

Structural Transformation and Services-Led Growth in Delhi

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Abstract: As the economy transforms from lower to higher stages of development, on the one hand, there occurs a shift from simpler to more modern and complicated techniques of production, whereas on the other hand, there is a move from primary to secondary and/or to tertiary sectors. These structural changes in any economy not only lead to economic development; rather they are very crucial for sustaining economic growth. Growth of an economy is always associated with structural changes in the economy. This paper study some important aspects of growth and structural changes in Delhi over the period 1990-91 up to 2017-18 and aims at finding out the important contributors in the growth process of the economy at the sectoral and sub-sectoral level, to determine the sources of economic growth. The data collection was based on the secondary sources where the data was collected from the various issues of statistical abstract of Delhi. The structural transformation that occurred in the economy of Delhi over the decades is a result of the development process witnessed since the beginning of the planning in 1951 and lead to a sizeable increase in State income. As a result of increase in the State Income there is rise in the standard of living of the people, maximization of production, expansion of employment opportunities and the reduction in economic inequalities.

Keywords: Structural, Transformation, Employment, Growth, Gross State Domestic Product, Net State Domestic Product

Introduction

Any economy during the process of Economic development requires a structural change. Structural changes in any economy can be studied on the basis of various aspects such as output, employment, capital investment and consumption. Distinct aspects in which their structure can be examined- include sectors and product groups, space-rural-urban and interregional -, distribution across size of production units, income groups and consumption expenditure classes of households, technological and productivity variations across sectors and activities, different sizes and locations, and earning differences across activities, skills, gender and social groups. In most of the developed countries during the process of structural change it has been seen that initially the primary sector is ignored and there is a growth of manufacturing and/or tertiary sector. Most of the developed countries and some of the newly industrialized countries have crossed this threshold and are now experiencing a shift from manufacturing sector to the services

sector. Whereas in case of India structural change occurred in a different way i.e. the service sector growth has by-passed the secondary sector. An economic reform in 1991 is seen as the turning point in India's post-Independence economic history. The high rate of growth of GDP that was triggered off by economic reforms has been sustained over the years and has been the most important achievement of the Indian economy in recent years. As a result of increase in the State Income there is rise in the standard of living of the people, maximization of production, expansion of employment opportunities and the reduction in economic inequalities. Therefore, Net State Domestic Product (NSDP) provides the most important single indicator of the overall performance of the state economy. The study of NSDP therefore is crucial to study the structural changes in the economy and its sectoral composition of NSDP gives an idea of the relative position of different sectors of the economy.

The important objective of the study is to examine the trends, structural changes and pattern of growth in the economy of Delhi, in terms of its employment and output and thereby trace the sectors that cropped up, as the major centres of economic growth over time.

Review of literature

In order to develop the theoretical development of the structural growth of service sector, a review of literature related to present was conducted:

Ansari and Ojemakinde (2004) tried to study the dynamics of service sector in Georgia's economy. Using annual data from 1977 to 1998, an econometric model is estimated to explain the rapid growth of the Service producing sectors in Georgia's economy. In addition, VAR methodology is employed to capture the dynamics of inter sectoral changes. The rise in the per capita income is found to be the single most important factor contributing to the rapid growth of the service producing sectors, validating the secular trend view of structural change. **Babu (2005)** tried to examine the nature of economic growth in India, its effect on sectoral linkages in terms of employment and output since 1990's. Growth rates and shares of GDP and its sectors by industry of origin are used. Service and manufacturing are dependent on primary sector only for demand linkage and the study prescribes strengthening sectoral linkages. **ChandaRupa (2012)**, in her study analysed sustainability of services-led growth process and the current pattern of services growth, largely stems from exports of skill-based services and that for services growth to be sustained, the sector cannot remain dependent on external demand. It must also be driven by internal demand. **Greenhalgh and Gregory (2001)** the study made use of the input-output tables of 1979 and 1990 to analyse different roles of services in the production process in U.K economy over the 1980's. It was found that a steep rise in the demand for intermediate services for the production of further services is the major source of output and employment change. It was concluded that the forces of increasing specialization within the economy and within the service sector in particular have provided the dominant component of structural change. **P. Jegadish Gandhi and P.Ganesan (2002)** in their book focused on the beginning of the 21-century global economy which had shown significant structural changes with a twist in the contribution of service sector. It was also found that the share of the services sector in real GDP

in India also surpassed that of agriculture and industry since 1980's. It also demonstrated the state-led development growth. **Singh Inderjeet (2014)** analysed the structure, pattern and growth of Punjab economy with special reference to service sector which has not been able to catch up due to some inherent obstructions in the system. The study found that emerging service sector in Punjab economy is loosely connected to agriculture both on the backward and forward front. Tertiary sector growth and its translation into higher per capita income growth is a function of human capital. The state with poor human capital needs to develop it and improve the efficiency of the labour. **Papola and Sahu (2012)** study the growth and structural changes in employment in the long and short periods, with a special focus on the period since economic liberalization. It assesses the employment growth on the basis of various sectoral growth rates, Labor Force Participation Rates (LFPR) and Employment elasticity. Employment in the service sector has grown at an average of about 3.5 per cent per annum over a longer period of about 40 years, but for the period 2000-2010, employment in the services sector grew at a rate of 3.6 per cent per annum, as against the aggregate employment growth of 1.5 per cent. Employment elasticity in the tertiary sector is estimated to be 0.30 as compared to 0.60 in the secondary sector in the last decade. **Pais (2014)** attempts to understand the growth and structure of the services sector in India through the analysis of the sub-sectors within the services sector at a level of disaggregation that has so far not been adequately analysed in the literature. It identifies sub-sectors within services that have contributed mainly to GDP growth. The study finds that within the services sector, there is one set of activities that are high productivity and employing relatively smaller number of workers while there is another set of activities with very low levels of productivity employing relatively large number of workers. **Francois and Reinert (1996)** in their study examined the role of services in the structure of production and trade. Working with a cross-country, sample of 17 social accounting matrices, stylized facts are developed relating to the upstream and downstream service linkages to incomes and the input output structure of production.

In the nut shell, it is concluded from reviews that sectoral transformation in India is due to liberalization and invent of information technology which led the way for the urbanization of India and Metro cities like Delhi. As a result, employment opportunities and standard of living of the people are increased at large.

Research Methodology

In this paper, it is an attempt to analyses service led growth of Delhi. For this, the data was collected from the secondary sources using various issues of Statistical Abstracts of Delhi. Further, the period of study was taken from 1990-1991 and 2017-2018. The data was analysed with the help of Regression Analysis and Analysis of Variance.

Data analysis

The data which was collected from the secondary sources was analyzed by using statistical tests. The results of the tests are explained below:

Growth Rate of GSDP in Delhi

Table 1 examines the growth rate of GSDP in percentage under different sectors and sub-sectors at constant prices. The changing sectoral composition of GSDP is indicative of structural changes that are taking place in the economy of Delhi.

Primary Sector

The table below reveals that the primary sector of Delhi is not a very influential sector in the growth of Delhi since 1993. The growth rate from agriculture, forestry & fishing was registered to be -44.5 percent in 1994-95. The negative performance can be attributed to the process of rapid urbanisation in Delhi. It recovered to a positive growth rate of 25.5 percent in 1997-1999. But it declined sharply to a negative growth rate of -10.6 percent in 1999-00. Thereafter, a positive growth rate was registered but was very low. A high and positive growth rate of 26.6 percent was again registered in 2009-10. In 2018-19 a positive growth rate of 16.2 percent is registered because the Govt. of Delhi is now encouraging farmers to grow vegetables, floriculture production, mushroom cultivation etc. The performance of forestry and fishing is negligible in Delhi. As the main source of income of the population of Delhi is either secondary or the tertiary sector.

Mining and Quarrying is a minor economic activity in Delhi due to its topography. It is further curtailed by Court orders by way of imposing ban on quarrying of stone and extraction of Badarpur within the territories of Delhi. Mining and Quarrying registered a negative growth rate from 1994-95 to 1996-97. But it registered a very high positive growth rate of 216.7 percent in 1997-98 and further to 324.0 percent in 2000-01. Because sand was being extracted as minor mineral from river bed of Yamuna up to 2004-05 in two districts (viz: North and North-East) out of nine districts of Delhi. The growth rate came to -100 percent in 2005-06 to 2011-12 due to the ban imposed by the Court and also the extraction of sand has also been halted by the sole licensee i.e. Delhi State Industrial Development Corporation since 2005-06.

The analysis of GSDP at constant prices reveals that contribution of Primary Sector in the economy of Delhi (viz. Agriculture, Forestry, Fishing, and Mining & Quarrying) is not very significant.

Secondary Sector

Among the secondary sector, manufacturing sub-sector is one of the major contributor (roughly one tenth) in the economy of Delhi. The growth rate from manufacturing has been

registered to be positive since 1994-95 till 2018-19 except for 1995-96, 2003-04, 2008-09 and 2014-15 in which a negative growth rate has been registered. This slow pace of growth of manufacturing sector is mainly attributed to the stagnation that persisted on the industrial front. Manufacturing witnessed a high growth rate of 36.2 percent in 2015-16. It is because of the favourable environment created by the Government of Delhi for this sector. Construction is also one of the major contributors in the economy of Delhi and is contributing approximately one tenth of the total GSDP. Construction recorded a highest growth rate of 46.4 percent in 2000-01 because of various projects initiated in the development of infrastructure of Delhi and several other developmental works undertaken by the then government of Delhi. Growth rate of construction has been registered to be 134.7 percent in 2018-19 which is higher than the manufacturing and Electricity, gas, water supply and other utilities growth rates and also reveals the growing importance of construction sector as compared to the other sub-sectors among the secondary sector in the economy of Delhi. Electricity, gas, water supply and other utility services also recorded almost positive growth rates since 1995-96 to 2018-19. Growth rate declined to 2.6 percent in 2007-08. This decline was due to presence of enhanced Consumption of Fixed Capital during this year. During 2002 Delhi Vidyut Board was split into separate entities of Generation, Transmission and Distribution. From 1st July 2002, the distribution work of electricity was undertaken by private companies. As a result a significant improvement in the growth rate was registered in 2002 and the succeeding years. 64.8 percent growth rate was recorded in 2012-13 which is showing a growing contribution of the sector in the GSDP of Delhi.

Tertiary Sector

Tertiary Sector is the prime mover of the economic growth in Delhi. Transport, storage and communication, financial services, all other services are showing an accelerating tendency except for trade, hotels and restaurants which registered a negative growth rate of -0.9 percent and -9.7 percent in 2008-09 and 2011-12 respectively. A highest growth rate of 32.3 percent was registered for transport, storage & communication in 2014-15. Financial services recorded a highest growth rate of 38.2 percent and 30.1 percent in 1996-97 and 1997-98 respectively. All other services recorded a highest growth rate of 24.9 percent in 2008-09. In the recent years, the transport, storage & communication sector, financial sector and the all other services sector witnessed more growth as compared to other segments of this sub-sector. As a result of the policies of the liberalization and privatization in the area of banking, and finance, many new business services like tele-banking, e-banking, event management and advertising (both print and media). A boom in the communications and housing are clearly reflected in these growth transitions.

However, a decline in trade, hotels and restaurants sectors does not conform to anecdotal evidence about the buoyancy in these sectors. Even though there has been overall buoyancy in the services sector, but has rendered the overall positive growth rate of the economy intact.

Tertiary sector has been showing an enhancing trend and the contribution of this sector has been increasing in the GSDP.

Table 1: Growth Rate in % age (At Constant Price 2011-12)

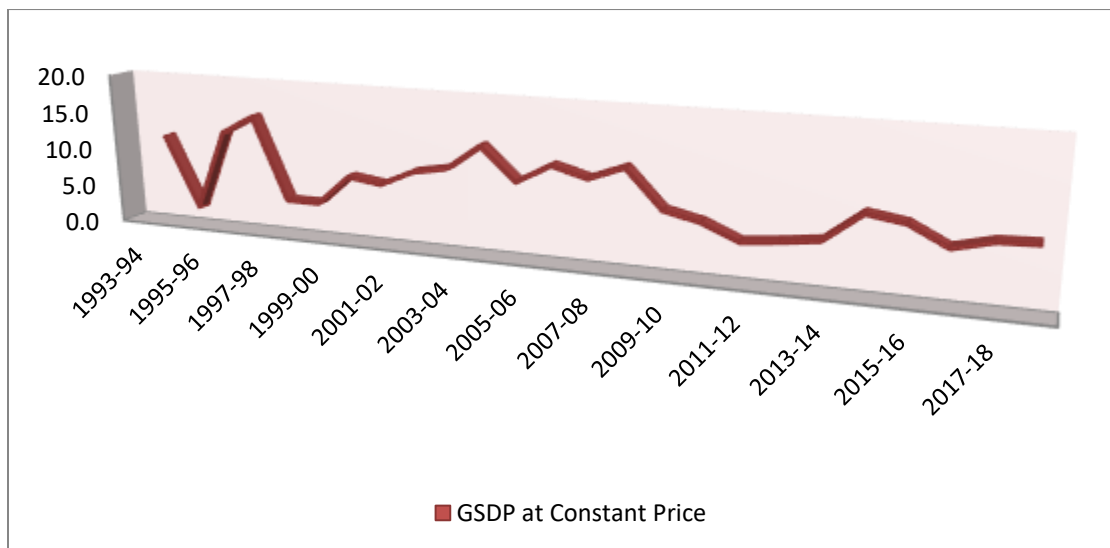
Year	1. Agri., forestry & fishing	2. Mining & Quarrying	3. Manufac.	4. Electricity, Gas, Water Supply & other Utility Services	5. Const.	6. Trade, hotels & restaurants	7. Transport, Storage & Commun.	8. Fin.Ser.	All other services	GSDP at CONST. price
1993-94										
1994-95	-44.5	-60.5	29.3	-16.4	0.6	22.1	11.4	10.6	6.2	12.0
1995-96	-18.7	-86.6	-23.5	1.5	8.5	0.9	7.4	26.6	8.4	2.6
1996-97	-7.4	-68.0	-2.3	3.2	17.8	11.6	5.4	38.2	8.0	13.1
1997-98	25.5	216.7	12.7	19.7	27.6	5.1	10.0	30.1	10.3	15.5
1998-99	23.9	-76.3	6.3	6.8	0.4	8.1	8.6	-2.2	8.0	4.8
1999-00	-10.6	22.2	4.4	0.2	-20.3	2.2	9.7	11.4	7.2	4.8
2000-01	7.7	324.0	0.7	5.2	46.4	8.7	10.8	-6.5	15.3	8.7
2001-02	1.7	-45.7	1.4	19.5	-2.9	8.9	6.1	14.7	9.3	8.1
2002-03	2.8	1.5	15.1	-22.5	22.1	9.4	5.0	9.3	10.1	10.1
2003-04	1.8	126.3	-1.6	13.5	17.4	8.7	12.5	14.9	12.3	10.9
2004-05	0.6	-52.5	19.3	89.7	26.9	9.5	11.2	0.8	20.3	14.1
2005-06	-3.4	-100.0	8.3	-2.0	4.6	15.5	-0.7	12.0	11.4	10.0
2006-07	1.1	0.0	7.2	31.7	3.7	9.8	16.5	26.0	9.6	12.4
2007-08	-2.8	0.0	10.8	2.6	1.0	13.9	11.2	17.5	9.4	11.2
2008-09	-0.6	0.0	-3.2	64.3	3.4	-0.9	13.9	14.0	24.9	12.9
2009-10	26.6	0.0	3.4	-13.2	2.8	1.2	8.3	25.6	5.2	8.2
2010-11	7.9	0.0	14.8	-47.9	-14.2	11.6	7.2	14.4	5.6	7.2
2011-12	0.9	0.0	-1.9	-13.5	-6.2	-9.7	0.9	12.4	12.7	5.3
2012-13	-21.7	-11.7	16.5	64.8	-2.1	9.0	9.9	9.8	0.7	5.8
2013-14	-6.7	25.1	4.1	19.0	3.0	9.6	6.6	5.1	5.2	6.4
2014-15	-12.9	9.1	-10.2	5.2	-4.3	1.8	32.2	6.5	13.3	10.0
2015-16	-8.4	6.0	36.2	27.6	1.0	15.8	8.6	2.1	7.1	9.3
2016-17	3.1	-7.2	5.3	21.2	7.4	3.3	6.1	4.9	10.0	7.0
2017-18	8.3	14.8	5.9	17.8	5.9	6.1	9.7	4.7	9.4	8.2
2018-19	16.2	-7.5	12.9	7.4	13.7	7.3	7.1	6.8	9.7	8.4

Source: Statistical Abstracts of Delhi, Various Issues

It is evident from the table that the GSDP from all the sectors of the economy was registered to be highest in 1997-98. This highest growth rate was the result of the economic reforms introduced in the economy via; privatization and liberalization policies by the government. The reasons for the change in the sectoral composition of Delhi could be attributed to the rapid urbanisation and consequential reduction in agriculture and allied activities on the one hand and a substantial increase in activities pertaining to the services sector on the other hand. At the same time, regular monitoring of environmental degradation by different government agencies on the directives of Supreme Court and subsequent closing down of polluting industrial units in Delhi also led to a reduction of output in the secondary sector.

Fig. 1

GSDP at Constant Price (at 2011-12 Price)



The line graph above clearly indicates that overall GSDP at constant price is showing a positive growth rate from 1994-95 to 2018-19 thus, presenting a strong growth of the economy of Delhi.

The overall regression equation below concludes that GSDP of Delhi depends upon Manufacturing sector, Construction Sector, Trade, Hotel & Restaurants Sector, Transport, Storage & Communication Sector and Financial, Insurance, Real Estate & Business Services Sector of Delhi. There, is a negative relation between GSDP and Agricultural growth rate in Delhi. Manufacturing and Construction have a positive and significant relationship with the GSDP of Delhi. Trade & Transport sectors are also positively and significantly related with the

GSDP. Financial sector have a very strong and significant relationship with the GSDP. Hence, Service sector is the most influencing sector of Delhi. Below Regression equation depicts that service sector influence the GSDP by 67.5% and reverse is 48.1% . The DW statistics is significant.

$$\text{GSDP} = 3.198 - .019 \text{ Agr} + .087 \text{ Manu} + .025 \text{ const} - .102 \text{ trade} + .082 \text{ transp} + .441 \text{ fina}$$

$$(1.078) \quad (-.345) \quad (1.599) \quad (.541) \quad (-.651) \quad (.563) \quad (3.35) \quad [\text{t-values}]$$

$$(.105) \quad (.737) \quad (.141) \quad (.600) \quad (.530) \quad (.586) \quad (.007) \quad [\text{Significant}]$$

$$R^2 = .675 \quad R^{-2} = .481$$

$$D-W = 2.208$$

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	79.948	6	13.325	3.467	.040 ^b
	Residual	38.429	10	3.843		
	Total	118.376	16			

The overall regression equation below concludes that NSDP of Delhi depends upon Construction Sector, Trade, Hotel & Restaurants Sector, Transport, Storage & Communication Sector and Financial, Insurance, Real Estate & Business Services Sector of Delhi. There, is a positive and significant relation between NSDP and Agricultural growth rate in Delhi. Manufacturing sector has a very strong and significant relationship with the NSDP of Delhi. Construction has a positive and significant relationship with the NSDP. Transport sectors are also positively and significantly related with the NSDP. The study concludes that manufacturing sector is the most influencing sectors. Below Regression equation depicts that service sector influence the NSDP by 66.2% and reverse is 50.8% . The DW statistics is significant.

$$\text{NSDP} = 2.650 + .001 \text{ Agr} + .084 \text{ Manu} + .021 \text{ const} + .134 \text{ transp} + .338 \text{ fina}$$

$$(1.716) \quad (.004) \quad (1.588) \quad (.480) \quad (1.143) \quad (3.848) \quad [\text{t-values}]$$

$$(.114) \quad (.997) \quad (.141) \quad (.640) \quad (.277) \quad (.003) \quad [\text{Significant}]$$

$$R^2 = .662 \quad R^{-2} = .508$$

$$D-W = 2.242$$

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	78.320	5	15.664	4.302	.021 ^b
	Residual	40.056	11	3.641		
	Total	118.376	16			

Conclusion

The above regression analysis is indicative of the fact that the growth of Delhi is very much influenced by trade, hotels, restaurants, transport, storage & communications, financial, insurance, real estate and business services. This sectoral shift is the result of the liberalization policy of the government. Besides, this because of the rapid urbanization process, increasing employment opportunities, rising standard of living of the people, busy life schedule have led to an increase in the demand for services in Delhi. It can be concluded that the growth of GSDP and NSDP can be increased by encouraging the primary and the secondary sectors as the tertiary sector is already booming. Therefore, in order to increase the sectoral income different variables affecting it, have to be provided for simultaneously to achieve higher growth rates. Such efforts are necessary that can go a long way in boosting up the growth of State Domestic Product.

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