

INTERSTATE VARIATIONS IN THE DEVELOPMENT OF THE SERVICES SECTOR ON THE EVE OF ECONOMIC REFORMS

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ABSTRACT

The structural break in the growth of the share of services sector in India occurred in the early 80s much before the economic reforms were formally adopted is now confirmed by many studies on services sector. This prompted us to look into the growth of services sector across the Indian states during the decade of 80s. The objective of this paper is to bring out the level of development of services sector in 17 major states on the eve of economic reforms and assess the extent of interstate variations that existed in this sector. The analysis of data revealed that in 1980s the share of services sector in the net state domestic product increased in all the 17 states except Punjab. By the early 90s, when the economy was just opening up, services sector had already emerged as the largest sector contributing to net state domestic product in 9 states. The extent of interstate variations were found to be very low in this sector compared to other sectors implying that services sector was growing evenly across the states on the eve of economic reforms.

Keywords: Economic reforms, Interstate variations, NSDP, Services sector

1. INTRODUCTION

Services sector is the largest contributor to the national income and the fastest growing sector of Indian economy. Today it contributes almost 60 percent to gross domestic product. On analyzing the trends in the share of services sector in gross domestic product in India during the post independence period from 1950-51 to 2013-14, it is seen that its share grew at the rate of 1.2 percent per year and the actual break in the growth of services sector took place in early 80s. By mid 1980s it had emerged as the biggest sector of Indian economy in terms of its share in gross domestic product, this is now confirmed by many different studies in economic literature on India. The early 1980s saw some significant changes in the political and economic scenario of the country. Indira Gandhi again came to power effectively in the beginning of this period. The Green Revolution had substantially matured and India had become self-sufficient in food by this

time .An upturn in industrial production also started in early 1980s. When the sixth five year plan was launched, India was facing severe balance of payments difficulties. So in 1981, India entered into an arrangement with IMF for a loan of five billion dollars which had its attached conditionality's that set the process of liberalisation of Indian economy rolling, albeit at a slow pace. Also after three decades of independence per capita incomes had considerably improved . All these factors may have led to a change in the economic dynamism of the economy in the 30 years of independence and as a consequence the pattern of growth of various sectors may also have been affected. It may be noted that this was a decade before economic reforms were fully and formally adopted , so it is debatable whether economic reforms were actually responsible for the structural break in the growth of services sector which today engine driving India's growth .

In a country of the size and diversity of India it is very unlikely that services sector has developed to the same extent and pattern in different states. The states in India differ from one another on account of topography, availability of river and underground water, variations in temperature, level of rainfall, soil types, size, location , levels of development , socio-cultural and linguistic variations . Given these wide dissimilarities across the Indian states, it is very unlikely that services sector may have developed at a uniform pace and pattern throughout the country. Thus, there is a good case to compare and analyse the pattern of development of services sector across the states of India or in other words to study the services sector at a disaggregated level on the eve economic reforms. The focus of the present study, therefore, is to analytically describe the variations in the level and pattern of development of services sector across the states in early 80s and early 90s.

The data used in the empirical exercise carried out in this chapter are drawn from the estimates of net state domestic product at factor cost at 1980-81 constant prices published by Central Statistical Organisation. It may be mentioned that the concept of net state domestic product indicates the income originating in a state and these data on net state domestic product are widely used in interstate comparisons in India. In the present exercise we have used cross-section data on net state domestic product at factor cost at constant prices (1980-81 prices) for the early 1980s (average for three years ending 1982-83) and early 1990s (average for three years ending 1992-93). It may be mentioned that in the present exercise only 17 major states of India are compared following the widely used procedures in the literature on interstate comparisons.

2. SECTION I

Pattern of development of services sector across the states in early 80s

The percent share of services sector in net state domestic product is taken as the indicator of the level of development of the services sector in a state. Information on the percent share of services sector in net state domestic product in the 17 major states in the early 1980s is given in table1. The share of the two other main sectors in net state domestic product is also presented in this table for the purpose of comparison. The percent share figure is the average for the triennium ending 1982-83.

TABLE 1: SHARE OF SERVICES SECTOR AND OTHER SECTORS IN NET STATE DOMESTIC PRODUCT : EARLY 1980s

Sr. No.	State	Services Sector(%)	Secondary Sector(%)	Primary Sector(%)
1.	Andhra Pradesh	35.8	16.5	47.7
2.	Assam	39.9	11.7	48.4
3.	Bihar	28.8	20.4	50.8
4.	Gujarat	32.3	26.9	40.8
5.	Haryana	28.5	19.1	52.4
6.	Himachal Pradesh	31.4	19.3	49.3
7.	Jammu & Kashmir	40.1	13.1	46.8
8.	Karnataka	33.7	20.0	46.3
9.	Kerala	37.4	24.3	38.3
10.	Madhya Pradesh	26.7	17.9	55.4
11.	Maharashtra	38.5	33.9	27.6
12.	Orissa	30.5	14.4	55.1
13.	Punjab	30.9	18.9	50.2
14.	Rajasthan	29.4	17.6	53.0

15.	Tamil Nadu	40.5	32.9	26.0
16.	Uttar Pradesh	32.6	15.6	51.8
17.	West Bengal	39.8	29.5	30.7
\bar{X} Mean (X)		33.9	20.7	45.4
Coefficient of Variation (%)		13.3	31.4	20.0

Source : C.S.O. Publications

A careful look at the information given in this table reveals some distinct features of the level of development of services sector across the states in the early 1980s. It is observed that the share of services sector in net state domestic product was the highest in Tamil Nadu (40.5 percent), closely followed by Jammu and Kashmir (40.1 percent), Assam (39.9 percent), West Bengal (39.8 percent) and Maharashtra (38.5 percent). On the other hand, the share of services sector in net state domestic product was the lowest in states of Madhya Pradesh (26.7 percent), Haryana (28.5 percent), Bihar (28.8 percent) and Rajasthan (29.4 percent). It may also be noted that there was considerable variation in the level of development of services sector across the states in the early 1980s. The mean share of services sector in net state domestic product for all the 17 states was 33.9 percent; in 7 states the share of services sector in net state domestic product share was higher than the mean and in 10 states lower than the mean. The coefficient of variation in the percent share of services sector in net state domestic product was 13.3 percent and the gap between the largest services sector share state (Tamil Nadu, 40.5 percent) and the lowest services sector share state (Madhya Pradesh, 26.7 percent) was of 13.8 percent points; putting it another way, the share of services sector in net state domestic product in Madhya Pradesh (lowest) was about 68 percent of that of Tamil Nadu (highest).

The comparison of interstate variations in the development of services sector with interstate variations in the development of primary and secondary sectors (on the basis of their respective shares in net state domestic product) reveals that interstate variations in the development of services sector were the lowest (coefficient of variation being 13.3 percent) among the three main sectors; coefficient of variation in the case of primary sector being 20 percent and for secondary sector being 31.4 percent. In the case of primary sector interstate variations are not that high compared to the services sector, but in the case of development of secondary sector wide variations among the states are observed. The highest share of secondary sector in net state domestic product (Maharashtra, 33.9 percent) was almost 3 times of the lowest (Assam, 11.7

percent). On the basis of these comparisons of interstate variations in the development of different sectors, we may conclude that in the early 1980s the services sector was more evenly developed across the major Indian states compared to primary and secondary sectors. Comparison of the share of services sector in net state domestic product with the share of the other two sectors reveals that in states of Maharashtra, Tamil Nadu and West Bengal the services sector had emerged as the largest sector by the early 1980s. It may also be noted that in these three states the secondary sector was also fairly highly developed in terms of percent share in net state domestic product.

Pattern of development of services sector across the states in early 90s

Information on the level of development of services sector in these 17 major states in early 1990s is presented in table 2. The share of services sector and other main sectors in net state domestic product presented in this table is average for the three years ending 1992-93.

TABLE 2: SHARE OF SERVICES SECTOR AND OTHER SECTORS IN NET STATE DOMESTIC PRODUCT: EARLY 1990s

Sr. No.	State	Services Sector(%)	Secondary Sector(%)	Primary Sector(%)
1.	Andhra Pradesh	42.1	17.9	40.0
2.	Assam	45.5	10.7	43.8
3.	Bihar	32.3	24.4	43.3
4.	Gujarat	38.4	34.5	27.1
5.	Haryana	31.9	22.9	45.2
6.	Himachal Pradesh	37.1	23.8	39.1
7.	Jammu & Kashmir	45.8	16.6	37.6
8.	Karnataka	40.5	23.3	36.2
9.	Kerala	40.4	24.1	35.5
10.	Madhya Pradesh	32.5	20.1	47.4

11.	Maharashtra	45.0	34.5	20.5
12.	Orissa	38.5	18.6	42.9
13.	Punjab	28.5	22.6	48.9
14.	Rajasthan	34.0	18.8	47.2
15.	Tamil Nadu	44.6	30.8	24.6
16.	Uttar Pradesh	37.2	19.2	43.6
17.	West Bengal	41.0	26.9	32.1
$\bar{M}ean (X)$		38.7	22.9	38.5
Coefficient of Variation (%)		13.9	26.7	20.5

Source : C.S.O. Publications

From a careful perusal of this information it is evident that in the early 1990s services sector was most developed (in terms of share in net state domestic product) in Jammu and Kashmir (45.8 percent), followed closely by Assam (45.5 percent), Maharashtra (45.0 percent) and Tamil Nadu (44.6 percent). On the other hand, the share of services sector in net state domestic product was the lowest in Punjab (28.5 percent), Haryana (31.9 percent), Madhya Pradesh (32.5 percent) and Bihar (32.3 percent). Information given in table 2 also reveals that by early 1990s. Services sector had emerged as the largest sector (in terms of percent contribution to net state domestic product) in 9 states namely Gujarat, Maharashtra, Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, West Bengal, Assam and Jammu & Kashmir. When we compare this information with that given in table 1, it comes out that in just one decade, the number of states in which services sector had become the largest sector has jumped from 3 to 9. However, in none of these 9 states the share of services sector in net state domestic product had yet crossed the 50 percent mark. The primary sector was the largest sector in the remaining 8 states; secondary sector did not attain the status of the largest sector in any state. The states in which services sector had become the largest sector by 1990s, however, show a quite varied pattern in the development of the secondary sector. Whereas the share of secondary sector was fairly high in three of these nine states, namely, Gujarat (34.5 percent), Maharashtra (34.5 percent) and Tamil Nadu (30.8 percent); others like Andhra Pradesh (17.9 percent), Jammu & Kashmir (16.6 percent) and Assam (10.7 percent) showed a very low level of secondary sector development. This suggests

that the association between the development of services sector and secondary sector across the state was far from perfect.

The degree of interstate variations in the development of services sector in the early 1990s did not differ much from that in early 1980s; coefficient of variation being 13.9 percent in the early 1990s compared to 13.3 percent in early the early 1980s. Interstate variations in the development of primary sector and secondary sector remained higher (compared to the services sector) even in the early 1990s as was the case in the early 1980s. So one may conclude that in the early 1990s also the development of services sector across major Indian states was more even compared to the development of primary and secondary sectors. Further examination of information presented in tables 1 and 2 also suggests an interesting regional pattern in the development of services sector. In general, the services sector was relatively more developed (in terms of share in net state domestic product) in the states on the sea coast compared to the non-coastal, hinterland states. In fact, 7 out of the 9 states in which services sector had emerged as the largest sector by early 1990s are located on the sea-coast ; the remaining two (Assam and Jammu & Kashmir) have the distinction of being hilly as well as border states. Similarly, services sector was relatively more developed in the southern states compared to central and north western states.

3. SECTION II

Growth of share of Services sector in net state domestic product from early 1980s to early 1990s

The comparison of information presented in tables 1 and table 2 also reveals that the share of services sector in net state domestic product had increased during the decade of 1980s (i.e. from early 1980s to early 1990s); in the case of all the major states except Punjab. Only in the case of Punjab there had been a decline in the share of services sector in net state domestic product from 30.9 percent in early 1980s to 28.5 percent in early 1990s; may be due to faster development of the agricultural sector which dominates the Punjab economy. It may also be noted that during the 1980s, the share of secondary sector in net state domestic product had also increased in most of the states, except in Kerala, Tamil Nadu, West Bengal and Assam where it had declined. The share of primary sector in net state domestic product had gone down in all the states except West Bengal where it had slightly increased.

The increase in the share of services sector in net state domestic product during the decade of 1980s (early 1980s to early 1990s) occurred at different rates in different states. The information on percent per year rate of increase in the share of services sector in net state domestic product in different states during the 1980s is presented in table 3.

TABLE 3: CHANGE IN THE SHARE OF SERVICES SECTOR IN NET STATE DOMESTIC PRODUCT: EARLY 1980s TO EARLY 1990s

Sr. No.	State	Total increase in percent share of Services Sector in NSDP (early 90s – early 80s)	Percent per year increase in share of Services Sector in NSDP (early 80s to early 90s)
1.	Andhra Pradesh	6.2	1.6
2.	Assam	5.6	1.3
3.	Bihar	3.5	1.2
4.	Gujarat	6.1	1.7
5.	Haryana	3.4	1.1
6.	Himachal Pradesh	5.7	1.7
7.	Jammu & Kashmir	8.4	1.9
8.	Karnataka	6.8	1.9
9.	Kerala	3.0	0.8
10.	Madhya Pradesh	5.8	1.9
11.	Maharashtra	6.5	1.6
12.	Orissa	8.0	2.4
13.	Punjab	-2.5	-0.7
14.	Rajasthan	4.6	1.5
15.	Tamil Nadu	4.1	0.9
16.	Uttar Pradesh	4.6	1.3
17.	West Bengal	1.2	0.3
Mean (X)		4.8	1.4
Coefficient of Variation		39.6	36.7

Note: Percent per year rate of change in the NSDP share of Services sector is computed using the formula:

$$\text{Percent per year rate of change} = \left[\text{Antilog} \left(\frac{\log X_1 - \log X_0}{t} \right) - 1 \right] \times 100$$

where X_1 = Percent share of a sector in NSDP in early 1990s.

X_0 = Percent share of a sector in NSDP in early 1980s.

t = 10 years

It may be seen that the fastest increase in the share of services sector in net state domestic product occurred in Orissa (2.4 percent), followed by Madhya Pradesh (1.9 percent), Jammu & Kashmir (1.9 percent), Karnataka (1.9 percent); and the lowest increase in the share of services sector in net state domestic product occurred in West Bengal (0.3 percent), Kerala (0.8 percent) and Tamil Nadu (0.9 percent). In Punjab, of course, the share of services sector in net state domestic product actually declined at the rate of 0.7 percent per year. The mean of growth rates was 4.7 percent. The variation in the growth rates across the states was higher than the variations (with a coefficient variation of 23.4 percent) in their percent shares. This increase in the share of services sector in net state domestic product from early 1980s to early 1990s occurred because net state domestic product originating in services sector grew at a faster rate compared to the net state domestic product in the other sectors during this period in most of the states. This hypothesis is elaborated further in the next section.

4. SECTION III

Growth of a sector relative to other sectors of the economy : Kuznet's Hypothesis

The percent per year rate of change (increase or decrease) in the share of a sector in net state domestic product depends on the rate of growth of net state domestic product originating in that sector relative to the rate of growth of net state domestic product originating in other sectors of the economy. This can be shown mathematically using a procedure and formulation originally suggested and used by Simon Kuznets to show the decline in the share of agricultural sector in gross domestic product.

Let the output (gross domestic product originating in the sector) of sector A = X

And the output of all other sectors of the economy = Y .

Total output (total gross domestic product) of the economy = $X + Y = Z$

Let r_a be the rate of growth (percent per year) of output of sector A

And r_b be the rate of growth of output of all other sectors of the economy taken together. Output of Sector A after one year or in the second period will be

$$X_1 = X_o (1 + r_a) \quad \dots\dots\dots(1)$$

Output of all other sectors after one year or in the second period will be

$$Y_1 = Y_o (1 + r_b) \quad \dots\dots\dots(2)$$

Now share of Sector A in total output after one year will be

$$\frac{X_1}{Z_1} = \frac{X_1}{X_1 + Y_1} \quad (\because Z_1 = X_1 + Y_1)$$

Substituting from (1) and (2)

$$\frac{X_1}{Z_1} = \frac{X_o (1 + r_a)}{X_o (1 + r_a) + Y_o (1 + r_b)}$$

$$\frac{X_o (1 + r_a) + Y_o (1 + r_b)}{X_o (1 + r_a)} = \frac{Z_1}{X_1}$$

$$1 + \frac{Y_o (1 + r_b)}{X_o (1 + r_a)} = \frac{Z_1}{X_1}$$

$$\frac{Y_o (1 + r_b)}{X_o (1 + r_a)} = \frac{Z_1}{X_1} - 1$$

$$\frac{1 + r_b}{1 + r_a} = \frac{X_o}{Y_o} \left(\frac{Z_1}{X_1} - 1 \right)$$

$\dots\dots\dots(3)$

Thus we see that there is a direct relation between the ratio of the rates of growth of output of two sectors and the movement of the ratio of the output (or share of) of Sector A to the total output. So if the rate of growth of Sector A is higher than the rate of growth of all other sectors then subsequently its proportional share in total output will increase and vice versa. If the rates of growth of both the sectors are equal then their shares in total output will remain unchanged or constant.

Put $r_a = r_b$ in (3)

$$\frac{1 + r_a}{1 + r_a} = \frac{X_o}{Y_o} \left(\frac{Z_1}{X_1} - 1 \right)$$

$$1 = \frac{X_o}{Y_o} \left(\frac{Z_1}{X_1} - 1 \right)$$

$$\frac{Y_o}{X_o} + 1 = \frac{Z_1}{X_1}$$

$$\frac{Y_o + X_o}{X_o} = \frac{Z_1}{X_1}$$

$$(\because X_o + Y_o = Z_o)$$

$$\frac{Z_o}{X_o} = \frac{Z_1}{X_1}$$

Or $\frac{X_o}{Z_o} = \frac{X_1}{Z_1}$

So the share of two sectors in gross domestic product after one year remains the same. It is thus clear that the change in the share of a sector in gross domestic product depends on its relative growth rate compared to the rate of growth of rest of the economy (all other sectors combined).

$$\frac{I + r_b}{I + r_a} = \frac{X_o}{Y_o} \frac{Z_1}{X_1} - I \dots\dots\dots(3)$$

Thus we see that there is a direct relation between the ratio of the rates of growth of output of two sectors and the movement of the ratio of the output (or share of) of Sector A to the total output. So if the rate of growth of Sector A is higher than the rate of growth of all other sectors then subsequently its proportional share in total output will increase and vice versa. If the rates of growth of both the sectors are equal then their shares in total output will remain unchanged or constant. Kuznets hypothesis clearly comes out in table 4.

TABLE 4: NET STATE DOMESTIC PRODUCT ORIGINATING IN DIFFERENT SECTORS: GROWTH RATES (EARLY 1980s TO EARLY 1990s)

Sr. No.	State	Percent per year growth rate				
		Services Sector	Secondary Sector	Primary Sector	Commodity Sector (Primary + Secondary)	Total NSDP
1.	Andhra Pradesh	5.8	4.8	2.0	2.8	3.9
2.	Assam	4.8	2.5	2.4	2.5	3.6
3.	Bihar	5.2	5.9	2.3	3.4	4.0
4.	Gujarat	6.8	7.6	0.8	3.9	4.9
5.	Haryana	7.4	8.2	4.6	5.8	6.2
6.	Himachal Pradesh	6.4	6.9	2.1	3.8	4.6
7.	Jammu & Kashmir	3.9	5.1	0.4	1.7	2.6
8.	Karnataka	7.4	7.0	2.9	4.3	5.4
9.	Kerala	4.4	3.5	2.8	3.1	3.6
10.	Madhya Pradesh	6.2	5.3	2.4	3.2	4.1
11.	Maharashtra	7.8	6.3	2.9	4.9	6.1

12.	Orissa	5.7	5.8	0.8	2.0	3.4
13.	Punjab	4.2	6.9	4.8	5.4	5.1
14.	Rajasthan	8.4	7.5	5.5	5.9	6.8
15.	Tamil Nadu	6.4	4.7	4.5	5.6	5.4
16.	Uttar Pradesh	6.0	6.8	2.8	3.9	4.6
17.	West Bengal	5.2	3.9	5.4	4.7	4.9
Mean (X)		6.0	5.8	2.9	3.9	4.7
Coefficient of Variation (%)		21.7	17.2	51.2	32.2	23.4

Note: Percent per year rate of growth in the NSDP originating in a sector is computed using the formula:

$$\text{Percent per year rate of growth} = \left[\text{Antilog} \left(\frac{\log X_1 - \log X_0}{t} \right) - 1 \right] \times 100$$

where X_1 = NSDP of a sector in early 1990s.

X_0 = NSDP of a sector in early 1980s.

t = 10 years

The growth rates of net state domestic product originating in services sector and the other two main sectors for the decade of 1980s (i.e. early 1980s to early 1990s) are presented in table 4. A careful look at the percent per year growth rates of net state domestic product originating in services sector in the different states reveals that Rajasthan had the highest growth rate (8.4 percent), followed closely by Maharashtra (7.8 percent), Karnataka and Haryana (7.4 percent) respectively. On the other hand, Jammu & Kashmir (3.9 percent), Punjab (4.2 percent) and Kerala (4.4 percent) show relatively lower growth rates of net state domestic product originating in Services sector during this decade . It may be seen from table 4 that during the decade of 1980s in all the states, except Punjab, the net state domestic product originating in services sector grew at a higher rate compared to net state domestic product originating in the commodity sector. That is why in all the states, except in Punjab, the share of services sector in net state domestic product increased during this period. In Punjab, however, the share of services sector in net state domestic product went down during the 1980s because net state domestic product originating in the commodity sector grew at a higher rate compared to net state domestic product originating in the services sector. It can be clearly seen from table 3 that in case of Punjab there is a decline in the share of services sector of 2.5% from 80s to 90s . The reasons for such a pattern need to be further explored by locating the various determinants of this heterogeneity across states .

5. CONCLUSION

The main conclusions that emerged from the above discussion may be recapitulated as follows: in the early 80s the mean share of services sector across the states was 33.9 percent, only in 2 states namely Tamil Nadu and West Bengal its share was the largest in net state domestic product; by early 1990s the services sector had emerged as the largest sector in 9 out of 17 major states of India and the mean percent share of services sector in net state domestic product across these states was about 39 percent; the services sector was quite evenly developed in these 17 states during this decade as indicated by the low coefficient of variation that is to say that the interstate variations in its share in net state domestic product were quite low compared to primary and secondary sectors; during the decade of 1980s, the share of services sector in net state domestic product increased at different rates; the mean of growth rates in the share of services sector in net state domestic product being 4.7 percent, with a coefficient variation of 23.4 percent; the growth rate of net state domestic product originating in services sector was higher compared to growth rate of total net state domestic product and that of the commodity sector in every state during this period except for Punjab that is why other than Punjab in all other states the share of services sector increased.

Thus it can be concluded that in the decade of 1980s the net state domestic product originating in services sector had been growing faster than all the other sectors that led to it emerging as the largest sector in many states. After 30 years of independence on the eve economic reforms the services sector was growing not only faster than the other sectors in most of the states but also quite uniformly.

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