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Service Sector Led Growth Trajectory of Kerala Economy

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Abstract

Kerala stands out in this context with the growth pattern of service sector oriented one as against primary sector led development process followed by secondary sector. The contribution of primary sector to state domestic product has been declining overtime and the place has been taken over by the service sector followed by the secondary sector. This paved the way for a growth trajectory validating the hypothesis that the economy has undergone structural change. The growth of each sector at constant prices has been analysed for the period 1960-61 to 2020-21. The whole development process of the economy, the extent and change in direction is measured in terms of each sector's contribution towards Net State Domestic product which is otherwise known as 'state income'. It is inferred from the analysis that the pattern of growth and performance of the service sector in Kerala has set a magnificent mark and will also continue to be the highest contributing sector in the years to come.

Keywords: *NSDP, Growth, Service sector*

1. Introduction

The increasing share of service sector led growth of an economy is a global phenomenon. The contributions of service sector towards economic development can be traced back from the writings of Fisher (1935) and Colin Clark (1940). The growth of any sector is being understood basically from two perspectives (i) its contribution towards national product and

(ii) its contribution towards employment. It has been seen with infallible proof that in the evolution of economic development service sector has emerged as the largest contributor towards Gross Domestic Product especially with regard to developed economies. Thus, the emerging economies are now seen with justifiable service sector as the engine of economic development.

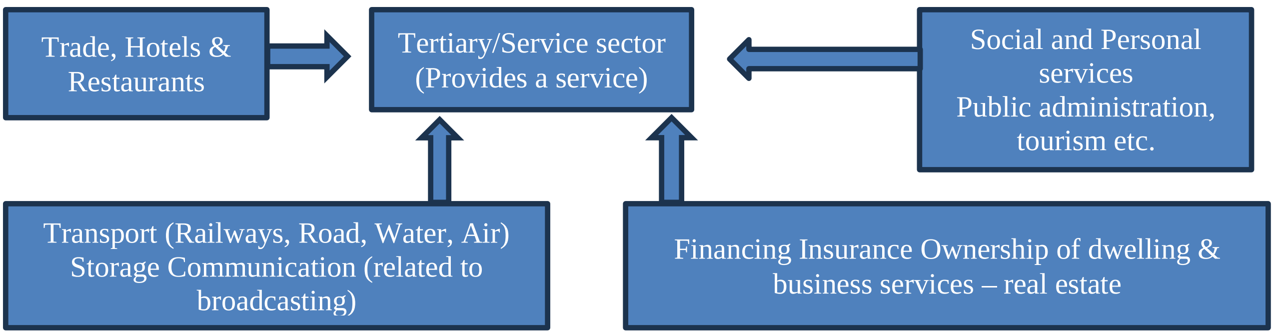
The share of service sector towards Gross State Domestic Product (GSDP) highlights its relevance in economic growth process. Kerala has been explained as a small state with state led growth (Seshadri, 2009). The service sector led growth of Kerala has been widely much-admired as it has dual structure towards economic growth and development, with earnings and a built-in bias towards inequality (Oomen 2014). As explained in structural growth theories Kerala did not experience a sequential growth process. The state has not witnessed a dominant growth of industrial sector, as explained by the reason that the share of income generated from this sector does not correspond to the employment it generated (Sanitha and Singla, 2016). Thus the real sectors lag behind with less productivity and service sector comes in the forefront.

1.1 Conceptualising the service sector

In India, the Central Statistical Organisation (CSO) classifies service sector in the following heads (i) Trade, hotels and restaurants (ii) Transport, storage and communication (iii) Financing, insurance, ownership of dwellings and business services. (iv) Community, social and personal services.

1.2 A broad frame of service sector components

Service sector goods are intangible in nature as it provides services to business and final consumers. The sub sector bifurcation of service sector is shown in the chart below.



The relevance of service sector towards the growth and development of any economy may be assessed from its contributions towards output and the rate of change that takes place overtime along with the employment it generated over the years. Hence, the objective of the paper is set to examine the size and growth rate of service sector towards output overtime towards Net State Domestic Product of Kerala

1.3 Methodology and data source

The data for the present analysis collected mainly from secondary source, as it has been derived from Kerala Economic Review, Department of Economics and Statistics published by State Planning Board, Government of Kerala taken it down overtime. The focus of the time from is from 1960-61 to 2020-21. There has been change in base periods from1960-61, 1970-71, 1980-81, 1993-94, 1999-2000, 2004-05 and 2011-12. The changes in base periods that were brought from time to time has to be converted to a single base for analysis. The contribution of different sectors – primary, secondary and tertiary towards Net State Domestic Product (NSDP) has been seen for highlighting the strength of each sector. In addition to this the sub sector contribution of each component in the service sector has been seen at disaggregate level. The growth rate of each sector has been estimated using semi log model and the decadal growth rate too is estimated using the standard annual growth rate formula.

The paper is organised as follows: Section 2 sketches theoretical and related literature explaining the importance of the same Section 3 explains presents the analysis of each sector towards NSDP at aggregate level along with its growth rate. Section 4 comprehensively focuses on the performance of service sector both at aggregate and disaggregate level overtime and section 5 concludes the entire paper.

2. Sketching theories and empirical indications related to service sector led growth

Tested Hypothesis: The analytical argument of Fisher (1935) and Clark (1940) has much relevance to discuss the theoretical underpinnings. Their argument centres on a phased approach, that as time moves on communities become more economically advanced there will be a sequential decline in people engaged in agriculture to that of those in manufacturing and service sector. Clark quoted that high expected level of real income per head is always related with a high percentage of the working population engaged in tertiary industries.

Fisher-Clark hypothesis establishes the wide drifts of labour force movement from agricultural to non-agricultural sectors have been proven as an economy paces forward. Summers (1985) argues for service sector led growth from the perspective of income elasticity demand approach. Kuznets (1972) made a cross sectional analysis of different countries and thus validating the hypothesis related with service sector led growth of an economy. Amin, 'in the conditions governing the integration of pre-capitalist societies into international capitalist market' and he noted that the larger is the degree of integration, larger is the size of the tertiary sector (Amin, 1974, and 1976). Lewis presented a two-sector model/labour surplus model whereby the emphasis or the requirement of an economy for a structural shift – from the agricultural sector, having low productivity towards a productive industrial sector. As there is under employment in the agricultural sector with marginal productivity being zero; hence a redeployment of labourers to productive sectors leads to more industrialisation and capital accumulation taking the economy to the path of economic development.

Empirical Indications: On the service sector, empirical studies since 1950 advocates that leading sector for swift and hasty economic development and growth in advanced economies is service sector (Warton 1974). Kongsamut et al. (2001) explained that the services sector has a high contribution to upsurge in the per capita income of 123 countries from 1970-1980. Arnold et al. (2010) observed that India covering banking, insurance, telecommunication and transport enhanced their services polices which lead to better off in manufacture productivity, this points out the fact that service sector contributes to economic efficiency, therefore the inference is that service sector plays a dominant role in the growth of economy both directly and indirectly. Shergill & Sharma (2013) argued that the development of employment opportunities in service sector is more cost operative; service sector being the largest employer of labour force as is the case in Kerala. In all the states, except Kerala, the share of primary sector in labour force is the largest. It is only in Kerala that services sector has emerged as the largest sector; out of the rest 19 states, in 14 states services sector is second in terms of employment share and in the rest 5 states it is third in terms of employment share. In contrast, the growth performance of service sector in employment is dismal as is the case with India that its contribution is less than half of its share in GDP. Consequently, the services sector's development pattern is uneven; unlike in developed nations, its proportion of the labor force has not kept up with its share of domestic product. This raises concerns about how long the Indian growth pattern is sustainable. Pushpangadan (2003) observed that there has been stagnation in the growth rate of Kerala Economy during the 1970's, the revival of during the period 1980-90 was led by the secondary sector followed by the primary and tertiary sectors. However, the pace of acceleration in growth during the period 1999-2000 was led by the growth in the tertiary sector (8.4%) and non-significant growth rate occurred in the agricultural sector whereas it remained constant in the secondary sector. Growth of services has often been argued as consumption led (ibid). Again the argument goes by favouring the fact that Kerala being consumption led state having the highest monthly percapita consumer expenditure among other states happened because of the comparatively high inflow of remittances from Gulf transformed itself into increase effective demand among Keralites. The consumption expenditure basket of Keralites includes education, health, and durable commodity components being a reasonably good share led to the effect of growth of service sector. Pushpangadan (2012) explained that the growth of service sector activities are exogenously determined which implies that they are driven by remittances. The dismal performance of commodity producing sectors has been overpowered by the demand generated from remittances led to the spurt of growth rate in service sector of the economy. Klodt (1997) explained that the sectoral shifts in the development process can be analytically understood by decomposition into demand bias and productivity bias. The demand bias will be generated from the perspective of the spread of service based new technologies and as a consequence of the related shifts in intermediate demand. The productivity bias explains the intense absorptive capacity. In service sector industry, Weale (2020) explains how instrumental it had been the growth in the financial services industry contributed to the growth of the British economy over the last 20 Years.

3. Sector wise contribution towards state domestic product: An aggregate level analysis

3.1 Structural Change: Sectorial Composition of NSDP

An analysis of state income, that is the contribution of different sectors towards state's domestic product right from its inception gives a clear picture of the strength of each sector or its inbuilt capacity. Hence, an attempt is made to analyse the performance vis-à-vis that of the other. The decadal contribution that has been analysed is based on constant prices (1960-61) registers a slow decline in primary sector's contribution which has been picked up by compensating in the contribution of secondary and tertiary sector. The primary sector encompassing agriculture and allied activities has registered a decline from 55.98 per cent to 50.22 in the year 1969-70. There has been a rise in the contribution of secondary sector comprising of construction, manufacturing, electricity, gas, water supply has risen from 15.24 percent to 17.92 per cent. Similarly, the tertiary sector too witnessed a phenomenal increase from 28.78 per cent to 31.86 per cent. The table 1 below shows the comparative picture of sector-wise contribution at 1960-61 prices towards net domestic product of Kerala.

Table1: Sector wise Contribution towards NSDP at (1960-61 base Price)

Year	1960-61	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70
Primary Sector	55.98	53.42	53.13	52.48	51.16	50.59	51.10	50.49	50.23	50.22
Secondary Sector	15.24	16.12	16.62	17.06	18.14	17.84	17.58	18.57	17.34	17.92
Tertiary Sector	28.78	30.45	30.25	30.46	30.71	31.57	31.31	30.95	32.43	31.86
Total	100	100	100	100	100	100	100	100	100	100
Source: Calculated based on Kerala Economic Review										

The incites derived from the table leaves a scope to have an analysis of the average growth rate of these sectors in the decade. Hence, the average growth rate has been figured using the following formula for the decade 1960-70 and the results are furnished in the table 2.

Average Growth Rate = $\Sigma\{(Yt\text{-}Yt\text{-}1/Yt\text{-}1)*100\}/n$ ……… (1)

Indian economy witnessed unprecedented drought during the years 1965-66 and 1966-67 resulted in the decline of net domestic product at national level, but Kerala economy didn't succumb to that kind of a phenomenon though the growth was not significant (GoK, 1975).

Table2: Average Growth Rate (1960-1970)		
Primary Sector	Secondary Sector	Tertiary Sector
-0.89	1.9	1.16
Source: Author's Calculation		

Table 2 shows the average growth rate computed for the period (1960-70) with reference to the contribution of primary, secondary and tertiary sector towards net state domestic product. The negative growth during certain years 1966-68 as result of drought happened at the national level did had its repercussions through the sector was not drastically hit, resulted in a negative average growth rate for the decade. Meanwhile, looking at the other two sectors their contribution is almost the same and positive registering at the rate of 1.96 per cent and 1.16 per cent respectively for the secondary and tertiary sectors respectively.

Table 3: Sector wise contribution towards NSDP at 1970-71 prices				
Year	Primary Sector	Secondary Sector	Tertiary Sector	Total (in per cent)
1970-71	51.13	16.93	31.94	100
1971-72	50.12	18.11	31.78	100
1972-73	49.28	18.45	32.27	100
1973-74	48.72	18.20	33.08	100
1974-75	49.12	17.53	33.35	100
1975-76	48.61	17.96	33.43	100
1976-77	46.67	18.92	34.41	100
1977-78	45.81	19.04	35.15	100
1978-79	44.35	20.29	35.36	100
1979-80	42.37	20.86	36.77	100
Source: Calculated based on Kerala Economic Review				

The percentage share contribution of sectors towards NSDP has been seen and furnished in the table 3. It is understood that the contribution of primary sector towards NSDP has been gradually decreasing from 51.13 per cent in 1970-71 to that of 42.37 in 1979-80 whereas the gradual decline in the sector has been overtaken by secondary and service sectors. The secondary sector registered a contribution of 16.93 per cent in 1970-71 to 20.86 per cent in 1979-80, a marginal hike of around 4 per cent. The tertiary sector too has improved its ranking from a contribution of 31.94 per cent in 1970-71 to 36.77 per cent in 1979-80, a difference of around 5 per cent. This explains and is evident, the pace by which service sector is coming to the forefront.

As it has been a decade, a meaningful explanation can be sought from the growth rates and therefore average annual growth rate has been estimated using the equation (1) and the results are furnished in the subsequent table below. The decade for which analysis is carried out is 1970-1980 at the base price 1970-71.

Table4: Average Growth Rate (1970-1980)		
Primary Sector	Secondary Sector	Tertiary Sector
-21.3	4.48	3.6
Source: Author's Calculation		

The second decade from 1970-1980 has again recorded with high negative growth rate in the agricultural sector. The sectoral composition of growth registered for secondary and tertiary sectors were 4.48 and 3.6 respectively. The credible growth rate observed in other two sectors expect a positive effect and stable growth to channelise.

The contribution of each sector towards NSDP has been estimated by fitting a semi log model which is specified as in equation (2) and the results are furnished in the table5.

$\ln(Yt) = \alpha + \beta t + Ut$……….(2)

where ln(Yt) is the dependent variable in log form representing primary, secondary and tertiary sectors as well. The time span is from 1980-81 to 2009-2010. The entire data having different base periods have been converted to single base at 1993-94 prices. The regression results are significant shows the all the three sectors has significantly contributed to state domestic product over the years. It is understood that the growth performance of service sector displaces the other two sectors with an average growth of 18 per cent over the years 1980-81 to 2009-10 However, the growth performance registered was only 12 per cent and 15 per cent respectively for primary and secondary sector.

Table 5: Growth of Sectors towards NSDP (1980-81 to 2009-2010)

Sectors	Variable	Coefficient	Standard Error	t ratio	Level of significance
Primary Sector	Constant	2.281	0.127	17.87	Significant at 1per cent
	Time	0.12	0.006	17.74	Significant at 1per cent $R^2 = 0.91$
Secondary Sector	Constant	2.039	0.131	15.53	Significant at 1per cent
	Time	0.15	0.007	20.84	Significant at 1per cent $R^2 = 0.93$
Tertiary Sector	Constant	2.977	0.167	17.79	Significant at 1per cent
	Time	0.18	0.009	20.21	Significant at 1per cent $R^2 = 0.93$

Source: Author's Calculation

From the period 2011-12, economic review reports the sector wise contribution of each sector towards Goss State Value added by economic activity. Therefore, separate analysis has been carried out to understand the dynamics of service sector in the process of growth thereafter.

Table 6: Sector wise contribution towards Net State Value Added by Economic Activity at constant prices (base year 2011-12) in percent				
Year	Agriculture	Industry	Tertiary	Total
2011-12	14.21	27.88	57.92	100
2012-13	12.94	27.05	60.02	100
2013-14	12.15	26.58	61.27	100
2014-15	12.25	25.96	61.79	100
2015-16	9.93	27.25	62.83	100
2016-17	9.43	28.39	62.18	100
2017-18	9.26	28.30	62.44	100
2018-19	8.43	27.38	64.19	100
2019-20	7.81	27.08	65.11	100
2020-21	8.95	29.20	61.84	100
Source: Calculated based on Kerala Economic Review				

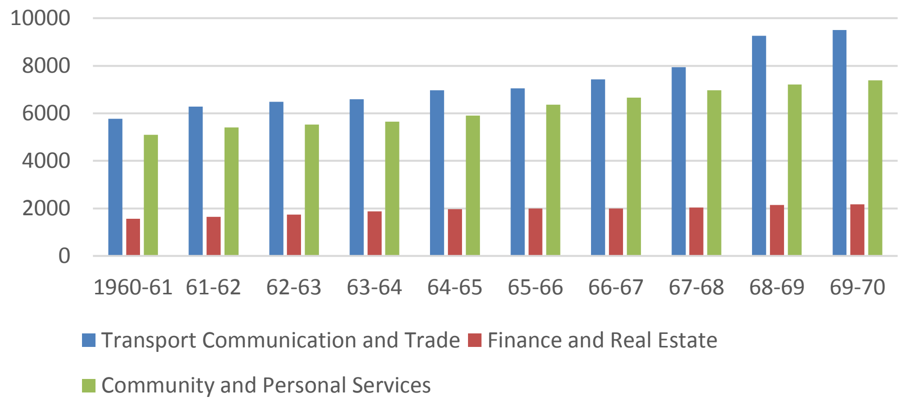
The above table6 shows the share of different sectors in Net State Value Added. It shows the potential of service sector in Kerala along with the challenges primary and secondary sector faces with regard to growth. It is interesting to observe that the growth of service sector is so remarkable that there has been a magnificent increase in the contribution of service sector from 57.92 per cent in 2011-12 to 61.84 per cent in 2020-21. This explains the growth of service sector sidelining the other two sectors.

4. Contribution of Service sector towards Kerala Economy: A Disaggregate level Analysis

4.1 Sub Sectoral Components and its Contribution towards NSDP

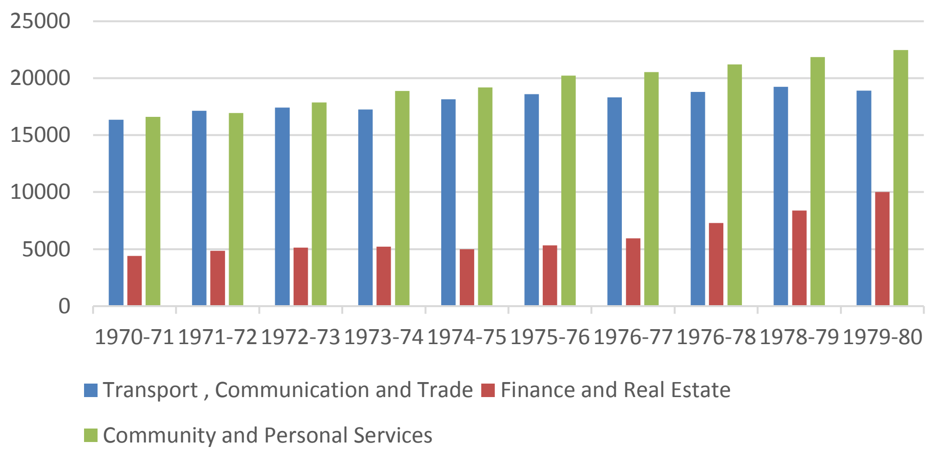
In this section an attempt has been made to understand the contribution of different sub sectors in the service sector over the years from 1960 onwards. But the sub sector segregation is not same in the sense that more of them have been added from time to time. This restricts a long-term trend analysis and therefore, the time focus is constrained accordingly.

Figure 1: Share of Service Sector with different Sub Sector components for the period (1960-70)

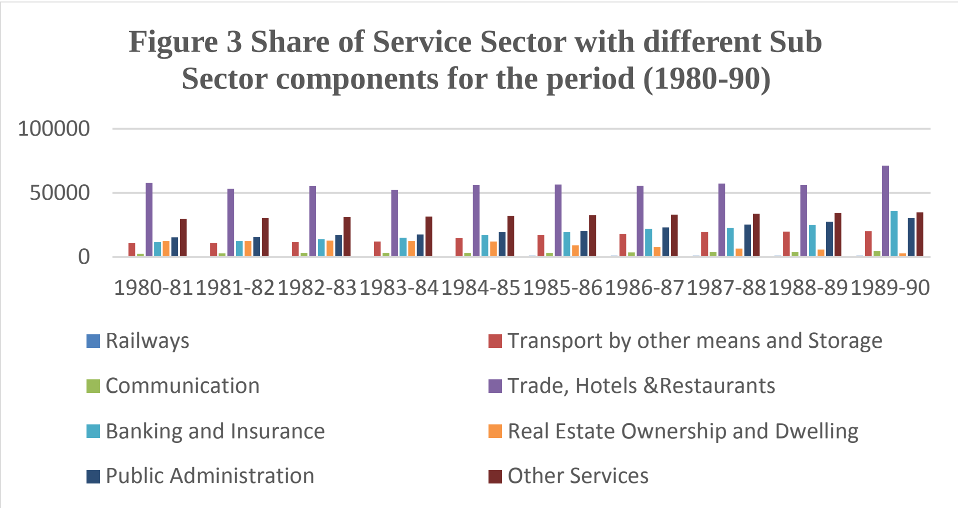


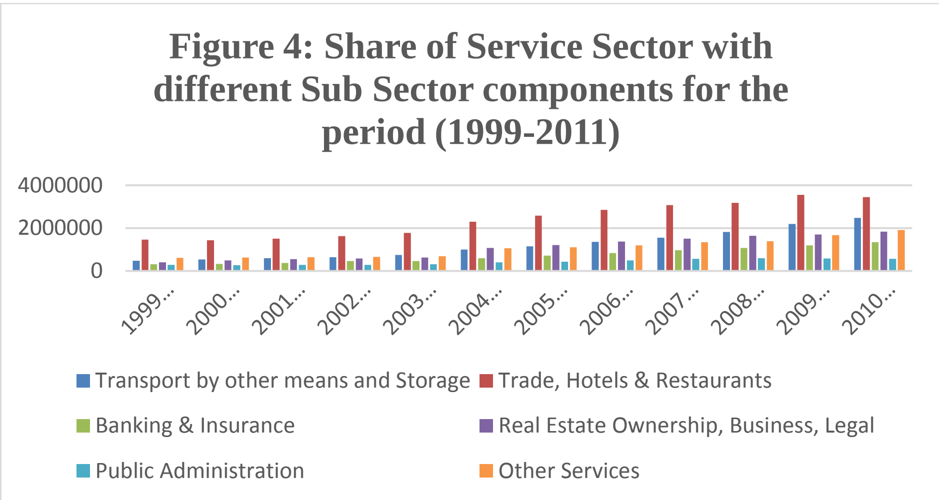
The period 1960-70 and 1970-80 shows same trend as shown in figure 1 and 2 respectively with different bases 1960-61 and 1970-71. Both the decades have been recorded only with three sub components in the service sector such as transport, communication and trade, finance and real estate and community and personal services, marking a significant contribution from transport, communication and trade along with community and personal services. The gloomy performance of financial services explain the reasonably weak outreach of financial inclusivity.

Figure 2: Share of Service Sector with different Sub Sector components for the period (1970-80)



Similarly, an attempt has been made to understand the subsector contribution of different sub sector towards service sector over the years 1980-81 to 1989-90 (Figure 3). The has been diversification in the classification of sub sectors from 1980 onwards. The contribution and involvement of railways, communication, public administration, banking and finance, real estate ownership and dwelling, transport and storage, trade hotels and restaurants has been separately registered and recorded. The contribution of trade, hotels and restaurants has been separately registered and it is the foremost contributor in service sector followed by banking and insurance, pubic administration and other services. During the period 1999-2011 also as shown in figure 4 trade, hotels and restaurants turned out to be the major sub sector contributor followed by transport and communication, real estate business and banking and insurance. This explains the gradual growth of the service sector in an organised setup with much culpability in the development process of the economy. The sector slowly interchanges to a formal recognized organisational setup.



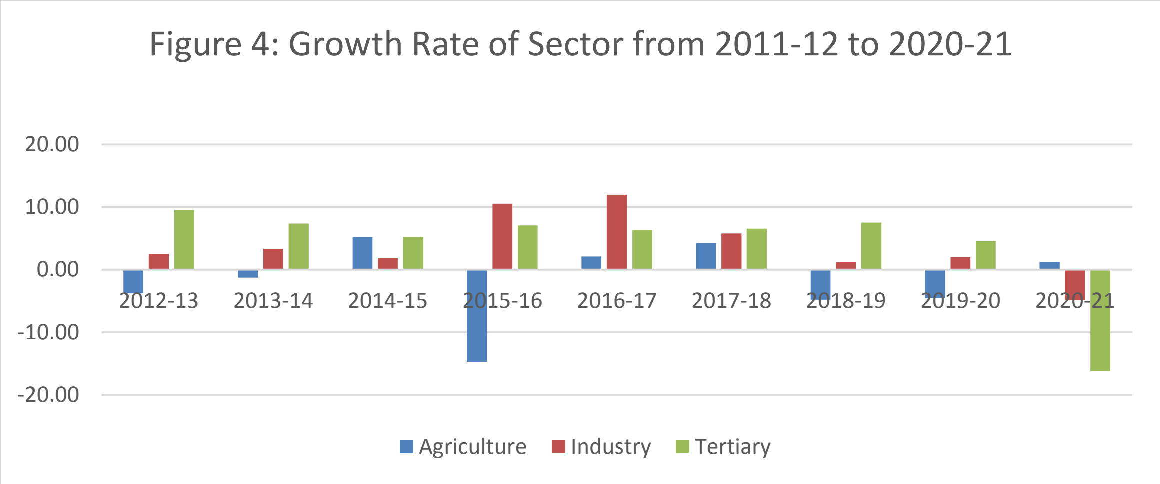


The table7 shows the contribution of service sector registered with net state value added at the most disaggregated level. An inquisitive observation reveals that the major contribution has been made by trade, repairs and services which is consistently stable over the years from 26.21 per cent in 2011-12 to 28.02 per cent in 2019-20. From the analysis, it is also observed that real estate, ownership of dwelling & professional services registered a consistent stable increase in its contribution of 20.41per cent in 2011-12 to 29.88 per cent in 2020-21. The third component that needs a special reach was financial services consisting of banking, credits, payments, investment in financial instruments and so on, which in fact explains the development phase of any knowledge economy 8.1 per cent in 2011-12 to 10.96 per cent in 2020-21. Needless to say, the involvement of other units that gears up the growth engine of service sector in Kerala.

Table 7: Share of Service Sector with different Sub Sector Components (2011-12 to 2020-21)

Year	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Trade Repairs & Services	26.21	27.57	26.54	27.03	27.20	25.89	26.29	27.23	28.02	25.65
Hotels & Restaurants	3.27	3.08	2.74	2.54	2.38	2.40	2.32	2.23	2.34	1.10
Railways	0.46	0.52	0.48	0.48	0.48	0.45	0.54	0.47	0.39	0.22
Road Transport	10.53	10.25	10.62	10.31	9.47	9.09	7.69	7.46	7.02	6.11
Water Transport	0.15	0.11	0.05	0.07	0.05	0.07	0.08	0.10	0.10	0.11
Air Transport	0.14	0.24	0.10	0.20	0.38	0.38	0.33	0.14	0.20	0.01
Services Incidental to Transport	0.33	0.30	0.26	0.27	0.27	0.40	0.45	0.43	0.40	0.30
Storage	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.03	0.03	0.03
Communication Related To Broadcasting	2.70	2.38	2.53	2.72	2.91	2.71	2.35	2.20	2.38	2.73
Financial Services	8.10	7.90	8.17	8.41	8.88	8.72	8.26	9.10	8.97	10.96
Real Estate, Ownership of Dwelling & Professional Services	20.41	21.35	23.21	24.34	24.31	24.83	25.67	25.73	25.51	29.88
Public Administration	7.04	6.44	6.13	5.13	4.93	5.10	5.41	5.26	4.93	5.00
Other Services	20.66	19.85	19.17	18.49	18.72	19.94	20.60	19.63	19.72	17.92
Total	100	100	100	100	100	100	100	100	100	100

Source: Calculated based on Kerala Economic Review



The average annual growth performance of the sub sectors in the service sector furnished in figure 4 from 2011 leaves a very dismal picture and it has been explained as a result of the persistent issues observed at national and state level. At the national level, as against targeted growth rate of 4 per cent in the XII th plan in the agricultural sector, but the sector failed to achieve the same. The Directorate of Economics and Statistics (DES) brought a new series with 2011–12 as the base year, and the agriculture and related sectors registered positive growth in the initial year (2012–13) of 1.43 percent and negative growth in the subsequent year (2013–14) of -2.13 percent (GoK, 2015). Along with this, again at the state level, a series adverse circumstances happened such as Ockhi in 2017, flood and mudslides in 2018, 2019 and outbreak of Nipah virus in 2018 which had a cumulative downward spillover effect that drastically led to the very impoverished performance of primary sector. The performance of tertiary stayed ahead in all years except 2015-16 and 2017-18. The various industrial policies to revamp industrial sector along with increasing flow of remittances which boosted up construction sector gave positive better performance. In 2012-13 tertiary sector recorded a growth of 9.5 per cent whereas in secondary sector it was only 2.52 per cent. The pace persisted in the service sector till 2018-19, though covid-19 had a negative impact, but the growth remains positive and clustered around 5 per cent in 2020-21.

5. Conclusion

The primary sector of the economy does not register noticeable improvement in its contribution towards state's domestic product. The performance of the economy by analysing with respect to each sector wise underscores the structural transformation of the economy as it scales up in the development process. There is a gradual structural transformation in the economy from primary sector lead growth pattern to service sector led growth overtime. As against the moderate growth pattern of the secondary sector and service sector registers reasonably consistent performance, leaving the secondary sector in the second place. The growth rate of service sector over is time period is high and that can be correlated with the high income elasticity of demand in tourism, banking, finance, real estate business and of course, the noticeable change in consumer's demand. Thus, from the inception of the State service sector's growth rate has shown an inclusive increasing trend in its contribution towards NSDP and therefore, it may be inferred that the sector will remain to continue as the largest contributing sector in the years to come.

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