

FACTORS DETERMINING THE INTERSTATE VARIATIONS IN THE DEVELOPMENT OF SERVICES SECTOR

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Abstract

It is well established that considerable interstate variations exist in the development and structure of Services sector. In this paper an attempt is made to identify and isolate some important factors that may have been responsible for the observed interstate variations in the development of Services sector and its sub-sectors before the onset of economic reforms that in the decade of 80s. The impact of eight explanatory on the growth of services sector and its subsectors was assessed and only in case of Banking and Insurance sector all the factors showed an positive and significant impact hinting thereby that this subsector was the major driver propelling services sector. However a more rigorous econometric exercise needs to be undertaken to bring out the role of all the factors by controlling others.

Keywords : Interstate variations, Per capita income, Services sector subsectors

Introduction

It is well established that considerable interstate variations exist in the development and structure of Services sector. In this paper an attempt is made to identify and isolate some important factors that may have been responsible for the observed interstate variations in the development of Services sector and its sub-sectors before the onset of economic reforms that in the decade of 80s. The observed differences in the level of development and structure of Services sector and its sub-sectors among Indian states are the combined result of various economic, sociological, historical, geographical, institutional and other factors. It is not possible to analyze the role of all the factors that may have been responsible for the observed interstate variations in the development of Services sector. Basing on the clues from the review of literature and from the time series analysis presented in earlier two chapters, and keeping in view the availability of data, a few important explanatory variables have been selected for analyzing the interstate variations in the development of Services sector enumerated below:

Per Capita Income; It is the average per capita income (at constant 1980-81 prices) for early 1980s (1980-81 to 1982-83) and early 1990s (1990-91 to 1992-93). The three year average is taken to eliminate the short run fluctuations in per capita income. This variable is the main indicator of the level of development of a state and is expected to have a positive influence on the development of Services sector.¹**Population;** It is measured in crores and pertains to 1981 and 1991 census years. Population size is one of the determinants of the size of the economy of a state and may have some positive influence on the development of Services sector. This variable has been tried in some earlier studies on Services sector.²**Total Net State Domestic Product;** Total net state domestic product is 3 yearly average for early 1980s and 1990s, measured at 1980-81 constant prices. Total net state domestic product indicates the size of the economy of a state and is expected to have a positive impact on the growth of Services sector.³**Net state domestic product originating in the Primary sector ;** It is also a 3 yearly average for early 1980s and 1990s and is at constant 1980-81 prices. It is expected to reveal whether or not the size of Primary sector influences the development of Services sector across the states. A positive coefficient of this variable is expected on the basis of earlier studies. Net state domestic

product originating in the Secondary sector; It is also a three yearly average for early 1980s and early 1990s and is at constant 1980-81 prices. It will indicate whether or not the size of the Secondary sector influences interstate variations in the development of Services sector. A positive coefficient of this variable is hypothesized on the basis of earlier studies. Net state domestic product originating in Commodity sector; This variable is formed by adding together net state domestic product in Primary and Secondary sectors. It will help in analysing the impact of the size of commodity producing sector on the development of Services sector. A positive coefficient of this variable is expected on the basis of earlier studies.⁴ Percent population above poverty line; In addition to per capita income this variable indicates the level of prosperity of population of a state. It is expected to have a positive influence on the growth of Services sector, that is, higher the percent of population above the poverty line, more the development of Services sector.⁵ Percent of Urban Population in Total Population; It indicates the degree of urbanization of a state. The percent of urban population in total population is expected to have a positive impact on the development of Services sector and its sub-sectors in a state.⁶ Percent share of Services sector and its sub-sectors in net state domestic product is the dependent variable.

SECTION I

REGRESSION RESULTS

Ideally, one should study the net impact of explanatory variables on the dependent variable by including all the possible determinants of the dependent variable under investigation. But such a specification of regression model is almost never possible because of many practical constraints; one of which is the inadequate number of observations compared to the number of explanatory variables. For example, in our case number of observations is only 17, so the maximum number of explanatory variables that can be included together should not exceed 3. It means that a fuller specification of the multiple regression model cannot be achieved by including all the relevant explanatory variables. A possible way out of this constraint created by the small number of observations is to pool the cross-section data for early 1980s and early 1990s. This pooling will increase the number of observations to 34 and it will be possible to include upto 6 explanatory variables at a time.

Testing the validity of pooling

But before proceeding to pool cross-section data for early 1980s and early 1990s, it is necessary to find out whether or not the data under consideration can be legitimately pooled. It is to estimate a single regression for the pooled data by including slope and intercept dummy variables for one of the periods. The statistical significance of coefficients of these intercept and slope dummy variables will indicate whether the two regressions are different. If these are significantly different, pooling is not valid; otherwise a single equation can be estimated from pooled observations of the two periods.

The second procedure to test the validity of pooling was used. On the pooled data for the two periods a single regression equation was estimated for each explanatory and dependent variable set, using slope and intercept dummy variables for the early 1990s. The following regression equation was estimated for this purpose.

$$\log Y = a + b \log X + cD + dD \log X + e$$

where Y = Percent share of Services sector or its sub-sectors.

X = Explanatory variable.

D = 0 for each state in early 1980s.

= 1 for each state in early 1990s.

One needs to test whether in the case of this particular cross-section data at two points of time pooling will be statistically valid. Taking an overall view of the results one may conclude that the impact of some of the explanatory variables has been significantly different in the two periods; that is 1980s and 1990s. Hence, pooling of state wise cross-section data for early 1980s and early 1990s will not be statistically valid. Since

pooling of 1980s and 1990s data was not strictly valid, so the next best option was used i.e., separate regressions were estimated for early 1980s and early 1990s.

To begin with the influence of these explanatory variables on the development of Services sector and its sub-sectors is explored with Regression regression. The share of Services sector or sub-sector in net state domestic product is taken as the indicator of its development. So the dependent variable in these Regression regressions is percent share of Services sector or its sub-sectors in net state domestic product. Regression regression gives the gross or total impact of an explanatory variable on the dependent variable. For estimating the regressions double log functional form has been used. The reasons for preferring this functional form have already been described in Chapter IV. The coefficient of explanatory variable in the log-log form regression gives the percent change in the dependent variable for 1 percent change in the explanatory variable. The results of these Regression regression models are detailed in tables 6.1 to 6.8.

SECTION II

IMPACT OF PER CAPITA INCOME

To start with the results given in table 6.1 are taken up. These results show the impact of interstate variations in per capita income on interstate variations in the development of Services sector and sub-sectors in the cross-section of states, in early 1980s and early 1990s. It is observed that in early 1980s interstate variations in per capita income had no statistically significant impact on interstate variations in the development of Services sectors or its sub-sectors, except for the Banking and Insurance sub-sector. In the case of Services sector as a whole and Transport, Storage and Communication, Trade, Hotels and Restaurants, Public Administration, Real Estate, Ownership of Dwellings and Business Services and Other Services sub-sectors the regression coefficient is not significant even at 10 percent level. The R-square is also very low in all these cases. Only in the case of Banking and Insurance sub-sector the regression coefficient has the expected positive sign and is also statistically significant at 5 percent level. The behaviour of regression coefficients of per capita income follow almost the same pattern in early 1990s. In early 1990s too, the positive and significant impact of per capita income is visible only in the case of Banking and Insurance sub-sector. In Public Administration sub-sector a negative and significant coefficient of per capita income variable is observed, which is contrary to our expectation and the commonly accepted view about the growth of government expenditure. It suggests that in the early 1990s the percent share of Public Administration sub-sector was significantly lower in states with higher levels of per capita income. To sum up, the Regression analysis did not confirm⁷ the expected positive impact of level of per capita income on the development of Services sector and its sub-sectors in the case of cross-section of Indian states, except in the case of Banking and Insurance sub-sector.

TABLE – 6.1

**IMPACT OF PER CAPITA INCOME ON DEVELOPMENT OF SERVICES SECTOR AND SUB-SECTORS :
REGRESSION RESULTS**

(Cross - Section data for 17 States)

Independent Variable (Log Form) : Per Capita Income			
Eq. No.	Dependent Variable (Log Form) : Percent	Estimated Regression Coefficients	
		Early 1980s	Early 1990s

	Share in NSDP	R-square	Intercept	Per Capita Income	R-square	Intercept	Per Capita Income
1.	Services Sector	0.025	2.945	0.0773 (0.62)	0.018	4.094	-0.0586 (0.53)
2.	Transport Storage, Communication sub-sector	0.011	-0.296	0.178 (0.40)	0.077	-1.780	0.387 (1.12)
3.	Trade, Hotels and Restaurants sub-sector	0.033	1.301	0.185 (0.72)	0.001	2.349	0.0254 (0.14)
4.	Banking and Insurance sub-sector	0.234	-4.501	0.737 ^b (2.14)	0.233	-2.366	0.522 ^b (2.14)
5.	Real Estate, Ownership of Dwellings and Business Services sub-sector	0.041	3.660	-0.272 (0.80)	0.016	3.867	-0.325 (0.49)
6.	Public Administration sub-sector	0.096	3.277	-0.280 (1.26)	0.280	6.306	-0.631 ^b (2.42)
7.	Other Services sub-sector	0.001	1.846	-0.006 (0.03)	0.142	4.359	-0.326 (1.57)

Notes:

- Figures in the parenthesis are t values.
- ^b indicates 5% level of significance for a two-tailed test.

IMPACT OF POPULATION SIZE

The Regression results presented in table 6.2 bring out the impact of population size on the interstate variations in the percent share of Services sector and its sub-sectors. It can be clearly seen from the regression coefficients and their t-values that the differences in the population size among states had no significant impact on the development of Services sector and its four sub-sectors namely Trade, Hotels and Restaurants, Real estate, Ownership of dwellings and Business services, Banking and Insurance and Other Services in early 1980s.

Only in the case of Transport, Storage and Communication sub-sector the impact is on expected lines; the regression coefficient is positive and is statistically significant at 1 percent.

TABLE – 6.2**IMPACT OF POPULATION SIZE ON DEVELOPMENT OF SERVICES SECTOR AND SUB-SECTORS: REGRESSION RESULTS****(Cross - Section data for 17 States)**

Independent Variable (Log Form) : Population Size			
Eq. No.	Dependent Variable (Log Form) : Percent	Estimated Regression Coefficients	
		Early 80's	Early 1990s

	Share in NSDP	R-square	Intercept	Population Size	R-square	Intercept	Population Size
1.	Services Sector	0.001	3.520	−0.004 (0.10)	0.002	3.655	−0.007 (0.67)
2.	Transport Storage, Communication sub-sector	0.354	0.661	0.330 ^a (2.87)	0.239	0.832	0.265 ^b (2.17)
3.	Trade, Hotels and Restaurants sub-sector	0.048	2.451	0.064 (0.87)	0.168	2.397	0.113 ^c (1.77)
4.	Banking and Insurance sub-sector	0.100	0.774	0.156 (1.29)	0.069	1.481	0.110 (1.05)
5.	Real Estate, Ownership of Dwellings and Business Services sub-sector	0.033	1.737	−0.079 (0.72)	0.000	1.413	−0.019 (0.08)
6.	Public Administration sub-sector	0.277	1.376	−0.154 ^b (2.40)	0.256	1.792	−0.235 ^b (2.27)
7.	Other Services sub-sector	0.055	1.870	−0.061 (0.94)	0.075	1.991	−0.092 (1.10)

Note:

1. Figures in the parenthesis are t values.

2. **a, b, c** indicate 1%, 5% and 10% level of significance for a two-tailed test.

For Public Administration sub-sector we again get the odd result: increase in population size leads to a decrease in its percent share of net state domestic product; the regression coefficient has a negative sign and is significant at 5 percent level.

On a perusal of regression coefficients for early 1990s it is found that the differences in the population size among the states has a significant positive impact on the development of Transport, Storage and Communication and Trade, Hotels and Restaurants sub-sectors; the regression coefficients have the expected positive sign and are significant at 5 percent and 10 percent levels respectively. But in the case of Public Administration sub-sector, again as in early 1980s, the sign of regression coefficient is negative and it is significant at 5 percent level. It suggests that bigger the size of population in a state, on the average, smaller the percent share of this sub-sector in net state domestic product. In early 1990s, as well, no statistically significant relationship between population size and development of Services sector as a whole is observed; the regression coefficient is not statistically significant even at 10 percent level in the case of Services sector as a whole and three of its six sub-sectors.

IMPACT OF TOTAL NET STATE DOMESTIC PRODUCT SIZE

The Regression results on the influence of total net state domestic product on the interstate variations in the percent share of Services sector and its sub-sectors are detailed in table 6.3. It may be seen from these results that in early 1980s none of the coefficients is statistically significant even at 10 percent level. This clearly indicated that in early 1980s interstate variations in the development of Services sector and sub-sectors were not explained by interstate differences in the size of total net state domestic product.

TABLE – 6.3
IMPACT OF TOTAL NSDP SIZE ON DEVELOPMENT OF SERVICES SECTOR
AND ITS SUB-SECTORS : REGRESSION RESULTS
(Cross - Section data for 17 States)

Independent Variable (Log Form) : Total Net State Domestic Product							
Eq. No.	Dependent Variable (Log Form) : Percent Share in NSDP	Estimated Regression Coefficients					
		Early 1980s			Early 1990s		
		R-square	Intercept	Total NSDP	R-square	Intercept	Total NSDP
1.	Services Sector	0.083	4.020	–0.060 (1.16)	0.010	3.799	–0.017 (0.39)
2.	Transport Storage, Communication sub-sector	0.138	–1.251	0.268 (1.55)	0.363	1.783	0.331 ^a (2.95)
3.	Trade, Hotels and Restaurants sub-sector	0.058	3.298	–0.092 (0.96)	0.185	1.470	0.120 ^c (1.85)
4.	Banking and Insurance sub-sector	0.009	0.419	0.062 (0.38)	0.202	–0.096	0.192 ^c (1.95)
5.	Real Estate, Ownership of Dwellings and Business Services sub-sector	0.03	2.482	–0.098 (0.68)	0.005	2.014	–0.070 (0.27)
6.	Public Administration sub-sector	0.017	1.632	–0.050 (0.51)	0.519	4.520	–0.339 ^a (4.02)
7.	Other Services sub-sector	0.034	2.332	–0.062 (0.73)	0.184	3.184	–0.147 ^c (1.84)

Note:

- Figures in the parenthesis are t values. **a, c** indicate 1% and 10% level of significance for a two-tailed test

In early 1990s, we observe a somewhat different pattern of results. Although interstate differences in total net state domestic product do not significantly influence interstate variations in total services even in early 1990s, but there is a significant impact on five of the sub-sectors, namely Transport, Storage and Communication, Trade Hotels and Restaurants, Banking and Insurance, Public Administration and Other Services. However, even in the case of these five sub-sectors the results are conflicting : whereas in the case of Transport, Storage and Communication, Trade, Hotels and Restaurants and Banking and Insurance sub-sectors the impact is positive and on the expected lines; in the case of Public Administration and Other Services sub-sectors, the impact is negative and difficult to explain. So, even in early 1990s not a very clear pattern emerges on the impact of size of total net state domestic product on the development of Services sector and sub-sectors across the states.

IMPACT OF NET STATE DOMESTIC PRODUCT IN PRIMARY SECTOR

The impact of net state domestic product originating in Primary sector on the development of Services sector and its sub-sectors is shown by Regression results given in table 6.4. From the results far early 1980s

we observe that interstate differences in the Primary sector net state domestic product had no significant impact on interstate variations in percent share of Total Services, Trade, Hotels and Restaurants, Banking and Insurance and Real Estate, Ownership of Dwellings and Business Services sub-sectors. Only in the case of Transport, Storage and Communication, Public Administration and Other Services sub-sectors we observe a significant impact; regression coefficients for these sub-sectors are significant respectively at 5 percent, 1 percent and 10 percent levels. However, the sign of regression coefficient is positive and on the expected lines only in the case of Transport, Storage and Communication sub-sector; it being negative in the case of Public Administration and Other Services sub-sectors which is very difficult to explain in theoretical terms. The results for early 1990s show almost the same pattern. The regression coefficients are not significant in the case of Total Services, Banking and Insurance and Real Estate, Ownership of Dwellings and Business Services sub-sectors. The regression coefficient is significant at 1 percent and 5 percent levels for Public Administration sub-sector and Other Services sub-sector but has a negative sign. It is positive and significant at 10 percent level in the case of Trade, Hotels and Restaurants and at 5 percent level in the case of Transport, Storage and Communication sub-sectors.

IMPACT OF NET STATE DOMESTIC PRODUCT IN SECONDARY SECTOR

The results on the impact of net state domestic product originating in Secondary sector on the percent share of Services sector and its sub-sectors are displayed in table 6.5. A careful perusal of this table reveals that in early 1980s, the net state domestic product originating in Secondary sector had no significant impact on the percent share of Services sector as a whole and also in the case of sub-sectors, Trade, Hotels and Restaurants, Real estate and Ownership of Dwellings and Business Services and Other Services. However, in the case of Transport, Storage and Communication and Banking and Insurance sub-sectors it has a positive and significant impact; the t-values being significant at 1 percent level. On the other hand, in case of Public Administration sub-sector the impact was negative and significant at 1 percent level. In early 1990s, net state domestic product originating in Secondary sector variable has a significant impact only in case of Trade, Hotels and Restaurants and Banking and Insurance sub-sectors; t-values being significant at 5 percent and 10 percent levels respectively. However, the impact was positive and on the expected lines in the case of Banking and Insurance services sub-sector, but negative and contrary to the hypothesized impact in the case of Trade, Hotels and Restaurant sub-sector. So again the results do not reveal any clear and consistent pattern.

TABLE – 6.4
IMPACT OF PRIMARY SECTOR NSDP ON DEVELOPMENT OF
SERVICES SECTOR AND ITS SUB-SECTORS: REGRESSION RESULTS
(Cross - Section data for 17 States)

Independent Variable (Log Form) : NSDP originating in Primary sector							
Eq. No.	Dependent Variable (Log Form) : Percent Share in NSDP	Estimated Regression Coefficients					
		Early 1980s			Early 1990s		
		R-square	Intercept	NSDP in Primary Sector	R-square	Intercept	NSDP in Primary Sector
1.	Services Sector	0.039	3.793	-0.036 (0.78)	0.086	4.077	-0.054 (1.19)

2.	Transport Storage, Communication sub-sector	0.284	-1.591	0.340 ^b (2.44)	0.215	-0.990	0.272 ^b (2.12)
3.	Trade, Hotels and Restaurants sub-sector	0.068	1.845	0.088 (1.05)	0.199	1.485	0.133 ^c (1.93)
4.	Banking and Insurance sub-sector	0.088	-0.347	0.168 (1.20)	0.053	0.787	0.105 (0.92)
5.	Real Estate, Ownership of Dwellings and Business Services sub-sector	0.118	2.966	-0.171 (1.42)	0.006	2.071	-0.087 (0.31)
6.	Public Administration sub-sector	0.504	3.039	-0.239 ^a (3.90)	0.522	4.381	-0.363 ^a (4.05)
7.	Other Services sub-sector	0.163	2.730	-0.121 ^c (1.71)	0.273	3.392	-0.191 ^b (2.38)

Notes:

1. Figures in the parenthesis are t values , **a, b, c** indicate 1%, 5% and 10% level of significance for a two-tailed test.

IMPACT OF NET STATE DOMESTIC PRODUCT IN COMMODITY SECTOR

The Commodity sector was formed by clubbing together Primary and Secondary sectors. The results presented in table 6.6 bring out the influence of net state domestic product originating in the Commodity sector on the interstate variations in the development of Services sector and its sub-sectors. In early 1980s, it is observed that this explanatory variable has a significant coefficient in the case of Transport, Storage and Communication, Banking and Insurance and Public Administration sub-sectors; the impact being positive in the case of the first two and negative in the case of the last sub-sector.

TABLE – 6.5**IMPACT OF NSDP ORIGINATING IN SECONDARY SECTOR ON DEVELOPMENT OF SERVICES SECTOR AND SUB-SECTORS: REGRESSION RESULTS**

(Cross - Section data for 17 States)

Independent Variable (Log Form) : NSDP originating in Secondary sector							
Eq. No.	Dependent Variable (Log Form) : Percent Share in NSDP	Estimated Regression Coefficients					
		Early 1980s			Early 1990s		
		R-square	Intercept	NSDP in Secondary Sector	R-square	Intercept	NSDP in Secondary Sector

1.	Services Sector	0.008	3.430	0.013 (0.36)	0.19	3.750	-0.013 (0.53)
2.	Transport Storage, Communication sub-sector	0.581	-1.494	0.366 ^a (4.66)	0.002	1.076	0.0127 (0.16)
3.	Trade, Hotels and Restaurants sub-sector	0.058	2.103	0.061 (0.96)	0.273	3.188	-0.082 ^b (2.37)
4.	Banking and Insurance sub-sector	0.471	-1.067	0.293 ^a (3.65)	0.168	0.849	0.099 ^c (1.74)
5.	Real Estate, Ownership of Dwellings and Business Services sub-sector	0.087	2.412	-0.111 (1.20)	0.000	1.366	0.004 (0.03)
6.	Public Administration sub-sector	0.380	2.278	-0.156 ^a (3.03)	0.014	1.735	-0.032 (0.46)
7.	Other Services sub-sector	0.043	2.126	-0.045 (0.83)	0.031	1.604	0.034 (0.70)

Notes:

- Figures in the parenthesis are t values.
- a, b, c** indicate 1%, 5% and 10% level of significance for a two-tailed test.

In the early 1990s we find this variable has a positive and significant impact on the percent share of Transport, Storage and Communication, Trade, Hotels and Restaurant and Banking and Insurance sub-sectors and a negative impact on the percent share of Public Administration and Other Services sub-sectors. So even in the case of Commodity sector net state domestic product, a very clear pattern of results does not emerge.

IMPACT OF URBANISATION

The degree of urbanisation is defined by percent of urban population in total population. The results in table 6.7 bring out the impact of urbanisation on the development of Services sector and its sub-sectors across the states. In early 1980s as well as early 1990s it is observed that

TABLE – 6.6

**IMPACT OF NSDP ORIGINATING IN COMMODITY SECTOR ON DEVELOPMENT OF SERVICES SECTOR
AND SUB-SECTORS: REGRESSION RESULTS
(Cross - Section data for 17 States)**

Independent Variable (Log Form) : NSDP originating in Commodity sector							
Eq. No.	Dependent Variable (Log Form) : Percent Share in NSDP	Estimated Regression Coefficients					
		Early 1980s			Early 1990s		
		R-square	Intercept	NSDP in Commodity Sector	R-square	Intercept	NSDP in Commodity Sector

1.	Services Sector	0.004	3.600	-0.011 (0.24)	0.039	3.930	-0.034 (0.78)
2.	Transport Storage, Communication sub-sector	0.427	-2.096	0.366 ^a (3.34)	0.322	-1.427	0.308 ^b (2.67)
3.	Trade, Hotels and Restaurants sub-sector	0.073	1.840	0.084 (1.09)	0.166	1.594	0.112 ^c (1.73)
4.	Banking and Insurance sub-sector	0.228	-1.080	0.251 ^b (2.14)	0.164	0.177	0.171 ^c (1.76)
5.	Real Estate, Ownership of Dwellings and Business Services sub-sector	0.105	2.858	-0.150 (1.33)	0.008	2.160	0.091 (0.36)
6.	Public Administration sub-sector	0.479	2.946	-0.215 ^a (3.75)	0.567	4.450	-0.351 ^a (4.44)
7.	Other Services sub-sector	0.059	3.286	0.077 (0.97)	0.230	3.242	-0.162 ^b (2.12)

Notes:

- Figures in the parenthesis are t values.
- a, b, c** indicate 1% and 10% level of significance for a two-tailed test.

percent urban population variable has a positive and significant impact on the percent share of Transport, Storage and Communication, Trade, Hotels and Restaurants and Banking and Insurance sub-sectors. On the other hand, in 1980s as well as early 1990s a significant negative impact of this variable on the percent share of Public Administration sub-sector is clearly shown by results in table 6.7. A significant negative impact is also observed in early 1990s in the case of Other Services sub-sector. On the other hand, no significant impact is seen in early 1980s and early 1990s on the share of Total services and Real Estate, Ownership of Dwellings and Business Services sub-sectors. So again in the case of this variable also mixed results are observed and no clear pattern emerges.

TABLE – 6.7

**IMPACT OF PERCENT URBAN POPULATION ON DEVELOPMENT
OF SERVICES SECTOR AND SUB-SECTORS:
REGRESSION RESULTS
(Cross - Section data for 17 States)**

Independent Variable (Log Form) : Percent Urban Population in total population							
Eq. No.	Dependent Variable (Log Form) : Percent Share in NSDP	Estimated Regression Coefficients					
		Early 1980s			Early 1990s		
		R-square	Intercept	Percent Urban Population	R-square	Intercept	Percent Urban Population

1.	Services Sector	0.059	3.286	0.077 (0.97)	0.013	3.522	0.040 (0.45)
2.	Transport Storage, Communication sub-sector	0.247	-0.622	0.548 ^b (2.22)	0.338	-0.813	0.640 ^b (2.77)
3.	Trade, Hotels and Restaurants sub-sector	0.327	1.525	0.332 ^b (2.70)	0.257	1.662	0.284 ^b (2.28)
4.	Banking and Insurance sub-sector	0.522	-1.177	0.708 ^a (4.06)	0.334	0.0868	0.495 ^b (2.74)
5.	Real Estate, Ownership of Dwellings and Business Services sub-sector	0.085	2.403	-0.251 (1.18)	0.058	2.892	-0.484 (0.96)
6.	Public Administration sub-sector	0.331	2.209	-0.334 ^b (2.73)	0.225	2.879	-0.448 ^b (2.19)
7.	Other Services sub-sector	0.127	2.355	-0.184 (1.48)	0.265	2.968	-0.353 ^b (2.33)

Notes:

- Figures in the parenthesis are t values.
- a, b, c** indicate 1%, 5% and 10% level of significance for a two-tailed test.

IMPACT OF PERCENT OF POPULATION ABOVE POVERTY LINE

The impact of percent population above the poverty line variable on the share of Services sector and its sub-sectors is given in table 6.8. In early 1980s and early 1990s, this explanatory variable has no significant impact on the percent share of Services sector and any of its six sub-sectors. It may be mentioned that this variable is supposed to be a proxy for the level of prosperity of the population of a state and was expected to have positive impact on interstate variations on the development of Services sector and its sub-sectors. A careful assessment and comparison of the Regression results given in the above 8 tables suggest the following tentative conclusions. As far as interstate variations in the share of Services sector in net state domestic product is concerned, none of the eight explanatory variables, shows any

TABLE – 6.8
IMPACT OF PERCENT POPULATION ABOVE POVERTY LINE ON DEVELOPMENT OF SERVICES SECTOR
AND SUB-SECTORS: REGRESSION RESULTS

(Cross - Section data for 17 States)

Independent Variable (Log Form) : Percent Population above the poverty line			
Eq. No.	Dependent Variable (Log Form) : Percent	Estimated Regression Coefficients	
		Early 1980s	Early 1990s

	Share in NSDP	R-square	Intercept	Percent Population above Poverty Line	R-square	Intercept	Percent Population above Poverty Line
1.	Services Sector	0.001	3.463	0.013 (0.09)	0.001	3.749	-0.025 (0.11)
2.	Transport Storage, Communication sub-sector	0.017	1.998	-0.240 (0.51)	0.008	0.091	0.258 (0.36)
3.	Trade, Hotels and Restaurants sub-sector	0.001	2.650	-0.032 (0.13)	0.005	2.105	0.104 (0.28)
4.	Banking and Insurance sub-sector	0.002	0.653	0.071 (0.17)	0.082	-0.996	0.625 (1.16)
5.	Real Estate, Ownership of Dwellings and Business Services sub-sector	0.01	2.244	-0.146 (0.39)	0.067	6.944	-1.325 (1.04)
6.	Public Administration sub-sector	0.002	1.047	0.040 (0.16)	0.004	2.107	-0.148 (0.24)
7.	Other Services sub-sector	0.028	1.215	0.144 (0.66)	0.106	4.257	-0.569 (1.33)

Note:

1. Figures in the parenthesis are t values.

significant influence in a Regression context. A similar, conclusion can be drawn about Real Estate, Ownership of Dwellings and Business Services sub-sector.

In the case of interstate variations in the development of Transport, Storage and Communication, and Trade, Hotels and Restaurants sub-sectors, a positive significant influence is observed in most cases. Interstate variations in the share of Banking and Insurance sub-sector in net state domestic product are found to be positively influenced by each of the eight explanatory variables, and this influence is statistically significant also in some cases. In the case of Public Administration, and Other Services sub-sectors, a negative impact is observed in most of the explanatory variables, which is statistically significant also in many cases.

To conclude, these regression do not show a very clear and consistent picture regarding the impact of explanatory variables. None of these 8 variables explains the interstate variations in the development of Services sector as a whole. The result in the case of Public Administration sub-sector is quite consistent, but is very difficult to account for. It is not clear why the share of this sub-sector in net state domestic product varies inversely with each of the 8 explanatory variables tried here. In the case of other sub-sectors, the results are mixed and no clear and consistent pattern has emerged.

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