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Title of paper:
The Growth Structure of Indian Economy- An Empirical Dissection

Abstract

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

Key Words: Growth, Manufacturing and Service Industries, Inequality

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Introduction

The Indian economy is experiencing a high growth in past few years. One important characteristic of this growth is that it is dominated by the service sector growth. According to the National Accounts Statistics for the year 2007-08, the service sector contributed 55.73 per cent of the national GDP. Whereas manufacturing has contributed only 15.21 per cent of the GDP and Agriculture, Mining and Quarrying has contributed roughly around 17.80 per cent of the GDP. So manufacturing and agriculture has contributed roughly 33 per cent of the national GDP.

There are two major theories available to us to explain the sectoral growth pattern. Baumol (1967) has tried to explain the changes in sectoral composition by two factors - differences in productivity and price and income elasticities of demand. According to him, with a sizeable degree of integrated labour market where increase in wage rate in one sector increases the wage rate of the other sector, the sector with higher labour productivity will grow and the sector with lower productivity will increasingly disappear if the price elasticity of demand for both the sector is unitary and 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. If productivity increase is lower than wage increase, to prevent lowering of profit price has to be increased. But for this the demand for low productivity sector either has to be price inelastic or highly income elastic. So, Baumol's theory argues main driver of sectoral growth pattern is differences in productivity. But for reflection of it in the sectoral growth pattern; certain demand conditions and greater degree of labour market integration is required.

Kaldor had put forward 3 laws to explain the structural change of the economy that Kuznets had discovered for 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 and technical progress and input-output linkages of manufacturing and industry in general, having important spillover effects on the rest of the economy. His second law states that there is a strong positive relationship (both way causality) 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 the agriculture is characterized by low income elasticity of demand for its products compared with manufacturing products which usually have a greater income elasticity of demand. The rate of growth of productivity is envisaged to be similar in agriculture and the industry because of the fact that the technical progress in agriculture tend to be both land saving and labour saving. Movement of labour from agriculture to industries will ensure similar high labour

productivity. But, the rate of growth of productivity is lower in services compared with 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 services, the terms of trade change in favour of services. The lower relative price of manufacturing sector should lead to some increased demand which may or may not offset the advantages of services on account of their greater income elasticity of demand.

So by endogenising the productivity, Kaldor has given more emphasis on demand structure to explain the sectoral structure of production. But within demand structure, Kaldor has particularly put large emphasis on the demand impact due to forward and backward linkages. So the state of production structure is key to the demand structure. Here Kaldor is having similarity with Baumol, in the sense that both of them have put in emphasis on the state of production structure either reflected in differences in productivity or differences in forward and backward linkages.

Economic history indicates that for developing countries at India's level of per capita income, economic growth has normally been led by the manufacturing sector. However, the leading sector in contemporary Indian economic growth has increasingly been services rather than manufacturing. So following Kaldorian sense, 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 for Indian growth structure. We did it both for Baumol's theory as well as for Kaldor's theory. For Baumol's theory, we have essentially looked at the correspondence between difference in productivity and GDP's sectoral composition; correspondence between productivity and wages within the sectors and the strength of wage increase transmission among the sectors. For Kaldor's theory, we have examined the validity of the assertion by many economists that service sector is 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 that the production structure based explanations may not be very valid explanation for the GDP growth structure. This puts the responsibility to find what then can explain the growth structure. We tried to explore the possibilities of demand structures, which is independent of 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 industries. So both decline in service price and greater income inequality should led to greater demand for services. Along with external demand for some of the services may explain the growth pattern. Section 3 will be used to discuss this.

Section 1

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

1) Productivity of services has to be greater than industries and agriculture
2) Productivity of Industries has to be greater than agriculture
3) Relative price of services vis. A vis industries and agriculture should have declining trend
4) Relative price of industries vis a vis agriculture should have a declining trend
5) Increase in service wage should be higher than increase in wages of industries and agriculture
6) Increase in industry wage should be higher than agriculture
7) Price elasticity of demand of services is higher than Industries and agriculture or equal with them with unitary elasticity.
8) Price elasticity of demand for Industries is higher than agriculture or equal to each other with unitary elasticity

The objective of this section is to examine whether these characteristics exist in India or not. Among these most important characteristics are, according to the Baumolian theory of structural composition of growth, those which are regarding productivities and wages. So we shall examine empirically the existence of these characteristics.

There are few studies that have measured the total factor productivity (TFP) of agriculture, industries and services separately. A very well referred such study is Bosworth, Collins and Virmani (NBER Working Paper 2007). According to this study, in post-1980, the TFP is much higher for the service sector, followed by agriculture. And the industry is having lowest TFP. Following Baumol, Service should dominate the growth structure and then followed by agriculture. In India's GDP, for the last 30 years, the share of services is going up; share of industries has remained stagnated; share of agriculture is continuously declining. So in the ranking of the sectoral dominance in Indian Growth, Service comes first followed by the Industries. But in the ranking of total factor productivity, Agriculture comes second after the service sector.

Graph1: TFP of Different Sectors
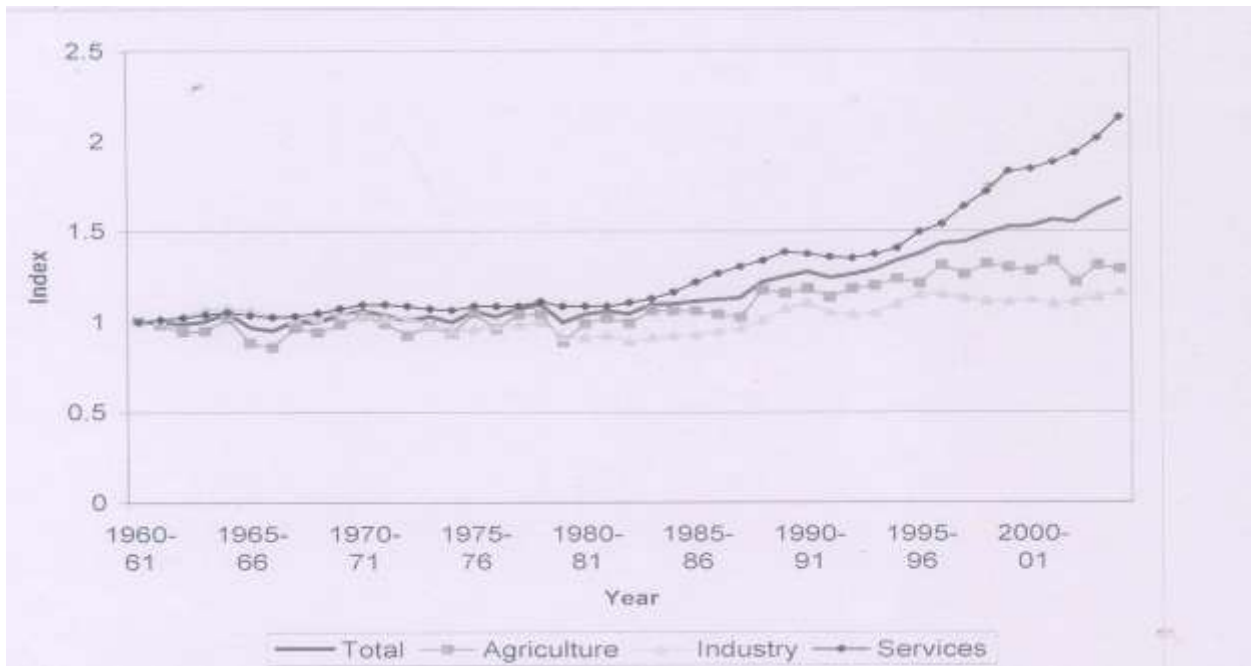
Source: Bosworth, Collins and Virmani (2007)

To find the source of such strong TFP growth in services, following Bosworth, Collins and Virmani, we have 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 is coming from the traditional sector. And they constitute 56 per cent of the service GDP. But these are not sectors in which we would anticipate rapid productivity growth. One major argument against the greater productivity of services based argument behind the growth structure is it does not take into account the wide heterogeneity of service sector. There may be certain sectors (i.e. personal services, trade) of service sector that are not much productive but the output of it is growing because the people who are pushed out of the poorly performed physical production are taking shelter into these sectors. This phenomenon is clearly visible in the construction sector, where labour productivity has gone down between the period of 1980 to 2004 (Valli and Saceone (2009)

Table 1: Growth in various Service Sector

| 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, not so strictly divided between modern and traditional sector. Within the services sector, the highest labour productivity growth has happened in Community, social, personal and Govt. services followed by transport, storage and communication. The labour productivity in trade and hotel-restaurant is low, but it is lowest in Finance, insurance and real estate. (Valli and Saceone (2009) But it at least indicate, the labour productivity in many traditional sector is higher than many modern sector.

In the Baumolian transformation the other prominent mechanism is the productivity wages link. The wage rate in the most productive sector should grow most and this increase in wage rate of most productive sector will push up the wage rate in other sectors, which will increase the unit cost of production in these sectors. And if price of these sectors cannot be increased sufficiently due to demand situation these sectors will start to decline. There is no empirical study available that has examined any of these mechanisms. This wage Transmission mechanism requires a substantial degree of integration of labour

market. Given the wide variations in skills and education, it is only expected that the labour market is highly dis-integrated.

**Graph2: Annual Real Wage Growth Rate in Services**
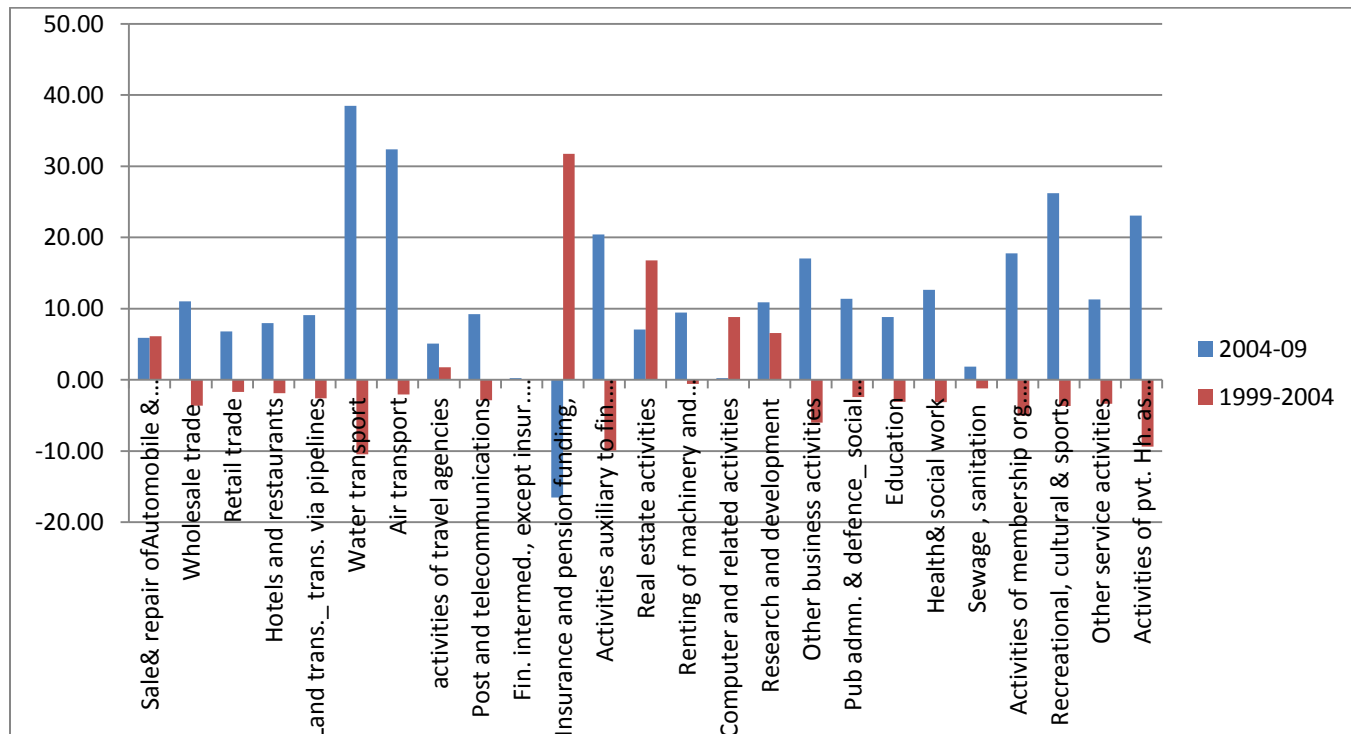
Source: NSSO Household Survey on Employment-Unemployment, 55th, 61st and 66th Round

The real wage rate of male workers in urban service sector has a mixed trend. Most of the service sectors have witnessed positive growth during the period 2004-5 to 2009-10. But Most of them during the period 1999-2000 to 2004-05 has witnessed negative growth rate. This indicates the positive association between productivity growth and increasing wages is not holding for both the period. Further, the average annual real wage growth rate of male workers in urban manufacturing sector for the period 2009-5 to 2009-10 is 11.59 per cent is higher than 11.51 per cent, the average annual wage growth rate of male workers in urban service sector. On contrary, in the period of 1999-2000 to 2004-05, the real wage rate of male workers for both urban manufacturing and service sector has declined , but the decline is more in the manufacturing sector. All these figures does not give a story which is consistent with productivity wage linkage story of Baumol to explain the structure of Growth. As India is labour surplus economy, the average process of wage increase is slow, reflected in the lack of consistent association between productivity and wages. And hence, the sectoral transmission of wages will be slow.

Further, the share of wages in organised manufacturing sectors' value addition is coming down. So the importance of difference in share of wages to influence the sectoral structure should come down.

Graph3: Annual Real Wage Growth Rate in Manufacturing
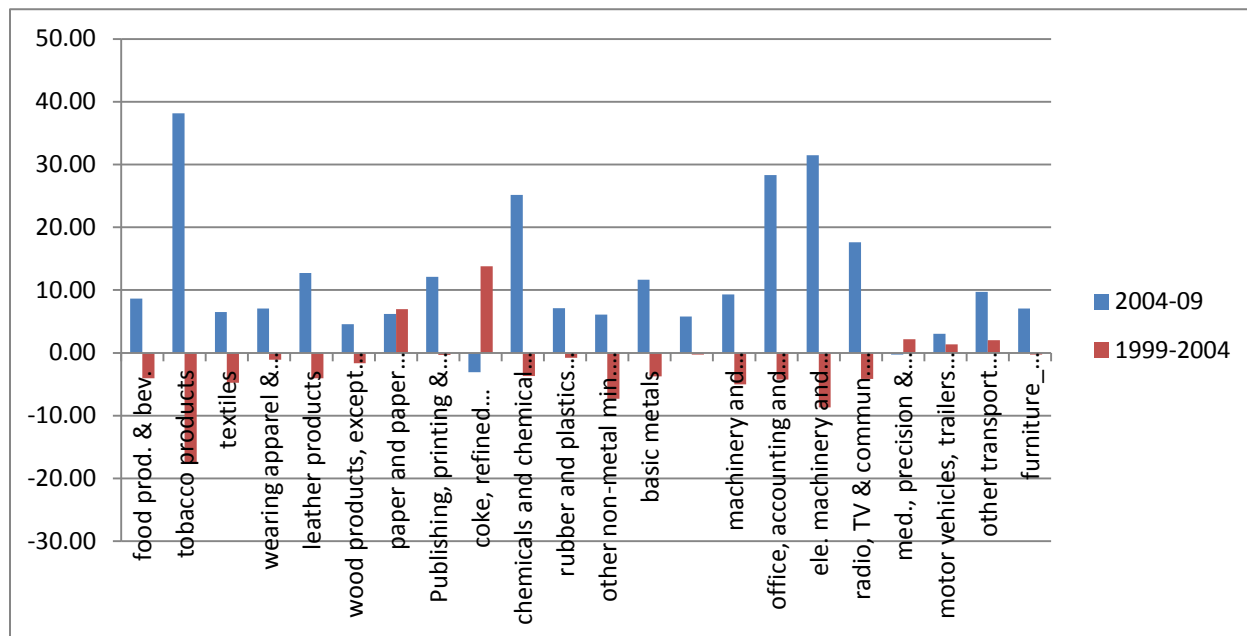
Source: NSSO Household Survey on Employment-Unemployment, 55th, 61st and 66th Round

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 among 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 shall try to examine how the Kaldor's growth structure theory explains the Indian growth structure; which is essentially centered around the question —does service sector or IT sector playing the role of the engine of growth.

Many Economists argue (Singh, 2006) that service sector has very substantial production linkages with the other sector, so it can perform as engine of growth. Dashgupta & Singh (2005) argued the Information technology sector is playing the role of engine of growth . To play the role of a engine of growth, a particular sector has to have a strong backward and forward linkage with the rest of the economy. We

have used the input-output table published by CSO to trace-out the backward and forward linkages[1]. First, we have divided the whole economy into three sectors—Agriculture, Industry and Services. The backward linkage of industry is the strongest among the sectors. And also this linkage is increasing consistently from last thirty years. The backward linkage of services has witnessed an increasing trend till 1993-94 and thereafter, it has declined a bit and remained stagnated from 1998-99 onwards. The strength of backward linkage for services is almost similar to that of agriculture. Again among the sectors, the forward linkage is strongest for industries, followed by services. The forward linkage of industries was lower in 90s than late 80s, but by the year 2006 it has revived back. The forward linkage of service sector has followed the similar trend of backward linkage. It has peaked in 1993-94 and thereafter, it has gone down.

So we can conclude that both the forward and backward linkages in the production system for services is weaker than industries. Service sector is having stronger forward linkages and almost similar backward linkages in compare to the agriculture sector. Service sector's backward and forward linkage has remained similar between the period 1998-99 and 2006-07. However, the economy's growth scenario was completely contrasting. Despite, service sector is dominating the GDP growth, industries could have been much more effective engine of growth.

Table 2

Years	Backwards 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

Further, to examine the role of IT sector to drive the growth we have divided the economy into 11 sectors. These are Agriculture n Allied Activities, Mining, Manufacturing, Construction, Utility, Transport, Storage & Communication, Trade, Hotels n Restaurants, Other services, Ownership of dwellings, Computer & related activities.

For these sectors we have calculated the forward and backward linkage index. This index takes into account both the linkage and the sectoral share in total demand. If the sum of forward and backward

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[1] For methodology, I refer Hansda (2001)

linkage index is greater than 2 for a sector, then that sector is a key driving sector of growth (Hansda, 2001). We found that the forward and backward linkage of IT sector is substantially low. The summation of backward and forward linkage index for IT sector is less than 0.5 both for the year 2003-4 and 2006-7. Hence, this cannot be said that IT sector is driving sector for the growth. The sectors with high forward and backward linkages are manufacturing followed by Construction, agriculture & allied, other services. So here also IT sector is not playing the role of engine of growth in Kaldorian sense.

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

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

Further, we have divided the service sector into modern and traditional sector, modern sector consists of IT and financial services etc. And the backward and forward linkages shows that the key sectors for growth are manufacturing, construction, agriculture and traditional services. This indicates further a strong result that the capability of IT and other modern services like financial services has a very limited capacity to play the role of engine of growth due to weak linkages with the rest of the world.

All these findings of these section and previous one indicates that though the service sector is the dominant contributor to the GDP growth, its capacity to drive in or out the growth in other sectors is rather limited. So to explain the growth structure we need to look into factors that is outside the production structure. The key elements of production structure, productivity differentials and backward-forward linkages are unable to explain 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
Agriculture and Allied Activities	1.25	1.03	1.31	1.08
Mining	0.01	0.01	0.35	0.39
Manufacturing	3.14	3.10	3.06	3.25
Utility	0.26	0.09	0.26	0.22
Construction	1.41	1.91	0.74	0.97
Modern Services	0.26	0.35	0.23	0.65
Traditional Services	2.23	2.07	2.12	2.03
Ownership of dwellings	0.09	0.20	0.25	0.18
Public administration	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 has experienced a monotonically declining trend. Even then, in the year 2007-08, it has constituted 62.17 per cent of the GDP at factor cost. So we can expect that the broad sectoral composition of the GDP should be reflected in the private consumption basket also. According to National Accounts Statistics, in the year 2007-08 services constituted 32.4 per cent of the PFCE. So, though more than 55 per cent of our GDP is constituted by the service sector, only 32.4 per cent of our consumption basket is consists of services. So there is a substantial mismatch between the contribution of services in GDP and the private consumption demand for services. This indicates the other sources of demand for services; exports and use as intermediate input are also important component of service demand.

There are some difference of opinion regarding what is the most influential component of increasing demand of services that is causing the high growth of services. The competing arguments are the following—a) the major component of incremental demand is coming from the external economy; b) the major component of incremental demand of services is coming from increasing consumption demand which is caused either by increasing income of all or by much large increase in the income of the richer section of the society. Historically it has been seen countries at the level of India's per capita income, the GDP is dominated by industries. So the growth of increasing consumption demand for services is most probably coming from increasing income inequality. C) the demand for services has increased due to greater use of it as 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 in last three decades (Nayyar, Eichengreen & Gupta, N.Singh). In fact the weak forward linkage of service sector, discussed in the previous sector, also indicates that.

Graph 4: Share of Consumption and Exports in Service Demand
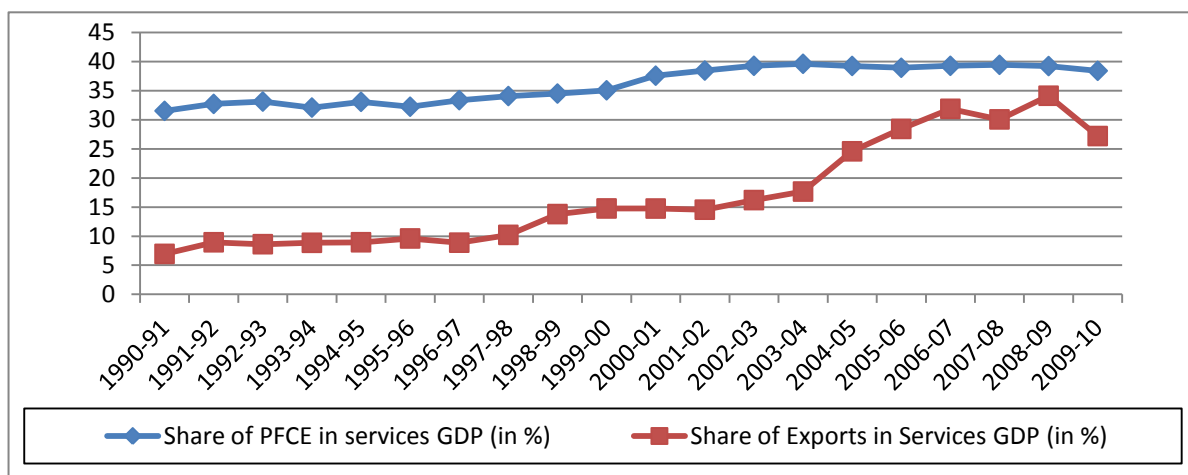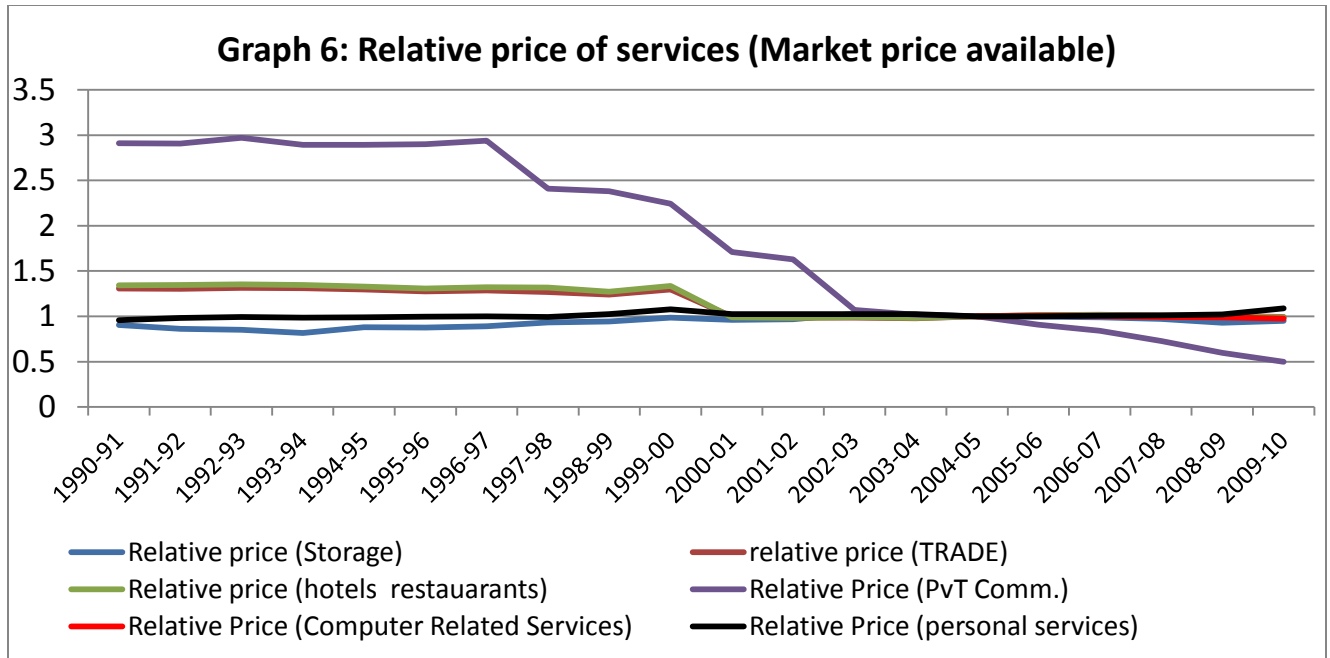

Source: NAS, CSO and RBI

According to CSO data, the share of PFCE in service GDP has gone up from roughly 31 to 35 per cent during the period 1990-91 to 2002-3. There after the consumption demand has grown at a similar growth rate of service GDP. So the consumption demand for services has grown at a faster rate than the total demand for services during the whole period of 1990-91 to 2009-10. The share of export demand in total service GDP has gone up from 7 per cent to 15 per cent during the period 1990-91 to 2002-03. But thereafter, 2006-07 onwards, it has mainly moved around 30% of the GDP. So export of services has grown faster than total service GDP. It only indicates the previous point that the intermediate use demand for services is growing at a much lower rate than the service growth. A substantive contribution of service GDP is coming from service exports. But only 50 per cent of India's service exports comes from computer services. Business services' (the computer services are the most important component of it) contribution to total services growth, which is 9.09 per cent, is 0.75 percentage at the period 1992-93 to 2002-03 and 1.42 percentage point out of 10.70 per cent at the period 2003-04 to 2009-10 . So though increase in exports of services is a important factor behind the increase in demand for services;

may be its contribution is bit exaggerated; the consumption demand also has played an important role in increasing demand for services.
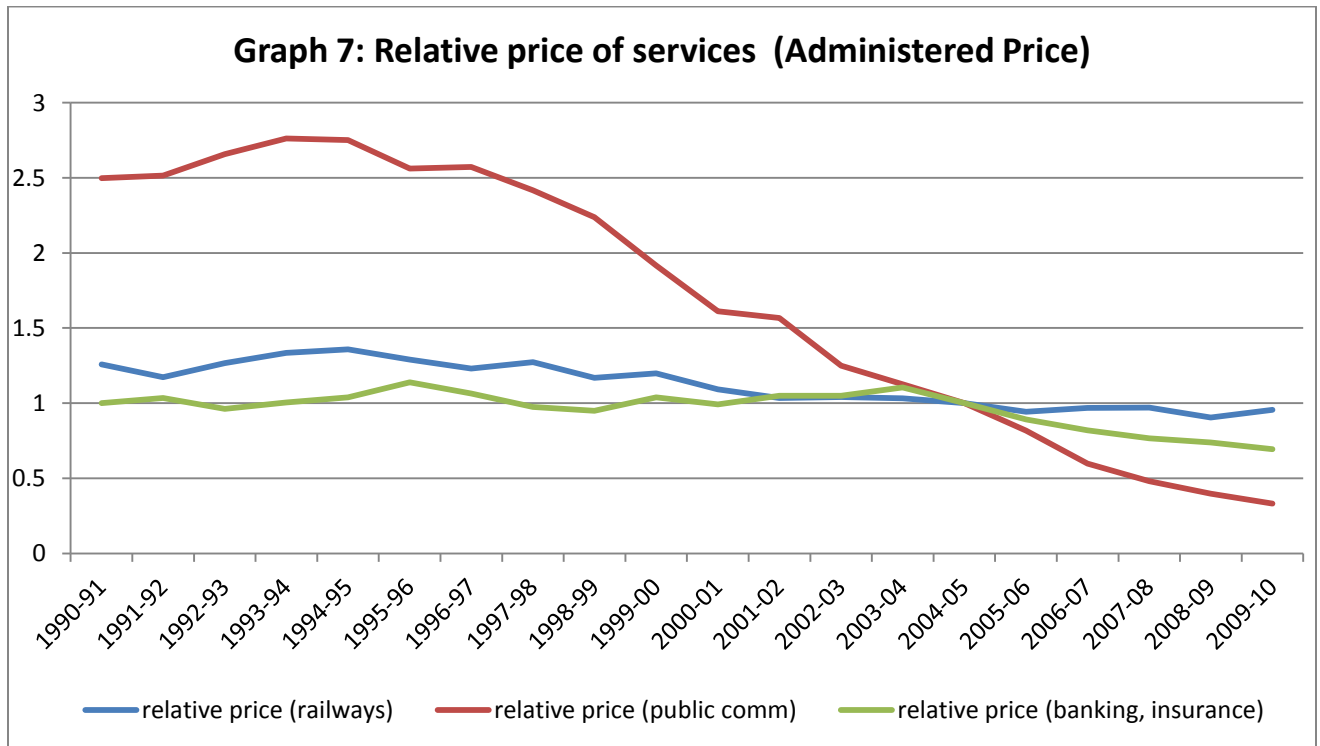
Now the question is why the consumption demand for services is going up? Is it because of decline in relative price or due to income effect or both? The decline in the relative price of services also can increase the demand for services. If the relative prices of services comes down, where there is a possibility of substitution exists, the service consumption should go up. The relative price of services (measured as ratio between service GDP deflator to GDP deflator) has indeed come down over the years, with the exception to the period of 1996-97 to 2003-04. So there is this possibilities that the demand for services to go up during the period of 1990-91 to 1996-97 and 2003-04 to 2009-10 and the demand for services to come down during the period of 1996-97 to 2003-04 due to the change in relative price of services. The problem is most of service sectors does not have market determined prices. So there is limited implication of relative price of services as a whole. We have disaggregated the service sector into three categories—first, those whose market price is available; second, have largely administered price and third, the remaining sectors. The relative price of services in first category are declining from the year 2000-01 onwards. The only exception is the relative price of personal services, which is stagnated. The service sectors of the second category have the similar declining trend in relative price. The most of the service sectors in the third category also shows the opposite trend. The relative price of health &Education, road transport (it has both market as well as administered price) show an upward trend.
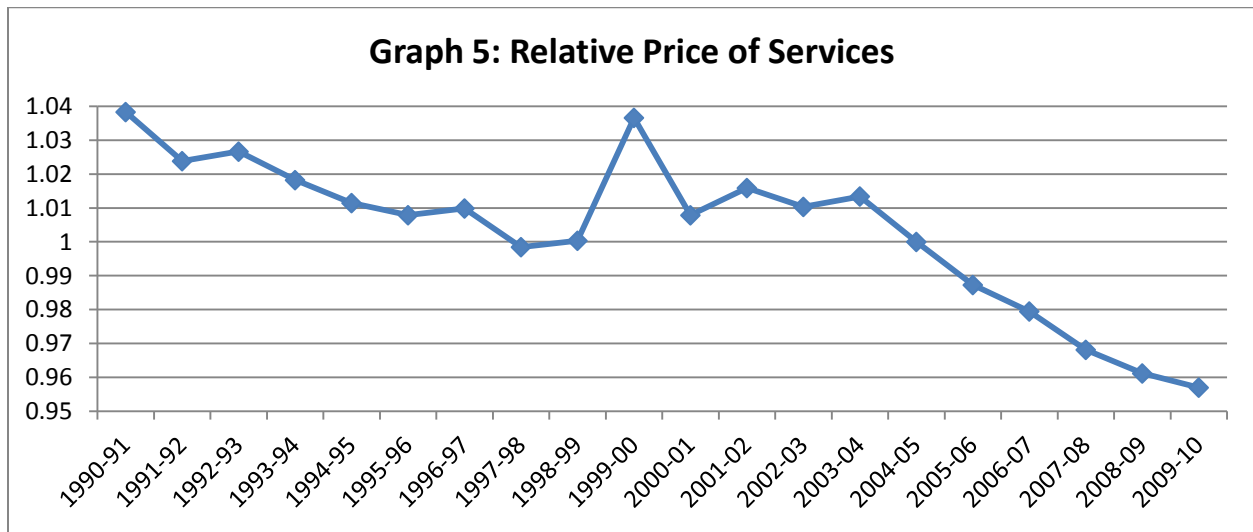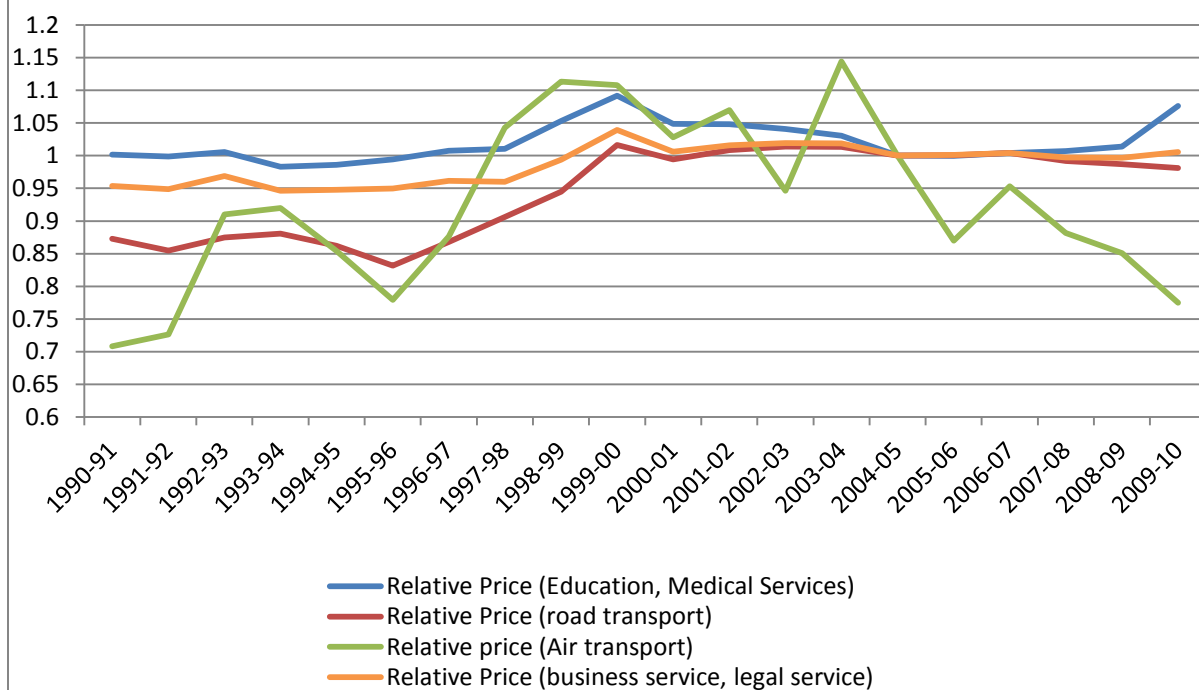

Note: Relative price of services is measured as ratio between service GDP deflator to GDP deflator.
Source: National Accounts Statistics. It holds for the other graphs on relative price of services

Graph 6: Relative price of services (Market price available)

Legend:
- Relative price (Storage)
- relative price (TRADE)
- Relative price (hotels restauarants)
- Relative Price (PvT Comm.)
- Relative Price (Computer Related Services)
- Relative Price (personal services)

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

Graph 7: Relative price of services (Administered Price)

Legend:
- relative price (railways)
- relative price (public comm)
- relative price (banking, insurance)

Graph 8: Relative price of services (Rest of the Sectors)

Relative Price (Education, Medical Services)
Relative Price (road transport)
Relative price (Air transport)
Relative Price (business service, legal service)

As income is going up it should increase the demand for service if services are not the inferior goods. Nayyar (2010) estimates the Engel curve for the period 1993-94 and 2004-05 using NSSO household survey data on consumption. Using censored quantile regression estimates, he argues that the estimates revealed upward sloping Engel curves for six[2] categories of services and for services in the aggregate. Moreover, these results showed that as total household expenditure increases, the increase in 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 has claimed to lends credence to the view that high expenditure or income elasticity of demand for services along with increasing income inequality are an important explanation for the increasing importance of the services sector in India.

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[2] education, health, entertainment, personal services, communication and transport

To understand it better, we have tried to find out who are the people consuming more services. We have identified the following classes from the NSSO household survey on consumption. The urban classes[3] are — Workers, Urban skilled, owners & managers and Professionals. The rural classes[4] 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 the urban classes. The share of services in total expenditure is also much lower for the rural classes than the urban classes. This indicates as the proportion of urban population is increasing, the demand for services is going up.

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[3] **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.

[4] **Rural Classes**
1.   **Rural elite** 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 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 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 labor (hh type= 2)

4.   **Non Agricultural Workers** are those manual labor living in rural areas and working 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	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, 50th and 66th Round

The consumption expenditure in total as well as on services by the owners and managers was highest in the year 1993-94. But by the year 2009-10, the urban professionals has the highest consumption expenditure in aggregate as well as on services; followed by urban owners and managers[5] and urban skilled (Associate Professional and clerks). The workers have the least expenditure on services among the urban classes. The rural classes have experienced fast growth in service consumption expenditure during the period of 1993-94 to 2009-10, though from very low base. It may be because of increasing relative price of health & education and road transport along with the spread of telecommunication services in the rural India. The service consumption by the urban professionals during the period of 1993-94 to 2009-10, has grown fastest among the urban classes followed by the urban skilled.

Summing Up: The growth structures, which theoretically should arise from the theories of Kaldor and Baumol, do not match with the Indian growth structure. Because these theories has provided production structure based explanations for the GDP growth structure. The demand components — the increasing exports and consumption demand, arise due to worsening of income distribution and decline in relative price seems to explain the Indian growth structure better.

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[5] As a caveat, we could not separate out the owners and managers of SSI and SME from the rest of this class.

References:

Bosworth, Collins and Virmani (2007), NBER Working Paper

Dasgupta, S. and Ajit Singh (2005), Will Services Be The New Engine Of Economic Growth In India?, Working Paper No. 310, Centre for Business Research, University of Cambridge

Eichengreen, B. and Poonam Gupta, (2010), The Service Sector as India's Road to Economic Growth? Working Paper No. 249, ICRIER

Hansda, (2001), RBI Working Paper

Nayyar, G. (2009), The Demand for Services in India: A Mirror Image of Engel's Law for Food? Number 451, DISCUSSION PAPER SERIES, Dept. of Economics

Singh, N (2006), Services-Led Industrialization in India: Prospects and Challenges, Working Paper No. 290, Stanford Center For International Development

Valli, V. and Donatella Saccone (2009), Structural Change and Economic Development in China and India, The European Journal of Comparative Economics Vol. 6, n.1, pp. 101-129