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Service Sector: Road To India's Economic Growth

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The service sector has evolved continually over the years in India, modifying the structure of employment and the composition of value added. The variation in the growth and employment performance of the service sector can be attributed to growing globalisation of service and rapid technological change and difference in political and institution in the country.

We try to attempt to analyses the growth and structure of the service sector in India with different sub sectors and to find out the sub sector within the service that have contributed mainly to GDP growth and employment growth. The three important groups of services are:

- Traditional services
- Hybrid of traditional services and modern services
- Modern services

Traditional services mainly includes retail and whole sale trade and transport, defense, public administration and storage etc. Share of these services has fallen in more advances countries. Hybrid and modern services is related to mainly by households.education,social work, social and community services, hotels and restaurants ,share of these services has risen in in step with per capita income. And the third service modern service is includes computer services, communications and legal and technical services, financial intermediation, share of these services in GDP in the Organization for Economic Co-operation and Development has risen significantly faster than the per capita income.

What constitute the services sector?

Primary sector includes the goods which comes directly from natural resource like mining, hunting, agriculture and fishing etc., and secondary sector involves modifying material goods into other more

*(Economics)

useful products and commodities, the third and important sector is tertiary sector which includes all activities which do not produce or modify material goods. The service sector include many group of activities which includes hospitality(restaurants and hotels),entertainment,public service, transport, health,communication,public service and education also. At the aggregate level, the services sector is more heterogeneous in comparison to other sectors like agriculture (primary sector) and industry (secondary sector). The number of services are closely linked to both production or manufacturing. Earlier some of these services would be performed in house within manufacturing enterprises. A combination of factors including global competitive cost cutting pressures, technological advances, fluctuating market demand and so on, have led to reorganization of production like producer services that contribute directly to manufacturing capacity is now independent from the process of manufacturing.

The services sector rise has attributed to a number of possible factors from the demand as well as the supply side.

The structure of employment and production changes during the process of development. Indian's service sector has emerged as a prominent sector of its contribution to national and state incomes, trade flows, FDI inflows and employment. Rapid changes in production structure are inevitable from the perspective of macro-economic growth and development of a country.

Services sector is also called tertiary sector, which includes Public Administration, real estate, defense, professional services, trade, hotels, communication transport, broadcasting and other services. service sector is considered as the backbone of the economy of India which contributing around 54.3% of the GDP in the year 2018-19.

State-Level Services Sector Performance

Performance of the different states shows that the share of services in total Gross state Value Added (GSVA) was more than 50 %in 14 out of the 33 states and Union Territories.

Chandigarh and Delhi is high in terms of share of service with over 80 per cent share and at the bottom Sikkim is with 30.2 per cent share. In opposite service sector accounts for less than 40 per cent of share of services in GSVA in states such as Chhattisgarh.

State level Service sector Performance

State	Service Sector Share in GSVA 2017-18 (Per cent)	Service sector growth (per cent YoY,2103-17 average
Chandigarh	88.9	7.2
Delhi	84.3	8.4
Andaman and Nicobar Island	68.5	7
Karnataka	65.9	10.5
Manipur	65.5	5.9
Telangna	63.2	10.7
Kerala	62.6	6.7
Bihar	62.2	8.4
Maharashtra	58.5	8.9
Jammu and Kashmir	57.5	5.7
Meghalaya	57.2	6.3
Nagaland	56.3	5.7
West Bengal	54.0	6.7
Tamil Nadu	53.4	6.5
Haryana	49.8	10.5
Jharkhand	49.3	9.8
Puducherry	48.2	4.7
Uttar Pradesh	48.0	7.5
Assam	47.5	5.7
Punjab	46.1	7.1
Odisha	45.2	9.4
Rajasthan	44.2	7.0
Himachal Pradesh	43.3	8.1
Mizoram	43.0	4.5
Andhra Pradesh	42.7	9.2
Arunachal Pradesh	40.1	9.1
Tripura	39.7	3.0
Uttarakhand	39.7	9.2
Chhattisgarh	36.4	6.3
Goa	35.9	5.5
Gujarat	35.5	8.9
Madhya Pradesh	35.4	6.3
Sikkim	30.2	5.1

Source: CSO, Ministry of Statistics and Programme Implementation

Note: *Based on data available up to 2016-17.

A sector wise growth rate of the year is 11.87% in 2016-17 will give us an idea about the changes taking place in different sectors of

the economy. The services sector accounts for over 50% of the Gross State Value Added (GSVA) in 15 states and Union territories. Many sub-sectors such as, construction, trade, manufacturing, communication & services, mining, hotels, related to broadcasting, and financial services saw a deceleration in this period. The share of various sectors in Gross Value Added (GVA) during the years 2015, 2016, 2017 is given in the table below

GVA(Rupees in Crores)at current prices						
	Sector	2012-13	2013-14	2014-15	2015-16	2016-17
1	Agricultural Sector	11.92	14.99	7.00	5.08	9.64
1.1	Agricultural ,Forestry,& fishing	11.92	14.99	7.00	5.08	9.64
2	Industry Sector	10.86	9.14	8.37	6.60	8.32
2.1	Mining &quarrying	9.48	3.48	6.13	-5.67	4.44
2.2	Manufacturing	11.55	8.94	9.95	9.62	10.32
2.3	Electricity,gas,water supply & other utility services	15.27	20.76	7.55	15.14	5.17
2.4	Construction	9.02	8.47	6.39	2.30	6.36
3	Service Sector	15.96	13.95	13.38	10.90	11.87
3.1	Trade hotel,transport,communication and service related to broadcasting	17.76	12.64	11.78	9.50	10.63
3.2	Financial ,real estate and professional service	16.03	16.52	14.20	11.39	10.01
3.3	Public Administration ,defense and other services	13.37	11.89	14.38	12.11	16.50
	GVA at basic prices	13.55	12.61	10.65	8.56	10.43

Source:-PIB

Indian agriculture provide livelihood to around 53% of our population but the contribution to the economy is declining slowly year by year. Different policymakers are concern about the declining GDP percentage of agriculture and allied sector in India.

Tourism Sector

Foreign tourist arrivals growth has decelerated since then to 5.7 per cent in 2018 and 2.9 per cent in Jan-Oct 2019. Growth in foreign exchange earnings from tourism sector have slowed in 2018 and 2019 after registering strong growth until 2017.

Foreign and International Tourist Arrival and Tourism Receipts in India and the World

Indicator	2014	2015	2016	2017	2018
Foreign Tourist Arrival (FTA) in India (in million)	7.68	8.03	8.80	10.04	10.56
International; Tourist Arrival(ITAs) in India (in million)	13.11	13.76	15.03	16.81	17.42
International Tourist Arrival (ITAs) around the World(million)	1137	1195	1241	1329	1401
Indian share World ITAs(per cent)	1.15	1.14	1.21	1.26	1.21
India's Rank in World in ITAs	24 th	24 th	26 th	26 th	22 nd
India's share in Asia Pacific's ITA(per cent)	4.86	4.84	4.90	5.19	5.01
India's Rank in Asia Pacific's ITAs	8 th	7 th	8 th	7 th	7 th
India's Share in World Tourism Receipts (per cent)	1.57	1.73	1.84	2.03	1.97
India's Rank World Tourism Receipts	15 th	14 th	13 th	13 th	13 th
India's Share in Asia Pacific's Tourism Receipt (per cent)	5.49	5.91	6.18	6.90	6.54
India's Rank in Asia Pacific's Tourism Receipts	7 th	7 th	7 th	7 th	7 th

Source: Ministry of Tourism.

Note: *Based on data from the Bureau of Immigration on tourists entering the country on a foreign passport

**Tourists entering the country on a foreign passport plus non-resident citizens visiting the country; #Provisional. International Tourist Arrivals is the sum of Foreign Tourist Arrivals and NRI arrivals in the country.

India accounts for 5 per cent of Asia & Pacific's international tourist arrivals and 1.24 per cent of world's international tourist arrivals. India ranked 26th position in 2017 in the world in terms of international tourist arrivals and 22nd in 2018.

India ranks 7th in Asia and Pacific in terms of tourism foreign exchange earnings and 13th in the world , accounting to 2 per cent of the world's tourism foreign exchange earnings. The top five states attracting domestic tourists are Karnataka, Tamil Nadu, Andhra Pradesh, Uttar Pradesh, and Maharashtra, accounting for approximately 65 per cent of the total domestic tourist visits in the country in the year 2018.

Growth of Service Sector and Employment in India

In 1960s it was the primary sector that was the dominant of the economy and that accounted for the largest share in GDP. But in 1980s the entire scenario changed more particularly. In the period of 1981-1990, service sector output increased at a rate of 7.05 per cent per annum (pre reform period). Beginning with the year 1991 till 2000, the service sector output rose at 7.21 per cent per annum. In the year 1990s, the tertiary sector emerged as the major sector of the economy both in terms of growth rate and share in GDP.

In absolute terms, over the period 2010-11, there was a significant jump of around 2.62 crore new jobs in the usual status category with 1.39 crore in urban areas and 1.21 crore in rural areas. The drop in casual labour has mainly originated from the rural sector where rural laborers have shifted from agricultural sector to industrial and services sector activity.

Healthcare and Economic Development

The two important components of service sector are health and education sector. Their relationship is fundamental and health is essential for promoting economic growth. If a person is free from problems like malnutrition then he can learn and invest further in human capital, free from diseases related to poor sanitation and also awareness of basic sanitation. Bad health is very costly for any economy. It recovers different types of losses in production sector because sick labour is frequently absent, they are less equipped, less trained, it turns into lower productivity, low competitiveness, less survival rates, and also low tax revenue.

The service industry is important for social and economic development of a region. It has emerged as the largest and fastest-growing sectors in the domestic as well as world economy, making higher contributions to both the global output and employment. Its growth rate has been higher as compared to agriculture and manufacturing sectors. It is an important and most dynamic part of the Indian economy in terms of both employment potential and contribution to national income.

The growth in India's service sector is largely due to domestic liberalization and growing linkages with the external markets. A 2004 World Bank study shows a positive correlation between the extent of liberalization and growth in different service subsectors in India.

The growth of India's service sector has drawn global attention. Unlike other countries where economic growth has led to a shift from agriculture to industries, in India there has been a shift from agriculture

to the service sector. Indian service sector has witnessed a major boom and is one of the major contributors to both employment and national income in recent times. India was largely an agrarian economy. The service sector started to grow in the mid-1980s, but growth accelerated in the 1990s when India initiated a series of economic reforms after the country faced a severe balance of payments crisis.

IT-BPM/ Fintech

The IT/ITeS (Information Technology and Business Process Management) & Fintech segments provide over 155\$ bn in gross value add and have the potential to grow between 10 -15% p.a. Exports form its largest component.

So far, the main advantage has been low - cost labour arbitrage in other foreign country. Going forward, the IT and ITeS segments require significant up skilling to move beyond a 'low - cost low value add service provider' to a 'high value add partner'.

IT companies of India can also leverage their skill sets to provide fintech solutions to global financial customers. High value add services like financial risk management services, insurance, natural disaster modelling and underwriting are examples of performed within India for a global and domestic audience.

Healthcare & Tourism

The present contribution of the healthcare industry is over \$ 110 bn and it is expected to touch \$ 280 bn in the year 2020. Some of our advantages are availability of world - class medical facilities, technicians, skilled doctors, and pharmaceuticals. In the digital communication and interfaces, diagnostic medicine can be tapped as a service for global customers.

In tourism, India is famous for its places of natural and historical beauty and significance. Presently tourism contributes \$ 47 bn to the country's GD, compared with the \$ 115 bn for China. Tourism has exponential possibilities to boost the Indian services sector in the upcoming years.

Improved customer experience (medical or tourism) is the important key factor to attract significant revenues that determine the future growth. In this context, government initiatives like, e - Visas, safety, better infrastructure facilities, connectivity etc. are enablers in the right direction.

Logistics and Transportation

Domestically and internationally, India's natural coastline and vast river network give it a competitive edge in providing transportation and logistics services. These services can be classified into ports and other ports services, warehousing, inland waterways for passenger and freight, trans - shipment services, e - logistics, expressways and freight corridors. The logistics service sector of India is itself is expected to grow from \$ 115 bn to \$ 360 bn by the year 2032.

India must look into the development of the service industry, and it also need for sustained large scale investment. Investments normally have a long gestation period. However, once the infrastructure is created, linkages (both forward and backward) to the rest of the economy provide significant multiplier effects. For example, different expressway and the development of service industries in their close areas.

Future Prospects of the Service Sector in India

The service sector in India has the highest employment elasticity among all other sectors. It has the potential for huge growth and capability to deliver productive jobs which leads revenue generation. To address the challenge of job creation, the Skill India program aims to achieve its target of skilling/ up - skilling 400 million people by the year 2022. The aims is to do this mainly by fostering private sector initiatives in different skill development programs, and by providing the necessary funding.

In the same manner, the initiative of Startup India is a key enabler for the service industry as well as manufacturing in India - by offering support to the new innovative startups.

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Numerical Simulation of Two Dimensional Magnetogas dynamics

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1. ABSTRACT- In this paper we study two dimensional shock wave and the behavior of shock in the presence of magnetic field. Finite difference method of Rusanov has been used to solve the Eulerian system of equation in conservative form.

This problem has been studied by D. Leutloff, K. G. Roesner and Dr. R. C. Srivastava for one dimension. We study this problem in two dimension and influence of Magnetic field is also taken into account.

2. INTRODUCTION -In this paper we consider a cylindrical shock waves. In the cylindrical axis a wire is spanned. After the explosion of the wire a shock wave starts from the axis towards the wall of the outer cylinder and after reflection from the wall it converge towards the axis.

The motion of shock waves were studied in two dimensional time dependent flow by using *Eulerian equation system*. The Eulerian equation is solved by a *finite difference scheme* given by *Rusanov* which were slightly modified in this investigation. This scheme is an *explicit invariant scheme* and if we take the radius of the shock front position as a function of the time for the total time-dependent behavior, it shows quite a good agreement with numerical data and experimental results.

The motion of shock waves were studied in presence of magnetic field also and it is found that the only difference between presence of magnetic field and non magnetic field is the distance between the time steps is large .The same occur in case of total pressure and velocity.

Numerical study of two dimensional time dependent shock motion gives satisfactory results in compare with experimental results.

Key words:- Finite difference scheme, Eulerian system of equation, Numerical simulation, Shock Waves, Magnetogas dynamics

TEXT:-

1. Shock Wave Propagation Without Magnetic- Field

We consider a cylindrical shock wave, physically we can understand it as follows;

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