

# **The Service Sector Growth and Urban Consumption**

**by Atulan Guha\***

## **Abstract**

The GDP growth structure of India has been dominated by growth in the service sector. Baumolian theories argue that higher productivity in services is the prime mover behind this growth pattern. The Kaldorian theories, on the other hand, argue that the service sector or IT sector with its strong linkages with the rest of the economy, have been driving the growth. This paper argues that none of these two theories explain the Indian growth structure. The demand pattern, which is independent of the production structure, is the key factor responsible for this growth pattern. This demand pattern has arisen primarily out of external demand and increasing income inequality.

Key Words: Growth, Manufacturing and Service Industries, inequality

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## **Introduction**

Indian economy has experienced high growth for the past few years, one of its prominent characteristics being dominated by growth of the service sector. According to the National Accounts Statistics for the year 2007-08, the service sector contributed 55.73 per cent of the national GDP where manufacturing contributed only 15.21 per cent and Agriculture, Mining and Quarrying roughly around 17.80 per cent of the GDP. This means that manufacturing and agriculture has contributed to roughly 33 per cent of the national GDP.

There are two major theories available to us to explain the sectoral growth pattern. Baumol (1967) tries to explain the changes in sectoral composition with the aid of two factors- differences in productivity and the price and income elasticities of demand. According to him, given a sizeable degree of the integrated labour market where wage rate increase in one sector increases the wage rate of another sector, the sector with higher labour productivity will grow while the sector with lower productivity will increasingly disappear if the price elasticity of demand for both sectors happens to be unitary and demand for the low productive sector is not highly income elastic. The sector with higher labour productivity will pay higher wages. The higher wages will not increase average unit cost of production only if productivity rises more than wage increase. When productivity increase is lower than the wage increase price needs to go up to prevent lowering of profits. But for this to happen, the demand for low productivity sector has to be either price inelastic or highly income elastic. Baumol's theory argues that the main driver of sectoral growth pattern is the difference in productivity. But for it to reflect in the sectoral growth pattern certain demand conditions and a greater degree of labour market integration are required.

Kaldor advanced three laws to explain structural changes in the economy (discovered by Kuznets) of advanced countries during their process of economic development. His first law states that the faster the rate of growth of manufacturing output the faster the rate of growth of GDP, giving to manufacturing the role of engine of growth. It is because of strongest capital accumulation, technical progress and input-output linkages of manufacturing and the industry in general end up having an important spillover effect on the rest of the economy. Kaldor's second law states that there is a strong positive relationship (Causality both way) between the growth of manufacturing production and manufacturing productivity. His third law states that when manufacturing grows the rest of the sectors will transfer labour to manufacturing, raising the overall productivity of the economy.

Further, the Kaldorian structural analysis assumes that agriculture is characterised by low income elasticity of demand for its products compared to manufacturing products, which usually have greater

income elasticity of demand. The rate of growth of productivity has been envisioned as being similar to that of agriculture and the industry because technical progress in agriculture is both land as well as labour saving. The movement of labour from agriculture to industries will ensure similar high labour productivity. The growth rate of productivity, however, is lower for services compared to manufacturing and agriculture. At high levels of per capita income the income elasticity of demand for services tends to be greater than that for manufactures. However, to a greater or smaller extent, the latter effect may be nullified by the following consideration: because productivity rises faster in manufacturing than in services the terms of trade change in favour of services. The lower relative price of the manufacturing sector should lead to some increased demand that may or may not offset the advantages of services on account of their greater income elasticity of demand.

By endogenising productivity Kaldor lays more emphasis on demand structure to explain the sectoral structure of production. Yet within the demand structure Kaldor has keenly stressed the demand impact due to forward and backward linkages. So, the state of production structure is key to the demand structure. Here, Kaldor shares a similarity with Baumol in the sense that both emphasising the state of production structure that either gets reflected in the differences in productivity or in the differences in forward and backward linkages.

Economic history indicates that for developing countries at India's level of per capita income, economic growth has been led by the manufacturing sector normally speaking. In the contemporary Indian economic growth scenario, however, the services have been the dominant sector over manufacturing., Following Kaldorian logic the service sector should play the role of the engine of growth for the Indian economy.

The objective of this paper is to examine the validity of the production structure based explanation vis-à-vis the Indian growth structure. We did it for Baumol's as well as for Kaldor's theories. In the context of Baumol's theory we have essentially looked at the correspondence between the difference in productivity and GDP's sectoral composition as well as the correspondence between productivity and wages within the sectors and the strength of wage increase transmission between the sectors. For Kaldor's theory we examined the validity of the assertion made by many economists regarding the service sector's playing the role of engine of growth. Section 1 deals with Baumol's theory and section 2 deals with Kaldor's theory.

The empirical findings of both the sections indicate the inadequacy of production structure based explanations vis-à-vis GDP growth structure. This amplified our responsibility regarding explaining the growth structure. We tried to explore the possibilities of demand structures, which are independent of

the production structure, to explain the GDP growth structure. We found that the productivity of services is higher than manufacturing and agriculture and the terms of trade have moved against the services. These are the characteristics Kaldor had envisaged for the manufacturing sector. On the other hand, the income elasticity of services is higher than that of industries. So, both decline in service price and greater income inequality should lead to a greater demand for services. Along with external demand for some of the services may explain the growth pattern. We will discuss this in section 3.

## **Section 1**

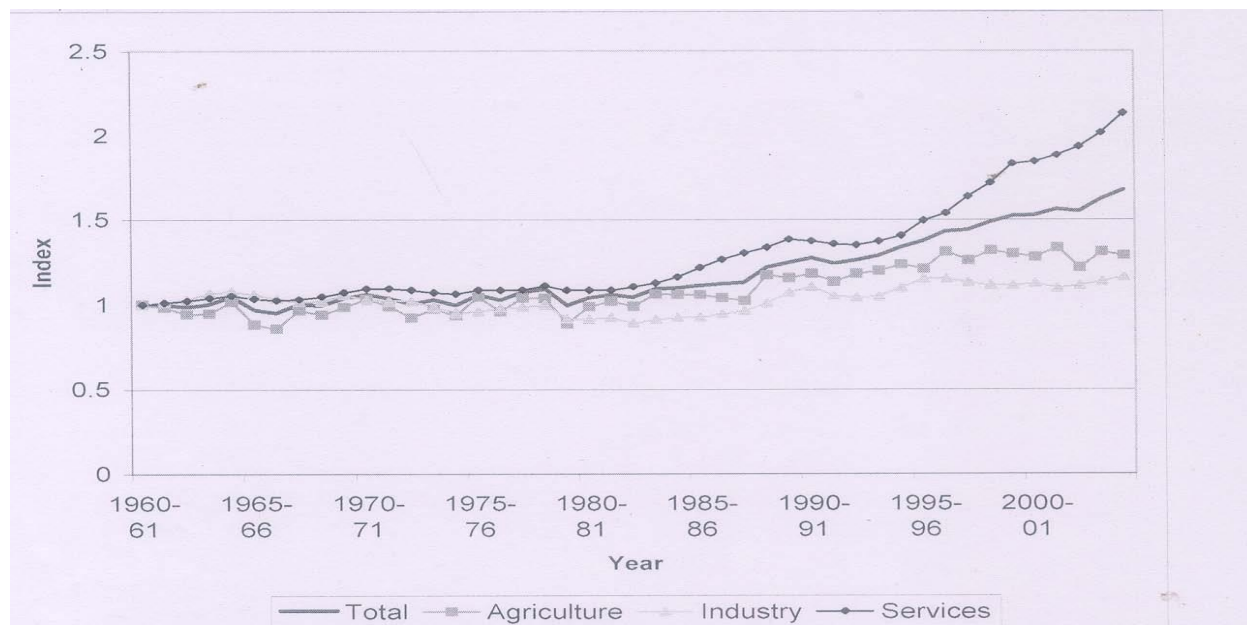
According to Baumol's theory for the given structure of Indian economy the following characteristics should exist-

- 1) Productivity of services has to be greater than those of industries and agriculture.
- 2) Productivity of Industries has to be greater than agriculture's.
- 3) Relative price of services vis-à-vis industries and agriculture should show a declining trend.
- 4) Relative price of industries vis-à-vis agriculture should show a declining trend.
- 5) Increase in service wage should be higher than the increase in wages of industries and agriculture.
- 6) Increase in industry wage should be higher than that of agriculture.
- 7) Price elasticity of demand of services is higher than that of Industries and agriculture or on par with unitary elasticity.
- 8) Price elasticity of demand for Industries is higher than agriculture's or on par with unitary elasticity

The objective of this section is to examine if these characteristics exist in India. According to the Baumolian theory of structural composition of growth, the most important characteristics deal with productivities and wages. Therefore, we shall examine the existence of these characteristics empirically.

A number of studies have measured the total factor productivity (TFP) of agriculture, industries, and services separately. A very well-referred study is one by Bosworth, Collins, and Virmani (NBER Working Paper 2007). According to this study, the TFP was much higher for the service sector post-1980 followed by agriculture while the industry ended up with the lowest TFP. If one follows Baumol, services should dominate the growth structure followed by agriculture. In the context of India's GDP the share of services has been going up for the last 30 years while the share of industries has stagnated and the share of agriculture declined continuously. So, in the ranking of the sectoral dominance in the Indian growth story service comes first followed by the Industries. Yet in the ranking of total factor productivity agriculture comes second after the service sector.

**Graph1: TFP of Different Sectors**



Source: Bosworth, Collins and Virmani (2007), Figure 1, Appendix

To locate the source of such strong TFP growth in services following Bosworth, Collins and Virmani, we separated the sector into a modern component that includes communications, finance, business services, education and medical care, and a traditional sector of trade, transportation, public and personal services. For the period of 2003-04 to 2009-10 the growth composition of the service sector shows that little less than half of the growth has been coming from the traditional sector, constituting 56 per cent of the service GDP. But these are not sectors in which we might anticipate rapid productivity growth. One major argument against the greater productivity of services based argument in explaining the growth structure is that it takes no notice of the wide heterogeneity in service sector. Certain sectors (i.e. personal services, trade) within the services are not that productive yet there may be growth in output because the people pushed out of poorly performing physical production units shelter in these sectors. This phenomenon is clearly visible in the construction sector of 2000s and Trade, of 1990s. with labour productivity of construction sector going down between 1980 and 2004 (Valli and Saceone (2009)) and productivity of Trade, hotels transport and communications in 1990s (Jayan Thomas, 2012).

Table 1: Growth in various Service Sectors

Average Annual Growth Rate														
	Modern						Traditional							
	Com- muni- cation	Bank & Insur- ance	Busi- ness Serv.	legal serv.	Edu. & med.	Sum	trade	Rail	Other Transp.	Stor- age	Pers. Serv- ices	Radio & TV	Other serv- ices	Sum
80-81 to 89-90	5.88	10.31	9.88	8.55	6.73		6.04	3.57	7.03	2.68	2.62	12.84	2.87	
1992-93 to 02-03	18.00	9.00	19.09	5.19	8.23		11.34	6.25	7.40	1.38	7.15	-4.65	3.95	
2003-04 to 09-10	25.07	14.79	18.21	6.87	6.87		9.20	9.22	9.09	5.92	6.29	-1.81	6.48	
Average Percentage Contribution to Total Service GDP														
1980-81 to 89-90	1.31	9.88	1.91	1.17	14.18	28.46	32.58	1.99	15.13	0.46	4.58	0.45	11.25	66.44
1992-93 to 02-03	2.00	13.80	3.80	1.06	14.49	35.14	32.61	1.35	14.40	0.24	3.41	0.50	7.72	60.23
2003-04 to 09-10	4.95	13.25	7.93	0.69	12.17	38.99	34.02	1.15	12.80	0.16	2.64	0.10	5.45	56.32
Average Percentage Contribution to Total Services Growth														
1980-81 to 89-90	0.08	1.08	0.19	0.10	0.96	2.41	1.97	0.07	1.06	0.01	0.11	0.09	0.31	3.63
1992-93 to 02-03	0.38	1.27	0.75	0.06	1.20	3.66	3.77	0.08	1.07	0.00	0.25	0.12	0.31	5.62
2003-04 to 09-10	1.27	1.71	1.42	0.05	0.85	5.30	3.14	0.10	1.17	0.01	0.17	0.01	0.34	4.95

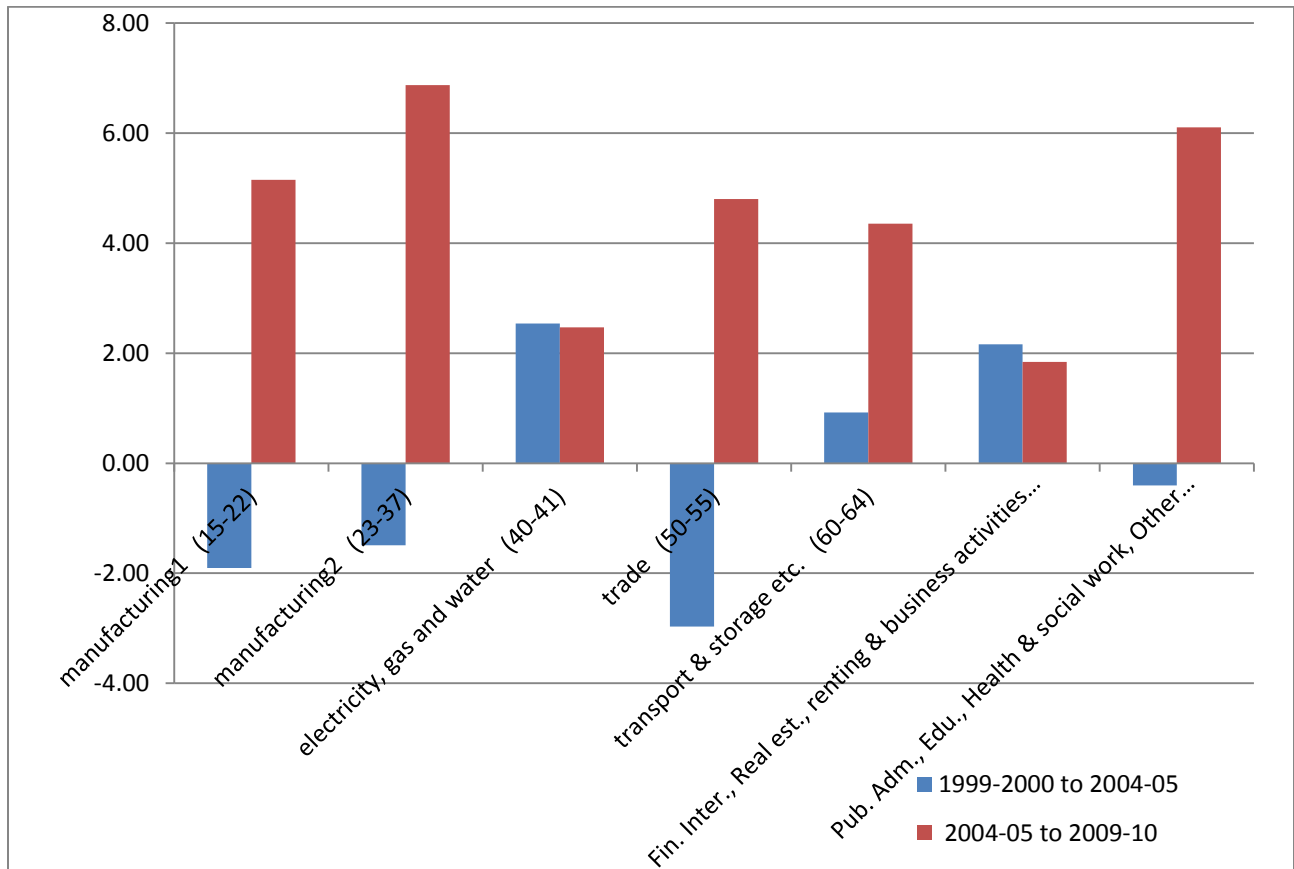
Source: Basic data is from National Accounts Statistics, CSO

We don't have TFP measures at this sectoral level and the labour productivity data that we have is not so strictly divided between the modern and traditional sectors. Within the services sector, the highest labour productivity growth has occurred within community, social, personal, and government services followed by transport, storage, and communication. While labour productivity growth in trade and hotel-restaurant happens to be low, it is the lowest in finance, insurance, and real estate. (Valli and Saceone (2009) But it does indicate that the labour productivity growth rate in many traditional sectors is higher than in many modern sectors.

The productivity wages link is another prominent mechanism in the context of Baumolian transformation. Wage rate in the most productive sector needs to evince maximum growth in order to push up the wage rate in other sectors and increase, thereby, the unit cost of production in these sectors. If the price of these sectors cannot be increased sufficiently due to the demand situation these

sectors will start to decline. Empirical studies have yet to examine any of these mechanisms. This wage transmission mechanism requires a substantial degree of integration within the labour market. Given the wide variations in skills and education the high dis-integratedness of the labour market is only to be expected .

**Graph2: Annual Real Wage Growth Rate in Different Industry and Service Sector**



Source: NSSO Household Survey on Employment-Unemployment, 55<sup>th</sup>, 61<sup>st</sup> and 66<sup>th</sup> Round

Note: CPI-UNME is used as the price deflator for the service sector

The empirical literature of post-reform period points out towards the disjoint between labour productivity and wage rates. Goldar & Banga (2005) argues that there has been a widening gap between labour productivity and wage rates. Sundaram (2001) argues that despite labour productivity has increased substantially in most sectors with the exception of construction, it has not translated into increased growth in real wages, particularly for casual workers. According to Karan & Sakthivel (2008), during the period 1993-94 to 2004-05, the average labour productivity growth rate in India is above 4 per cent and average real wage growth rate is less than 2.5 per cent. For the non-farm sector this gap

between average labour productivity and real wage rate is wider. The examination at the sub sectoral level reveals a mixed trend in the real wage rate of male regular workers in urban industries and service sector. While they witnessed positive growth for the period 2004-5 to 2009-10 most had seen a plunge for the period 1999-2000 to 2004-05. This indicates that positive associations between productivity growth and increasing wages do not hold for both periods. Further, the average annual real wage growth rate of male regular workers in urban industries for the period 2004-5 to 2009-10 is 4.83 per cent, is higher than 4.28 per cent, which is the average annual wage growth rate of male workers in urban service sector. On the contrary, the period of 1999-2000 to 2004-05 saw a decline in the real wage growth rate of male regular workers for both urban industries and the service sector. For industries it was negative. All these figures do not give a story which is consistent with the productivity wage linkage story of Baumol as far as explaining the structure of growth is concerned. Since India happens to be a labour surplus economy the average process of wage increase is slow, which is reflected in the lack of consistent association between productivity and wages. Hence, the sectoral transmission of wages is expected to be slow.

Furthermore, the share of wages in the organised manufacturing sectors' value addition is coming down. So, the importance of difference in the share of wages in terms of influencing the sectoral structure too should come down. In a nutshell, the sectoral growth structure does not have one-to-one correspondence with sectoral differences in productivity; the existence of productivity wage transmission mechanism and wage transmission mechanism between the sectors are weak. As a result, it is unlikely that Indian growth structure is following Baumol's theory of growth structure.

## **Section 2**

In this section we try to examine how Kaldor's growth structure theory explains the Indian growth structure; which is essentially centered around on the question of whether it is the service or the IT sector playing the role of the engine of growth.

Many Economists argue (Singh, 2006) that the service sector has very substantial production linkages with other sectors, such that it can perform as the engine of growth. Dashgupta & Singh (2005) argue that the Information technology sector is playing the role of engine of growth. For this to happen, any sector will need to have strong backward and forward linkages with the rest of the economy.



The basic input-output representation of an economy is  $X = AX + F$ , where  $X = (x_1, x_2, \dots, x_N)'$ , which is the vector of gross output;  $A = (a_{ij})$  is the matrix of input-output coefficients and  $F = (f_1, f_2, \dots, f_N)'$ , the vector of final demand.  $X$ , the gross output of the economy is equal to the aggregate demand of the economy. The aggregate demand of the economy happens to be the sum of intermediate demand,  $AX$  and final demand,  $F$ .

So,  $X = (1-A)^{-1}F$ ,  $(1-A)^{-1}$  is the Leontief inverse matrix. The summation of elements in the  $i$ th row of Leontief inverse matrix measures the forward linkage. Similarly, the summation of elements in the  $j$ th column of the Leontief inverse matrix measures the backward linkage. In this paper we have used these measures to trace the linkages between agriculture, industries, and services. These measures of linkages assume a uniform increase in demand by one unit for all the sectors. We can relax this assumption by weighting each element of  $(1-A)^{-1}$  by the share in the final demand. Besides, a linkage index has been created in order to facilitate comparisons across the sector. This index was created by dividing the measures of forward (or backward) linkage<sup>1</sup> for each sector with an aggregate of it for all the sectors. In order to enable a more disaggregated sectoral analysis we have used these linkage indexes to trace the importance of different sectors on account of forward and backward linkages.

We have used the input-output table published by CSO to trace the backward and forward linkages. First, the entire economy have been divided into three sectors—Agriculture, Industry, and Services. The backward linkage of the industry happens to be the strongest of the three. Besides, this linkage has been increasing consistently over the past thirty years. The backward linkage of services witnessed an increasing trend till 1993-94, declined somewhat later, and remained stable since 1998-99. The strength of backward linkage for services is nearly similar to that of agriculture while the forward linkage happens to be the strongest for industries followed by services. The forward linkage of industries, which was lower in the 90s compared to the late 80s, bounced back by 2006. The forward linkage of the service

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<sup>1</sup> Forward linkage index =  $U_i^w = (1/N)b_{i\cdot}^w / (1/N^2) \sum_{i=1}^N b_{i\cdot}^w$ ,  $b_{i\cdot}^w = \sum_{j=1}^N b_{ij}^w$ ,  $b_{ij}^w = b_{ij}f_i / \sum_{i=1}^N f_i$ ,  $b_{ij}$  is the element of the Leontief Inverse matrix

Similarly, the backward linkage index is  $U_j^w = (1/N)b_{\cdot j}^w / (1/N^2) \sum_{j=1}^N b_{\cdot j}^w$ ,  $b_{\cdot j}^w = \sum_{i=1}^N b_{ij}^w$ ,  $b_{ij}^w = b_{ij}f_i / \sum_{i=1}^N f_i$ ,  $b_{ij}$  is the element of the Leontief Inverse matrix

For a detailed methodology, please see Hansda (2001)

sector reveals a similar trend in the context of backward linkage. It peaked in 1993-94 to descend thereafter.

**Table 2**

Years	Backward Linkage			Forward Linkage		
	Agriculture	Industry	Services	Agriculture	Industry	Services
1979-80	1.40	2.13	1.41	1.56	1.92	1.46
1989-90	1.69	2.24	1.77	1.40	2.43	1.87
1993-94	1.63	2.25	1.73	1.34	2.33	1.94
1998-99	1.42	2.31	1.59	1.37	2.24	1.70
2006-07	1.62	2.58	1.60	1.37	2.66	1.77

We can conclude, therefore, that both forward and backward linkages in the production system for services are weaker compared to those of industries. The service sector has stronger forward linkages and almost similar backward linkages compared to the agriculture sector. The service sector's backward and forward linkage remained similar between 1998-99 and 2006-07. However, the economy's growth scenario was a completely contrasting one. Despite the service sector's dominating GDP growth the industry could have been a far more effective engine of growth.

In a bid to examine the role of IT sector in the context of driving growth we have divided the economy into 11 sectors. These are: Agriculture and Allied Activities, Mining, Manufacturing, Construction, Utility, Transport, Storage and Communication, Trade, Hotels and Restaurants, Other services, Ownership of dwellings, Computer and related activities.

We have calculated the forward and backward linkage index for these sectors. This index embraces both the linkage and sectoral share in total demand. If the sum of forward and backward linkage index is greater than 2 for a sector then that sector is a key driving sector of growth (Hansda, 2001). We found the forward and backward linkage of IT sector to be substantially low. The summation of backward and forward linkage index for the IT sector is less than 0.5 both for the year 2003-4 and 2006-7. Hence, it cannot be said that the IT sector is the one driving growth. The sector with high forward and backward linkages happens to be manufacturing followed by construction, agriculture & allied, other services. Here too, the IT sector has not been playing the role of engine of growth in the Kaldorian sense.

**Table 3: Forward and Backward Linkages of Information Technology (IT) Sector**

	Backward Linkage Index		Forward Linkage Index	
	2003-04	2006-07	2003-04	2006-07
<b>Agriculture n Allied Activities</b>	1.52	1.27	1.59	1.32
<b>Mining</b>	0.01	0.01	0.43	0.48
<b>Manufacturing</b>	3.83	3.79	3.73	3.98
<b>Construction</b>	1.77	2.35	0.90	1.18
<b>Utility</b>	0.11	0.11	0.34	0.27
<b>Transport</b>	1.03	0.94	0.87	0.83
<b>Storage &amp; Communication</b>	0.05	0.05	0.13	0.14
<b>Trade, Hotels n Restaurants</b>	0.91	0.90	1.15	1.14
<b>Other services</b>	1.26	1.06	1.42	1.23
<b>Ownership of dwellings</b>	0.31	0.25	0.28	0.23
<b>Computer &amp; related activities</b>	0.20	0.27	0.16	0.21

Further, we have divided the service sector into modern and traditional sectors with the modern sector constituting the IT, financial services etc. According to the backward and forward linkages the key sectors for growth are manufacturing, construction, agriculture and traditional services. This points further a strong result that the capability of IT and other modern services including the financial services having a limited capacity with regard to playing the role of engine of growth due to weak linkages with the rest of the world.

The findings of this and the previous section indicate that though the service sector is the dominant contributor to the GDP growth, its capacity to drive in the growth in other sectors is rather limited. In order to explain the growth structure we need to look into factors that are outside the production structure. The key elements of production structure, productivity differentials, and backward-forward linkages are incapable of explaining the growth structure.

**Table 4: Forward and Backward Linkages of Modern Service Sector**

	Backward Linkage Index		Forward Linkage Index	
	2003-04	2006-7	2003-04	2006-7
<b>Agriculture and Allied Activities</b>	1.25	1.03	1.31	1.08
<b>Mining</b>	0.01	0.01	0.35	0.39
<b>Manufacturing</b>	3.14	3.10	3.06	3.25
<b>Utility</b>	0.26	0.09	0.26	0.22
<b>Construction</b>	1.41	1.91	0.74	0.97
<b>Modern Services</b>	0.26	0.35	0.23	0.65
<b>Traditional Services</b>	2.23	2.07	2.12	2.03
<b>Ownership of dwellings</b>	0.09	0.20	0.25	0.18
<b>Public administration</b>	0.36	0.23	0.67	0.23

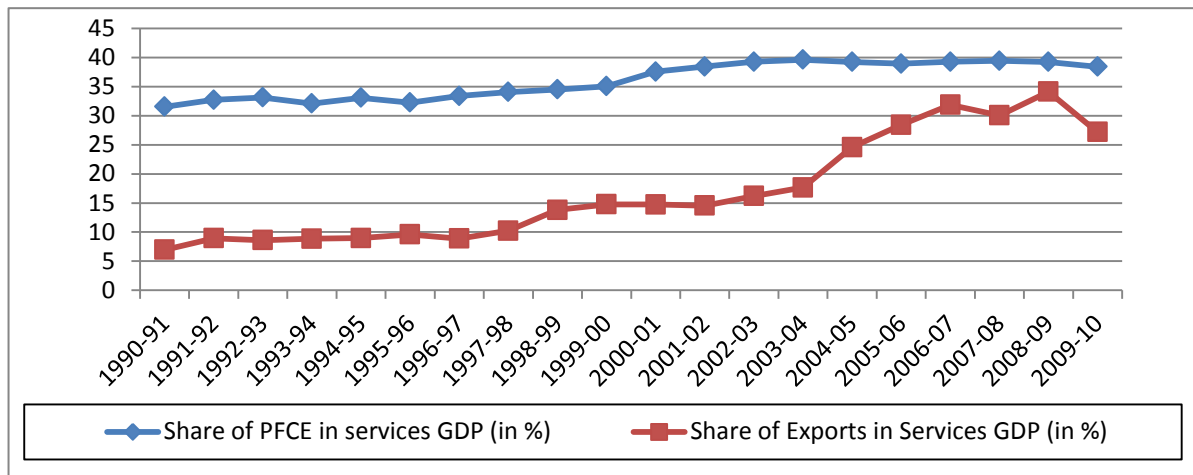
### Section 3

For India, the private final consumption expenditure (PFCE) constitutes more than 60 per cent of the aggregate demand in the economy. In 1999-00 the share of PFCE in Gross Domestic Product (GDP) at factor cost was 70.17 per cent. Thereafter, it experienced a monotonically declining trend. Even so, in 2007-08, it constituted 62.17 per cent of the GDP at factor cost. This means that the private consumption basket should be expected to reflect a broad sectoral composition of the GDP. According to National Accounts Statistics services constituted 32.4 per cent of the PFCE in 2007-08. So, although more than 55 per cent of our GDP is constituted by the service sector, only 32.4 per cent of our consumption basket comprises services. In other words, there is a substantial mismatch between the contribution of services towards the GDP and their private consumption demand. This indicates that the other sources of demand for services, exports, and use as intermediate input are also important components of service demand.

There are some differences of Opinion regarding what is the most influential component of increasing demand of services that is causing the high growth of services. Competing arguments are as follows: a) the major component of incremental demand emerges from the external economy; b) the major component of incremental demand of services comes from an increasing consumption demand triggered either by increasing incomes of all or by a much larger increase in the income of the richer section of society. Historically speaking, the GDP of countries at the level of India's per capita income has been dominated by industries. So the growth of increasing consumption demand for services is probably coming from increasing income inequality, c) the demand for services has increased due to its greater use as an intermediate factor in production.

The argument that the production process of industries has started to use more service input due to the outsourcing of many services which earlier the manufacturing unit themselves use to do has led to higher service sector growth is rejected. It has been rejected on the ground that input-output coefficient of use of services in agriculture, industries, and services has not changed much over the past three decades (Nayyar, Eichengreen & Gupta, N.Singh). The weak forward linkage of the service sector, discussed in the previous sector, also indicates that.

**Graph 4: Share of Consumption and Exports in Service Demand**

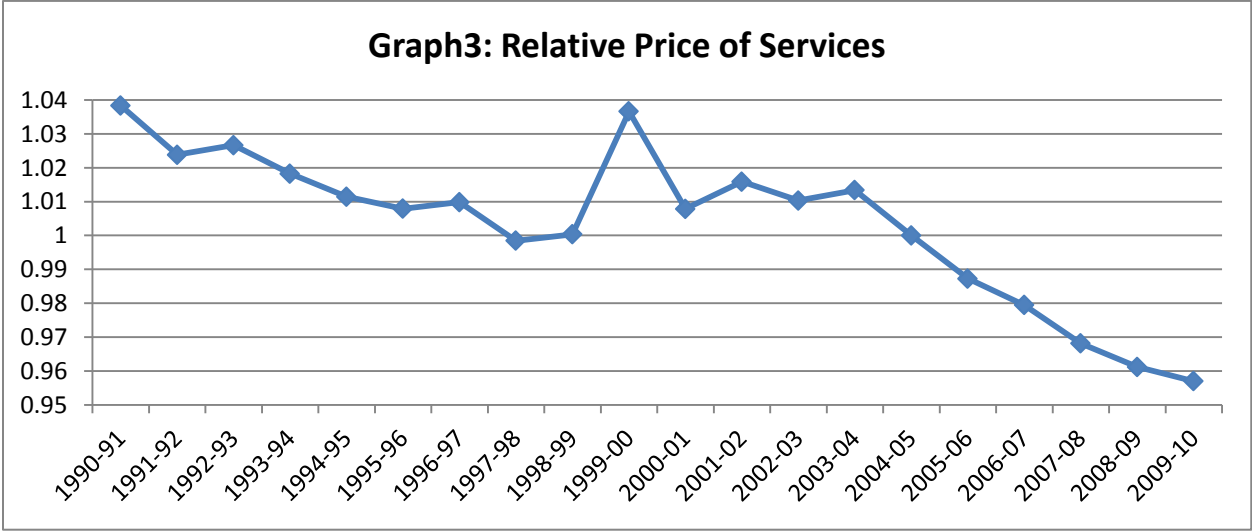


Source: NAS, CSO and RBI

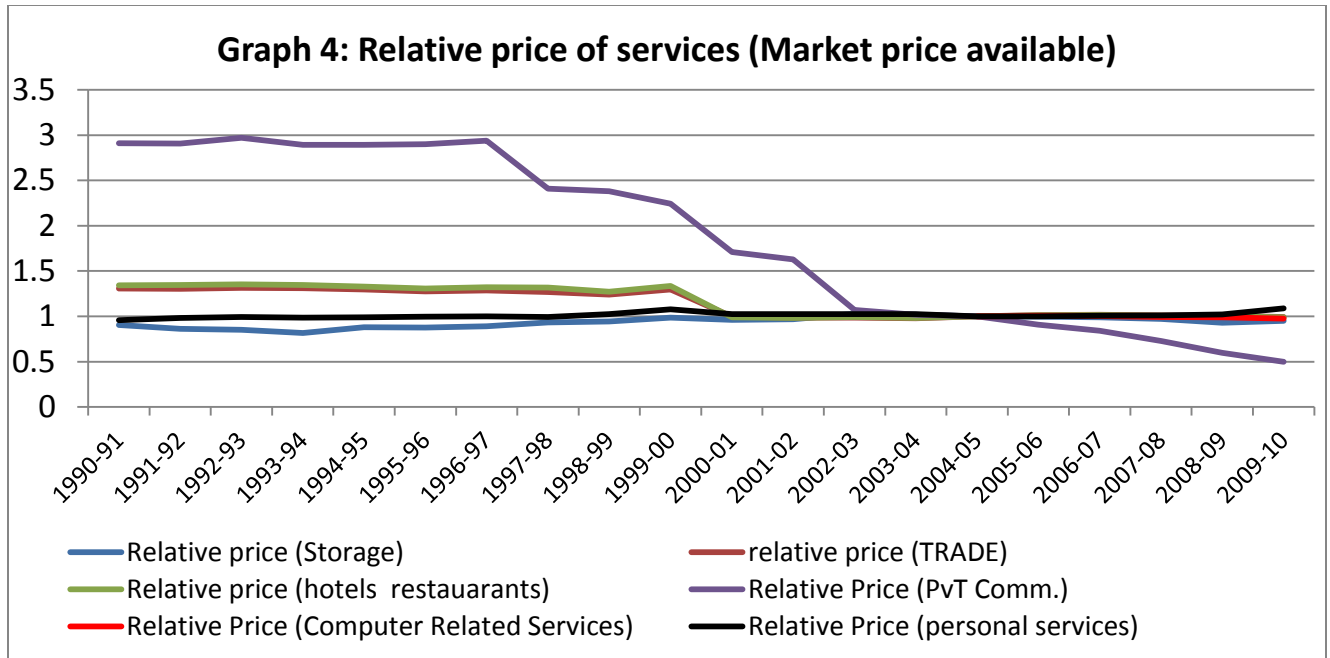
According to the CSO data, the share of PFCE in service GDP has gone up from around 31 to 35 per cent between 1990-91 and 2002-3. The consumption demand has grown at a similar pace of growth rate of service GDP thereafter. So the consumption demand for services has grown at a faster rate compared to the total demand for services over the entire period of 1990-91 to 2009-10. The share of export demand in the context of total service GDP has gone up from 7 per cent to 15 per cent between 1990-91 and 2002-03. Since 2006-07, however, it has mainly hovered around 30% of the GDP. So, the export of services has grown faster than the total service GDP. This only proves the point made previously about the intermediate use demand for services growing at a much lower rate compared to service growth. Substantive contributions of the service GDP have been flowing from service exports. But only 50 per cent of India's service exports have flowed from computer services. Business services' (computer services being its most important component) contribution to total services growth, amounting to 9.09 per cent, was 0.75 percentage point between 1992-93 and 2002-03 and 1.42 percentage point out of 10.70 per cent between 2003-04 and 2009-10. So, while rise in export of services is responsible for pushing up demand for services its contribution may be a bit exaggerated with the consumption demand too having played an important role in increasing demand for services.

The question remains: why is the consumption demand for services going up? Is it because of decline in relative price, income effect, or both? The decline in the relative price of services too can increase the demand for services. If relative prices of services come down, with the possibility of substitution exists, service consumption should go up. The relative price of services (measured as the ratio between service

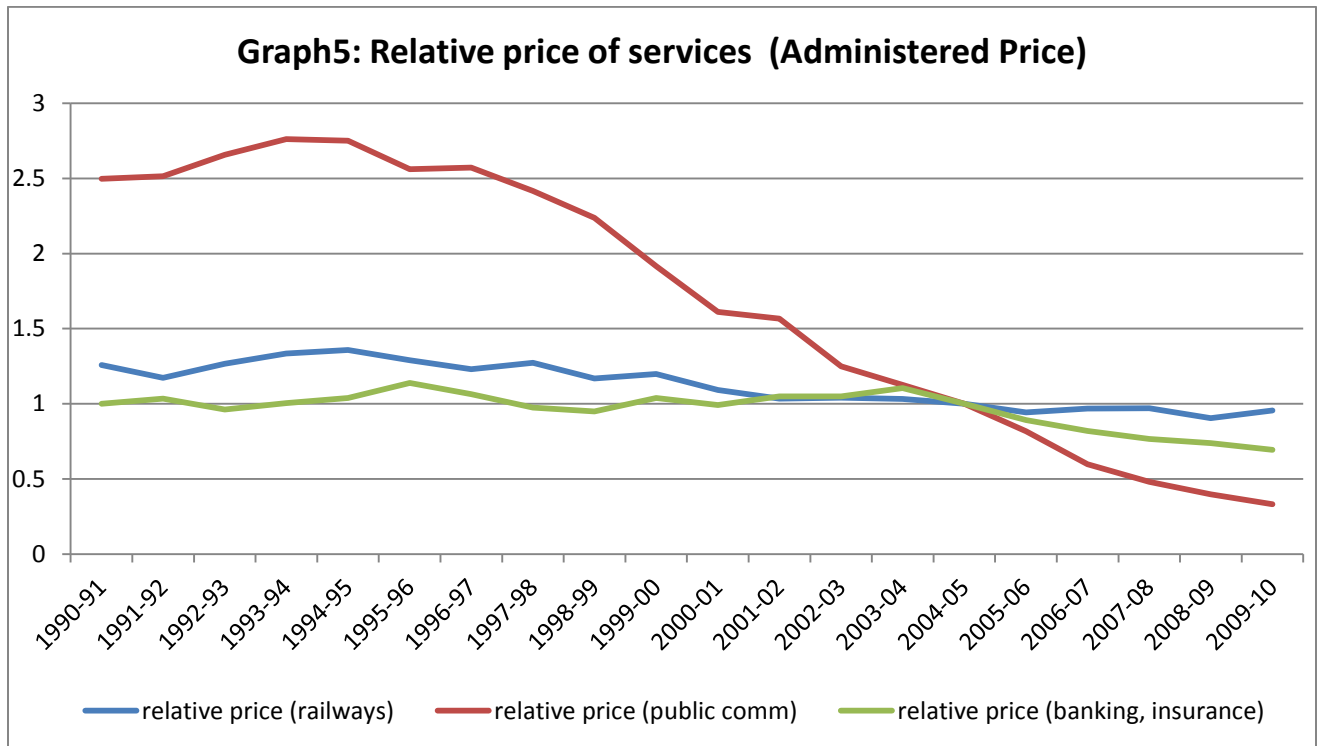
GDP deflator to GDP deflator) has indeed come down over the years, except for the period of 1996-97 to 2003-04. So, the possibility regarding the demand for services going up from 1990-91 to 1996-97 and from 2003-04 to 2009-10 and the demand for services coming down between 1996-97 and in 2003-04 due to changes in the relative price of services was strong. The problem is that most service sectors do not have market-determined prices. This indicates limited implication in the context of relative prices of services as a whole. We have disaggregated the service sector into three categories. The first category belongs to those whose market price is available; the second belongs to those that have largely administered prices while the third comprises the remaining sectors. The relative price of services in the first category has been declining since 2000-01. The only exception is the relative price of personal services, which has stagnated. The service sectors of the second category show a similar declining trend in terms of relative price. Most service sectors in the third category also show an opposite trend. The relative price of health & education and road transport (which has both market as well as administered price) shows an upward trend.



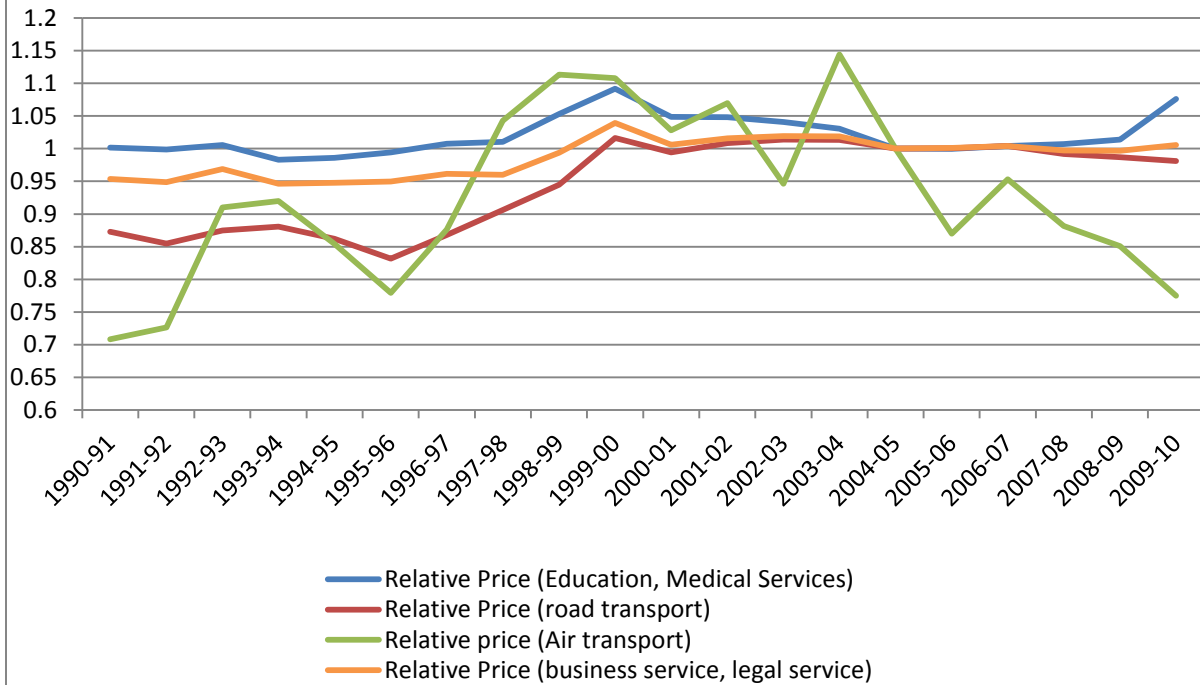
Note: Relative price of services is measured as ratio between service GDP deflator to GDP deflator.  
 Source: National Accounts Statistics. It holds for the other graphs on relative price of services



Note: Relative price of services is measured as ratio between service GDP deflator to GDP deflator.  
 Source: National Accounts Statistics.



**Graph 6: Relative price of services (Rest of the Sectors)**



Rising incomes should augment the demand for services if services are not the inferior goods. Nayar (2010) estimates the Engel curve for the period 1993-94 and 2004-05 using the NSSO household survey data on consumption. Using censored quantile regression estimates he argues that the estimates revealed upward sloping Engel curves for six<sup>2</sup> categories of services and for services in the aggregate. Moreover, these results show that as total household expenditure goes up the household budget share allocated to a particular service increases more for high consumption (conditional on household size, social group, religion, age-sex composition, and age, gender and level of education of household head) relative to low consumption (conditional on the same set of variables) households. Since these six services account for a little less than half of India's services GDP, this study claims to lend credence to the view that high expenditure or income elasticity of demand for services along with increasing income inequality serve as an explanation for the increasing importance of the service sector in India.

<sup>2</sup> education, health, entertainment, personal services, communication and transport



To understand this better, we tried to find out about the people consuming more services. We identified the following classes from the NSSO household survey on consumption. The urban classes<sup>3</sup> are- workers, urban skilled, owners & managers, and professionals. The rural classes<sup>4</sup> are- agricultural workers, rural non-agricultural workers, small peasants and rural elites.

It is clearly the urban population. The rural classes' expenditure on services is much lower than that of the urban classes. The share of services in total expenditure is also much lower for the rural compared to for the urban classes. This indicates that as the proportion of urban population increases the demand for services goes up.

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### <sup>3</sup> **Urban Classes**

1. Owners and Managers: NCO code- division 1 combined with NSSO 's hh type=1, hh type=2 and hh type=3
2. Professionals: NCO code- division 2 combined with NSSO 's hh type=1, hh type=2 and hh type=3.
3. Urban skilled: NCO code- division 3 & 4 combined with NSSO 's hh type=1, hh type=2 and hh type=3.
4. Urban workers: NCO code- division 5,6,7, 8 & 9 combined with NSSO 's hh type=1, hh type=2 and hh type=3.

### <sup>4</sup> **Rural Classes**

1. **Rural elite** ~~comprises is made up of~~ three further sub-classes; ~~namely~~ the big farmers, absentee landlords, and the rural professionals.  
Big farmers are households that are self-employed in agriculture (hh type=4) and own more than 5 acres of land.  
Absentee landlords are households ~~who that~~ have lands more than 0.5 acres but are self-employed in non-agricultural activities. So, they belong to household type 1 and 9 ('self employed in non-agriculture' and 'others '), have more than 0.5 acres of land and their occupational types does not include NCO codes from Division 1 and Division 2.  
Rural Professionals: the total rural professionals are households ~~who that~~ belong to 'self-employed in non-agriculture' and 'others' category of hh type ( i.e. hh type =1 and hh type=9) and their occupational type fall under Division 1 and Division 2 as specified by NCO 2004.
2. **Small Peasants** are those households in the rural sector that are self-employed in agriculture (hh type=4) but own less than 5 acres of land.
3. **Agricultural Workers** are those households in the rural sector that are a part of ~~the~~ agricultural labour (hh type= 2)
4. **Non Agricultural Workers** are those manual labourers living in rural areas and working in non-agricultural occupations in return for wages paid either in cash or kind (hh type 3)

**Table 5: Monthly Per Capita Consumption of Services by Different Classes**

	1993-04 (At Current Price)			2009-10 (At Current Price)			At 1987-88 prices (in %)	
	MPCE On Services	Total MPCE	Share in MPCE	MPCE On Services	Total MPCE	Share in MPCE	Annu. Ave. Gr. Rate of MPCE on Services	Gr. Rate of MPCE
Agricultural Workers	19.00	217.41	8.74	92.33	718.44	12.85	4.87	1.18
Rural Non-Agric Workers	31.06	266.74	11.64	145.88	850.40	17.15	4.50	0.91
Small peasants	26.11	286.38	9.12	133.60	913.52	14.63	5.48	0.91
Rural Elites	38.78	339.80	11.41	208.03	1162.72	17.89	6.07	1.46
Urban workers	75.90	389.89	19.47	334.39	1317.60	25.38	3.43	1.08
Urban skilled	136.55	583.45	23.40	747.46	2353.98	31.75	5.88	2.58
Urban owners and managers	176.23	724.60	24.32	743.46	2286.21	32.52	3.00	0.57
Urban Professionals	166.80	705.80	23.63	916.63	2867.47	31.97	5.92	2.64

Source: NSSO Household Survey on Consumption Expenditure, 50<sup>th</sup> and 66<sup>th</sup> Round

Consumption expenditure in total as well as that of services by the owners and managers was highest in the year 1993-94. But by 2009-10, the urban professionals came to have the highest consumption expenditure as far as aggregate as well as services were concerned, followed by urban owners and managers<sup>5</sup> and urban skilled personnel (associate professional and clerks). Workers have the least expenditure on services among the urban classes. The rural classes have experienced fast growth in service consumption expenditure from 1993-94 to 2009-10, albeit from a very low base. This could be due to the increasing relative price of health & education and road transport along with the spread of telecommunication services in rural India. Service consumption by urban professionals from 1993-94 to 2009-10 grew fastest among the urban classes followed by the urban skilled.

**Summing Up:** Growth structures expected to emerge in accordance with the theories of Kaldor and Baumol, do not match the Indian growth structure story. This is because these theories provide production structure based explanations for the GDP growth structure. The demand components — increasing exports and consumption demand — arising out of a worsening scenario of income distribution seem to explain the Indian growth structure better. A decline in the relative price of services could be instrumental in explaining the service-dominated growth structure.

<sup>5</sup> As a caveat, we could not separate out the owners and managers of SSI and SME from the rest of this class.

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