Economic restructuring and socioeconomic outcomes in metropolitan and nonmetropolitan counties

Don E. Albrecht

Rural Sociology and Community Studies Program
Department of Recreation, Park & Tourism Sciences

Carol Mulford Albrecht

Department of Sociology
Texas A&M University

Abstract

In recent years, there have been significant changes in the way that many Americans make a living. This economic restructuring has resulted in America moving from an agricultural society, to an industrial society, to the post-industrial society of today where the majority of people are employed in the service sector. This manuscript examined two research questions of relevance to these economic restructuring processes. The first research question focused on the extent of economic restructuring in metropolitan and nonmetropolitan counties, and the factors related to this restructuring. It was found that increases in service sector employment were greater in metropolitan communities than in nonmetropolitan communities. In addition, counties with more amenity resources and smaller minority populations also had greater increases in service employment. The second research question explored the socioeconomic and demographic outcomes of economic restructuring. It was found that increased service employment was related to a reduction in poverty levels, higher median household incomes and to overall population growth. The implications of these findings were discussed.

Introduction

Among the more profound changes affecting American society in recent decades are transitions in the way that people make a living (Bluestone and Harrison 1982; Sassen 1990). This economic restructuring has resulted in America moving from an agricultural society where most families depended on farming, to an industrial society where manufacturing comprised the largest segment of the country's GDP, to the post-industrial society of today where a majority of the labor force is employed in the service sector (Morris and Western 1999). Economic restructuring is important because agricultural jobs are fundamentally different from industrial jobs, which in turn are fundamentally different from service jobs. Different industries have different wage structures and different work schedules for their employees; they require different levels and types of education; they differ in the types of relationships that exist between owners and workers; and they vary in the proportion of the workforce that is either male or female. All of these and other factors are likely to have major implications for individuals, relationships within families, the strength of community institutions, political outlooks and numerous other aspects of life (Albrecht 1998).

Because economic restructuring is so obviously important, an extensive research literature has emerged exploring its causes and consequences (Harrison and Bluestone 1988; Morris and Western 1999). This manuscript is intended to expand this literature in two major ways. First, this article will provide a comparison of metropolitan and nonmetropolitan counties on the extent of economic restructuring and the socioeconomic and demographic consequences of this restructuring. A focus on the nonmetropolitan United States is important for several reasons. To begin with, most previous economic restructuring research has examined metropolitan communities. Obviously, economic restructuring trends are also critical to the 53 million Americans who live in nonmetropolitan areas. This is especially true since the extent of economic restructuring has been even more pronounced in nonmetropolitan areas than in metropolitan areas (Falk et al. 2003). Further, the insights gained from research with a different geographic focus should help strengthen and improve theoretical understandings of economic restructuring issues. Finally, since the industrial revolution, nonmetropolitan areas have had distinct employment disadvantages compared to metropolitan areas. As a result, there has been a near steady migration stream from nonmetro to metro areas as individuals and families seek improved economic opportunities in the city (Johnson 1989). Research is needed to explore how well nonmetro areas, compared to metro areas, are fairing economically and demographically in a service sector economy.

The second way this article seeks to extend the economic restructuring literature is to examine and compare different types of service sector employment. Much of the economic restructuring literature has tended to categorize all service sector jobs together. This may be misleading since the service sector comprises a wide array of diverse jobs that range from high-quality jobs to jobs that could best be described as low-pay, low-skill, temporary, and seasonal. In this manuscript, analysis will be conducted both

where service jobs are categorized together and where the different types of service jobs are examined separately.

In exploring economic restructuring in metro compared to nonmetro areas, two research questions will be examined. First, does metropolitan status impact the direction or extent of economic restructuring, and which additional factors impact the ability of communities to attract service sector jobs? Second, what are the socioeconomic and demographic impacts of economic restructuring, in general, and increased service sector employment, in particular? This manuscript continues with an overview of economic restructuring in the United States, and especially in nonmetropolitan counties, in recent decades. A review of previous research on the consequences of economic restructuring for individuals, families and communities is then provided. The research methods used in this study are then described, findings discussed, and conclusions drawn.

Economic restructuring in the United States

Prior to about 1800, the vast majority of the world's population lived on farms in rural areas in an economy based on subsistence agriculture. The same was true in the American colonies that would become the United States. Then in the mid 18th century, the industrial revolution emerged in Great Britain and soon spread to the British Colonies in America. This revolution involved the development and use of science, technology and machines to greatly increase the efficiency of human labor. Initially, the industry most extensively impacted was agriculture. By using increasingly advanced machines, farmers were able to produce an ever greater surplus of food and fiber. With fewer workers needed in agriculture, a labor force was available so that the processes of the industrial revolution could then be used in manufacturing or industry. For the most part, prior to the 20th century, industrial employment was largely confined to urban areas. Urban areas had the advantage of being closer to supplies, transportation routes, potential customers and a potential labor force (Amsden 2001). As a result, many rural residents moved to the city to seek the higher paying industrial employment available there and urban populations mushroomed. In sum, the economic structure transformation from agriculture to manufacturing resulting from the industrial revolution placed nonmetro areas at a distinct economic and employment disadvantage relative to metro areas. As a result, cities tended to prosper economically and demographically, while rural areas often experienced population declines and economic stagnation.

As the 20th century began, nearly all rural residents in the United States were employed in agriculture or other natural resource based industries (such as forestry, fishing, or mining; Albrecht and Murdock 1990), and the economic structure of rural compared to urban areas was very different. Since then, communities in the nonmetropolitan United States have been dramatically altered by two major economic structure transformations. Both of these transformations began during the twentieth century, and continue into the early twenty first century. The first transformation occurred primarily through the middle decades of the twentieth century, though it continues today on a

reduced basis. This transformation consists of a massive decline in agricultural employment, largely offset, at least initially, by increased manufacturing employment (Fuguitt et al. 1989; Johnson 1989). The second transformation has been unfolding since the late 1970s, though its full implications are just now being felt and understood. This transformation consists of a decline in manufacturing employment (Perrucci et al. 1988) with corresponding increases in service sector employment (Kassab and Luloff 1993).

The first economic structure transformation

Historically, nonmetropolitan America was economically dominated by the agricultural sector. Even into the middle decades of the twentieth century, farmers were by far the most numerous occupational group in the country. In 1940, for example, the farm population comprised nearly one-fourth of all U.S. residents and a majority of nonmetro residents (Albrecht and Murdock 1990; Beale 1978). Then the first economic structure transformation began to unfold. Largely as a result of technological developments that greatly increased the labor capacity of farmers and allowed them to operate progressively larger farms, there was a rapid increase in the size of the average farm, and a corresponding decline in the number of farms (Dorner 1983; Paarlberg 1980). Between 1940 and 2002, the number of farms declined from over six million to less than two million, while the farm population was reduced from 30 million to 3.9 million. This transition led to what Beale (1993) described as the largest peacetime movement of people in U.S. history as millions of people left the farm, many of them seeking industrial employment in metropolitan areas. As the number of farm workers plummeted, the booming manufacturing sector began moving to nonmetro communities where industry could employ displaced farm workers and at the same time avoid unionization and keep labor costs lower (Fuguitt et al. 1989). The availability of manufacturing jobs in nonmetro communities slowed the pace of nonmetro to metro migration. Eventually, manufacturing employment far exceeded agricultural employment even in nonmetro areas. Following the first economic structure transformation, the employment structures of metro and nonmetro areas were much more similar than before the transformation began.

The second economic structure transformation

Following World War II, the American manufacturing sector began a period of spectacular growth and it was soon apparent that the United States could best be described as an industrial nation rather than an agricultural nation. Manufacturing was the dominant industry in both metro and nonmetro areas from shortly after World War II until the late 1970s when it became apparent that another major economic structure transformation was occurring in the United States. At this time the number and proportion of manufacturing jobs began an initial decline (Bluestone and Harrison 1982; Sassen 1990) that has since increased in scope and magnitude (Morris and Western 1999). Some of the manufacturing jobs were lost as a result of technological advancements where machines replaced human labor in the production process. Many other

manufacturing jobs have been outsourced to foreign countries by multi-national corporations to take advantage of lower wages available in these countries (Morris and Western 1999). The loss of manufacturing jobs has been offset by extensive growth in service sector employment. This second transformation is greatly impacting both metro and nonmetro areas.

Factors related to the extent of economic restructuring

During the transition from an agricultural economy to an industrial economy, some communities were much more successful than other communities in attracting industrial jobs. Most basic, urban communities had a significant competitive advantage over rural communities. Further, when manufacturing began moving to nonmetro areas in the mid-twentieth century, some nonmetro communities had significant advantages over other nonmetro communities and thus tended to be more successful in attracting these industrial jobs. During this time, an extensive literature emerged which examined factors related to the likely success of nonmetro communities in attracting manufacturing employment. Among the variables consistently found to be important was initial population size (Johansen and Fuguitt 1984; Fuguitt et al. 1989). Communities with larger populations tended to be more successful in attracting manufacturing employment than smaller communities.

Most likely, the economic structure transformation from manufacturing to a service sector economy will be similar in that some communities will have competitive advantages over other communities. Thus, some types of communities will tend to successfully attract service sector employment while other communities will be less successful. Again, metro communities are expected to have advantages over nonmetro communities in attracting service jobs, although these advantages may not be as extensive as during the transition to an industrial economy. Similarly, some nonmetro communities are likely to have advantages over other nonmetro communities in attracting service jobs. Specifically, communities that are larger are again likely to have advantages over smaller communities. Thus, many of the communities that were advantaged during the first economic structure transformation may again be advantaged during the second economic structure transformation.

On the other hand, there are variables that may play a prominent role with the second economic structure transformation that were less important during the first transformation. Perhaps the most prominent of these variables may be the prevalence of amenity resources (England and Brown 2003; Goe et al. 2003). Amenity resources are simply defined as the natural attractiveness of a setting. The primary reason for expecting amenity resources to play a greater role in economic restructuring than in the past is that recent technological developments have reduced the relevance of location (Brown and Swanson 2003; Falk et al. 2003). With rapid developments in computers, the internet, and other forms of information technology, information can now be stored, accessed and transferred in ways almost unimaginable a few years ago. This allows some companies and individuals to locate where they choose rather than being required to locate near customers or transportation centers (Albrecht 2004). Those who choose can even live in nonmetro areas and still be

connected to the necessary markets and customers. Most likely, however, persons with mobile jobs, especially those choosing to live in nonmetro areas, will be concentrated in select, high amenity areas.

Another factor that may also be relevant to the ability of the community to attract service employment is the racial composition of that community. A long line of social science research has explored the relationship between the concentration of minority populations and socioeconomic outcomes. This research has consistently found that the level of socioeconomic disadvantage is high where minority populations are larger. Historically, these disadvantages have accrued because communities with extensive minority populations have been less successful in attracting employment and other economic opportunities (Albrecht et al. 2005; Cohen 1998; Fossett and Seibert 1997; Frisbie and Neidert 1977; McCreary et al. 1989; Wilcox and Roof 1978). If this relationship continues to persist, it will mean that communities where the proportion of the population that is minority is larger will be less successful than predominately white communities in attracting service employment.

To conclude, the first research question of this study is to explore which factors are related to the extent to which communities are successful in attracting service sector employment. As with previous economic structure transformations, it is expected that increases in service employment will be most extensive for metro communities and in larger nonmetro communities. Additionally, for the second economic structure transformation, it is expected that increases in service sector employment will be more extensive for amenity-rich communities and communities with smaller minority populations.

Consequences of economic restructuring

The second research question of this study is to examine the socioeconomic and demographic outcomes resulting from different economic restructuring patterns. A fundamental difference between manufacturing and service jobs that is likely to result in significant socioeconomic and demographic consequences is that most manufacturing jobs in the U.S. could be described as middle income while service jobs are much more diverse. Some service jobs are high quality (Sassen 1990). For example, according to data from the Current Population Survey, the average total annual compensation for persons working in the professional, scientific and technical services was $68,436 in 2000. Other service jobs tend to be middle income. In 2000, average total annual compensation for workers in education and health services was $39,603. However, many service jobs could be described as low-pay, low-skill, temporary and seasonal (Kassab and Luloff 1993). Thus, total annual compensation for persons working in the leisure and hospitality services averaged only $21,625. Because growth in the number of low-quality service jobs has exceeded growth in other types of service employment, the decline in earnings between the jobs lost (mostly middle-income manufacturing) and the new jobs that have been created (mostly low-income service) has reached $10,000 (Morris and Western 1999). The likely outcomes of replacing largely middle income manufacturing jobs with large numbers of low-paying service jobs include higher rates of poverty and lower incomes.

While a number of economic restructuring outcomes could be examined, this study will focus on three that are obviously of vital importance. These variables are poverty, income levels and population change. A number of researchers have explored the implications of increased service sector employment for poverty rates and income levels. Especially relevant is the work of William Julius Wilson (1987; 1996). Wilson maintains that the decline of manufacturing and the rise of low-wage service-sector employment have started a complex process where the end result is poverty and institutional decline. Wilson argues that increased low-pay service-sector employment greatly reduces the number of jobs that pay wages sufficient to support a family. This is especially true among males as the service sector employs a much larger proportion of females than the manufacturing sector. This situation leads, in turn, to high rates of unemployment and underemployment, and to shrinkage in the pool of male household heads financially able to support a family. Marriage thus becomes less attractive and less available to poor women, unwed childbearing increases, and female-headed households proliferate. This problem is exacerbated as large numbers of males out-migrate from poor neighborhoods and communities in search of more attractive employment, and the sex ratio becomes increasingly unbalanced. At the same time, middle-class individuals and families abandon poor neighborhoods and communities for more affluent areas, leaving behind destitute communities that lack the institutions, resources, and values necessary for success in a postindustrial society.

The processes described by Wilson have been supported by recent ethnographic studies (e.g., Anderson 1999; Bourgois 1995) and researchers have found strong support for the Wilson model among both the black population of urban areas (Eggers and Massey 1992), and in nonmetropolitan communities (Albrecht et al. 2000). Thus, communities with increased service sector employment are expected to have higher poverty levels and lower median family incomes than communities remaining dependent on agriculture or manufacturing.

In addition, economic restructuring is expected to have significant population change consequences. During the first economic structure transformation, extensive research determined that communities dependent on the declining industry (agriculture) experienced severe population declines, while communities that were successful in attracting manufacturing (the growth industry) were able to avoid such declines and often experienced population growth (Beale 1978; Fuguitt et al. 1989; Johansen and Fuguitt 1984; Johnson 1989). Similarly, for the second economic structure transformation, communities successfully attracting jobs in the growth industry (services) should translate this success into demographic growth, while communities remaining dependent on declining industries (agriculture and manufacturing) are likely to experience population declines.

Methods

Data for this analysis were obtained from the Census of Population and Housing and other sources, and an examination is made of changes occurring

in the twenty-year period from 1980 to 2000. This time period is selected for analysis because it coincides with the time of the second economic structure transformation. The county is the unit of analysis and is used to represent communities. All counties in the United States for which data are available on the variables utilized are included in the study (n = 3,131). This number includes 2,386 nonmetropolitan counties and 745 metropolitan counties. The problems associated with county level analyses are fully understood. However, much of the data utilized in this analysis are only available at the county level.

The first research question to be explored is the relationship between the characteristics of the county and economic restructuring. For this research question, economic restructuring is the dependent variable. Economic restructuring is operationalized as the proportion of the employed labor force working in the three industries of greatest relevance to this study including natural resources (agriculture, forestry, fisheries, and mining), manufacturing and services. Service employment will be used as a combined variable and will then be broken into its' various components that include (1) professional, scientific and technical services, (2) education services, (3) health services and (4) leisure, hospitality and other services. These variables are measured for both 1980 and 2000, and then the percent change between these two time periods is calculated.

The independent variables for the first research question include the metropolitan status of the county, initial (1980) percent minority, a natural amenity scale score and initial (1980) population size. For metropolitan status, metro counties are coded as 0 and nonmetro counties as 1. Percent minority is determined by computing the proportion of county residents in 1980 that are not Anglo, which is defined as non Hispanic Whites. The presence or absence of amenity resources is measured using a scale developed by McGranahan (1999) and researchers at the Economic Research Service of USDA. The scale was based on the conception of environmental quality that most people prefer. Six variables were selected and a simple additive scale was implemented (see McGranahan, 1999, for details). The measures include (1) warm winters based on average January temperature; (2) average number of days when the sun shines in January; (3) temperate summers – a measure was developed by using the residuals of a simple regression of July temperature on January temperature. In effect, this measure determines how much lower the July temperature is – given what one would predict based on the January temperature. Since residuals are not correlated with the independent variables, this measure is not redundant of the January temperature measure. The remaining measures include (4) summer (July) relative humidity, with the assumption that high humidity adds to summer discomfort; (5) topographical variation with the assumption that the more varied the topography, the more appealing the setting. This measure was based on the "National Atlas of the United States of America," and considered twenty-one categories of five basic land formations that include plains, tableland, hills and mountains. The sixth measure (6) included water area determined by the percent of the total county in water. The overall mean for this measure was -0.028 with a standard deviation of 2.233. Individual county scores range from -6.40 to 11.15. Finally, initial population size is measured by the total county population in 1980.

The second research question explores the relationship between economic restructuring and three socioeconomic and demographic outcomes. For this analysis, the economic restructuring variables become independent variables, and will be used along with the independent variables from the first research question (metropolitan status, percent minority, natural amenity scale score, and initial population) to predict the socioeconomic and demographic outcomes. Three dependent variables are used in this study. These variables include (1) percent of households living in poverty, (2) median household income, and (3) total population. All three of these variables are taken directly from the census. Again, all three variables are measured in both 1980 and 2000, and percent change is then determined.

The analysis is conducted in two stages to answer the two research questions of the study. First, analysis is conducted on the relationship between metropolitan status, percent minority in 1980, the natural amenity scale score and initial population size and the amount of change in the percent of the employed labor force working in the various industries. The analysis will consist of a set of regression models where the independent variables are regressed on change in the percent of the employed labor force working in natural resources, manufacturing, services and the four types of service sector employment (professional, scientific and technical; education; health; and leisure and hospitality). The second stage of the analysis will then explore the implications of changes in employment by industry for socioeconomic and demographic changes. Regression models will be run where the economic restructuring variables, along with the independent variables from the first research question, are used as independent variables and are regressed on changes in poverty rates, income levels and population. Since a vital component of this study is to compare metropolitan and nonmetropolitan counties, regression models will be analyzed where metropolitan status is used as a dichotomous independent variable and all counties are used in the analysis, and then separate regression models will be run for metro counties and nonmetro counties. An examination of the correlation coefficients for all of the independent variables used in the analysis indicates that multicolinearity is not a problem.

Findings

Table 1 presents descriptive data for metro, nonmetro and all counties combined for the variables used in the analysis. The first set of variables is the percent of the labor force employed by industry. An examination of these variables makes the reality of the second economic structure transformation apparent. Between 1980 and 2000 there was a significant decline in the percent of the labor force working in agriculture, a decrease in the proportion working in manufacturing, and a major increase in the proportion working in services. These trends were apparent for both metro and nonmetro counties. For all counties combined, the proportion working in agriculture declined from 12.7 percent to 7.2 percent, the proportion working in manufacturing declined from 20.8 to 17.7 percent, while the proportion working in services increased from 25.2 percent to 37.5 percent. For the different segments of the service sector, Table 1 shows that the average county had a slight decrease in

employment in professional, scientific and technical services, and slight increase in education services, and significant increases in health services and leisure, hospitality and other services. Finally, Table 1 shows that from 1980 to 2000 there was a decline in the proportion of households living in poverty, a significant increase in income levels and substantial population growth. It is also apparent that poverty rates are higher and income levels lower in nonmetro compared to metro counties. Finally, by definition, populations are much larger in metro counties than in nonmetro counties.

Table 2 presents regression models where the independent variables are used to explain changes in employment in natural resources, manufacturing and the service industries. The most important finding from Table 2 is that metropolitan status is quite strongly related to changes in service sector employment. As expected, metro counties were significantly more successful than nonmetro counties in attracting service sector employment. For the other independent variables, the natural amenity scale score was strongly related to increased service sector employment. This relationship was even stronger in nonmetro counties than in metro counties, making it apparent that the presence of natural amenities is very important to the ability of nonmetro counties to attract service employment. Table 2 also shows that as the percent minority increases, the extent of service sector employment growth tends to decline. Thus, as expected, counties with large minority populations are less successful than other counties in attracting service employment. Finally, the relationship between initial population size and changes in service sector employment was insignificant in nonmetro counties, while in metro counties it was found that counties with smaller populations had greater increases in service employment than counties with larger populations. The independent variables explained only a small proportion of the variation in changes in natural resources and manufacturing employment. For changes in service employment, the independent variables explained between 9 and 18 percent of the total variation.

Table 3 presents additional regression models with the same independent variables and with change in employment in the various types of service employment as the dependent variables. Again, the most significant finding concerns the relationship between metropolitan status and changes in service employment. For health services, the relationship was not significant, but for each of the other three types of service employment, metro counties had larger increases in service employment than nonmetro counties. Nonmetro counties were especially disadvantaged in attracting the high wage professional, scientific and technical services. Table 3 also shows that counties with the largest increases in service employment included those with amenity advantages and those where the percent minority was smaller. Again, the amount of variance explained by the independent variables was small.

In Table 4, data are presented relative to the second research question of this study concerning the socioeconomic and demographic outcomes of economic restructuring. The most substantial finding is that increased service sector employment was consistently and strongly related to positive socioeconomic and demographic outcomes. While increased service employment was expected to result in population growth, the outcomes for poverty and income levels were

largely unexpected. The first dependent variable in Table 4 is change in the percent of households in poverty. For metro, nonmetro and for all counties combined, it was found that increased service sector employment was related to lower poverty rates. Model B in Table 4 shows that poverty reductions were especially pronounced in counties with increased employment in the high wage professional, scientific and technical services. Similar findings were obtained when the dependent variable was changes in median household income. Counties with more extensive growth in service employment tended to have much greater increases in median household incomes than counties with less growth in service sector employment. Again, it was increases in professional, scientific and technical service employment that were most strongly related to income growth. In nonmetro counties, increased employment in education services was also significantly and positively related to income growth.

The third dependent variable in Table 4 is population change. Here it was found that increased service employment was very strongly and positively related to population change. Again, increased employment in professional, scientific and technical services and in education services were the variables that resulted in population growth. Finally, none of the other independent variables used in the regression models in Table 4 were consistently or strongly related to the socioeconomic or demographic outcomes. This means that economic restructuring had similar socioeconomic and demographic outcomes in both metro and nonmetro counties.

Conclusions

This manuscript explored two research questions of significance to economic restructuring processes in metro and nonmetro counties. The first research question analyzed the relationship between metropolitan status and other independent variables and economic restructuring. As expected, it was found that service sector employment growth was more extensive in metro counties than in nonmetro counties. Thus, it seems that metro counties continue to have economic and employment advantages over nonmetro counties. With all else equal, migration streams will continue to flow from nonmetro to metro areas as nonmetro residents seek the economic advantages of metro living. Another prominent finding from this study was the very strong relationship between amenities and increased service sector employment. This relationship was stronger in nonmetro counties than in metro counties. Also, growth in service sector employment was less extensive in counties where the proportion of the population that was minority was greater. Obviously, this means that communities lacking amenity advantages and with substantial minority populations face significant obstacles in attracting service employment.

The second research question examined the impacts of economic restructuring on socioeconomic and demographic outcomes. Three outcomes or consequences were examined including percent of households in poverty, median household income and population change. It was found that increased service sector employment was strongly related to population growth, as expected. In addition, communities with more extensive increases in service employment also had greater increases in median household incomes, and

reductions in the percent of households in poverty. These results were somewhat surprising since previous studies have generally found that increased service employment resulted in higher poverty levels and lower incomes. Several factors may explain these unexpected findings. First, it may be that failing to attract service sector employment means remaining dependent on manufacturing or agriculture, both of which are declining. Thus, restructuring and becoming service based may be better than the economic stagnation and demographic decline associated with failing to attract service employment. Also, the positive outcomes from service employment were largely a result of attracting the high wage professional, scientific and technical services. It is thus essential that future researchers examine the different components of the service sector separately. In conclusion, there is no question that economic restructuring will continue. Obviously, many questions remain unanswered and much additional research is needed. Other researchers are encouraged to continue with this work.

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Table 1. Comparison of Metro and Nonmetro Counties on Economic Restructuring and Socioeconomic and Demographic Outcomes.

Variable	Metro (N=745)	Nonmetro (N=2,386)	Total (N=3,131)
Percent Employed by Industry			
Natural Resources			
1980	4.0	15.4	12.7
2000	1.8	8.9	7.2
Manufacturing			
1980	23.4	20.0	20.8
2000	17.7	17.7	17.7
Services (Total)			
1980	27.5	24.6	25.2
2000	40.8	36.4	37.5
Professional, Scientific and Technical Services			
1980	7.5	5.2	5.7
2000	8.1	4.4	5.3
Education Services			
1980	8.8	9.1	9.0
2000	8.8	9.3	9.2

Health Services

1980	7.1	6.3	6.5
2000	11.3	11.0	11.1

Leisure, Hospitality and other
Services

1980	4.0	3.9	3.9
2000	12.5	11.7	11.9

Percent of Households in Poverty

1980	12.0	18.1	16.6
2000	10.8	15.2	14.2

Average Median Household
Income

1980	17,411	13,337	14,306
2000	43,848	32,686	35,342

Average Total Population

1980	230,987	22,136	71,831
2000	257,776	25,528	78,809

Table 2. Regression Models Showing Unstandardized and Standardized (in parentheses) Coefficients of the Relationship Between Independent Variables and Changes in Employment From 1980 to 2000 in Natural Resources, Manufacturing and Services.

Independent Variables	Natural Resources			Manufacturing			Services		
	Metro (N=745)	Nonmetro (N=2,386)	Total (N=3,131)	Metro (N=745)	Nonmetro (N=2,386)	Total (N=3,131)	Metro (N=745)	Nonmetro (N=2,386)	Total (N=3,131)
Metropolitan Status	-	-	.077*(.05)	-	-	.085 (.03)	-	-	-.427*(.-26)
Percent Minority (1980)	-.031(-.01)	.352*(.10)	.296*(.08)	-.151(-.03)	-.726*(-.10)	-.632* (-.10)	-.765*(-.13)	-.547*(-.16)	-.579*(-.14)
Natural Amenity Scale Score	.023*(.18)	.027*(.09)	.026*(.10)	.075*(.26)	.054*(.10)	.060*(.12)	.088*(.24)	.116*(.41)	.108*(.35)
1980 Population	-.000*(-.26)	-.000*(-.04)	-.000* (-.08)	-.000*(-.16)	-.000*(-.13)	-.000* (-.05)	-.000*(-.19)	.000*(.05)	-.000*(-.13)
Intercept	-.350*(0)	-.300*(0)	-.467*(0)	.293*(0)	.633*(0)	.281*(0)	1,439*(0)	.941*(0)	1,839*(0)
F-Value	21.3*	18.2*	23.7*	19.6*	26.1*	17.4*	23.8*	156.5*	166.2*
Model R^2	.08	.02	.03	.07	.03	.02	.09	.17	.18

*Statistically Significant at the .01 level.

Table 3. Regression Models Showing Unstandardized and Standardized (in parentheses) Coefficients of the Relationship Between Independent Variables and Changes From 1980 to 2000 in Different Types of Service Employment.

Independent Variables	Professional, Scientific and Technical Services			Education Services			Health Services			Leisure, Hospitality and Other Services		
	Metro (N=745)	Nonmetro (N=2,386)	Total (N=3,131)	Metro (N=745)	Nonmetro (N=2,386)	Total (N=3,131)	Metro (N=745)	Nonmetro (N=2,386)	Total (N=3,131)	Metro (N=745)	Nonmetro (N=2,386)	Total (N=3,131)
Metropolitan Status	-	-	-.568*(-.31)	-	-	-.245*(-.21)	-	-	-.110(-.03)	-	-	-.912*(-.21)
Percent Minority (1980)	-.737*(-.12)	-.427*(-.11)	-.475*(-.10)	-.323(-.08)	-.255*(-.10)	-.263*(-.09)	-.472(-.06)	.230(.03)	.148(.02)	-2.818*(-.23)	-1.936*(-.19)	-2.068*(-.19)
Natural Amenity Scale Score	.005*(.23)	.098*(.31)	.094*(.28)	.058*(.24)	.073*(.35)	.069*(.32)	.104*(.24)	.192*(.28)	.169*(.27)	.101*(.14)	.162*(.20)	.146*(.18)
1980 Population	-.000*(-.12)	.000*(.06)	-.000*(-.08)	-.000*(-.16)	-.000*(-.01)	-.000*(-.10)	-.000*(-.25)	-.000*(-.11)	-.000*(-.13)	-.000*(-.16)	.000*(.04)	-.000*(-.09)
Intercept	.814*(0)	.148*(0)	1.345*(0)	.612*(0)	.356*(0)	.849*(0)	1.671*(0)	1.653*(0)	1.712*(0)	4.440*(0)	3.292*(0)	5.258*(0)
F-Value	16.3*	87.6*	151.6*	18.4*	107.6*	120.5*	26.1*	84.4*	69.2*	23.8*	51.5*	81.2*
Model R^2	.06	.10	.16	.07	.12	.13	.10	.10	.08	.09	.06	.09

*Statistically Significant at the .01 level.

Table 4. Regression Models Showing Unstandardized and Standardized (in parentheses)
Coefficients of the Relationship Between Independent Variables and Changes From 1980 to 2000
in Percent of Households In Poverty, Median Household Income and Population Change.

Independent Variables	Metro (N=745)		Nonmetro (N=2,386)		Total (N=3,131)	
	Model A	Model B	Model A	Model B	Model A	Model B
Dependent Variable: Change in Percent of Households in Poverty						
Metropolitan Status	-	-	-	-	-.063*(-.11)	-.065*(-.12)
Percent Minority (1980)	.122(.07)	.136(.08)	.041(.03)	.065(.05)	.054(.04)	.079*(.06)
Natural Amenity Scale Score	.024*(.24)	.025*(.25)	.040*(.37)	.038*(.36)	.036*(.34)	.035*(.34)
1980 Population	.000*(.17)	.000*(.18)	.000*(.18)	.000*(.18)	.000*(.10)	.000*(.11)
Employment Change, 1980-2000						
Natural Resources	.040(.05)	-	.035*(.10)	-	.033*(.08)	-
Manufacturing	.014(.04)	-	.003(.01)	-	-.002*(-.01)	-
Services (Total)	-.143(-.52)	-	-.128*(-.34)	-	-.125*(-.37)	-
Professional, Scientific and Technological Services	-	-.104*(-.39)	-	-.068*(-.20)	-	-.071*(-.23)
Education Services	-	-.012(-.03)	-	-.055*(-.11)	-	-.057*(-.12)
Health Services	-	-.020(-.08)	-	-.000(-.00)	-	-.004(-.03)
Leisure, Hospitality and Other Services	-	-.001(-.01)	-	-.005(-.04)	-	-.003(-.02)
Intercept	.052(0)	-.036(0)	-.072(0)	-.156*(0)	.098*(0)	.020(0)
F-Value	67.3*	59.1*	98.1*	72.6*	120.4*	96.3*
Model R^2	.36	.36	.20	.18	.21	.20
Dependent Variable: Change in Median Household Income						
Metropolitan Status	-	-	-	-	.035(.05)	.053*(.07)
Percent Minority (1980)	.084(.04)	.072(.03)	.110(.06)	.070(.04)	.096*(.05)	.061(.03)

Natural Amenity Scale Score	.009(.07)	.009(.07)	-.030*(-.21)	-.028*(-.20)	-.018*(-.13)	-.017*(-.13)
1980 Population	.000(.04)	-.000(-.02)	-.000*(-.13)	-.000*(-.13)	.000(.04)	.000(.03)
Employment Change, 1980-2000						
Natural Resources	.001(.00)	-	-.005(-.01)	-	-.002(-.00)	-
Manufacturing	.047(.10)	-	.016*(.06)	-	.022*(.08)	-
Services (Total)	.150(.41)	-	.221*(.44)	-	.192*(.43)	-
Professional, Scientific and Technological Services	-	.246*(.68)	-	.107*(.24)	-	.116*(.29)
Education Services	-	.037(.07)	-	.140*(.20)	-	.120*(.19)
Health Services	-	-.035(-.11)	-	.010(.05)	-	.009(.04)
Leisure, Hospitality and Other Services	-	-.024-(-.13)	-	.009(.05)	-	.003(.02)
Intercept	1.298*(0)	1.468*(0)	1.305*(0)	1.412*(0)	1.216*(0)	1.289*(0)
F-Value	40.0*	53.6*	90.6*	67.0*	94.3*	81.5*
Model R^2	.25	.34	.19	.17	.18	.17

Dependent Variable: Population Change						
Metropolitan Status	-	-	-	-	-.070*(-.08)	-.041*(-.05)
Percent Minority (1980)	.203*(.06)	.229*(.07)	.182*(.10)	.152*(.09)	.207*(.10)	.175*(.08)
Natural Amenity Scale Score	.012*(.06)	.016*(.08)	.018*(.13)	.020*(.14)	.015*(.09)	.017*(.10)
1980 Population	.000(.03)	.000(-.00)	.000*(.09)	.000*(.09)	.000(.01)	-.000(-.01)
Employment Change, 1980-2000						
Natural Resources	-.026(-.02)	-	.013(.03)	-	.006(.01)	-
Manufacturing	.192*(.28)	-	.021*(.08)	-	.029*(.09)	-
Services (Total)	.395*(.74)	-	.386*(.78)	-	.424*(.82)	-
Professional, Scientific and Technological Services	-	.217*(.41)	-	.142*(.31)	-	.171*(.36)

Education Services	-	.306[*](.38)	-	.297[*](.43)	-	.321[*](.43)
Health Services	-	.056[*](.13)	-	.017[*](.08)	-	.016[*](.06)
Leisure, Hospitality and Other Services	-	.025[*](.10)	-	.030[*](.18)	-	.032[*](.16)
Intercept	-.242[*](0)	-1.76[*](0)	-.283[*](0)	-.166[*](0)	-.156[*](0)	-.069[*](0)
F-Value	1459.6[*]	1077.1[*]	1179.8[*]	867.6[*]	1891.4[*]	1526.5[*]
Model R^2	.92	.91	.75	.72	.81	.80

[*]Statistically Significant at the .01 level.