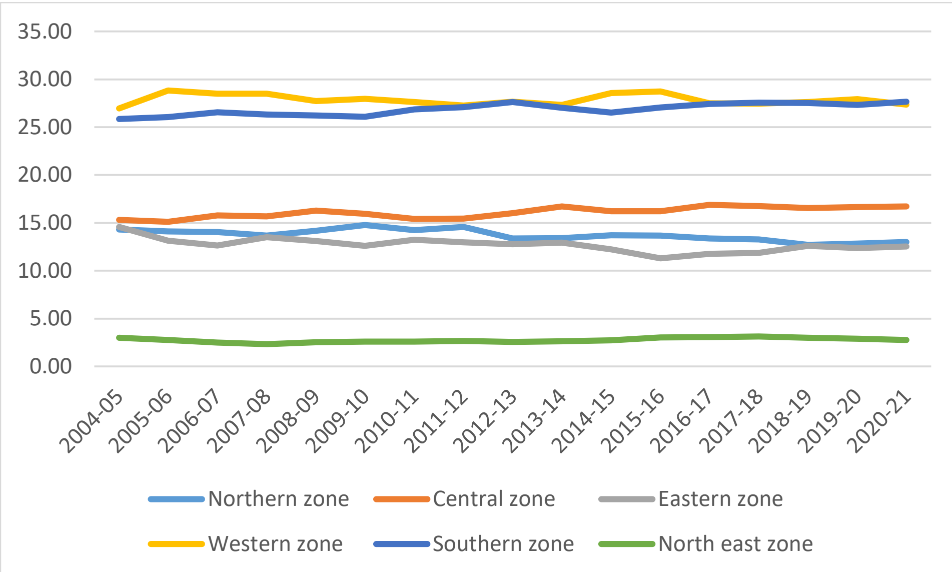


Industry sector –

Industries Growth in the industrial sector is one of the vital figures that affect the Gross Domestic Product（GDP）in countries. An important factor in reducing poverty and promoting shared prosperity is industrial growth, which releases dynamic and competitive economic performance that creates income and employment, promotes international trade, and increases resource efficiency. Although industrialization helps achieve the overarching goal of economic expansion, the effects vary depending on the nation's level of development. Higher productivity, adoption of new technology, smarter production methods, and a reduction in the impact of industrial output on the environment and climate all represent industrial progress in developed economies. For emerging nations, industrialisation entails a structural shift away from traditional economic sectors like agriculture and fishing towards cutting–edge manufacturing sectors driven by innovation and technology.

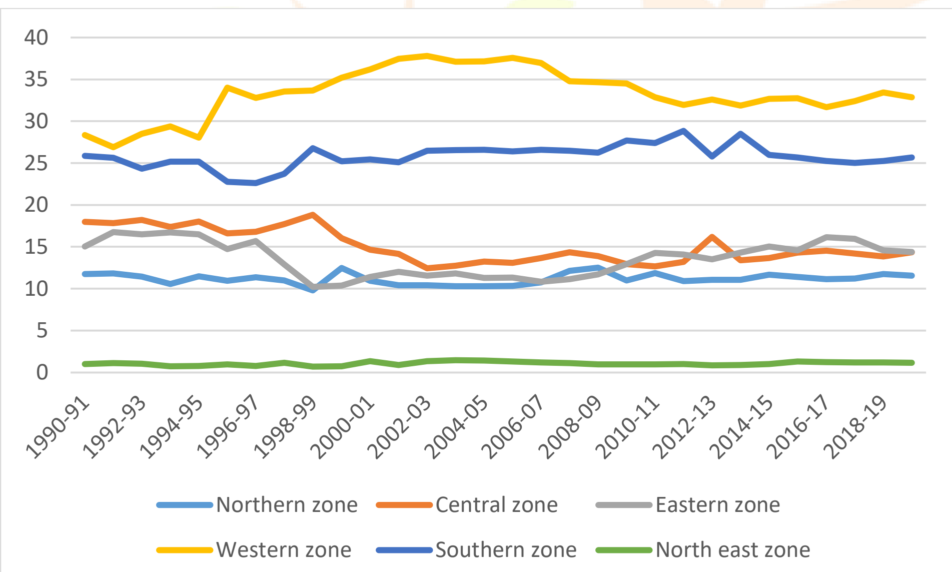
An increase in manufacturing jobs, wages that assist combat poverty, the introduction of new technology, and the production of necessary goods and services for the market are all benefits of this growth. In India, this sector is stagnant at between 24 to 29％ contribution in countries GDP. As we see in the graph, southern and western zone contribute at 25 to 30％ in industry sector. Other zone of state contribute below 17％.

Graph 3.2: Zone wise states contribution in industry sector



Sources: RBI, Handbook of statistics on Indian states (2021-22)

Invested capital zone wise



Service Sector –

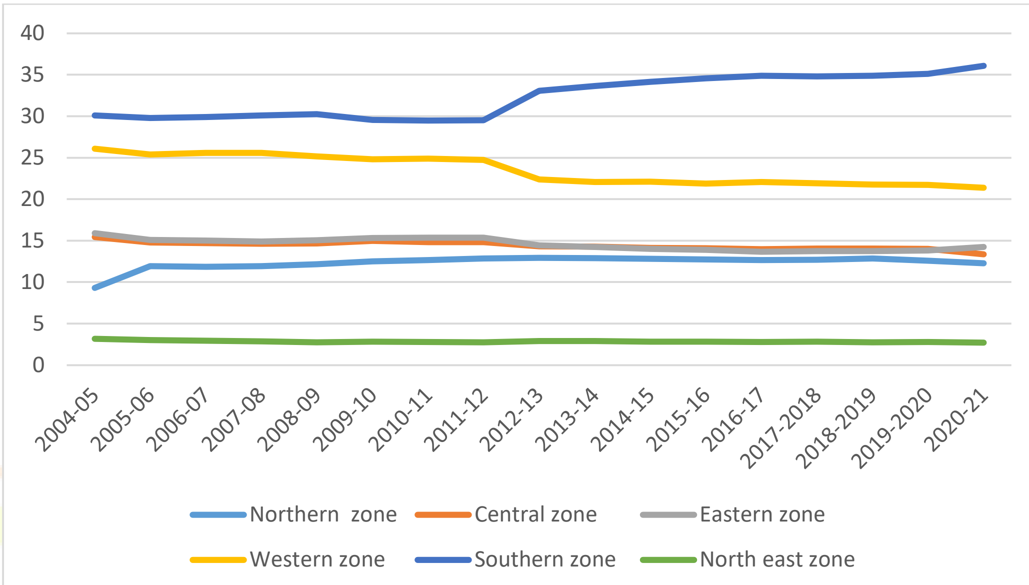
The range of activities under the service sector's wing. Some of these include activities related to tourism, leisure, and recreation, health and welfare, retail sales, and so on. The service industry has seen a significant change over the past six years, which has granted it the autonomy of the nation's productive sector. Also, this sector has a significant impact on foreign exchange and is therefore vital to the nation's current economic development.

The Services sector is largely responsible for the Indian economy's recent decade of rapid expansion. Around 68.6% of the GDP's average annual increase from 2002-2003 to 2006-2007 was attributable to services. Unlike the manufacturing and agricultural sectors, the services sector has had broad-based expansion since 2000-2001 with positive incremental growth. Throughout the aforementioned four years, double-digit growth had been recorded in trade, lodging, transportation, and communications services. According to the Economic Survey

2010, which acknowledged the industry's significance, "India's services sector has been the dynamo of the nation's economic growth for more than a decade now."

In graph, we see that service sector contribution is higher than other sector and in service sector, south zone state has contributed highest in the service sector than after western state. In graph, we can see that the contribution of southern state in this sector is going to increase year on year. On the other side, other zone of state has contribute in this sector at less than 17%. So according to this graph 3.3, we can clearly see that southern zone state has more emphasis on the service sector as compare to other sector.

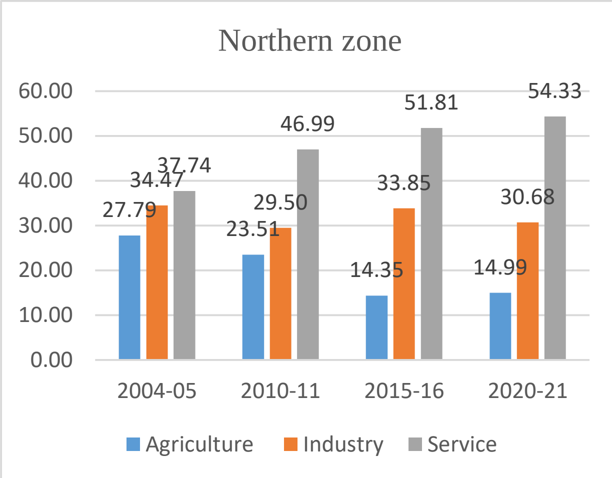
Graph 3.3: Zone wise states contribution in service sector

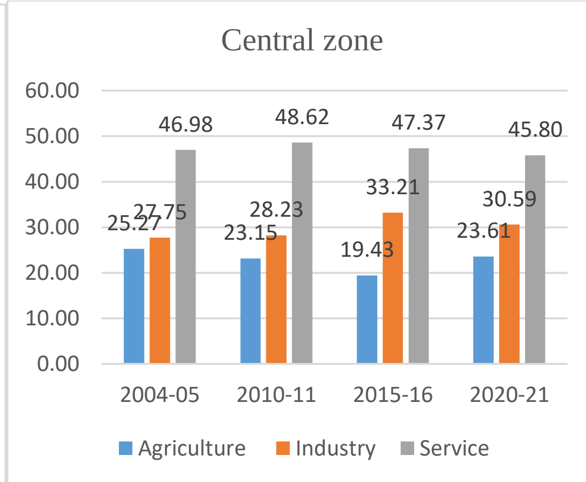


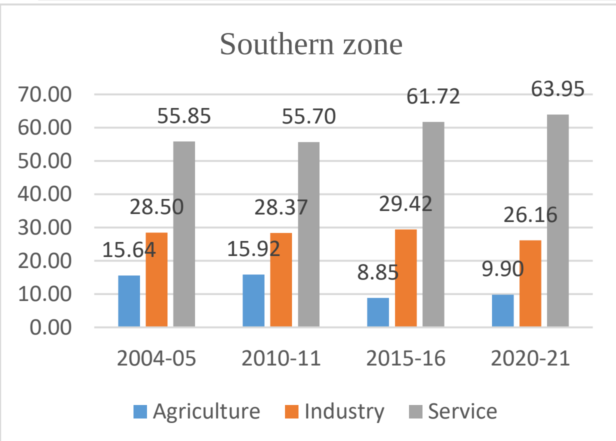
Sources – RBI, Handbook of statistics on Indian states (2021–22)

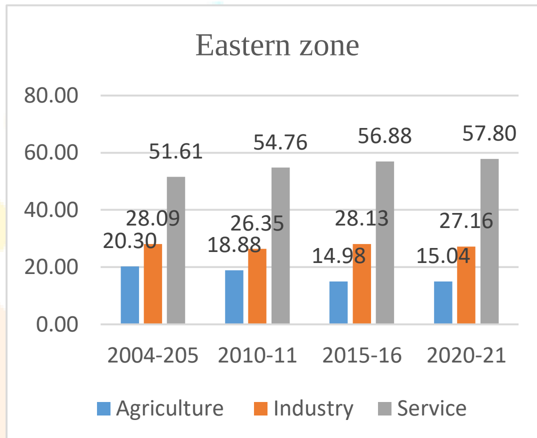
Zone wise sector contribution –

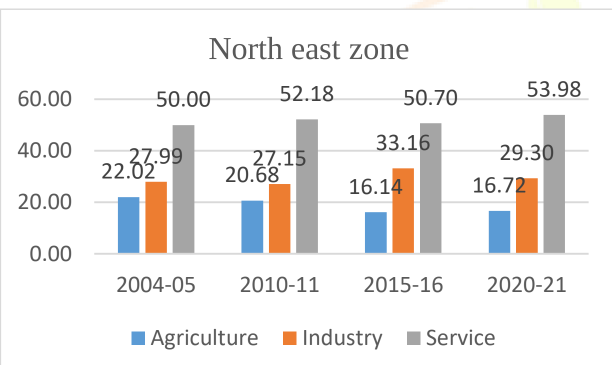
India became known as an agriculture–based nation after declaring independence since at the time, agriculture contributed more to GDP than any other sector. India's sectoral structure transformed with the 1991 LPG policy, and the service sector now makes up a larger portion of the country's overall contribution. As shown in the graph, the contribution of the service sector is highest in the southern zone and throughout all other zones. If we look at other sectors, the central zone contributes most to the agriculture sector as compare to other zone.

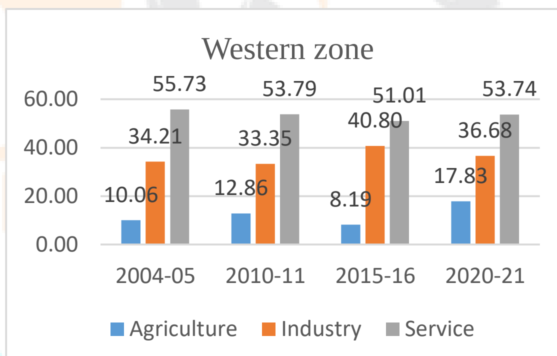












RBI, Handbook of statistics on Indian states（2021–22）

Conclusion –

This study examines the connections between growths in the state economy's agricultural, industrial, and service sectors. It suggests that the service sector plays a significant role in determining the overall growth rate of the all states economy through demand connections with other sectors of the economy. Southern state zone is a highest and north east state zone a lowest contributor in country's GDP. The Indian economy has changed structurally over time from being predominantly agro–based in the 1970s to pre–dominant in the services sector in the 1990s. The current economic slowdown has significant short– and long–term impacts in the Indian context, requiring a thorough knowledge of sectoral links and the implementation of monetary and credit policy. During the import substitution era（1960–80）, India's per–capita gross domestic output increased due to the shift from a primary sector to a non–primary sector economy. During the liberalisation era（1980–2004）, the structural shift from agricultural to industry grew steadily, but the licence raj system undermined the advantages of sustainable commerce, created unfair competition among businesses, and raised levels of corruption. The post-1991 economic reform regime gave greater attention to agriculture, leading to its diversification from basic traditional iron and steel to jute and automobiles. Innovative services have been added to the traditional service sector, which is now the backbone of the economy, accounting for 57% of GDP. India has emerged as the world's leading IT centre and has experienced more inclusive growth due to recent advancements in banking and financial services. The service sector offers more job options than agriculture and manufacturing, and the transition from a primary to tertiary economy has raised its competences. S. Solanki, K. M. Inumula, and A. B. Chitnis (2020) found a dynamic co-relationship between industrial sector contribution and agricultural sector contribution and economic development. The changing composition of sector contribution is an important activity for policymakers to monitor and control where the technology and integration of sectors play a significant role in economic development.

Reference –

Ahluwalia M. S. (2002). Economic reforms in India since 1991: Has gradualism worked. Journal of Economic Perspectives, 16(3), 67-88. Crossref. PubMed. ISI.

Chennakrishnan, P. (2021). AN ANALYSIS OF AGRICULTURE SECTOR OF INCLUSIVE GROWTH IN INDIA. Available at SSRN 3789501.

D. V. S. Sastry, Balwant Singh, Kaushik Bhattacharya, N. K. Unnikrishnan Economic and Political Weekly, Vol. 38, No. 24 (Jun. 14-20, 2003), pp. 2390-2397 (8 pages)

S. SOLANKI, K. M. INUMULA, and A. CHITNIS, "Sectoral Contribution to Economic Development in India: A Time-Series Co-Integration Analysis," The Journal of Asian Finance, Economics and Business, vol. 7, no. 9, pp. 191-200, Sep. 2020.

Soni, S., & Subrahmanya, M. H. B. (2020). India's Sectoral Growth Patterns and US$ 5 Trillion Trajectory: An Empirical Investigation on Macroeconomic Impact of COVID-19. The Indian Economic Journal, 68(3), 309-322. https://doi.org/10.1177/0019466220968064

Nagaraj R. (1990). Growth rate of India's GDP, 1950-51 to 1987-88: Examination of alteranative hypothesis. Economic and Political Weekly, 25(26), 1396-1403.

Sharma M. (2019). Can India become a $5 trillion economy? The Economic Times.