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**An Empirical Basis
For National Urban Policy**

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An Empirical Basis for National Urban Policy

John D. Landis

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Introduction

In planning the next generation of a public policy, it is often helpful to begin by reviewing the last one. In the case of national urban policy, the last generation is perhaps most accurately viewed as a lost generation: despite numerous attempts, the United States has not had a coherent 'urban policy' since the first Nixon Administration.

The most recent attempt to frame a national urban policy was undertaken in 1981 under the aegis of the National Research Council by a nonpartisan group of economists, sociologists, political scientists and policy planners known as the Committee on National Urban Policy (Hanson, 1983). The work of the Committee on National Urban Policy differed from previous efforts to create a national urban policy in a number of important ways. First, the Committee's deliberations were undertaken outside and independently of the executive or legislative branches of the federal government. Second, the proposals which emanated from the Committee were not intended to be implemented as policy. Freed from the political responsibilities of solving immediate problems, the Committee was instead able to focus on long-term strategies for urban economic development and the enhancement of human capital.

Third, the Committee based many of its recommendations upon the belief that urban areas and urban economies were (and still are) in the midst of an unprecedented and largely unalterable period of economic transition. In such a context, the Commit-

tee suggested that the most appropriate role for national urban policy is to encourage and foster positive aspects of the economic transition, while minimizing and mitigating the negative aspects. In a fourth important break with past work, the Committee did not argue for an urban policy, *per se*, but suggested instead that the *place-oriented* effects of national policies be explicitly considered in the formation of macro-economic policy.

In what may have been the most radical departure from past efforts, the Committee based much of its thinking and analysis on a descriptive model of employment change in the US system of cities as developed by economists Stanback and Noyelle (Stanback and Noyelle, 1983). While analyses of urban development trends had always helped to shape and inform urban policy, never before had a single perspective or empirical model been used as the foundation for thinking about the future of cities. Finally, in choosing to focus its analytical energies on understanding inter-metropolitan job shifts, the Committee declined to consider what in some ways is a more important issue: the continuing decentralization of employment from central city to suburb.

This article takes a closer look at the empirical and analytical models behind the thinking of the Committee on National Urban Policy. The purpose of this article is twofold. The first purpose is to evaluate whether the Stanback-Noyelle model provides an appropriate and/or useful basis for thinking about the US system of cities (and thus, indirectly, for thinking about national urban policy) in the

1980s and beyond. Specifically, the Stanback-Noyelle model will be compared with three 'base-line' models in its ability to explain employment changes in the 76 largest metropolitan areas between 1977 and 1985. The second purpose is to do what the Committee on National Urban Policy did not do: to examine recent patterns of job decentralization within major metropolitan areas.

The Stanback-Noyelle Model — An Overview

The Stanback-Noyelle model begins where prior analyses (Fuchs, 1968; Bell, 1976; Pred, 1977) had left off: by recognizing the growing role of service activities in the US economy, and concomitantly, the declining role of manufacturing. Arguing that the existing SIC code-based system of classifying employment has understated the importance of service activities, Stanback and Noyelle proposed an alternative system for classifying service employment, one which describes six separate types of 'advanced' service activity (Stanback and Noyelle, 1982):

1. *Distributive Services*: which include all firms classified under the SIC code as 'Transportation/Communication /Utilities' or 'Wholesale Trade'. Distributive services include activities which involve the distribution of goods among producers, or between producers and retailers.
2. *Corporate and Producer Services*: which include activities such as finance, accounting, advertising, and management consulting, and can be carried out within the corporation (as overhead functions), or can be contracted out (as producer services).
3. *Retailing Services*: which include all firms and employment classified under the SIC code as 'Retail Trade'.
4. *Consumer Services*: which include firms providing travel, repair, and recreation services to households.
5. *Nonprofit Services*: which include the providers of health care and educational services.
6. *Government Services*: which include all civilian government employees.

The recent growth of the service sector has been far from uniform. Since World War II, employment growth in the US economy has been greatest in activities classified as Corporate/Producer Services,

Non-profit Services, and Government Services. By contrast, Retail Service jobs increased only slightly between 1947 and 1977 (as a share of all service jobs), while the proportion of Distributive Services and Consumer Services jobs actually declined (Noyelle, 1983).

Stanback and Noyelle argue that the rise of an economy based on 'advanced services' has had a major effect on the post-war development of the system of US cities and metropolitan areas. What has emerged, they suggest, is a three-tiered system of metropolitan areas differentiated both by function (within the US economy) and size (or market). Functionally, Stanback and Noyelle have identified four generic types of Standard Metropolitan Statistical Areas (SMSAs):

1. *Diversified Service Centers*: SMSAs in this category are both centres of distribution for hinterland markets and strong centers of advanced services; collectively, their economies are tilted toward distributive services, corporate activities, and education, health, and government services. Diversified service centers are further divided into national, regional, and subregional centers, depending primarily on the number of corporate headquarters in the SMSA, the extent of service activity diversification, and the size of the SMSA's market area.
2. *Specialized Service Centers*: SMSAs in this category are of two types. The first group, labelled functional nodal centres, consists of metro areas having large office concentrations linked to particular industries. The second group consists of places with strong concentrations of public sector facilities. Stanback and Noyelle note that both types of specialized service centers tend to have weak financial or business centers.
3. *Production Centers*: Stanback and Noyelle group metropolitan areas with relative over-concentrations of employment in manufacturing, the military, or mining, into a group labelled production centers. Because of their lack of diversification into service-type activities, the economies of manufacturing centers are likely to be highly sensitive to adverse market conditions affecting their particular bases.
4. *Consumer Centers*: The last group of metro areas includes residential centers that adjoin larger

SMSAs, and resort-retirement communities. Consumer centers are generally characterized by their relatively high concentrations of consumer services and their reputations as places to live, not work.

There is much in the Stanback-Noyelle model which is theoretically appealing. The first part of the model, the reclassification of service employment by economic function, provides a useful alternative to traditional SIC code-based analyses of employment change. The second part of the model, the development of a functional typology of metropolitan areas, is an elegant combination of the comparative

advantage, linkage, and complementarity features of economic base theory, with the hierarchical, agglomeration, and hinterland aspects of central place theory. Table 1 shows how the 76 largest SMSAs are classified according to the Stanback-Noyelle typology.

On its face, the Stanback-Noyelle model is open to two types of criticism. First, because of the way in which it was initially developed (through the use of cluster analysis), and the fact that it has never been properly tested, the model can be criticized as being primarily an amalgam of empirical data, devoid of a specific theoretical structure. Second, and for the purposes of this analysis, more relevant, one can ask

Table 1

The 76 Largest SMSAs Classified by Role in the National Economic System

Diversified Service Centers	Specialized Service Centers	Consumer Centers
National New York City Chicago Los Angeles San Francisco	Functional Detroit Pittsburgh Newark Milwaukee Hartford San Jose Rochester, N.Y. Louisville Dayton Bridgeport Toledo Greensboro, N.C. Akron Allentown Tulsa New Brunswick, N.J. Jersey City Wilmington, DL.	Residential Nassau-Suffolk Anaheim Long Branch, N.J.
Regional Philadelphia Boston Dallas Houston St. Louis Baltimore Minneapolis Cleveland Atlanta Miami Denver Seattle Cincinnati Kansas City Phoenix Indianapolis New Orleans Portland, OR. Columbus, OH.	Government-Education Washington, D.C. Sacramento Albany, N.Y. Raleigh-Durham, N.C.	Resort-Retirement Tampa Riverside, CA. Ft. Lauderdale Honolulu Orlando
Sub-Regional Memphis Salt Lake City Birmingham Nashville Oklahoma City Syracuse Richmond, VA. Charlotte-Gastonia, S.C. Omaha	Education-Manufacturing New Haven Springfield, MA. San Antonio	Production Centers Manufacturing Buffalo Providence Worcester Gary Northeast Pennsylvania Grand Rapids, MI. Youngstown, OH. Greenville, S.C. Flint Industrial-Military San Diego Norfolk

Source: Royce Hanson, et al, (1983), 41-3.

whether the model is still timely; whether subsequent changes in the economies of US cities have compromised the model's descriptive power.

Testing the Stanback-Noyelle Model

The current relevance of the Stanback-Noyelle model to the US system of cities can be evaluated in a number of ways. Fundamentally, the model could be recalibrated using recent employment data, and the results then compared with the original. An alternative approach, and the one taken herein, is to use multiple linear regression to determine how well the model 'explains' recent employment changes in major metropolitan areas. Specifically, this paper compares the Stanback-Noyelle typology against three baseline models in its ability to explain rates of sectoral job change in the 76 largest SMSAs between 1977 and 1985. The three baseline models include the following:

1. A purely *Sectoral* model of employment change.
2. A *Regional* model of sectoral employment change. Until recently, most studies of the geographic pattern of employment change have focused on differences between the Sunbelt and Snowbelt (Phillips and Vidal, 1983; Sternlieb, 1977). Sunbelt cities (those in the South and West) were found to be gaining employment, usually at the expense of Snowbelt cities (those in the Northeast and Midwest). Many reasons for this shift have been offered, including differences in labor, energy, and tax costs, changing labor force requirements, the differential availability of tax incentives, and the rise of new industries — industries located primarily in the Sunbelt.
3. A *Bi-coastal* model of sectoral employment change: Most recently, employment trends seem to have been following a 'bi-coastal' pattern, with cities (and states) along the east and west coasts experiencing greater rates of job and income growth than cities and states in the interior. Whether this trend is simply the result of recent weaknesses in the energy, agriculture, and manufacturing sectors, or whether it reflects a more permanent alignment in the US economy is still unclear.

Four sets of regression specifications corresponding to the different models were tested; in each set

the dependent variable consisted of the percentage employment change within the metropolitan area, by sector, between 1977 and 1985. Separate specifications were tested for rates of employment change in the manufacturing, service, trade, finance-insurance-real estate (FIRE) and government sectors, as well as total employment.

In the case of the *sectoral* models, the independent variables consisted of the 1977 sectoral location quotients, indicating the extent of employment concentration. To the extent that local employment trends are shaped in the national economy, SMSAs with greater concentrations of employment in growing sectors should exhibit higher rates of job growth.

In the *regional* models, the independent variables consisted of dummy variables denoting whether an SMSA is located in the Midwest, South, or West. In order to guarantee a unique solution, the dummy variable denoting whether an SMSA is located in the Northeast was purposefully omitted.

In the *bi-coastal* models, the independent variables included dummy variables denoting whether an SMSA is located along the east coast or west coast. The dummy variable denoting whether an SMSA is located in the interior of the US was omitted in order to guarantee a unique solution.

In the case of the *Stanback-Noyelle* models, the independent variables include seven dummy variables indicating the SMSA classification (according to the Stanback-Noyelle metro area typology):

- National Diversified Service Centers (National)
- Regional Diversified Service Centers (Regional)
- Subregional Diversified Service Centers (Sub-regional)
- Specialized Service Centers (Specialized)
- Production Centres (Production)

The two types of Consumer Centers (Retirement and Residential) were represented by a single dummy variable, as were both types of Education Centers (Government and Manufacturing). As none of the 76 largest SMSAs are classified as Production-Mining Centers, that dummy variable was omitted. The dummy variable denoting Production-Military SMSAs was also omitted in order that the regressions have a unique solution.

In the cases of the regional, bi-coastal, and Stanback-Noyelle models, two different types of model structures were tested. In the first type,

labelled Type I, only the SMSA-type dummy variables were entered as independent variables. In the Type I models, the basic economic and market forces underlying metropolitan shifts are assumed to be structurally endogenous, captured in whole or in part by the dummy variables describing the SMSA types.

In the second type of model, labelled Type II, the SMSA-type dummy variables were each multiplied by the national rate of employment change (by sector) between 1977 and 1985. The interpretation of this 'top-down' structure is that metropolitan area employment shifts are affected by national economic trends in a uniform fashion. Readers should realize that both the Type I and Type II model structures are in no sense causal. Put another way, the regression results can tell us whether there are significant job growth rate differentials between SMSAs in different regions/of different types, but not why such differentials might exist.

Average percentage employment changes between 1977 and 1985 by SMSA-type and location are shown in Table 2. Table 3 summarizes the different specification forms and types.

Data Issues: The data used in this analysis were assembled from the Bureau of Labor Statistics publication, *Employment and Earnings Report*. In

addition to total jobs, employment data were extracted for six sectors: manufacturing, services, trade, finance-insurance-real estate (FIRE), and civilian government.

There are two obvious disadvantages to using sectoral data. The first is that employees are classified by firm type, and not occupation. For example, financial personnel working for a manufacturing firm are counted as manufacturing workers, and not as belonging to the FIRE sector. Because employment trends are often occupation determined (as opposed to industry-determined), the use of a simple industry-based classification system may cloud the true nature of employment change.

The second problem inherent in the use of sectoral data is even more troublesome. Sectoral data (as opposed to industry group, or industry data), often disguise crucially important subsectoral trends — trends which may in fact be driving the urban economy. For example, by examining just sectoral employment trends, one may wrongly conclude that a city's manufacturing base is stable, when what is really happening is that job growth in newer high-tech industries is offsetting job losses in older industries. Statistically, such differences cancel out; in reality, of course, they almost certainly do not.

Sectoral employment changes were calculated for

Table 2

Employment Growth Rates for the 76 Largest SMSAs: 1977-85; by Region and SMSA Type

Pct. Employment Change: 1977-85	Total Employ.	Manufact.	Services	Trade	Gov.	FIRE	T/C/U
US Total	18.1%	-1.3%	42.5%	25.0%	7.2%	31.8%	12.5%
76 SMSA Subset	18.4%	0.8%	42.0%	16.9%	3.5%	29.4%	11.2%
Region							
Northeast	10.7%	0.0%	30.1%	6.2%	-7.1%	19.0%	-3.1%
Midwest	5.9%	-15.5%	31.1%	-1.6%	0.1%	23.5%	0.9%
South	30.4%	9.3%	56.6%	33.2%	18.4%	39.7%	27.6%
West	30.2%	22.4%	55.3%	31.9%	0.6%	40.5%	21.9%
SMSA Type							
National Div. Service Centers	13.2%	-4.0%	29.0%	-7.9%	-10.1%	20.7%	-2.7%
Regional Div. Service Centers	22.3%	11.17%	46.14%	24.93%	8.57%	35.91%	14.84%
Sub-Regional Div. Serv. Centers	25.1%	15.01%	47.35%	25.50%	28.27%	30.27%	47.56%
Specialized Service Centers	9.1%	-9.25%	36.47%	19.26%	-1.56%	23.73%	2.56%
Gov.-Education Service Centers	32.3%	17.09%	61.38%	41.16%	9.51%	37.17%	28.71%
Consumer Centers	43.3%	28.34%	69.64%	45.97%	13.41%	53.93%	39.28%
Production Centers	-1.5%	-19.75%	27.18%	9.61%	-7.17%	16.41%	-7.66%

Table 3

Summary of Tested Regression Models

Model	Independent Variables – Type I	Independent Variables – Type II
Sectoral Models	Sectoral Location Quotient	
Regional Models	Northeast Dummy Variable	Northeast Dummy Variable & 1977 Sectoral Employment (i)
	Midwest Dummy Variable	Midwest Dummy Variable & 1977 Sectoral Employment (i)
	South Dummy Variable	South Dummy Variable & Sectoral Employment (i)
	West Dummy Variable	West Dummy Variable & Sectoral Employment (i)
	1977 Sectoral Employment (i)	
Bi-coastal Models	East Coast Dummy Variable	East Coast Dummy Variable & Sectoral Employment (i)
	West Coast Dummy Variable	West Coast Dummy Variable & Sectoral Employment (i)
	1977 Sectoral Employment (i)	
Stanback-Noyelle Models	Nat'l Div. Service Center D.V.	Nat'l Div. Service Center D.V. & Sectoral Employment (i)
	Reg. Div. Service Center D.V.	Reg. Div. Service Center D.V. & Sectoral Employment (i)
	Subregional Div. Service Center D.V.	Subregional Div. Service Center D.V. & Sect. Employ. (i)
	Specialized Service Center D.V.	Specialized Service Center D.V. & Sect. Employment (i)
	Government & Education Center D.V.	Government & Education Center D.V. & Sect. Employ. (i)
	Consumer Center D.V.	Consumer Center D.V. & Sectoral Employment (i)
	Production Center D.V.	Production Center D.V. & Sectoral Employment (i)
	1977 Sectoral Employment (i)	
Dependent Variable	Percentage Change in Employment 1977–85 by Sector and SMSA	Percentage Change in Employment 1977–85 by Sector and SMSA

Notes: (i) indicates SMSA.

the 76 largest SMSAs. This includes all metropolitan areas, which, in 1980, had a population of a half million or more. Not only do the 76 largest SMSAs include most of the nation's employment (73 per cent, as of 1985), they also encompass 75 per cent of its recent job growth.

The number of SMSAs are limited primarily to make the analysis more manageable. By excluding smaller metropolitan areas, some of the problems inherent in comparing percentages are also reduced (but not eliminated); namely, that small absolute changes in small places are given equal weight with large changes in large places.

Baseline Comparisons: Measured by overall goodness-of-fit, the Type I and Type II specifications produce comparable results for the regional and bi-coastal models of employment change (Figures 1a and 1b). In the case of the Stanback-Noyelle specifications, the Type I specifications consistently outperform the Type II specifications. Owing to their generally superior performance in explaining metro area employment shifts, only the results of the Type I models will be further considered.

Table 4 reports on the various Type I regression results. In general, changes in metropolitan area employment between 1977 and 1985 were not significantly correlated with employment concentration, as measured using locations quotients

(Table 4a). As a group, SMSAs which were centers of trade, FIRE, service, or government employment in 1977 neither gained nor lost disproportionate shares of employment in those sectors between 1977 and 1985. Manufacturing was the one exception to this generalization: all else being equal, metro areas with high concentrations of manufacturing jobs in 1977 lost much more of their job bases between 1977 and 1985 than did metro areas with lesser concentrations of manufacturing employment.

In contrast to the simple sectoral model discussed above, there were significant differences in rates of SMSA employment change by region (Table 4b). Between 1977 and 1985, total employment increased by 36 per cent in the class of southern SMSAs included in the sample, by 35 per cent in the class of western SMSAs, and by 7 per cent in the class of midwestern SMSAs. Depending on the employment sector, the regional dummy variables explain between 17 per cent (manufacturing) and 36 per cent (government) of the variation in employment growth rates between 1977 and 1985. Except for government employment, sectoral job growth rates were generally comparable within, and between SMSAs in the South and West.

In terms of overall explanatory power, the results of the bi-coastal specifications are generally inferior to the results of the regional specifications

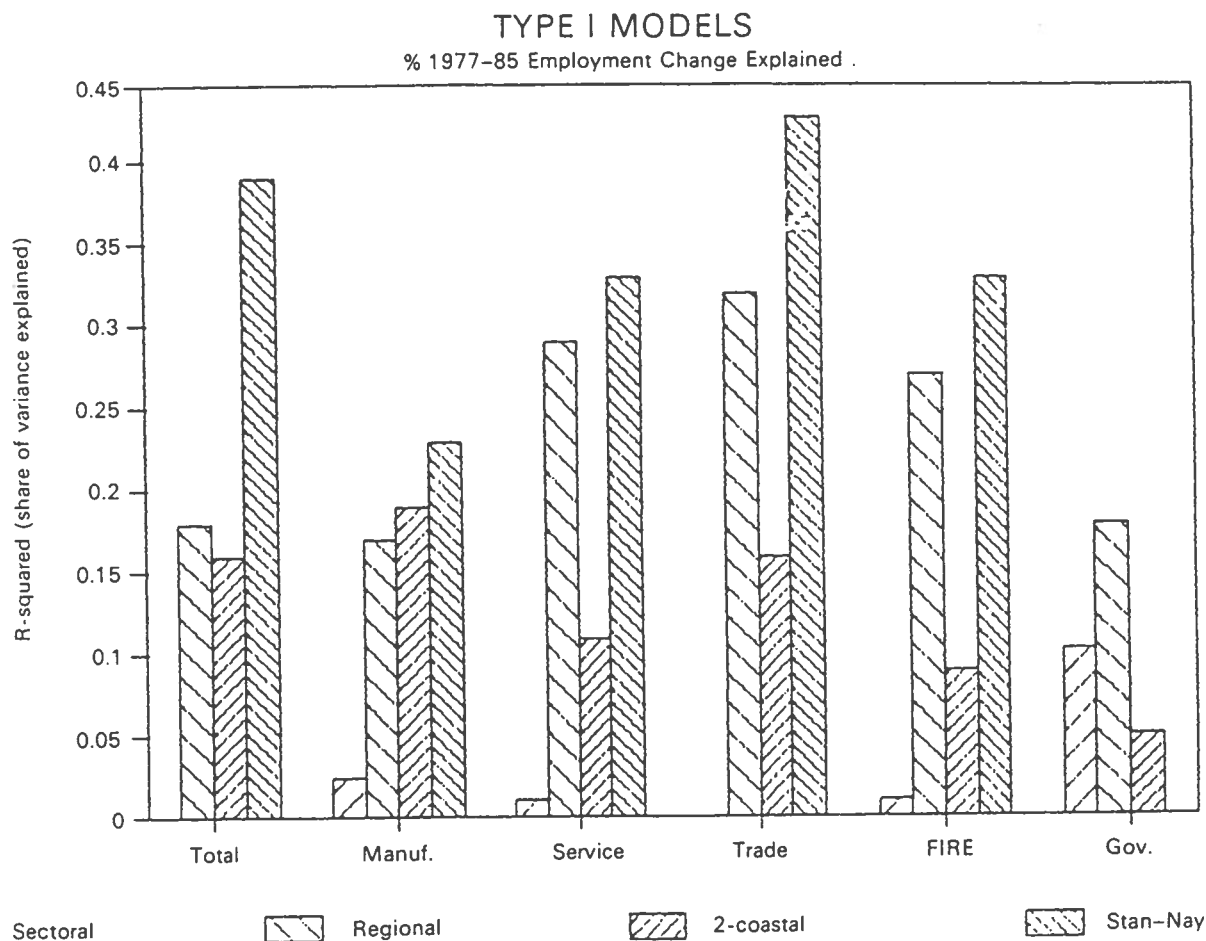


Fig. 1a. Regression Goodness-of-Fit Results for TYPE I Models.

(Table 4c). In the case of service employment, the three regional dummy variables 'explain' 29 per cent of the percentage growth in service jobs between 1977 and 1985. By contrast, the two coastal dummy variables explain only 11 per cent of the same variation.

This does not mean that distinctions between coastal and heartland cities are meaningless. Quite the contrary. According to Table 4c, manufacturing employment declined by an average of 5 per cent between 1977 and 1985 in the nation's heartland cities. Over the same period, manufacturing employment increased by 27 per cent in metropolitan areas along the east coast, and by 26 per cent in metro areas along the west coast. Rates of service and trade job growth were similarly comparable across east and west coast metro areas. In the cases of FIRE and government employment, however, there were significant differences between the two coasts.

Among west coast cities, FIRE employment grew by an average of 48 per cent between 1977 and 1985; by contrast the rate of FIRE job growth varied widely among east coast cities.

Performance of the Stanback-Noyelle Metro Area Typology: In general, the Stanback-Noyelle model outperforms the three baseline models. When compared with the regional and bi-coastal baseline models, the Stanback-Noyelle metro area typology explains substantially more of the variation in total and trade employment growth, and somewhat more of the variation in manufacturing, services, and FIRE employment growth between 1977 and 1985 (Figure 1).

Depending on the sector, the seven SMSA-type dummy variables explain between 23 per cent (manufacturing) and 43 per cent (trade) of the inter-metropolitan variation in job growth rates between 1977 and 1985. Evaluated at the 95 per cent

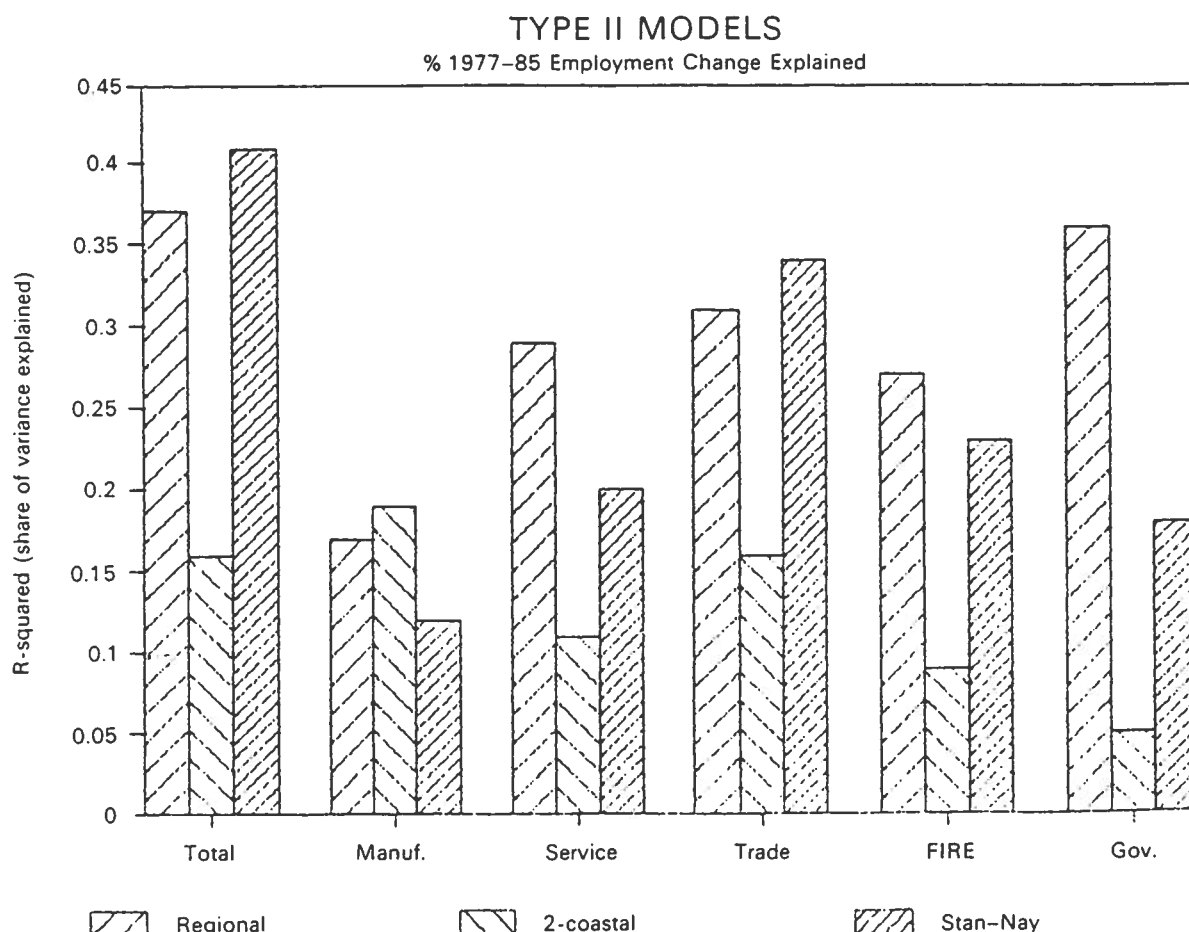


Fig. 1b. Regression Goodness-of-Fit Results for TYPE II Models.

significance level, five of the SMSA-type dummy variables (indicating national, regional, and sub-regional service centers, specialized service centers, and production centers) are consistently significant, while the other two dummy variables (indicating

government-education service centers, and consumer centers) are not.

How do the SMSA types compare? Overall, employment growth rates during the 1977-85 period were consistently greater in the regional diversified

Table 4a

Regression Results Comparing Metro Areas Employment Concentrations (1977) with Percentage Employment Changes by Sector: 1977-85

MODEL:	Pct. Employment Change 1977-85 = f(1977 Location Quotient)				
	Manuf. Emp. %Chng	Service Emp. %Chng	Trade Emp. %Chng	Fire Emp. %Chng	Gov. Emp. %Chng
R-squared	0.24	0.01	0	0.01	0.103
Estimated Coefficient	-0.445	0.206	0.018	0.045	0.162
(t-statistic)	(-4.79)	(1.14)	(.233)	(.741)	(2.92)
Constant	0.535	0.266	0.261	0.287	-0.071
N	76	76	76	76	76

Table 4b

Regression Results Comparing Metro Areas by Region with Percentage Employment Changes by Sector: 1977-85

Independent Variables (Metro Area Region (0/1))	Estimated Coefficients (Including Constant Term); (t-statistics in parenthesis)					
	Total Emp.	Manuf. Emp.	Service Emp.	Trade Emp.	Fire Emp.	Gov. Emp.
Midwest Region	0.068	-0.109	0.32	0.11	0.21	0
Metro Areas	(.91)	(1.15)	(.90)	(1.3)	(-.88)	(.69)
South Region	0.363	0.241	0.61	0.4	0.41	0.24
Metro Areas	(4.36)	(2.07)	(3.60)	(3.60)	(2.88)	(5.66)
Western Region	0.347	0.251	0.6	0.37	0.47	0.05
Metro Areas	(3.48)	(1.89)	(2.97)	(2.63)	(3.39)	(1.5)
R-squared	0.18	0.17	0.29	0.32	0.27	0.18
Constant	0.121	0.021	0.38	0.19	0.26	-0.03
N	76	76	76	76	76	76

Table 4c

Regression Results Comparing Coastal and Heartland Metro Areas with Percentage Employment Changes by Sector: 1977-85

Independent Variables (East OR West Coast (0/1))	Estimated Coefficients (Including Constant Term); (t-statistics in parenthesis)					
	Total Emp.	Manuf. Emp.	Service Emp.	Trade Emp.	Fire Emp.	Gov. Emp.
East Coast Metro Areas	0.31	0.27	0.56	0.35	0.35	0.14
	(3.30)	(3.78)	(2.67)	(3.37)	(1.15)	(1.70)
West Coast Metro Areas	0.33	0.26	0.57	0.37	0.48	0.02
	(2.30)	(2.58)	(1.94)	(2.52)	(2.64)	(-.52)
R-squared	0.16	0.19	0.11	0.16	0.09	0.05
Constant	0.14	-0.05	0.4	0.18	0.29	0.06
N	76	76	76	76	76	76

and sub-regional diversified service centers, than in the four national diversified centers, the specialized service centers, and the production centers (Table 5 and Figure 2). Manufacturing jobs, for example, increased by 15 per cent and 13 per cent, respectively, in the set of regional and diversified service centers, but declined by 6 per cent in the set of national diversified service centers and specialized service centers, and by 16 per cent in the class of production centers. Similarly, service employment, trade employment, and FIRE employment growth rates, were greatest in the regional and sub-regional diversified service centers.

Evaluation: From a statistical perspective, the Stanback-Noyelle model is clearly superior to the more traditional, regional (Snowbelt-Sunbelt) model in explaining metropolitan rates of job change between 1977 and 1985. This superiority is most apparent in the cases of total employment and

trade employment, although less apparent for manufacturing, FIRE, and service employment growth.

That the Stanback-Noyelle model outperforms the regional (Snowbelt-Sunbelt) model is not that significant in and of itself. After all, the Snowbelt-Sunbelt model accounts for only one dimension of the difference between metro areas, geographical location, whereas the Stanback-Noyelle model incorporates aspects of two dimensions — size, and function. What is significant is that the Stanback-Noyelle model explains job trends as well as it does *without* reference to the geographical dimension. Given that so many studies have focused on geographic location as the key to explaining employment growth differences, the Stanback-Noyelle model commands respect as an important and significant alternative.

Its superior *comparative* performance notwithstanding, the Stanback-Noyelle model is not a

Table 5

Regression Results Comparing Stanback-Noyelle Metro Area Types with Percentage Employment Changes by Sector: 1977-5

Independent Variables (Metro Area Type (0/1))	Estimated Coefficients (Including Constant Term); (t-statistics in parenthesis)				
	Total Emp.	Manuf. Emp.	Service Emp.	Trade Emp.	Fire Emp.
Nat'l Diversified	0.11	-0.06	0.30	-0.08	0.21
Service Centers	(3.04)	(2.50)	(3.48)	(5.31)	(2.60)
Reg. Diversified	0.24	0.15	0.50	0.26	0.36
Service Centers	(2.57)	(2.12)	(2.70)	(3.17)	(1.81)
Sub-reg. Diversified	0.25	0.13	0.47	0.26	0.28
Service Centers	(2.28)	(1.99)	(2.69)	(2.87)	(2.42)
Specialized	-0.12	-0.06	0.37	0.20	0.27
Service Centers	(3.92)	(3.30)	(3.38)	(3.82)	(2.85)
Gov. & Educational	0.30	0.24	0.52	0.41	0.38
Service Centers	(1.56)	(1.30)	(2.022)	(1.28)	(1.09)
Consumer Centers	0.47	0.28	0.71	0.50	0.44
	(.03)	(1.13)	(.330)	(.45)	(.72)
Production Centers	0.01	-0.16	0.29	0.14	0.18
	(4.49)	(3.47)	(4.16)	(4.03)	(3.43)
R-squared	0.39	0.23	0.33	0.43	0.33
Constant	0.48	0.505	0.783	0.544	0.511
N	76	76	76	76	76

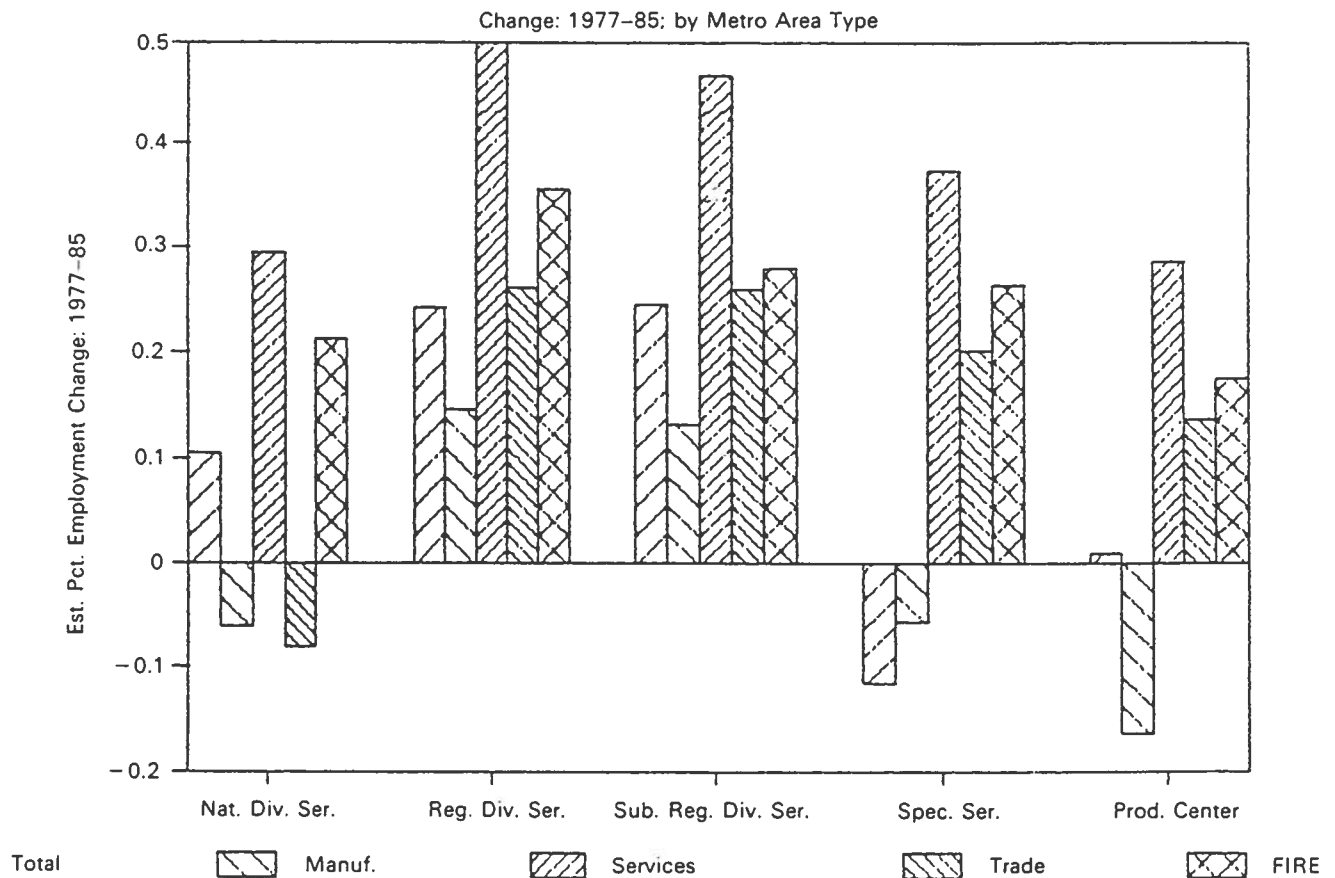


Fig. 2. Comparison of Pct. Estimated Employment.

particularly robust predictor of metropolitan area job changes. Overall, the model 'explains' less than 40 per cent of job changes in the nation's 76 largest SMSAs between 1977 and 1985. Clearly, and not surprisingly, the process of job growth and decline in large metropolitan areas is much too complex to be captured in a simple typological model.

Many considerations account for the model's statistical performance. In constructing their model, Stanback and Noyelle have creatively grafted observations about the increasing role of service functions in the American economy onto a central-place style model of spatial and functional differentiation. What results is a descriptive model of urban structure (as of 1977), not a dynamic model of employment change. And because it is a descriptive model, the Stanback-Noyelle model does not incorporate many of the factors which have been demonstrated to significantly explain inter-metropolitan job shifts, including among others, local industrial structure and competitiveness (Rees, 1979; Markusen, 1985), real factor price differentials, varying access to foreign markets/investment, and local variations in rates of business formation. Because it lacks a causal structure, it is perhaps unfair to require the Stanback-Noyelle model to explain recent employment shifts. In fact, the possibility that past trends *might* not continue into the future, and that the empirical basis of the model might become less and less relevant has been suggested by Noyelle himself (1983).

One area in which time almost certainly has had an effect is in the assignment of particular SMSAs to categories. Owing to the continued rise of advanced services and the simultaneous decline of manufacturing, the economies of cities like Hartford, Providence, Worcester, New Brunswick — economies which as late as 1977 were strongly oriented toward manufacturing — have tilted increasingly toward services. Likewise, several metro areas classified by Stanback and Noyelle as consumer centers have developed strong nationally-oriented employment bases. Indeed, it is quite possible that a careful updating of the Stanback-Noyelle model would greatly improve its statistical ability to explain recent employment changes.

Notes on the Continuing Decentralization of Jobs

In choosing to focus on economic transition as it affects the *system* of cities, the Committee on

National Urban Policy also chose *not* to focus on intra-metropolitan job shifts. Yet for those involved in governing central cities, and indeed, for many of those living in central cities, a job lost is a job lost, whether that job is moved 20 miles away or 2000.

The movement of jobs and economic activity from central city to suburb is certainly not new. Since the early 1960s, geographers and economists have noted and commented upon the shift of manufacturing employment from central cities to suburbs (Kain, 1968, 1975; Harrison, 1974). This in turn has led to warnings about the erosion of the fiscal and economic base of the central city (Bahl, 1981; Garn and Ledebur, 1980; Bradbury, Downs and Small, 1982). In many metropolitan areas, the central city has in fact declined (Lowry, 1980). In others, economic declines have been averted through a combination of service and government growth, the continued presence of corporate headquarters, increases in federal aid, and service cutbacks.

In recent years, however, some of these central city support lines have been scaled back or eliminated. Measured in real terms, federal aid to cities has been sharply reduced and except in very few places, government employment is no longer increasing. Looking to the future, the ability of central cities to retain and attract corporate and service jobs is vital to their continued economic viability.

Overall, the employment trends of the late 1970s and early 1980s have favored suburban areas at the expense of central cities. As Table 6 indicates, between 1977 and 1982 the nation's largest central cities lost more manufacturing-production jobs and gained fewer service and manufacturing-nonproduction jobs than did their adjacent suburbs. Among the most important changes noted in Table 6 are the following:

- i 60 per cent of the nearly three-quarters of a million manufacturing production jobs lost in the 76 largest SMSAs between 1977 and 1982 were in central cities.
- ii While the number of production jobs in the nation's largest metropolitan areas declined substantially between 1977 and 1982, the number of nonproduction or overhead jobs in manufacturing actually increased. Significantly, however, most of the increase occurred in suburban areas
- iii Traditionally, it has been the central city that has been the focal point of service job growth. Yet service jobs are now growing at a faster rate

Table 6

Central City and Suburban Employment Changes in the Largest SMSAs: 1977-82; for Production and Nonproduction Manufacturing, and Selected Services

Employment Change: 1977-82 (in thousands)	Produc. Manuf.		NonProd. Manuf.		Services	
	Central City	Suburb	Central City	Suburb	Central City	Suburb
68 Largest SMSAs	-424.1	-292.9	157.8	432.4	1,319.4	1,571.7
Northeast	-174.1	-113.2	-9.2	75.4	313.0	413.8
Midwest	-272.3	-228.1	-3.1	88.0	204.2	384.7
South	9.3	23.8	94.6	80.2	392.3	391.1
West	13.0	24.6	75.5	188.8	409.8	382.1
Pct. Employment Change: 1977-82						
68 Largest SMSAs	-14.4%	-7.9%	9.7%	22.0%	54.4%	87.4%
Northeast	-19.3%	-9.7%	-1.9%	11.1%	46.2%	85.0%
Midwest	-30.2%	-18.5%	-0.6%	13.3%	39.4%	84.2%
South	1.5%	4.1%	27.6%	35.0%	58.8%	97.0%
West	2.5%	3.4%	25.5%	47.7%	72.7%	84.6%
Pct. of SMSA Employment Change: 1977-82						
68 Largest SMSAs	59.1%	40.9%	26.7%	73.3%	45.6%	54.3%
Northeast	60.6%	39.4%	-13.9%	113.9%	43.1%	56.9%
Midwest	54.4%	45.6%	-3.7%	103.7%	34.6%	65.3%
South	28.1%	71.9%	54.1%	45.9%	50.1%	49.9%
West	34.6%	65.4%	28.6%	71.4%	51.8%	48.2%
Central City Share of Employment	1977	1982	1977	1982	1977	1982
68 Largest SMSAs	44.4%	42.6%	44.2%	42.6%	57.4%	52.6%
Northeast	43.6%	40.9%	42.2%	39.3%	58.1%	52.3%
Midwest	42.2%	38.5%	42.3%	39.1%	53.1%	46.2%
South	51.8%	51.2%	52.5%	49.7%	62.3%	57.2%
West	42.0%	41.8%	42.8%	45.8%	55.5%	53.8%

Source: Census of Manufacturing 1977, 1982; Census of Selected Services 1977; Census of Service Industries 1982.

in suburban areas than in central cities (although absolute differences in service job growth between city and suburb were not that great as of 1982). More recent studies indicate that if anything, the pace of service job decentralization has increased since 1982.

How pervasive are these trends? Do they differ by region, or by type of metro area? To find out, multiple regression was used to compare central city and suburban manufacturing and service sector employment changes by region and by type of metropolitan area (according to the Stanback-Noyelle typology).

Regression specifications were undertaken for three different categories of employment: production manufacturing, nonproduction manufacturing, and services. Production workers include all full-

time employees who work on manufacturing assembly lines, and their immediate supervisors. Nonproduction workers include all full-time employees engaged in management, sales, and overhead functions. Service jobs include workers employed in the service sector as defined under the SIC code. Unfortunately, central city and suburban job counts are not undertaken yearly and the most recent counts available — those collected as part of the 1982 industry censuses — are now five years old.

To control for the fact that differences between central city and suburban job growth may be mostly a function of what is defined as central city versus what is defined as suburb, the percentage of SMSA land area located in the central city was included in the various regression models. As might be expected, this indicator varies quite wide widely, from a minimum of 1 per cent (Syracuse) to a maximum of

51 per cent (Los Angeles-Long Beach); on average, central cities include only 7.1 per cent of the land area in their respective SMSAs. Contrary to expectations, the size of the central city relative to the SMSA does not vary by region or type of city. All else being equal, one would expect to find positive relationships between central city employment changes and the percentage of the SMSA in the central city.

The regression results provide a number of new insights into the nature of central city and suburban job shifts (Tables 7 and 8).

Manufacturing Production Jobs: Nationwide, central cities and suburban areas both lost large numbers of manufacturing production jobs during the late 1970s, with greater job losses reported for central cities. Except in the West, however, the job loss differential between central cities and suburbs did not much vary by region. Put another way, after controlling for initial employment and city size, central cities in the Midwest did not seem to fare much worse than their northern or southern counterparts. (By contrast, central cities in the West gained an average of 8,000 new manufacturing jobs between 1977 and 1982). Likewise, the function of the SMSA in the national system of cities (according to the Stanback-Noyelle typology) did not affect the number of production jobs lost — whether in the central city or suburban areas. Overall, nearly 70 per

cent of the variation in central city job losses between 1977 and 1982 is explained just by a combination of central city size and total employment. Central cities with large numbers of production jobs (in 1977) experienced greater job losses. Job losses were also greatest in smaller central cities.

Suburban areas also lost production jobs during the late 1970s, although not as many as core cities. All else being equal, suburbs surrounding large central cities lost more manufacturing production jobs than did suburbs surrounding small central cities.

Non-Production Manufacturing Employment: For every 100 new non-production jobs added in central cities between 1977 and 1982, suburban areas added 270 new non-production jobs. But as Tables 7 and 8 indicate, such changes have varied sharply between metropolitan areas. Unexpectedly, the growth of nonproduction jobs during the late 1970s — in both central cities and suburbs — was not significantly related to the number of such jobs as of 1977. Put another way, the existence of a large base of nonproduction workers in 1977 did not seem to affect the ability of a central city or suburb to add more such workers. All else being equal, large central cities (relative to their SMSAs) gained many more nonproduction jobs than did smaller central cities. Suburban nonproduction job growth, on the other hand, was not affected by the relative size of the central city.

Table 7

Regression Results of Central City and Suburban Employment Changes: 1977–82; for Production Manufacturing Employment, Nonproduction Manufacturing Employment, and Services Employment, by Region (T-statistics in parenthesis)

Independent Variable	Dependent Variable: Production Manufact. Emp. Change: 1977–82		Dependent Variable Non-Prod. Manufact. Emp. Change: 1977–82		Dependent Variable: Selected Services Emp. Change: 1977–82	
	Central City	Suburb	Central City	Suburb	Central City	Suburb
1977 SMSA Employment	–0.106 (–10.52)	–0.071 (4.25)	–0.016 (–1.37)	0.025 (1.19)	0.00028 (11.26)	0.00028 (9.35)
% of SMSA Area in Central City	41.21 (2.99)	61.43 (2.72)	26.31 (2.96)	0.31 (.019)	72.12 (3.03)	–60.661 (–2.14)
Midwest (0/1)	–4.57 (–1.65)	–4.45 (–.98)	0.987 (.54)	–1.19 (.36)	–2.88 (–.60)	1.187 (.21)
South (0/1)	4.12 (1.55)	5.33 (1.23)	4.79 (2.67)	1.36 (.42)	4.97 (1.09)	0.874 (.161)
West (0/1)	8.19 (2.78)	5.56 (1.15)	5.88 (2.97)	11.84 (3.30)	7.34 (1.43)	4.62 (.76)
Constant	–0.43	–2.57	–1.38	2.41	–5.74	8.655
R-squared	0.76	0.39	0.33	0.23	0.8	0.63
N	63	63	63	63	63	63

Table 8

Regression Results of Central City and Suburban Employment Changes: 1977-82; for Production Manufacturing Employment, Nonproduction Manufacturing Employment, and Services Employment, according to Stanback-Noyelle SMSA Type (T-statistics in parenthesis)

Independent Variable	Dependent Variable: Production Manufact. Emp. Change: 1977-82		Dependent Variable: Non-Prod. Manufact. Emp. Change: 1977-82		Dependent Variable: Selected Services Emp. Change: 1977-82	
	Central City	Suburb	Central City	Suburb	Central City	Suburb
1977 SMSA Employment	-0.11 (-7.09)	-0.11 (-4.56)	-0.027 (-1.47)	0.011 (.34)	0.00034 (7.736)	0.00024 (4.73)
% of SMSA Area in Central City	61.31 (3.82)	73.63 (3.17)	34.79 (3.42)	26.61 (1.48)	83.749 (3.4)	-49.001 (-1.69)
National (0/1)	-9.6 (-.9)	15.04 (1.03)	-5.7 (-.8)	-0.65 (-.056)	-35.32 (-2.56)	15.885 (.83)
Div. Serv. Center	-4.7 (-.06)	5.89 (.60)	-3.3 (-.7)	9.78 (1.25)	-14.743 (-1.412)	11.262 (.92)
Regional (0/1)	-8.2 (-1.1)	-3.2 (-.32)	-4.9 (-1.0)	-0.624 (-.08)	-10.823 (-1.0)	-0.776 (-.06)
Div. Serv. Center	-7.4 (-1.0)	-2.31 (-.24)	-4.9 (-1.1)	3.82 (.49)	-16.861 (-1.63)	6.316 (.52)
Specialized (0/1)	-9.11 (-1.16)	-1.19 (-.11)	-7.06 (-1.4)	1.2 (.13)	-19.561 (-1.623)	15.443 (1.10)
Educ-Gov. (0/1)	-5.9 (.8)	5.98 (.56)	-5.66 (-1.19)	5.61 (.67)	-9.543 (-.85)	5.156 (.39)
Consumer (0/1)	-9.13 (-1.10)	-4.94 (-.42)	-7.78 (-1.47)	0.83 (.09)	-13.274 (-1.05)	1.756 (.12)
Center						
Production (0/1)						
Center						
Constant	9.01	0.135	6.09	-0.66	7.577	4.373
R-squared	0.69	0.41	0.24	0.17	0.81	0.65
N	63	63	63	63	63	63

One important spatial pattern does emerge from Table 7: the rise of Sunbelt cities as focal points of corporate overhead functions. All else being equal, central cities in the South gained 4,800 new nonproduction jobs between 1977 and 1982. Central cities in the West also added many new nonproduction jobs, albeit not as many as suburban areas. According to Table 8, there was no relationship between nonproduction job growth and metro area function.

Services: The phenomenal increase in the number of central city and suburban service jobs between 1977 and 1982 followed neither a regional nor functional pattern. Instead, central city-suburban growth differentials seem primarily to be a function of central city size. In both central cities and suburban areas, service jobs have increased in direct proportion to the number of such jobs present, SMSA-wide, in 1977. Thus, the extent to which a central city can capture this growth depends primarily on its geographical size. Large central cities (relative to their SMSAs) have been able to capture

the lion's share of service job growth while smaller central cities have not. More recent studies indicate that if anything, the pace of service job decentralization has increased since 1982.

Implications: If these trends continue onto the future, their implications will be far-reaching for central cities and suburbs. Public officials and business leaders in central cities 'saved' by the past growth of service and corporate employment will face increased competition from neighboring suburbs. The role of many central cities as the 'command and control' centers of their metropolitan regions will be further eroded (Noyelle, 1983). New commuting patterns will develop as suburban centers become larger and more diversified — commuting patterns which will not match the existing road and transit infrastructure (Cervero, 1986). Without help, poor central city residents who today lack access to service jobs will find such jobs ever further out of reach. This in turn will isolate central city residents even more, aggravating problems of poverty and joblessness (Downs, 1985).

If these concerns seem alarmist, and perhaps reminiscent of concerns about the decentralization of manufacturing employment during the 1960s, consider the cases of Atlanta and San Francisco. Both cities are the economic, social, and cultural centers of large, dynamic metropolitan regions. Yet officials in both cities now find themselves concerned over how to halt the flight of corporate and service jobs to the suburbs (Feinstein, 1987).

Implications for National Urban Policy

The next generation of national urban policy — if there is to be a next generation — must recognize the incredibly dynamic and complex nature of metropolitan economies. This, of course, was the main thrust of the recommendations offered by the Committee on National Urban Policy in 1983: that the ability of public policy to shape and alter urban development trends in the face of the industrial transformation of the US economy is likely to be small indeed. This point remains valid, and deserves reiteration.

It is the Committee's analysis of urban development patterns, not their philosophy of action, that requires updating. Among the most important empirical findings of this research:

- i Although the shift of the US economy away from manufacturing employment and toward service employment has generally favored southern and western SMSAs at the expense of metro areas in the Midwest and Northeast, the trend has been far from uniform. Among the 76 largest metro areas, regional location accounted for less than 20 per cent of the variation in total employment growth between 1977 and 1985.
- ii As predicted by Stanback and Noyelle, the growth of service employment does seem to have favored SMSAs with a diversified base of service and trade employment while penalizing those with narrower, manufacturing-oriented economies. Also as predicted by Stanback and Noyelle, the growth of the service economy has been strongest in largest regional centers, somewhat weaker national centers, and weakest in manufacturing centers.
- iii Despite such changes, there has not yet been a significant shift in the national alignment of metro areas within the US economy. Although the Stanback-Noyelle model statistically outper-

forms the traditional regional (Sunbelt-Snowbelt) model in explaining recent metro area employment trends overall it explains only about 40 per cent of the variation in total employment growth between 1977 and 1985.

- iv The largest changes in employment that occurred during the late 1970s and early 1980s were intra- metropolitan, not inter-metropolitan. Throughout the country and particularly among western SMSAs, the focus of service job growth has shifted from the central city to suburban areas. When coupled with the continuing decentralization of manufacturing jobs, this trend suggests that the remaining years of the twentieth century will be increasingly difficult ones for many central cities.

These findings offer some guidance as to what the next generation of national urban policy should and should not be. Given the tremendous (and largely unaccounted for) variation of employment growth rates within and between different metropolitan areas, it *should not* be the purpose of national urban policy to redirect the spatial pattern of economic development to and from different locations or types of cities. It *should* be the goal of national urban policy to encourage metro areas to orient their economic development activities around their existing economic and population bases. Because place-oriented economic development policies have proven only marginally effective, it should also be the goal of national urban policy to enhance the personal and labor mobility of the economically disadvantaged, and to reduce racial, social and institutional barriers to labor mobility.

On the intra-metropolitan side, it is unlikely that federally sponsored programs can or would affect rates of suburban job growth. A more realistic approach would be to strengthen the functional linkages between central city and suburban governments so that the continued growth of the service economy can occur in a consistent manner across the metropolitan area. In this sense, succeeding rounds of federal development and infrastructure grants should be awarded in a fashion which promote inter-governmental planning, service delivery, and cost-sharing.

The advent of tax reform will also present new development opportunities for central cities. To the extent that tax reform has eliminated locationally-

independent tax subsidies, it has increased the value of locationally-dependent subsidies. Local governments with the capacity to assemble significant development incentive packages (including, for example, land, infrastructure, and financing) will be better able to attract new private development.

The ultimate goal of national urban policy must be to improve the professional capacity of those who administer, plan, and direct metropolitan governments. As this and many other studies illustrate, the spatial pattern of economic transformation is problematic to explain, impossible to predict, and difficult to shape. Only by improving the capability of the local public sector to recognize and respond to market forces, and to visualize and undertake capital, human, and social investments in anticipation of economic development can a policy aimed at promoting the development of cities be effective.

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