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Sectoral Linkages of Output and Employment; Reflections on the Indian Economy

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ABSTRACT

Economic development is defined as a sustained increase in output per capita, as well as structural changes in productive capacity and employment. A major aspect of current growth is a shift in labour from agricultural to non-agricultural output. As a result of structural transformation, which is pulling labour away from agriculture and into non-agricultural sectors at a rate determined by the labour absorbing intensity of the industrial and service sectors, the rate of employment growth is rapidly increasing. India's employment growth in agriculture and industry has slowed in a high-growth economy. The present paper tried to analyze the sectoral changes in employment across the broad economic sectors in the Indian economy during the pot-reform period. The study is based on the secondary data collected from the World Development Indicators from 1991 to 2020. Proportionate analysis and polynomial regression function were used to identify the nature and growth of sectoral employment in the Indian economy. In this study, a comparison of growth of income, employment and labour productivity will be made to assess the nature of sectoral changes in the Indian economy.

KEYWORDS: *Employment, Sectoral Employment Changes, Gross Domestic Product, Per-capita income*

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INTRODUCTION

Economic development is defined as a sustained increase in output per capita, as well as structural improvements in productive capacity and employment. The present economic system fails to provide ongoing employment for all people who want to work. This is usually seen as one of the system's major flaws, and solutions to the problem are regularly advocated. Even with an 8 per cent plus growth rate, the employment situation remains almost stagnant in a high-growth regime, with not enough jobs being generated in the economy (Chowdhury, 2011). The Indian economy's nearly jobless growth is accompanied by a considerable drop in the labour force participation rate. Despite the significant increase in the services sector's share of GDP over time, the agriculture sector continues to play an essential role in determining the economy's overall growth rate through demand linkages with other sectors (Sastry, Singh, Bhattacharya, & Unnikrishnan, 2003). In the post-reform period, there has been a greater change in employment shares of total employment than in the pre-reform period (Ramaswamy, 2007). Since the beginning of economic reforms, the rate of increase in the gross domestic product and agricultural employment has slowed dramatically (Roy, 2017; Ramaswamy, 2007).

As a result, considering the industry's pride of place as the "engine of growth," the employment proportion of manufacturing in a high-growth regime in India is disconcerting (Roy S., 2016). The Indian economy has seen a tremendous boost in growth and development since the implementation of the new economic policy. More employment opportunities, as well as a major reduction in poverty and inequality, were projected when industrial controls and trade restrictions were eliminated. However, evidence suggests that sluggish employment growth articulates post-reform economic policy. Official figures show that the economy's annual average growth rate from 1990 to 2010 was between 7-8%, with the rate reaching nearly 9% during the last four years of the 10th Plan, despite a low annual rate of employment growth, which some critics have dubbed "jobless" growth (Padder, 2018).

The most startling fact about India's growth is the bizarre turnaround in nearly all growth performance indicators after 1980. Total factor productivity increased at a rate of over 2% per year in the 1960s and 1980s, and this trend continued for the next two decades (Subramanian, 2007). Between 1960 and 1986, India's authentic domestic product grew at a faster rate than agriculture and its related sectors, and it became the most important source of labour absorption in absolute and relative terms (Thamarajakshi, 1989). During the same period, the rate of industrial growth increased, but it lagged behind the share of employment. Although the reforms of the 1980s increased growth, there is no evidence that they had an impact on the rate of expansion in critical sectors such as agriculture, industry, or services. The period before 1980 was marked by a slower rate of accelerated expansion than the subsequent period, but it was also the period when the industrial sector played a significant role in driving output growth. After 1980, rapid growth was accompanied by the services sector displacing industry as the most important sector. The Indian economy has grown rapidly in terms of GDP since the implementation of new economic reforms, but employment has slowed (Padder & Mathavan, 2021).

In primary and secondary sectors, the use of more capital-intensive product inputs, declining labour-intensive productivity and stagnant GDP share lead to a high rate of transformation into unproductive sectors and more unemployment in the post-reform period compared to the pre-reform period. In today's policy debates, structural renovation is receiving a lot of attention, while some observers argue that sectoral reallocation of economic activities is inefficient. During the pre-reform period, India completed the first phase of structural changes across sectors and sectoral employment diversification. Since the initial studies of economic growth by Fisher (1952), Clark (1951), and Kuznets (1951), structural shifts in output and employment have always accompanied a prolonged and rapid growth of a country's per-capita output (Mazumdar, 2010).

During the period of the post-reform, the present study aimed to assess the sectoral changes in employment across the broad economic sectors in the Indian economy. The study is based on data from the World Development Indicators, which covers the years 1991 to 2020. The nature and growth of sectoral employment in the Indian economy were determined using proportionate analysis and polynomial regression functions. A comparison of income, employment, and labour productivity growth will be made in this study to assess the nature of sectoral changes in the Indian economy. A persistent rise in output per capita, along with structural changes in productive capacity and employment, is considered a sign of economic development. A shift in labour from agricultural to non-agricultural output is a major aspect of current growth. The pace of employment growth is expanding rapidly as a result of structural transformation, which is pulling labour away from agriculture and into non-agricultural sectors at a rate determined by the industrial and service sector's labour absorbing intensity. In a high-growth economy, India's employment growth in agriculture and industry has slowed.

Share of Sectoral Output and Employment

Figure 1, Share of Sectoral Output to GDP

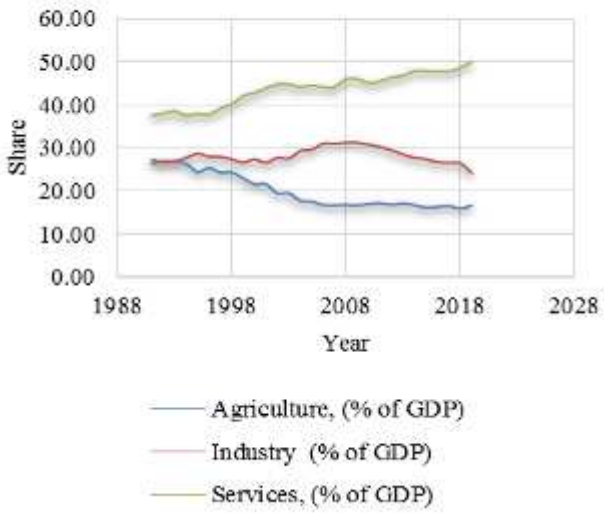


Figure 1-A, Share of Sectoral Employment to Total Employment

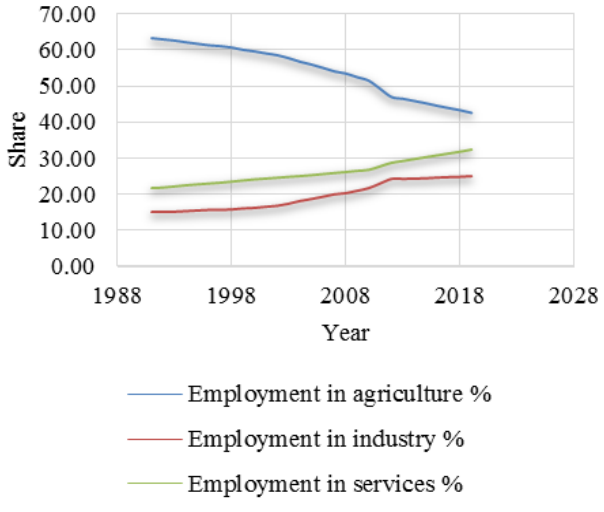
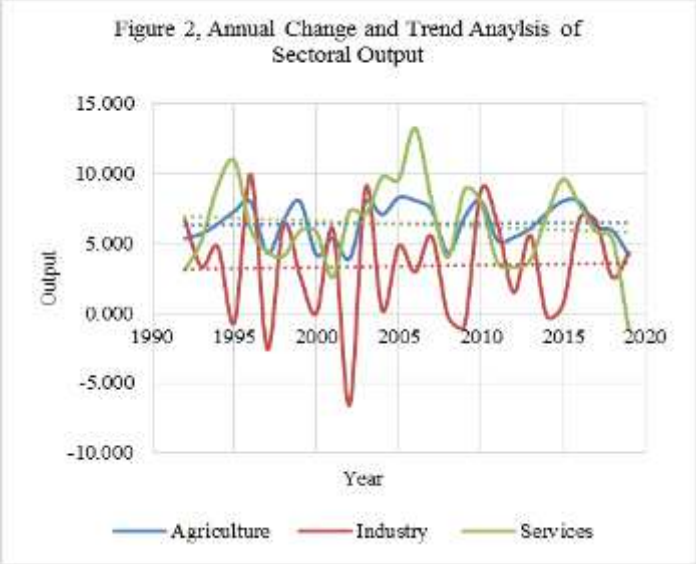


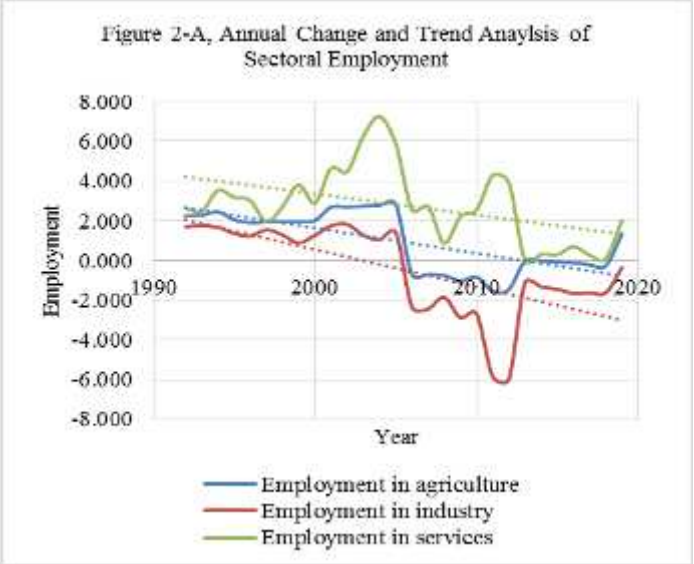
Figure 1 and 1-A, represents the percentage share of sectoral output to the GDP and sectoral employment to the total employment intending to identify the output and employment condition during the post-reform in the Indian economy. During the period from 1991 to 2006, the share of agriculture output has declined rapidly. Since 2006-07, the share of

agricultural output has declined slowly up to 2019. Whereas, the share of industrial output to the GDP has almost remained stagnant since the new economic reforms around 2000. However, the share of industrial output has rapidly increased from 2000 onwards up to 2008-09 and has rapidly fallen up to 2019. Instead of the agriculture and industry, the percentage share of services output has constantly increased and touches around 50 per cent of the total GDP, since the initiation of the new economic reforms in the Indian economy.

In terms of sectoral employment, there is a steep fall in employment in the agriculture sector over the period. However, the share of employment has shown a marginal increase in the industry and services sectors. It can be noted from Figure 1-A, that during the recent decade (2011-12 to 2018-19), the absorption of labour or workforce in the industry sector has remained stagnant. In other words, the industrial sector of the Indian economy is incapable to create jobs or absorbing the labour coming from agriculture. It is worth noting that the share of services towards the GDP has reached more than 50 per cents, and is contributing to just 30 per cent of the workforce in the Indian economy as of 2019.

Annual Change and Trends of Sectoral Output and Employment





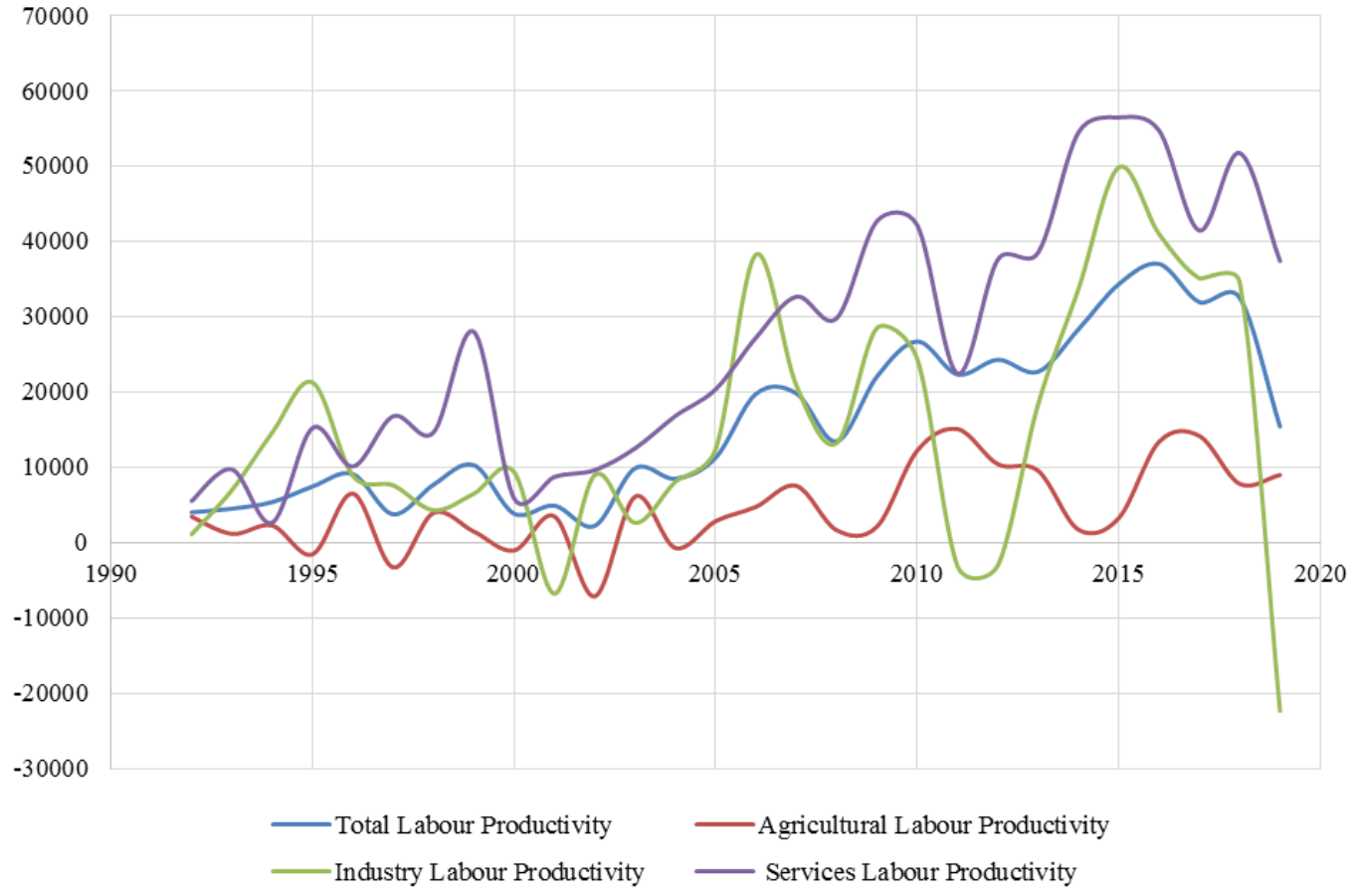
The annual change and trends of sectoral output and employment in the Indian economy are portrayed in Figures 2 and 2-A. It has been observed from figure 2, that the trends of sectoral output among the broad economic sectors have remained almost constant since the initiation of new economic reforms in the Indian economy. During the period from 1991 to 2020, the output of the services sector has shown the highest jump between 1991 to 1995 and again between 2000 to 2005-06. Among the broad economic sectors, the industrial sector has shown the least annual changes in the sectoral output as compared to other sectors over the period.

In terms of employment, the annual changes in sectoral employment are quite opposite to the share of sectoral employment. During the first decade of new economic reforms, employment in agriculture and industry has shown a marginal declining fall up to 2004-05 portrayed in Figure 2-A. However, concerning the annual change of employment in the service sector, it has shown an increased slope from 1991 to around 2005, and also between 2008-09 to 2011-12. It can be noted that after 2005-06, there has been a sharp fall in employment among all the broad economic sectors and in which industrial sector has shown the highest declined to fall in employment around in the year 2012-13. It has been observed from figure 2-A, that the employment elasticity over the period among all the broad sectors has shown declined trend.

Annual Change in Labour Productivity

Figure 3 represents the labour productivity of total and across the broad economic sectors in the Indian economy from 1991 to 2019. We have seen from figure 2-A, that employment across the broad economic sectors has shown a declined trend over the period. However, during the same period, labour productivity has shown an upward trend. It can be noted that except for the services sector, the total labour productivity and the labour productivity in the agriculture and industry sectors have increased marginally up to 2000-01. The labour productivity across all the economic broad sectors has rapidly increased from 2005, except in the industrial sector where it has shown marginal improvement up to 2019.

Figure 3, Annual Change of Labour Productivity across Sectors



Source: Computed by Author

Nature and Growth of Employment Across Sectors

The nature and growth of sectoral employment concerning the GDP per-capita income in the Indian economy are portrayed in Table 1. The polynomial regression functions were used to identify the nature and direction of employment across the broad economic sector concerning the GDP per-capita income over the period from 1991 to 2019 in the Indian economy. Table 1 represents the results of the polynomial regression functions of the sectoral employment at b_1, b_2 and b_3, indicating linear, quadratic and cubic polynomials, respectively. The sectoral wise nature and direction of sectoral output and employment are explained under the following sub-headings.

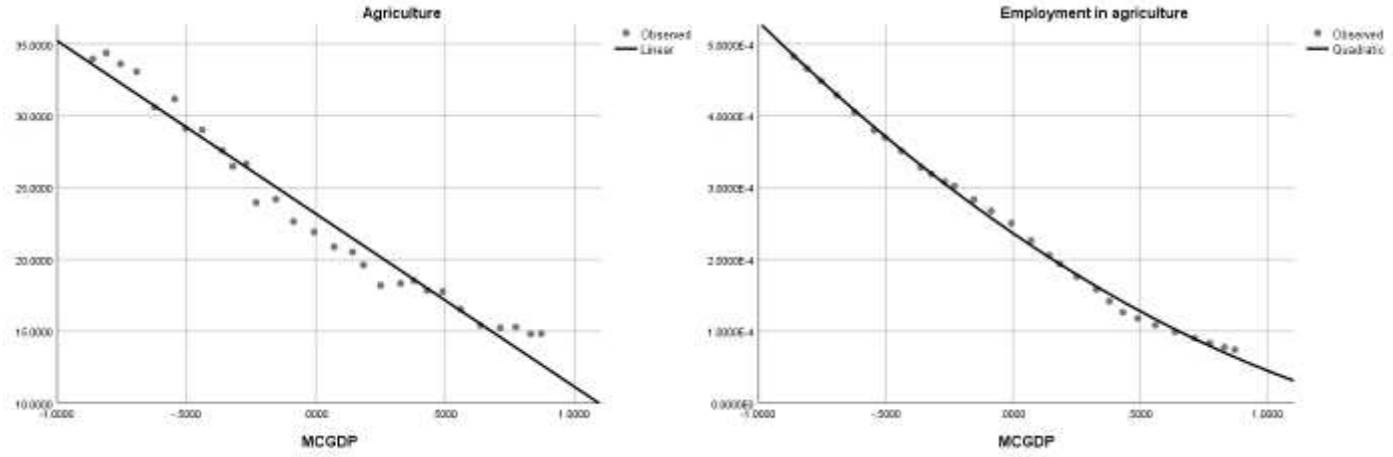
Table 1, Results of Polynomial Regression Functions

Economic Indicators	b_1	b_2	b_3	Sig	F Value	R^2
Agricultural Output	-12.040			0.000	835.781	0.969
Agricultural Employment		-5.141		0.000	5117.264	0.997
Industrial Output			-5.102	0.000	12.608	0.602
Industrial Employment			-1.651	0.000	1165.250	0.993
Services Output	8.625			0.000	898.942	0.971
Services Employment	-7.063			0.000	2426.000	0.997

Source: Own Elaboration

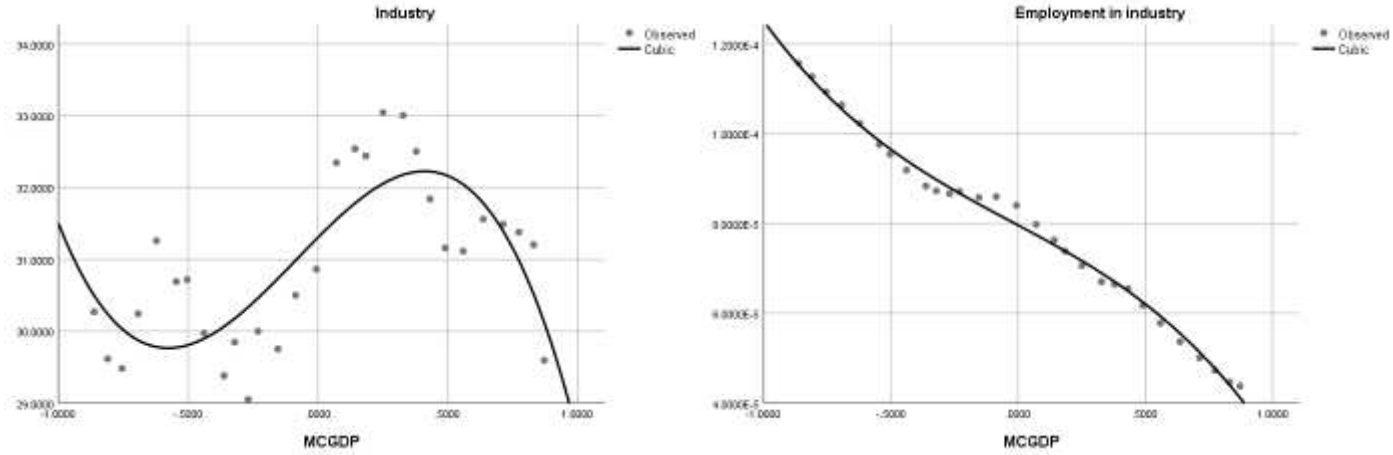
Agriculture Sector

It has been analyzed from table 1, that the agriculture output since the initiation of new economic reforms has rapidly declined at the rate of -12.04 per cent with the increase in the GDP per-capita income and has pulled down the employment level at -5.14 per cent over the period. The estimated value of R^2 equals 0.96 and was found statically significant at a 5 per cent level of significance. The direction of both the agricultural output and employment has shown a downward trend that fits the linear and quadratic functions, respectively. The figure indicated that with the growing rate of per-capita income, output and employment have declined rapidly over the period.



Source: Extracted from Table 1.

Industrial Sector



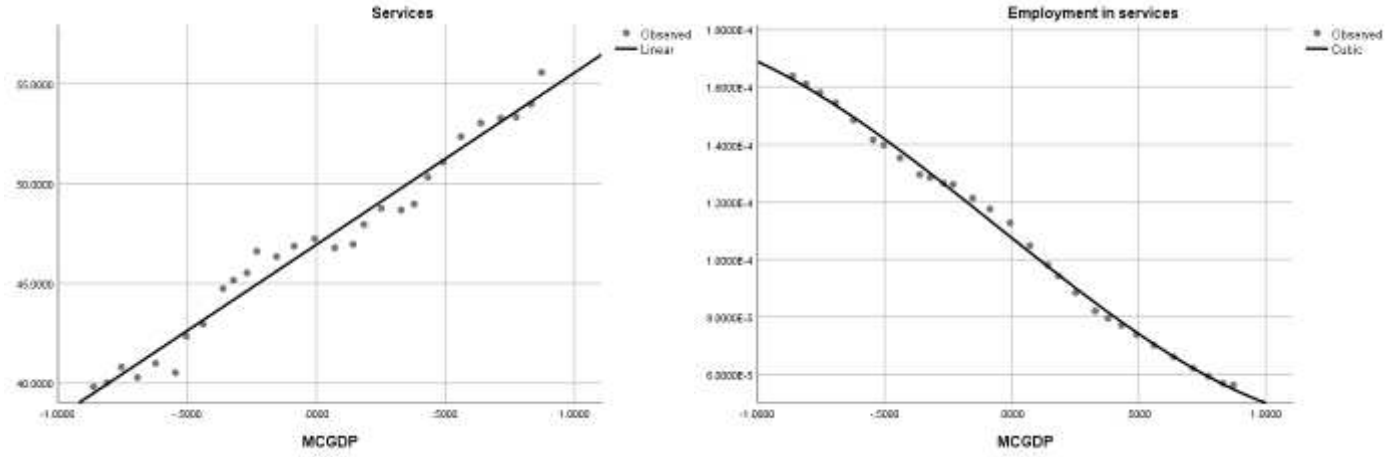
Source: Extracted from Table 1.

The share of industrial output and employment concerning the increase in GDP per-capita income has decreased at the rate of -5.14 and -.1.65 per cent over the period reported in Table 1. It has been observed from the above figure, that the share of industrial output has initially started with the increase in GDP per-capita income up to the period 1997-98. From the year 1997-98 up to the period 2014-15, the share of industrial output has increased and started to fall more rapidly than after. However, during the period from 1991 to 2019, the share of employment has not shown any upward movement and has declined sharply. It means, there is no effect of GDP per-capita income and industrial output on employment. So, during the period from 1991 to 2019, the share of employment in the industrial sector has declined with the increase in per-capita income of the Indian economy.

Services Sector

Apart from the others, the share of the services sector has shown an increasing trend concerning the increase in GDP per-capita income at the rate of 8.62 per cent over the period. However, the employees concerning the increased sectoral share of output in the services have gone down rapidly at the rate of -7.06 per cent since the initiation of the new economic reforms in the Indian economy, reported in Table 1. Similarly, the direction of the share of services output and employment have moved oppositely. It has been observed from the figure, that the slope is Extracted from Table 1.

the services output curve has an upward slope whereas, the slope of employment has a downward slope with the increase in the GDP per-capita income from 1991 to 2019. This indicated that the services sector is incapable to create jobs in the Indian economy since the new economic reforms.



Conclusion

The present study analyzed the economic structure and employment in the Indian economy over the period from 1991 to 2019. The data were collected from the World Development Indicators during the period from 1991 to 2019. It has been found from the analyses that the condition of employment in the Indian economy concerning the sectoral output and GDP per-capita income has deteriorated over the period. The share of employment to the total employment has declined in the agricultural sector, whereas in industry and services, the share has marginally increased over the period. However, sectoral employment has shown a rapid fall in terms of the annual change concerning the annual changes in the sectoral output over the period from 1991 to 2019. The labour productivity has increased among the sectors with the downfall of the actual employment in the Indian economy. The nature and direction of employment among the sectors except agriculture have moved oppositely and are incapable to generate more jobs over the period rather lead jobless growth.

References

[1] Chowdhury, S. (2011). Employment in India: What Does the Latest Data Show? *Economic and Political Weekly*, 23-26.

[2] Mazumdar, S. (2010). *Industry and Services in Growth and Structural Change in India; Some Unexplored Features.* New Delhi: Institute for Studies in Industrial Development.

[3] Padder, A. H. (2018). Changing Pattern of Economic Development and Employment in India: An Interstate Analysis. *Social Science and Humanities International*, 1-29.

[4] Padder, A. H., & Mathavan, B. (2021). The Relationship between Unemployment and Economic Growth in India: Granger Causality Approach. *NVEO-NATURAL VOLATILES & ESSENTIAL OILS Journal| NVEO, 8*(4), 1265-71. Retrieved from https://www.nveo.org/index.php/journal/article/view/261

[5] Ramaswamy, K. V. (2007). Regional Dimension of Growth and Employment. *Economic and Political Weekly*, 47-56.

[6] Roy, S. (2016). Faltering Manufacturing Growth and Employment: Is 'Making' the Answer? *Economic and Political Weekly, 51*(13), 35-42. Retrieved from https://www.epw.in/journal/2016/13/special-articles/faltering-manufacturing-growth-and-employment.html

[7] Roy, S. D. (2017). Economic Reforms and Agricultural Growth in India. *Economic and Political Weekly*, 67-72.

[8] Sastry, D., Singh, B., Bhattacharya, K., & Unnikrishnan, N. (2003). Sectoral Linkages and Growth Prospects Reflections on the Indian Economy. *Economic and Political Weekly*(Special Issue), 2390-2397.

[9] Subramanian. (2007). *"Growth Experience" in Kaushik Basu (ed.).* New Delhi: The Oxford Companion to Economics in India.

[10] Thamarajakshi, R. (1989). Agricultural Growth, Rural Development and Employment Generation. *Economic and Political Weekly*, A-5 - A-8.