RSP 9(2): 31-44.

A SPATIAL ANALYSIS OF SERVICE INDUSTRY EARNINGS PER CAPITA

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Introduction

In a recent article Riefler [17] investigated, at the Bureau of Economic Analysis (BEA) area level, the spatial distribution of the service industry.[1] Oversimplifying somewhat, his results indicated that, at that level of spatial aggregation, traditional demand-oriented models such as export base or central place theory adequately predict the distribution of service activity. This allowed him to conclude that "tertiary activity . . .do not appear to be a feasible, general policy vehicle for stimulating the growth of a lagging region," [17, p. 101]. Two caveats to this overall conclusion were advanced however. First, it was recognized that while service development may not be a general prescription for regional growth, it may be justified on a "case-by-case basis," [17, p. 100]. Second, it was recognized that a policy of intraregional (i.e., inter-country) reallocation of service activity within BEA areas might be successful in stimulating lagging regions [17, p. 101].

The purpose of this paper is to relax one of these two caveats. Specifically we will retain a national or "general" policy perspective. We are concerned with the efficacy of a national policy of regional generative growth via service stimulation. It is our objective, however, to investigate the intraregional distribution of service activity within BEA areas and evaluate the likely effectiveness of a national regional development policy aimed at influencing that distribution. Even if our results dictate against such a policy, ample room will remain, of course, for regional or local initiatives taken on a case-by-case basis.[2]

Given the well-documented evolution of the United States into a service-oriented economy such an investigation is essential. If we assume that a regional development policy is justified, on either efficiency and/or equity grounds, certainly a rapidly growing sector, in terms of earnings or employment, has great appeal as an instrument variable in designing such a policy. Despite Riefler's results and the growth-following rather than growth-initiating treatment of the

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[1]Services were defined broadly to include transportation, utilities, communication, finance, insurance, real estate, trade, business and personal services. That definition is retained throughout this paper.

[2]See Jack Faucett Associates [14] for a further analysis of this issue.

tertiary sector in traditional regional economic models such as export base and central place theory we feel such further analysis is warranted. Insights provided by several seminal articles such as those by Thompson [18] and Blumenfeld [2] into the dynamic effect of the tertiary sector on urban development further buttress the research questions addressed by our analysis.

Conceptual Framework, Model and Data

Our research method basically parallels that of Riefler [17, pp. 90-92]. We apply traditional demand- or market-oriented models of tertiary activity to see how well they predict the location of the service industry within BEA regions. Do these demand-oriented models adequately predict the location of service activity within such areas? Or, as an alternative hypothesis, is service activity becoming (more) footloose, or more specifically less market-oriented, and therefore more amenable to policy manipulation?

To investigate the intraregional allocation of service activity within the BEA area we first dichotomize the region into "core" and "periphery" areas. The core of a BEA area is defined as the Standard Metropolitan Statistical Area (SMSA) or areas of the BEA. For those BEA areas containing no SMSA the county containing the largest urban center was identified as the core. The periphery or hinterland of the BEA areas was simply the residual.

Since we are dividing the BEA area, a region defined so as to maximize functional integration [5, pp. 24-25], into component subareas we anticipate our results to be less robust than those reported by Riefler for the entire integrated area [17, pp. 92-96 and Appendix]. As is pointed out below, however, the relative diminution in statistical fit as well as the absolute magnitude of our results facilitates a *priori* policy evaluation.

Given the recent orientation of the regional policy literature towards growth pole or growth center approaches (with associated "trickle-down" effects) to regional policy palliations, emphasis in this paper is given to our core or SMSA results. How well do demand- or market-oriented models predict the tertiary sector structure of BEA cores? To what extent is the SMSA service structure a function of its local market area? What is the impact of periphery tertiary needs on the core service structure?

To further assist our analysis, the universe of 155 BEA areas in the contiguous United States was sampled. The procedure for selecting our sample, actually two samples, was certainly not random. All BEA areas were ranked by 1970 population and then assigned their average (1950-70) per capita income. As a rule-of-thumb those BEA areas with a per capita income 95 percent or higher than the U. S. average were labeled prosperous; those with a figure below 84 percent of the national average were designated as lagging. The procedure was then to align a prosperous area with a lagging region of approximately equal population. Our objective was to eliminate the inherent bias of comparing heavily populated (largely) prosperous areas with sparsely populated areas.[3, 4] The result was a

[3, 4] Footnotes on following page.

non-random sample consisting of 39 lagging and 39 prosperous BEA areas containing 53 and 56 SMSA's, respectively.[5]

While the procedure outlined above should eliminate certain inherent biases in this type analysis and facilitate policy evaluation--by not only allowing an evaluation of the efficacy of demand-oriented models, but also enabling a contrast between the structure of the tertiary sector/market nexus for our two samples--it does introduce two other biases into our analysis. The first is what may be called the geographical "bias." While the 39 prosperous areas are dispersed, their lagging counterparts are not. A majority of the latter are in the southeast quadrant of the country. The second "bias" involves the spatial structure of the BEA areas in the two samples. For our prosperous BEA areas the core accounts for 56 percent of the average region's spatial extent; for lagging areas the percent is 37.[6]

The models applied all take the general form of equation (1):

(1) Tertiary activity = f(market size)

The dependent variable, tertiary activity, is quantified as total non-governmental service earnings per capita in the appropriate BEA core area. Utilizing central place theory it is hypothesized that the larger the relevant market the higher core total service earning per capita (S/P_c). Following Riefler [17, p. 92] market size was measured using the following dimensions: population, per capita income and location quotients for manufacturing and for armed forces. The statistical technique employed was ordinary least square multiple linear regression. Although several variations or permutations were run, results are presented below for two specific models:

(2) $S/P_c = f(P_c, Y/P_c, A_c, M_c)$

(3) $S/P_c = f(P_c, Y/P_c, A_c, M_c, P_p, Y/P_p, A_p, M_p)$

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[3]The average BEA area populations for the samples are: Prosperous, 1950 = 578,000, 1970 = 799,000; Lagging, 1950 = 654,000, 1970 = 788,000. Core or SMSA populations are: Prosperous, 1950 = 248,000, 1970 = 378,000; Lagging, 1950 = 190,000, 1970 = 283,000.

[4]Since relative prosperity was defined at the BEA area level it is possible for a lagging area to contain a prosperous SMSA (five cases occurred) or vice versa (two cases).

[5]See Table 1 for a description of certain crucial economic parameters describing the resulting samples. Note especially the convergence of per capita income between 1950 and 1970 illustrated by the two samples.

[6]If we impose a circular configuration on our average prosperous region BEA radius would be 46 miles, core radius, 26 miles. For lagging regions similar assumptions would yield 57 and 21 mile radii respectively.

where

S/P_c = core total service earning per capita

$P_{c(p)}$ = core (periphery) population

$Y/P_{c(p)}$ = core (periphery) population

$A_{c(p)}$ = core (periphery) armed forces location quotient

$M_{c(p)}$ = core (periphery) manufacturing location quotient[7]

The Results: 1970

The model contained in equation (2) above attempts to explain core or SMSA service structure on the basis of parameters characterizing the local (core) market. To what extent is the core service structure, as measured by earnings per capita, influenced by local market size? The results for 1970 for prosperous and lagging regions are given in equations (4) and (5) respectively:

(4) Prosperous:
$$S/Y_c = -1.02 + \underset{(1.25)}{.00010P_c} + \underset{(5.92)}{.00071\ Y/P_c} - \underset{(-4.96)}{.28806M_c} - \underset{(-1.26)}{.03831A_c}$$
$$R^2 = .55 \quad F = 17.62 \quad n = 51$$

(5) Lagging:
$$S/Y_c = -0.732 + \underset{(2.60)}{.0026P_c} + \underset{(6.84)}{.00062Y/P_c} - \underset{(-1.80)}{.11176M_c} - \underset{(-2.53)}{.02978A_c}$$
$$R^2 = .64 \quad F = 23.71 \quad n = 48$$

where the appropriate t values are in parentheses and the R^2's and sample size are corrected for degrees of freedom.

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[7]The location quotient for manufacturing is:

$$M_i = \frac{ME_i/P_i}{ME_{us}/P_{us}}$$

where

i = region (core or periphery)
us = United States
ME = manufacturing earnings
P = population

The location quotient for the armed forces was calculated in an analogous fashion.

In interpreting these results it should be first noticed that, as anticipated, disaggregating a functionally integrated area such as a BEA region significantly reduces the percent of variance explained. The multiple correlation coefficients are 63 percent and 74 percent respectively of the analogous coefficient reported by Riefler [17, p. 99]. Second, note that the lagging areas equation explains 16 percent more of the observed variance than that for prosperous cores and this difference is significantly different as determined by a Chow test [5].

All coefficients have the hypothesized sign. Per capita income has a positive and significant, at the 99 percent confidence interval, affect on per capita service earnings in both regions. A ten percent increase in per capita income would increase service earnings per capita by 22 percent and 17 percent in prosperous and lagging regions respectively.[8] Although population has a significant (99 percent confidence interval) positive impact on lagging area tertiary earnings per capita, the analogous prosperous coefficient is not significantly different from zero. An interesting pattern emerges when attention is focused on the location quotients: while all four coefficients are negative only that for manufacturing is significant in prosperous areas; only that for the armed forces is significant in lagging regions. Only 13 percent of the lagging cores have a manufacturing location quotient greater than 1.1; however, 31 percent have an armed forces coefficient exceeding this level. For prosperous cores the analogous figures are 49 percent and 23 percent respectively.[9] It seems reasonable to hypothesize that the manufacturing base of lagging cores is smaller than that found in prosperous areas and therefore, although a larger manufacturing base depresses service earnings in both regions (by providing more services "in-house"), this effect is significant only in prosperous areas. Conversely, large military bases, with their depressing effect on private service provision, may be characteristic of lagging regions. Military establishments in prosperous areas may be smaller (e.g., recruiting offices, supply depots, etc.). The geographical distribution of our samples supports this contention.

Total service earnings per capita in lagging SMSA's are 96.6 percent those reported by prosperous cores in our sample (see Table 1). For periphery areas similar calculation show lagging regions 26.6 percent below their prosperous counterparts. To what extent does the market structure of the core explain the former figure?[10] If we insert the mean values for lagging cores in the prosperous cores' equation (4) the resulting "predicted" service earnings per capita are only 76 percent of those actually reported for these relatively depressed regions. This suggests lagging cores either (1) export more services to their hinterland and/or (2) export more services beyond the BEA area borders (presumably down the urban hierarchy) and/or (3) after adjustment for market size, are providing higher order

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[8] Evaluated at the means.

[9] The mean of M_c is 1.09 (1970), 1.25 (1950), for prosperous regions versus .70 (1970), .58 (1950), for lagging areas.

[10] A Chow test, run on equations (4) and (5) supports the contention of significant differences between lagging and prosperous cores in the influence of market size and structure on service earnings per capita.

TABLE 1: Per Capita Figures and Growth Rates for Lagging and Prosperous Regions, 1950 AND 1970[a]

	Lagging SMSA			Lagging Periphery		
	1950	1970	Percent Increase	1950	1970	Percent Increase
Population	10082	15043	49	15408	15697	2
Income	18513	46959	154	17188	36811	114
TSE	7380	18619	152	4484	8850	97
YP	1836	3122	70	1116	2345	110
TSEP	0.732	1.238	69	0.291	0.564	94
TCUP	0.156	0.108	33	0.056	0.089	59
TP	0.324	0.490	51	0.145	0.244	68
FP	0.072	0.149	107	0.014	0.045	221
SP	0.181	0.391	116	0.076	0.186	145
MP	0.335	0.591	76	0.137	0.396	189

	Prosperous SMSA			Prosperous Periphery		
	1950	1970	Percent Increase	1950	1970	Percent Increase
Population	13872	21196	53	8667	9958	15
Income	33404	76744	130	16810	31351	87
TSE	11821	27159	130	4327	7647	77
YP	2408	3621	50	1940	3148	62
TSEP	0.852	1.281	50	0.499	0.768	54
TCUP	0.175	0.212	21	0.099	0.124	25
TP	0.390	0.499	28	0.251	0.366	34
FP	0.085	0.144	69	0.028	0.057	104
SP	0.203	0.426	110	0.122	0.252	107
MP	0.690	0.918	33	0.293	0.598	104

Source: Hoppes(13)

[a]Population is in thousands, income and TSE are in millions of dollars.

TSE = total service earnings
YP = income per capita
TSEP = total service earnings per capita
TCUP = transportation-communication-utilities earnings per capita
TP = wholesale-retail trade earnings per capita
FP = finance-insurance-real estate earnings per capita
SP = service earnings per capita
MP = manufacturing earnings per capita

services to their market areas (via import substitution). The latter two possibilities may reflect the relative geographical isolation of some of the lagging BEA areas as well as the nature of the central place hierarchy in the southeastern portion of the U. S. Whatever the explanation, since lagging cores already appear to be "overserviced," a policy aimed at autonomous growth within the tertiary sector, at this point in our analysis, appears unlikely to succeed. To further pursue this line of investigation we turn to the model summarized by equation (3) above.

The expanded model in equation (3) recognized that the service market of the BEA core areas is not restricted to only the SMSA's. We anticipate that core areas not only provide a "complete" service-line to their immediately adjacent area, but also provide higher order activities, in a central place sense, to the surrounding hinterland of the nodally defined BEA region. The model outlined by equation (3) therefore adds periphery or hinterland population, per capita income and location quotients to the previously introduced measures of core market size. The results are given in equations (6) and (7) below:[11]

(6) Prosperous:
$$S/Y_c = -1.08 \underset{(-.30)}{-.00003P_c} + \underset{(2.69)}{.00094P_p} + \underset{(5.87)}{.00088Y/P_c} \underset{(-.88)}{-.00015Y/P_p} \underset{(-3.11)}{-.33147M_c} \underset{(-1.01)}{-.11189M_p} \underset{(-1.72)}{-.06169A_c} \underset{(-2.22)}{-.14370A_p}$$

$$R^2 = .56 \qquad F = 7.07 \qquad n = 30$$

(7) Lagging:
$$S/Y_c = -.70 + \underset{(.29)}{.00002P_c} + \underset{(1.38)}{.00018P_p} + \underset{(7.90)}{.00079Y/P_c} \underset{(-1.82)}{-.0020Y/P_p} \underset{(-3.30)}{-.22077M_c} + \underset{(.92)}{.08127M_p} \underset{(-3.67)}{-.03770A_c} + \underset{(1.55)}{.0167A_p}$$

$$R^2 = .76 \qquad F = 15.73 \qquad n = 30$$

As in the case of our previous results, appropriate t values are given in parenthesis and the R^2's and sample size are corrected for degrees of freedom.

Adding measures of hinterland market size does little to improve the percent

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[11] A difficulty anticipated in testing the model summarized by equation (3) was the likelihood of multi-collinearity. The correlation matrix showed for prosperous regions the highest simple R was that between M_c and M_p (.65). For lagging regions it was between P_c and P_p (.51). These were felt to be low enough so as to invalidate our results [9].

of the variance in service earnings per capita explained in the case of prosperous cores. For these areas the percent of variance explained remains at approximately 65 percent of that reported by Riefler using the universe of BEA areas in the contiguous U. S. This result probably reflects a combination of three factors: (1) prosperous hinterlands contain, on average, 53 percent of total BEA population (versus 64 percent for lagging areas); (2) the spatial configuration of prosperous hinterlands is more compact; and (3) tertiary service provision per capita by the periphery itself is 36 percent higher in prosperous than in lagging regions.

Looking at the specific coefficients of equation (6) we note a surprising result: increases in periphery population have a significant positive effect on tertiary earnings per capita in prosperous cores yet higher income levels in the hinterland have a (statistically insignificant) negative impact on earnings. This suggests that extensive growth in the periphery stimulates the core tertiary sector while intensive growth does not. This contradicts our a priori expectation that core areas provide higher order and therefore more income elastic services. It must be pointed out, however, that our sampling technique eliminates most of the largest SMSA's since they could not be matched with similar lagging regions. (The largest SMSA's in our sample are Houston and Atlanta). Possibly the unique services provided by medium-sized SMSA's are not highly income elastic. While our results suggest this, further research is necessary to establish the hypothesis.

The prosperous core manufacturing location quotient remains negative and significant at the 99 percent confidence interval as found in equation (3). The periphery quotient for manufacturing is negative, as expected, but not significant. Only 26 percent of the prosperous peripheries reported a manufacturing quotient exceeding 1.1. The periphery armed forces location quotient is negative and significant at the 95 percent confidence interval. Eighteen percent of the prosperous hinterlands recorded an armed forces location quotient exceeding 1.1.

Turning to the equation for lagging regions, equation (7), we note that the introduction of a measure of periphery market size results in an improvement in the percent of variance explained. Comparing the multiple correlation coefficient of (5) with that of (7) shows a 19 percent improvement. The R^2 of .76 reported in (7) is 87 percent of that found in Riefler using a much larger sample of BEA areas. This improvement in the percent of variance explained must be attributable to the total effect of introducing periphery market variables since no single measure of hinterland market size is significant at the 99 percent confidence level. Clearly lagging cores are relatively more dependent on their peripheries as markets for tertiary outputs than are their prosperous counterparts.[12]

Following the procedure outlined above we substituted mean values for lagging area independent variables into the prosperous equation. As is the case of equation (4), such modus operandi results in an underestimate of lagging service earnings per capita versus actual mean levels (Table 1). "Predicted" service

[12]The spatial structure of lagging BEA areas (see footnote 6) may help to explain this. Lagging BEA areas are larger and the distance from the core to the BEA boundary is further. Hence less tertiary output may spillover the region's boundary.

earnings per capita fall short of actual reported average earnings by 6 percent. Since the model being analyzed here adjusts for periphery market size this result must be due to either the export of services beyond the borders of the BEA area, an unlikely explanation given the comparison of the R^2's of equations (6) and (7), or import substitution by lagging core areas in the provision of higher order central place services. If, as seems probable, the latter is the case, a policy of autonomous stimulation of the tertiary sector in lagging core areas is unlikely to succeed.

Results: 1950 vs. 1970

Having reviewed our 1970 results, and before turning to a summary of the policy implications of these findings, it is worthwhile to compare these results to those derived from an application of our models to an earlier time period. As suggested above, and as documented in Table 1, the period between 1950 and 1970 saw some dramatic changes in the relative standings of our prosperous and lagging regions. For both lagging SMSA's and hinterlands, per capita income and total service (as well as manufacturing) earnings per capita increased more rapidly than in their prosperous counterparts. In contrast, population growth in prosperous cores and peripheries exceeded that in similar lagging regions. Given these changes, what has been the impact on the tertiary sector/market size and structure nexus? To answer this question the two models outlined above were re-estimated using 1950 data. Rather than present the specific findings, we will concentrate our analysis on significant differences which emerge.[13]

With regard to the model summarized by equation (2), the pattern, sign and level of significance of the estimated parameters remains unchanged (1950 versus 1970) for lagging regions. For prosperous regions core population positively and significantly (95 percent interval) affects tertiary earnings per capita; for 1970 this coefficient was positive, but not significantly different from zero. The explanatory power of the model, as measured by the multiple correlation coefficient, differs markedly between the two areas. While the R^2 reported for prosperous cores improves 38 percent between 1950 and 1970 that for lagging regions improves 28 percent. For both regions, therefore, dimensions of core market size better explain variance in service earnings per capita in 1970 than 1950. The greater improvement in prosperous regions suggests that import substitution in prosperous non-core market areas was (relatively) greater; the relative dependency on "local" or core market increased more for prosperous regions. Thus, while the growth in total service earnings in lagging BEA areas only exceeded prosperous regions by 13 percent, the growth in lagging core regions exceeded that of their prosperous counterparts by 73 percent. While these relative shifts were occurring, for both periods, the dependency of the SMSA service sector on core market size remained greater for lagging regions.[14]

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[13]Specific results can be obtained in (13) or from the authors on request.

[14]Although the lagging and prosperous model results of 1950 versus 1970 exhibit similar patterns, signs, and levels of significance for the estimated parameters, a Chow test suggests a significant structural change between 1950 and 1970 in each region.

With regard to our second model, summarized by equation (3), which adds periphery market size variables to those included in equation (2), our 1950 results differ markedly from those reported for 1970. First, for both lagging and prosperous core areas, the coefficient on two variables (P_c and M_p) change signs. In neither case, however, is the 1950 or 1970 coefficient significantly different from zero. Second, and more importantly, two coefficients which had significant explanatory value in the 1970 results, reported above, were not significant in the 1950 regressions. In both cases the independent variable was an armed forces location quotient: A_c for lagging regions and A_p for prosperous areas. For lagging cores almost one-half of the armed forces location quotients over 1.0 in 1970 increased between 1950 and 1970; for prosperous peripheries a similar calculation yielded 86 percent increasing their location quotient. A concentration of military forces in an area had a greater (and significant) depressing effect on core service earnings per capita in 1970 than 1950.

The major difference between our 1950 and 1970 application of our second model, however, involves the change in the percent of variance explained by the respective equations. For lagging regions there is a 52 percent improvement in the multiple correlation coefficient between 1950 and 1970. For prosperous regions there is a (significant) 9 percent decline in the R^2 between these two dates. While the latter result may suggest that tertiary activity is becoming more footloose, or, more specifically, less market oriented and therefore more amenable to policy manipulation, our previous results indicate an alternative explanation. For both lagging and prosperous core regions the lowering of real transportation and communication costs between 1950 and 1970 have enabled these regions to serve wider markets. This has enabled prosperous cores to "service" areas beyond the confines of their BEA area while lagging cores have been able to extend their tertiary provision further into their (more extensive) BEA area.

Summary and Policy Implications

As predicted, the results of disaggregating Riefler's BEA level analysis by investigating intra-BEA area tertiary sector location yields statistically less robust results. Focusing on SMSA service provision as a function of local or core market size above yields results ranging from 63 to 74 percent the explanatory power reported for similar models at the BEA area level. Including periphery as well as core market structure as determinants of SMSA tertiary activity improves the relative efficiency of the estimates putting them in the 80 percent range of previously reported BEA results.

Despite the diminution of explanatory power the relatively high multiple correlation coefficients are encouraging for a cross sectional model. It appears that market size parameters, including not only local characteristics but also hinterland dimensions, significantly assist in explaining what we have called core service activity (measured by total service earnings per capita). While our results, of necessity, are silent on the policy implications of intra-SMSA locational shifts in service activity, such as the sub-urbanization of such establishments, they question the efficacy of any national policy of aiding lagging regions through the stimulation of autonomous service development in core or potential "growth center" areas. Indeed, comparing our 1950 results with those for 1970 suggests that market size has become a more important determinant of service structure; lagging, as well as prosperous cores, seem to have successfully

undertaken import substitution increasing the resulting dependency of local service provision on core and hinterland market size and structure.[15]

While our results seem to indicate a rather close connection between existing service structure and market size, thus casting doubt on autonomous tertiary development, the evidence of import substitution in this industrial sector in lagging cores is suggestive. Is further import substitution in such regions likely? Could a policy designed to facilitate such a trend be warranted? Here our evidence is ambiguous. In favor of such a policy is a comparison of the coefficients on local (core) income per capita in our two models. The coefficient, which is always significant at the 99 percent confidence interval, is also always higher in prosperous regions. This indicates that, ceteris paribus, prosperous cores contain a service mix with a higher income elasticity than that in lagging regions. In the model summarized by equation (2) the difference was 12 percent; in the equation (3) model it was 10 percent. A policy of import substitution might be benefical to lagging regions on two counts: (1) provide, directly, more jobs, income, etc., and (2) result in a service structure more sensitive, in an induced or indirect sense, to autonomous growth elsewhere in the local economy.

On the negative side of the ledger, however, is the fact that, in either of the models presented, inclusion of the mean values of the independent variables for lagging cores in prosperous equation results in an underestimate, compared to actual core service earnings per capita, of the lagging service structure. In a sense, therefore, lagging cores are already "over-serviced." This result, combined with the higher dependency of lagging regions on local BEA market conditions, seen by comparing the coefficient of multiple correlation in equation (7) versus (6), dictates against reliance on an import substitution-type policy. Our lagging regions, due to their relatively isolated geographic location and/or their concentration in the southeastern quadrant of the U. S., may have already undertaken, where feasible, import substitution in the tertiary sector.

As is so often the case our research into a topic originally broached by Riefler has shed some light on some questions he neglected and, possibly, put regional growth via service sector development in a slightly more favorable light. But, at the same time, it posits more questions. If geographical disaggregation leads to a more optimistic, not to say optimistic, view of such a policy, might not disaggregation of the rather comprehensive measure of service structure used here further open the door to an effective policy of regional development? The diverse levels and trends of service development, at a slightly more disaggregated level as documented in Table 1, is suggestive.

Finally, it must be recognized that the actual application of any policy of regional development by tertiary sector manipulation must be designed for specific

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[15]Comparing 1950 and 1970 results for the effect of per capita income on local service provision suggests the local provision of higher order or, more precisely more income elastic, services via import substitution. For lagging areas the per capita income coefficient increase was 68 while for prosperous areas the increase was 61 percent.

cities and circumstances. What has worked for Reno and Las Vegas and seems to be working for Atlantic City may not work for, say, Portland, Maine, or Fargo, North Dakota. The ultimate evaluation of a service oriented development policy must be at a more "micro-level" than that of our analysis. While actual effectiveness must be judged on a case-by-case basis we feel that ex ante evaluations of such a comprehensive policy must be made at a higher level of aggregation such as that suggested here.

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