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Onondaga County's Economic Performance Since 1980 and Prospects for the Next Decade

William Duncombe
Syracuse University

Wilson Wong
Syracuse University

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ONONDAGA COUNTY'S ECONOMIC PERFORMANCE SINCE 1980 AND PROSPECTS FOR THE NEXT DECADE

William Duncombe and Wilson Wong

Center for Policy Research
Maxwell School of Citizenship and Public Affairs
Syracuse University
Syracuse, New York 13244-1090

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William Duncombe is an Associate Professor of Public Administration and Senior Research Associate, Center for Policy Research, The Maxwell School, Syracuse University. Wilson Wong is a Ph.D. student in Public Administration and a research assistant, Center for Policy Research.

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Abstract

The last three decades have been a time of transition for the economy of Onondaga County. After its poor performance in the 1970s, it rebounded during most of the 1980s. Since then the county economy has stagnated and even declined in key sectors. This report probes behind these aggregate trends to shed light on the nature of the changing county economy. To put these trends in perspective, the county's performance is compared to that of other metropolitan areas and regions in New York State and several fast growing metropolitan areas in the South. Understanding the reasons for Onondaga County's current economic status can help county policymakers shape future infrastructure investment and social and economic development policy. The picture that emerges from this analysis is one of pessimism for the prospects of Onondaga County's economy regaining the growth pattern of the 1980s in the next decade.

Introduction

The last several decades have been a time of economic transition for Onondaga County and New York State. After its poor performance in the 1970s, the county's economy rebounded strongly during most of the 1980s. Population, and employment began to increase again and income growth was on par with the national average. The unemployment rate was below the state and national average and Onondaga County gained new prominence as a regional service center.

Did the trends of the 1980s signal a healthy county economy which would sustain its growth during the 1990s? Onondaga County's economy has stagnated or even declined during most of the 1990s and, most importantly, it has changed in several important ways. The county has lost much of its importance as a center for national manufacturing industries. Instead, the growth that has occurred in the county's economy has been fueled by its growing importance as a regional service center for health, education, and social services. Income growth in the 1990s has been dominated by transfer payments and small proprietors' income rather than by wages and salaries in incorporated firms. The population continues to become older, more racially diverse and more apt to live in single parent households. The later trend is particularly disturbing since such households have a much higher probability of being in poverty.

The objective of this report is to probe behind these aggregate trends to shed light on the nature of the changing economy. Using the most recent information available, changes in Onondaga County's demographic composition, employment structure, sources of income growth, and poverty rates since 1980 are documented with special emphasis on the 1990s. To put these trends into perspective, the county's performance will be compared to other metropolitan areas and regions in New York State and several fast growing metropolitan areas in the South. From the standpoint of this project, this review of the past of the Onondaga County economy has helped provide a foundation of knowledge upon which to base realistic economic forecasts with and without lake remediation. More importantly for the county in the long-run, understanding the

and economic development.

This report is divided into three main sections. We will first examine population trends

county and the characteristics of migrants. Next we turn to employment and unemployment trends in the Syracuse MSA. The changing employment structure will be documented and

these changes have affected income for county residents. We will examine the major sources of income change and provide some preliminary evidence on the changing income distribution in the

emerges from this analysis is one of pessimism for the prospects in the next decade of the Onondaga County economy regaining the growth of the 1980s.

The population declines of the 1970s in New York State brought out-migration to the forefront of the state economic policy agenda. During this decade the state lost nearly 700,000

City. While the population declines in Onondaga County were less severe, population declined consistently during the 1970s and experienced little growth in the first half of the 1980s (Table 1).

the level of the 1970 population.

These aggregate statistics tell only part of the story. There have been important changes in the demographic and migration patterns which underlie these trends and can have quite significant implications for public policy. Utilizing information from the 1990 Census, this review will shed light on the changing demography of Onondaga County and New York State.

General Trends

There is no question that the population declines of the 1970s were reversed in the 1980s. Total state population grew by 3.5 percent from 1980 to 1994 (.2 percent per year) compared to a decline of 3.7 percent during the 1970s (see Table 1). Population grew by 2 percent in Onondaga County during the same period after a 2 percent decline in the 1970s. However, this recovery must be kept in perspective. The population growth rate since 1980 for Onondaga County (.1 percent per year) was half of that in the rest of New York and a tenth of the national growth rate. This lag in growth is even more stark when Onondaga County is compared to several southern metropolitan areas. Population grew by 1.6 percent per year in Albuquerque and by close to 3 percent per year in Atlanta. If Onondaga had grown at the national rate, it would have added close to 70,000 more people (15 percent increase) since 1980. Since the early 1990s, there has been no growth in county population. While it is likely that county population will resume its growth, below average population growth is forecast to continue in the Syracuse MSA for the next several decades.

There has been a major shift in the geographic pattern of population growth rates within the state (as described in Table 2). The decline in the 1970s was due primarily to a major population loss in New York City—00,000 people in total or an annual rate of 1.1 percent for the decade. This was accompanied by a deconcentration in the New York City area as population grew rapidly in the distant suburbs (Putnam, Rockland and Suffolk Counties) and mid-Hudson region. There were also population declines in many of the central counties in Upstate New York, with population in Erie, Chemung and Broome Counties all declining by at least 0.4 percent per year.

These patterns have changed since 1980. New York City enjoyed population growth rates above the state average (.3 percent per year). Population growth was particularly strong early in the decade, increasing by nearly 250,000 persons between 1980 and 1987, 90 percent of the state population growth during this period. For the first time in decades, population growth was actually slower in the New York City suburban counties than in the City during most of the 1980s. Among upstate areas, the western and central regions of the state have generally fared the worst. Particularly hard hit were the traditional manufacturing centers of Buffalo, Elmira, Utica and Binghamton which experienced little growth or even declines in population. Onondaga County and Syracuse MSA fared better than these areas but worse than other upstate metropolitan areas, such as Albany, Rochester and Glens Falls.

The most rapid growth in the 1980s occurred in the mid-Hudson region (Dutchess, Orange, and Ulster Counties), with population growth rates above the national rate. This appears to be driven by rapid in-migration from within the state and has been accompanied by rapid employment growth. However, with the large layoffs by IBM, population growth in this area slowed down significantly in the 1990s. Of the regions in the state, the fastest population growth in the 1990s was in the rural North Country Region. This is consistent with a rebound in rural population growth nationally during the 1990s (Johnson and Beale, 1995).

Changes in Population Composition

While population has stagnated in Onondaga County and New York State, the last several

3). Since the 1970s the population grew older, more racially diverse, and was increasingly apt to be in "nontraditional" households. These trends may have significant repercussions on the tax

Age Structure. The well-documented aging of the American population has continued in Onondaga County with the median age of the population increasing from 27.1 years in 1970 to 29.7 in 1980 and 332.7 in 1990. The percent of population 65 years or older has risen to 13 percent in 1990 and is expected to reach 16 percent by 2010 (using REMI forecasts). There has been a sharp decline in the percent of the population below 25 years of age from 47.2 percent in 1970 to 36.5 percent in 1990. The largest growth in population has occurred in the early middle age years as the baby-boom generation continues to move up the age distribution. Onondaga County has a similar age distribution as the total United States and other upstate cities (Table 4).

Changes in Household and Racial Composition. New York is one of the most racially and ethnically diverse states in the nation. The percentage of the population which is nonwhite increased from 13.2 percent in 1970 to 25.5 percent in 1990 (Table 3). This compares to 12.5 percent and 19.3 percent for the United States as a whole.[1] Onondaga also experienced a sizeable growth in the nonwhite population; however, the percent minority population is well below state and national averages (Table 5).

Accompanying changes in racial composition have been equally dramatic adjustments in the nature of the household. The number of households in Onondaga County continued to grow faster in the 1980s than total population. The result has been a steady drop in household size from 3.25 persons in 1970 to 2.64 persons in 1990 (Table 6). The smaller family size may be caused in part by increased labor force participation of women and its effects on the nature of the family.

The typical two-parent family where children live with their parents through childhood is becoming a minority. Over 50 percent of marriages end in divorce and half of today's children will spend some time in a single parent family (Bumpass 1990). Divorce is not the only cause of single parent households. Recent research suggests that the growth in black families headed by women has been driven less by divorce than an increase in the number of never-married mothers (Wojtkiewicz 1990; Wetzel 1990; Waite 1995). According to Bumpass (1990), "The unusually high birth rates among teenagers is one component of the unplanned fertility...almost two-thirds of teenage births are now premarital..." (pp. 488-489). Most premarital births are unplanned and only a quarter are to cohabitating couples. In fact, children born to single mothers have a very high probability of spending their whole childhood in a single parent household because nonmarital childbearing has a strong negative effect on the probability of a subsequent marriage (Wojtkiewicz 1992; Bennet, Bloom, and Miller 1995).

The proportion of families with young children headed by women in New York has grown from 13 percent in 1970 to 22 percent in 1990, and has reached one-third in New York City. In Onondaga County the proportion of such households doubled between 1970 and 1990 and now represents over one-fifth of all such households. The prevalence of one-parent households is much higher among blacks than whites especially in Onondaga County. Statewide, over 50 percent of black families with young children were headed by a single mother compared to 14 percent for whites families. Over 60 percent of black families in Buffalo, Syracuse and Utica were headed by single mothers in 1990 (Table 6).

Not surprisingly, the growing trend towards single parent households has important social and economic implications. Evidence continues to mount that children in these households are much more apt to grow up in poverty, achieve less in school and spend more time in prison or in poverty as an adult (Bumpass 1990; Wetzel 1990; Waite 1995). The poverty rate in Onondaga County among female-headed families was 33 percent overall, 54 percent in black families and close to 80 percent in Hispanic families, compared to 7 percent for all families.

A review of high-school and college graduation rates begin to suggest the differences in economic expectation among racial groups. While high school graduation rates have grown for both black and white children since 1980, blacks remain 10 to 20 percent less likely to graduate (Table 6). The county's graduation rates increased by nearly 10 percentage points for both whites and blacks during the 1980s, but graduation rates for blacks in 1990 were over 20 percent below rates for whites. While white student graduation rates in the county were higher than all other regions of the state except Long Island counties, graduation rates for black students in Onondaga County were below that in many areas of the state.

More importantly, the differences in college graduation rates in Onondaga County appear to have widened in the 1980s. Twenty percent of whites (over 25 years old) graduated from college in 1980 compared to 9 percent for blacks; in 1990 the rates were 25 percent for whites and 11 percent for blacks. With the continued loss of manufacturing jobs, the differential between the average earnings of college graduates and high school graduates widened in the 1980s and continues to widen in the 1990s (Waldrop and Exter 1990; Duncan, Smeeding, and Rodgers 1992)

Migration and Natural Increase

To understand what lies behind the population changes of the last several decades, it is important to look at the components of population change. In particular, it is necessary to have an understanding of the pattern of natural increase, migration by origin and destination, and characteristics of migrants. While a detailed analysis of migration patterns has not been possible for Onondaga County, it is possible by using several different sources of data to compare the county's migration patterns with those in other parts of the state and nation.

The Bureau of the Census, as part of its annual population estimates, calculates components of population change. These trends for 1980-88 and 1990-94 are presented in Tables 7 and 8. It is clear that the population increases in the 1980s in New York and Onondaga County were due primarily to the natural increase of the resident population (births minus deaths). While the rate of natural increase in Onondaga County and in the Syracuse MSA have generally exceeded those for the rest of New York, they have lagged behind those in Albuquerque and Atlanta (Table 7). Except for Rochester and the New York City regions, the rate of natural increase in Onondaga County was one of the highest in the state (Table 8).

Counterbalancing natural population increase in New York State and Onondaga County has been the continued out-migration to other states. Understanding the magnitude, composition and causes of this migration is important for assessing the impact of major public projects, such as lake remediation, on Onondaga's future population. In a small open economy, such as Onondaga County, the economy is vulnerable to out-migration to avoid high taxes, poor services or employment opportunities. It is beyond the scope of this report to examine, in depth, the complex causes of intra- and interstate migration; the analysis of Onondaga County using REMI data will address factors affecting migration in more depth. Instead, this section will shed some light on recent migration trends using several different sources of migration data.

The 1970s were a time of volatile migration trends. During this decade, the well publicized migration from the Northeastern and Great Lakes states to the Sunbelt took place. New York was one of the major contributors to this population shift. By the end of the decade, New York had lost 8 percent of its 1970 population to migration (Duncombe 1992). Net out-migration has decreased since 1980, but it still averaged over 40,000 persons per year from 1980 to 1988 and over 80,000 persons per year since 1990. In contrast, significant net in-migration occurred in both Albuquerque and Atlanta.

Within New York State (Table 8), the major losers were in western and central New York with net out-migration from 1980-88 exceeding 5 percent of 1980 population in Onondaga County, Binghamton, Buffalo, Elmira, Rochester and Utica. While out-migration rates have dropped slightly in Onondaga County and other areas in western and central New York in the 1990s, they still remain well above those in most other areas of the state and nation. Not surprisingly, the destination of most New York out-migrants has been the Sunbelt and neighboring northeastern states. The South has received over 50 percent of New York migrants, with Florida alone receiving between 20 and 40 percent (Duncombe 1992).

Are there demographic differences between in and out-migrants in Onondaga County and New York? Detailed evaluation of migrant characteristics from the 1990 Census indicated that most migrants tend to be young adults (aged 20 to 34) who are more highly educated and affluent than the population as a whole. Migrants from 1985 to 1990 in Onondaga County appear to fit this pattern (Table 9). Out-migrants are more apt to be white and in prime working age groups than are in-migrants or nonmigrants. These results imply that Onondaga County and New York State have been losing a disproportionate share of their young, educated and affluent workforce.

Employment

Above all else, it was the loss of 450,000 jobs in New York City and 300,000 manufacturing jobs in the state during the 1970s that prompted concern about the future of the New York economy. While the employment picture was not as bleak in upstate areas, such as the Syracuse metropolitan area, employment growth was well below the national average (Table 10). The employment picture improved significantly during the long expansion of the mid to late 1980s, with employment increasing by over one million statewide by 1989 with one-third of this growth in New York City.

Despite this apparent turn around in employment, New York State's economy and that of the Syracuse MSA were hit hard by the recession of the early 1990s. From 1989 to 1992, most of the job gains of the 1980s, particularly in New York City, were lost. While the recession was officially over by 1992, there has been little job growth since then in Syracuse and statewide. This section describes and interprets employment trends in the Syracuse MSA compared to the rest of New York and suggests what they may imply for the future of the Syracuse economy. Emphasis is given to examining the detail of the structural changes and the impact of the recent recession.[2]

General Trends

Employment in the Syracuse MSA rebounded during most of the 1980s from the stagnant period of the 1970s, growing by an annual average of 2.8 percent from 1980 to 1990 (Table 10). Employment growth in the 1980s was twice as fast as growth statewide and 50 percent above the national growth rate. While employment growth has consistently lagged behind that in fast-growing areas, such as Albuquerque and Atlanta, during the expansion of the 1980s the gap was relatively small. Compared to other metropolitan areas in New York, Syracuse experienced more rapid employment growth during most of the 1980s (Table 11).[3]

Employment growth rates in Syracuse and statewide began to slow down after 1989 and employment declined from 1990 to 1992. While in the past New York's employment tended to follow closely the start of national recessions, the most recent recession in New York started over a year earlier (Ehrenhalt 1992). In contrast to the recessions of the early 1980s, New York was hit harder in terms of employment loss than the rest of the nation. Employment declined by 4 percent in 1991 compared to a decline of 1 percent nationally. New York lost over 360 thousand jobs from 1989 to 1991, one-third of the jobs gained in the 1980s. The job losses in New York are not unique with six of the other eight northeastern states experiencing employment declines of 4 percent or higher.[4]

Syracuse fared better during the recession than the whole state, losing close to 3 percent of its employment in 1991, but still did much worse than the rest of the country. Employment in 1995 in the Syracuse MSA was over ten thousand jobs below the level in 1990. In contrast, employment continued to increase in Albuquerque and dropped by only 1.45 percent in Atlanta. The rate of job loss from 1990 to 1994 was the most rapid in the New York City area and Mid-Hudson region, declining between two to 4 percent per year compared to a 0.9 percent decline for Syracuse (see Steindel and Banks 1994). The rate of job loss was similar to that in other upstate metropolitan areas except Rochester where employment grew and Glens Falls with little job loss. Job growth is projected to remain slow in the Syracuse MSA and New York State for the next decade and will be well below the projected national growth rate.

The unemployment rate in New York, which was consistently above the national average during the 1970s was below the average rate during most of the 1980s (Table 12). However, as will be discussed below, not all occupations, demographic groups and regions of the state benefitted from what appears to have been a tighter labor market in New York in the 1980s. Since the early 1990s, the unemployment rate in New York has again risen above the national average, despite stagnant growth in the labor force (Rosen and Wenninger 1994).

Unemployment rates have been consistently below state and national averages in Onondaga County and the Syracuse MSA. From 1990 to 1994, the unemployment rate has averaged 5.3 percent, 75 percent of the state unemployment rate. Unemployment rates were lower than other upstate metropolitan areas except Albany and Rochester. While the unemployment rate remains below that in many past recessions, these numbers may disguise some troubling trends. The increase in unemployment is more heavily concentrated on full-time employees who have been unemployed for a longer duration than past recessions (Ehrenhalt 1992). Also, the labor force has declined during this time period compared to a strong growth nationally. The number of unemployed actually grew 25 percent more rapidly in Onondaga County than statewide (Table 13). The low unemployment rates may disguise a recent growth in the number of unemployed and discouraged workers dropping out of the labor force.

Composition of Employment Growth

Despite the rapid employment growth in the Syracuse MSA in the 1980s and the continued low unemployment rates, not all population groups within the county have benefitted equally. Based on information from the *Census of Population and Housing*, it is possible to identify which occupations and which demographic groups appear not to have shared in this growth.

As is clear from Table 14, there are significant differences in occupational distribution between white and nonwhite employees. Over 31 percent of whites in Onondaga County (34 percent statewide) in 1990 held professional, technical and managerial positions compared to 21 percent for nonwhites (23.5 percent statewide). Eleven percent of whites in Onondaga County hold low-skill blue-collar jobs compared to 18 percent for nonwhites. The gap in relative level of high-paying occupations held by whites and non-whites declined during the 1980s in Onondaga County but still remains sizeable.

Nonwhite employees continue to be disproportionately concentrated in service and lower skilled blue-collar jobs. These data suggest that the concern that minorities are concentrated in low paying, dead-end jobs is well justified. This, combined with recent research showing that the "working poor" are an increasing percentage of those below the poverty line (Danziger and Gottschalk 1986; Klein and Rones 1989), indicates that many nonwhite households would remain poor even if they were able to find full-time employment.

Recent national projections show that two of the three occupational categories which are most likely to employ minorities—clerical and low-skill blue collar occupations—are anticipated to experience below average growth during the next decade (Silvestri 1995). Only the third of these occupational categories, lower-skilled service occupations, such as food service and maintenance services, is projected to grow faster than average during this decade. The highest growth is expected to be in occupations requiring the most education. High growth professional/technical jobs include teachers, health care workers and computer programmers. As summarized by Silvestri and Lukasiewicz (1991), "Presently, black and Hispanic workers are ... more heavily concentrated in occupations projected to decline or grow more slowly... This, coupled with their current relatively lower education attainment... may presage trouble for United

States society unless gains in schooling among minority workers continue, particularly at the post-secondary level.” (pp. 92-93)

It is well documented that unemployment rates have been much higher among nonwhites, and such differences do not appear to have narrowed during the expansions of 1980s. Since lower skill occupations generally have higher unemployment rates, minorities have been particularly hurt. Although, undoubtedly, a portion of this unemployment is transitory, there is evidence that much of it is structural, particularly among nonwhite teenagers (Lynch and Hyclak 1984). While unemployment rates remain particularly high among nonwhite teenagers, there appears to have been improvement in the 1980s. However, these gains may have been reversed by the recent recession with the unemployment rate in New York among teens jumping from 11.8 percent in 1988 to 18.6 percent in 1991 (Ehrenhalt 1992). The workers losing jobs in the early 1990s were much more apt to be in service sectors than in the early 1980s when most displaced workers were in manufacturing (Gardner 1995). The rate of worker displacement was generally higher in the Northeast region and these workers had a lower probability of reemployment than in the rest of the nation (Herzog and Schlottmann 1995). The displacement rate for workers was highest among Hispanic and older (over age 55) workers.

Changes in Employment Structure

The significant change in employment structure that has taken place over the last several decades, from goods to service production, has received significant attention. However, the implications of these structural changes remain a matter of great controversy. Is America deindustrializing and what does this imply for long-run competitiveness and economic growth? What effect will the strong growth in services have on income distribution and cyclical fluctuations in employment? How serious is the displaced worker problem; will they ever be absorbed by the growing service sectors? While these controversies will not be resolved here, this section will summarize the structural changes which have taken place during the last several decades in Syracuse and New York State.

Goods Producing Sectors. For purposes of presenting information on employment trends, industries are divided according to whether they produce goods or services. Although there are always gray areas whenever such divisions are made, this classification will be used throughout this presentation. The goods producing sector includes agriculture, mining, construction and manufacturing. Since manufacturing has dominated employment in the goods producing sector, this is where most of the attention is focused.

New York State has followed national trends, with a sharp drop in the relative importance of manufacturing employment. From over 21 percent of nonagricultural employees in 1975, manufacturing employment had decreased to 12 percent in 1994 (Table 15). Syracuse MSA has experienced a similar decline in manufacturing from 23 percent of employment to 15 percent in 1994. However, unlike the total United States, Syracuse and New York State have experienced absolute declines in employment of 24 percent and 46 percent, respectively, since 1970. Both durable and nondurable manufacturing employment have declined significantly.

Traditionally, manufacturing and construction have been the sectors most heavily affected by recessions. During the 1981-82 recession manufacturing declined but construction employment actually went up in Syracuse. During the latest recession, both sectors were hit hard again. Construction employment dropped by over 13 and manufacturing employment by 6 percent in Syracuse and the rest of the state in 1991. The ensuing recovery did not bring relief as manufacturing employment continued to drop sharply, averaging declines of over 3 percent a year from 1990 to 1994 and no growth in manufacturing in 1995. While these declines were less than those experienced statewide, they were twice as fast as those experienced nationwide. In contrast, manufacturing employment actually rose in Albuquerque and Atlanta during the 1990s.

New York City has consistently experienced the sharpest decrease in manufacturing employment over the last several decades (4 percent per year since 1970), with a loss of 60 percent of manufacturing jobs since 1970. New York City was particularly devastated by the recession, losing 9 percent of its manufacturing jobs and 12 percent of its jobs in durable manufacturing in 1991. Also experiencing sharp declines in manufacturing in the 1990s were Long Island, Poughkeepsie, Binghamton, Utica and Buffalo metropolitan areas (see Tables 16 and 17).

Not surprisingly, many manufacturing industries ranked among those with the highest employment declines since 1980. In Onondaga County, of the 15 industries (at the 2-digit SIC level) with employment declines of more than 1 percent per year, 9 were in manufacturing (Table 18). Particularly rapid were the employment declines in primary metal products, chemical and allied products, electronic equipment and stone, clay and glass products. The top four industries in terms of absolute employment declines are all manufacturing industries, each losing over 100 employees per year since 1980. The only manufacturing industry appearing among the fastest growing industry in Onondaga County in the 1990s is furniture and fixtures. Among other goods producing sectors, special trade contractors has also experienced relatively large employment growth.

What does the future hold for Syracuse's and New York State's manufacturing sector? While detailed employment projections for New York are not available, recent projections for the United States may be indicative. The the U.S. Bureau of Labor Statistics projects continued growth of 2 percent per year in manufacturing output for the United States, but employment is forecast to decline by 0.7 percent per year during the next decade (Franklin 1995). Improved labor productivity is expected to more than adequately cover the difference. The employment will decline primarily in durable industries which are forecast to lose jobs at a rate of 1 percent per year. Of the 20 industries expected to experience employment declines of 2.3 percent per year or more, all but three are in manufacturing. None of the 20 fastest growing industries is anticipated to be in manufacturing. Among durable industries (at the 2-digit SIC level) that have been the largest employers in the Syracuse MSA—machinery, transportation equipment and primary metals—all are forecast to decline by 1 percent or more per year.

The effects of this structural transformation on income inequality and long-term economic growth are controversial. However, it is clear that these structural transformations have occurred more rapidly in New York State and its major manufacturing centers, such as Syracuse, than the rest of the nation. Unlike the country as a whole, New York has actually lost manufacturing jobs, over 40 percent since 1960. Given the recent record, it is likely that such declines will continue in the near future. Understanding the effects of taxes and large public infrastructure investments on the state and local economies takes on a special urgency in New York State.

Service Producing Sectors

In contrast to the goods producing sectors, the service sectors have been the primary source of employment growth over the last several decades. These sectors in New York State have grown from 70 percent of employment in 1975 to 79 percent in the mid 1990s (Table 15). In the Syracuse metropolitan area, service employment has grown from 67 percent of total employment in 1975 to 81 percent in 1994. While the goods producing sector has experienced an absolute decline in employment since 1975, service employment has grown by close to 60 percent in Syracuse. Service employment has grown steadily in the last several decades but was particularly rapid in the 1980s, with annual growth rates of 5 percent for services, 3.8 percent for trade and 2.8 percent for financial services in Syracuse. While service sector growth in the 1980s occurred statewide, Syracuse experienced one of the fastest employment growth rates in the state (Table 16).

The recession of the early 1990s was unusual in several respects. First, the recovery from the recession has been generally quite slow especially in New York and the Northeast. Only during 1995, has the economy in the Northeast shown strong signs of shaking the declines it experienced early in the decade. Second, the service sector was hit hard by the recession for the first time. In the business service and financial service sectors, which have been relatively immune from cyclical downturns, employment dropped sharply in the early 1990s. Finance, Insurance, and Real Estate (FIRE) sectors and business services experienced over a 2 percent per year drop in employment from 1988 to 1992 and employment declined by 3.6 percent and 8.1 percent, respectively, in 1991 alone. While the declines were not as dramatic in Syracuse, employment in FIRE declined by 4.7 percent in 1991 and other service employment (including trade) declined by over 3 percent. Syracuse was not alone in New York in such declines but its employment losses were among the most severe in FIRE and trade (Table 16).

The service sectors are far from a homogeneous group of industries, and no one industry clearly dominates.[5] There are significant differences in the relative importance of the various parts of the service sector, and striking differences in the growth rates. Until the recent recession, among the fastest growing service sectors statewide had been producer services which include financial services (FIRE), business services, legal services and engineering and management services. Among the fastest growing industries in Onondaga County since 1980, five are producer services, all with growth rates over 3.5 percent per year. In terms of absolute employment growth, business services and engineering services experienced employment growth of over 160 employees per year. However, even these sectors which previously have been viewed as recession proof by some observers, were hit hard by the recent recession.

One of the largest part of producer services is the finance, insurance and real estate (F.I.R.E.) sector. As the name implies, this is a diverse sector which provides many consumer as well a producer services.[6] F.I.R.E. employment growth was very strong in all parts of the state from 1980 to 1988 with growth of 3.3 percent per year in the Syracuse metropolitan area. However, the stock market crash of October 1987 appears to be a turning point in the FIRE sector. Statewide, employment growth went from 4.7 percent in 1987 to 0.5 percent in 1988. Since 1988, employment has dropped every year culminating in the 3.5 percent decrease in 1991. Not surprisingly, New York City has been the focal point for much of this decline with a decrease of close to 3 percent per year since 1988. But even in upstate manufacturing centers, such as Syracuse, financial service employment has dropped by 4 percent per year from 1990 to 1993 and continued to drop during 1994 and 1995. While employment growth nationally is expected to return to this sector in the 1990s, its growth rate—0.6 percent per year—is projected to fall below the average for all employment (Franklin 1995). Given the recent poor performance of the FIRE sector in Syracuse, it is hard to be optimistic about future growth prospects in this sector.

The other major component of producer services and another rapidly expanding sector is business services. Statewide, they grew by over 4 percent per year from 1980 to 1987 and over 6 percent per year from 1983 to 1987. Growth was rapid through out the state, with the fastest growth occurring outside the New York City area. In Onondaga County, business service employment grew by 4.3 percent per year during the 1980s. The image of business services as generally recession proof has been shattered by the performance of this sector during the recent recession. Statewide, business service employment dropped 11 percent in 1988, recovered somewhat in 1989 and declined again in 1990 and 1991. This sector lost close to 9 percent of its employment in 1991 statewide and 6 percent in Onondaga County. The sector appears to have recovered since then posting large employment gains in 1992 and 1993 in Onondaga County and slow growth in 1994 and 1995.

This sector is quite diverse, ranging from lower skill “services to buildings” (mainly janitorial) to high tech computer and data processing (Howe 1986). By far the most rapid growth in this sector has been in the computer and data processing industry, with growth rates of 10 percent or higher not uncommon in the mid-1980s. Over the previous three business cycles the computer service industry had been recession proof (Kirk 1987). This was not the case for the other major industries in this sector (building services, personnel supply and credit collection). These industries have experienced significant cyclical fluctuations during the last several business cycles. They also appear to be major employers of low paid clerical and custodial employees, primarily women. The expansion of this sector is expected to continue at a rapid pace over the decade (especially in computer services) with projected employment growth nationally of 4.4 percent per year (Franklin 1995).

The other group of service sectors which has experienced consistently rapid growth has been non-profit services. This is composed of health, social and education services and represented approximately 15 percent of total nonagricultural employment statewide and in the Syracuse MSA. All three of these sectors rank among the fastest growing industries in Onondaga County over the last 15 years. Health and educational services have produced the largest job gains as well, with over 1,250 jobs added per year in both sectors. Health services and social services were fairly unaffected by the recent recession posting large job gains even in 1991 although growth slowed considerably from 1993 to 1995. Educational services did lose significant jobs during 1991, but since then appears to have rebounded. Given that national projections for these industries is for continued strong growth, these industries are likely to be bright spots in Onondaga County's economy in the coming decade.

Consumer services include amusement and lodging services, personal services and various repair services. Statewide these services experienced strong growth during the 1980s, 3 percent per year. Employment growth began to slow down in 1990 and there was a 6 percent decline statewide in 1991. New York City lost close to 10 percent of its consumer services jobs in 1991. The consumer services sectors have not been among the fastest growing industries in Onondaga County, particularly over the last five years.

Retail trade employment enjoyed rapid growth in the mid-1980s, with annual growth rates of 3.2 percent statewide and 7 percent in the Syracuse MSA from 1983 to 1988. However, there has been significant variation among industries with building materials and misc. retail trade, food stores and restaurants among the fastest growing sectors, while wholesale trade in durable goods experienced declining employment. Retail trade employment declined in the county from 1990 to 1995 especially in general merchandise stores.

Those portions of services most like the goods producing sectors (large, and/or capital intensive), transportation, communications, public utilities and wholesale trade have experienced erratic employment growth since 1980. During the 1980s, employment in this sector grew by 3.6 percent per year in Syracuse MSA and by close to 6 percent per year from 1983 to 1988. These industries have declined by almost 2 percent per year since 1990. Particularly hard hit were the air transportation and communications sectors, as slackening demand, reorganization and automation have dampened employment growth.

In summary, the service producing sectors have, as a whole, been the only source of employment growth in New York State and Onondaga County. However, these sectors are quite diverse with a dichotomy between more technically advanced industries with a high percentage of professional and technical personnel and low skill support services and retail trade. If national projections fit Onondaga County, then services will continue to be the major source of employment growth in the next decade. However, growth in services may be a mixed blessing. Although the most rapid growth has been in the more technically advanced and higher paying sectors, it is questionable how well the jobs demanded in these industries fit the skills available, especially among minority, central city residents.[7] In addition, the declines in FIRE, trade and consumer services employment since 1990 in Onondaga County suggests the service sectors in the county will grow below national trends.

Competitive Strength of Local Industries

To further analyze the changing employment structure of the Syracuse metropolitan area and the competitiveness of its industries, we employ several other measures of employment change.

The **location quotient** measures the relative size in a local area of an industry compared to the industry's share of national employment. This measure has been commonly used in regional economics to determine which industries are likely to be net exporters to areas outside of the region. The location quotient also provides information on what industries an area tends to specialize in, the diversity of the local economy and how these specializations change over time.

In 1980, Syracuse had a slightly above average concentration of manufacturing industries with five broad manufacturing industries accounting for much of this advantage (Table 20). Machinery was clearly Syracuse's main manufacturing specialization with employment shares over two times the national average. Fabricated metals, stone, clay and glass products, and food and kindred products were other important industries. Among service industries, Syracuse had a specialization in educational services due to Syracuse University and LeMoyne College and insurance carriers due primarily to MONY (Wasylenko 1990).

By 1994, there were some important shifts in Syracuse's employment structure. Syracuse went from above average to below average employment shares in manufacturing, due in part to a drastic drop in the importance of the machinery industry. Primary metals, stone, clay and glass products and paper and allied products have all grown in relative importance. Educational services and insurance carriers remain important service specializations. In addition, social services and electric and gas utilities have above average employment shares in 1994. While the declining employment in manufacturing has certainly hurt economic growth and average earnings, the Syracuse metropolitan areas has emerged from the industrial transformations of the last two decades as a more diverse economy.

To focus more directly on the competitive strength of Onondaga County's industries, **shift-share analysis** is used to examine the performance of the local economies relative to national trends. While the forecasting accuracy of this approach has been challenged, shift-share provides a useful tool for decomposing past employment changes (Steven and Moore 1980). Specifically, shift-share analysis breaks down employment change into;

- a *national effect* which indicates what employment in a local industry would have been if it had grown at the national growth rate for total employment;
- a *industry mix effect* which measures the change in local employment due to specialization in a growing or declining industry;
- a *competitive effect* which indicates whether a local industry has been growing or declining relative to this industry nationally.

Based on the national effect, most industries in the Syracuse metropolitan area grew slower than overall national employment growth during both the 1970s or 1980s (Table 21). For example, had manufacturing employment in Syracuse grown at the national rate between 1980 and 1993 it would have been 74 thousand rather than 50 thousand employees in 1993. Employment in all of the manufacturing industries for which data were available grew slower locally than overall employment growth nationally in those industries. The industry mix effect suggests that the majority of this shortfall in manufacturing was due to the declining role of manufacturing nationally. For manufacturing in the Syracuse MSA, 84 percent of the shortfall in 24 thousand jobs is due to the decreasing importance of manufacturing.

The remainder of this difference is an indicator of the changing competitiveness of Syracuse's manufacturing industry. For manufacturing as a whole, and for most manufacturing industries, the competitive position of industries in the Syracuse MSA worsened from 1980 to 1993. The most serious competitive declines were in machinery (almost 50 percent of employment shortfall), electronic equipment (52 percent) and food and kindred products (40 percent). Industries performing slightly above the national average included stone, clay and glass, primary metals, fabricated metals and paper and allied products.

In contrast to manufacturing, in many service sectors Syracuse's industries were very competitive. For the broad service sector, transportation and public utilities and trade, Syracuse enjoyed positive competitive effects. For example, for services in general, employment was predicted to be 65.5 thousand in 1993 if national growth rates prevailed, but actual employment totaled 91.3 thousand. Close to 90 percent of this differential is due to relative growth of services nationally; the other 10 percent is due to the greater competitiveness of these service industries in Syracuse. Particular bright spots include health service (58 percent of employment differential) and retail trade (59 percent). While faster growing parts of the national economy, educational services and financial services (FIRE) were less competitive in the Syracuse MSA than nationally. Nationally declining service industries that also fared poorly in competitive terms in Syracuse include transportation and public utilities, wholesale trade and federal government employment..

Personal Income

The strongest evidence of a revival in the New York economy in the 1980s came from the rapid growth in personal income. Per capita income in New York grew slightly faster than the rest of the Northeast region and higher than that for the total United States (Table 22). The income growth rate for Onondaga County was also above the national average and exceeded many other upstate metropolitan areas. Statewide, per capita income rose to 20 percent above the national average by 1990. This is a major reversal. As with employment and population, the 1970s was a decade of relative decline in real income for New York State and Onondaga County compared to national trends.

Not surprisingly, the newfound income growth of the 1980s has been unbalanced. Some regions and industrial sectors, and some population groups, have benefitted more than others. In addition, per capita income in Onondaga County was hit harder by the recent recession than the rest of the state or country and has grown slowly during most of the 1990s. Understanding these imbalances and emerging trends is crucial to gaining a proper assessment of the extent to which the strong income growth of the 1980s is likely to continue during the 1990s and what these trends imply for the underlying strength of the Onondaga County economy.[8]

General Trends

Real per capita personal income in New York State grew by over 2.5 percent per year from 1980 to 1990, which was 50 percent above the national growth rate (Table 22). Income even grew moderately during the 1981-82 recession (compared to declining income for the nation as a whole) and from 1982 to 1990 increased by close to 3 percent per year. This performance is remarkable given the dismal economic position of the state just in the 1970s. While not quite matching the state performance, per capita income grew by over 2 percent per year in Onondaga County and Syracuse MSA, 30 percent above the national growth rate. Growth in Onondaga County matched or exceeded that in other upstate metropolitan areas except for Albany and Glens Falls (Table 23).

However, growth in per capita income began to slow down in 1990 and actually declined in 1991. Income dropped by over 2 percent in 1991 in Onondaga County, a 60 percent steeper decline than occurred statewide or nationally. During the recovery from 1991 to 1993, per capita income has grown very little in the county compared to annual growth rates of 1.7 percent for the state and nation, and has been slower than other parts of the state excepting Long Island and Poughkeepsie. While the U.S. Bureau of Economic Analysis has forecast income to grow faster during the next decade in the Syracuse MSA than statewide, the trends of the early 1990s suggest such predictions may be too optimistic.

Sources of Income Growth

While income growth in Onondaga County was generally quite strong during the 1980s and has been much weaker in the 1990s, what does this imply for the strength of the local economy? To examine this issue we decompose income growth into several different categories.

Wages and Salaries. The growth in total wages and salary income rebounded in the 1980s after slow growth or decline of the 1970s (Table 24). After falling by 0.6 percent per year during the previous decade, wages and salaries in New York experienced real growth in excess of 3 percent per year during the 1980s, which was above the national growth rate. The growth in Onondaga County was less rapid, 2.4 percent per year, but was on par with national growth. Except for Buffalo, Elmira and Utica, growth was strong throughout the state (Table 25). For the first few years of the 1990s, wage and salary growth in Onondaga County declined by 2 percent per year, well above declines in the state and nation.

While wages and salaries began to grow in real terms in the 1980s, the growth rates have been significantly lower than that for personal income. In Onondaga County, wages and salaries dropped from 76 percent of personal income in 1970 to 69 percent in 1992. This decline is in line with the rest of the state and for nation as whole, although the county has historically had a higher percent of wage and salary income.

The key issue is why wage and salary growth has been relatively slow. Possible explanations include slow wage growth in all industries or slower wage growth in the fastest growing industries. The former would indicate an across-the-board decline in standard of living. If the fastest growing industries had below (above) average wages, then the second explanation would imply rising (declining) inequality. As discussed more fully below, the recent concern about a 'shrinking middle class' suggests the importance of examining the origins of wage and salary growth.

Another important issue for the state is whether these increases in real wages have been accompanied by labor productivity improvements. Examined in more depth in our detailed analysis of the Onondaga County economy using estimates from the REMI model, labor productivity continues to rise in manufacturing (growing by 4.2 percent in durable manufacturing and 2 percent in nondurable) but stagnates in most other sectors. Onondaga County's productivity growth is in line with the rest of New York.

Transfer Payments. One possible explanation for declining importance of wages and salaries is the rapid increases in transfer payments, especially for Medicaid. If this were the case, the rapid income growth would not be an indicator of economic health. This scenario fit the 1970s when transfer payments accounted for most of the increase in personal income, growing by over 4 percent per year. Transfer payment growth was even stronger in the total United States and fast growth areas such as Atlanta and Albuquerque. Growth in transfer payments has slowed down since 1980 but still remains above personal income growth. Growth in Onondaga County continues to be in line with the rest of the state. Since 1970, the share of transfer payments has risen from 12 percent to 18 percent of income. The share of transfer payments in Onondaga County is above that in Rochester and Albany but below that in other upstate metropolitan areas.

What types of transfer payments have driven this rapid growth and how sensitive are transfer payments to the business cycle. To examine these issues, transfer payments are decomposed into payments to the elderly (social security, workers comp and government pensions), medical (Medicare and Medicaid), income support (AFDC, SSI and food stamps), unemployment insurance benefits, veterans benefits and payment to non-profit institutions. Table 26 reveals a sharp escalation in transfer payment growth during the recession of the early 1990s, growing by 8 percent per year from 1990 to 1992 compared to no growth during the recession of the early 1980s (1980 to 1983). This growth was driven by increases of 9 percent or more per year in unemployment benefits, medical payment, income support and payments to elderly. In contrast, inflation-adjusted payments to veterans and to nonprofits continued their steady decline since 1980.

While income support payments had also increased rapidly during the recessions of the early 1980s, the high growth rate for the other three categories is unprecedented. Medical insurance payments grew six times faster in the early 1990s compared to the decade earlier. Unemployment benefits skyrocketed during the early 1990s compared to the sharp decline in the early 1980s. The astronomical growth in unemployment benefits was due primarily to extended benefits for unemployed workers during 1992, in particular. For New York State, these extended benefits went from $108 million in 1991 to $2,180 million in 1992; they have steadily decreased since then. Even removing UI benefits from transfer payments, the growth in transfer payments from 1990 to 1992 was over 6 percent per year.

While the growth in transfer payments adds to consumption and retail sales in Onondaga County, it is not an indicator of underlying strength in the local economy. The rapid growth in Medicaid has put a significant strain on the county budget. Dependence on state and federal transfers (except for Social Security) could make the economy vulnerable to the likely future decreases in the state and federal budgets.

Capital/Proprietor Income. Other fast growing categories of income have been capital and proprietor income, with annual growth rates over 3 percent since 1980 in Onondaga County (Table 24).[9] Proprietor income experienced a sharp drop during the 1970s compared to 2 percent annual growth for capital income. Growth in capital income in Onondaga County continues to lag behind the state and the nation, while proprietor's income has grown more rapidly since 1980.

The growth in capital income was concentrated in several years—1981, 1984, 1988 and 1990—with real growth of over 6 percent per year. Proprietor income exhibited strong growth from 1982 to 1988, increasing by over 12 percent per year in New York State. The data used for this analysis do not permit disaggregation of capital income to determine what accounts for the rapid growth in the 1980s. Clearly, one of the priorities of the Reagan and Bush Administrations was to stimulate the productivity and growth of the private sector, with an increased after-tax rate of return to capital as the primary lure. The policy instruments to achieve this goal have included, at one time or another, anti-inflation measures, income tax reductions, investment tax credits and accelerated depreciation. It is likely that these policies, combined with the strong economic recovery from 1983 to 1990, account for much of the growth in capital income. However, capital income dropped by 10 percent during the recession of the early 1990s.

Onondaga County has experienced significantly faster growth in proprietor income than the state as a whole (3.1 versus 2.5 percent per year) since 1980. Most of the growth occurred during the expansion from 1983 to 1989, with an annual real growth rate of close to 10 percent per year. Since 1989 proprietor income has declined by 3.6 percent per year. This sharp drop would appear to be due entirely to a drop in average earnings for self-employed proprietors.

Bradbury (1994) found that average earnings for self-employed proprietors in New England dropped by 14 percent from 1988 to 1992. In contrast, Bradbury (1994) found that jobs for self-employed proprietors (non- incorporated) increased by over 14 percent during this period. Using a procedure developed by Bradbury (1994), it is possible to calculate the number of jobs accounted for by self-employment in the Syracuse MSA.[10] Our results are consistent with Bradbury (1994); while establishment jobs dropped significantly from 1989 to 1992, proprietor employment grew rapidly, close to 20 percent per year. If patterns in Syracuse and New York follow those in New England, most of the job growth was in construction, business, personal and entertainment services. The principal occupations of the self-employed are skilled blue collar, management, professional and sales. If this method for calculating the self-employed is valid, then the number of self-employed dropped sharply in Syracuse from 1992 to 1994. Taken literally, this result would imply that these employees either were rehired in the corporate sector, left the area or dropped out of the labor force. Since self-employed proprietors are related to the small business sector, understanding the role of and cyclical sensitivity of small business employment (and income) in the Onondaga County economy and its relation to the corporate sector is an important area for future research.

Structural Change and Income Distribution

Ideally, this report would conclude with an analysis of what has happened to income distribution in Onondaga county over the last several decades. It is particularly important to understand whether low income groups benefitted equally with higher income groups from the strong growth in personal income. Much of the recent interest in the issue of industrial transformation has been due to its potential effect on income distribution. Those expressing concern over “deindustrialization” point to the loss of higher paying manufacturing jobs as leading to greater income inequality (Bluestone and Harrison 1982). The issue of whether the middle class is shrinking and if these effects are structural or transitory has become quite controversial (Loveman and Tilly 1988; Duncan, Smeeding, and Rodgers 1992).

Research on income distribution has generally employed surveys of individual households, most commonly the *Current Population Survey* from the Bureau of the Census. Since the small sample size limits the reliability of these data below the regional level, it was not possible to carry out similar research for Onondaga County or the Syracuse metropolitan area. This section will instead take on the more modest task of describing changes in real earnings and wages by industrial sector and the poverty rate.

Structural Change in Earnings. As with employment, real earnings per capita in the goods producing sectors have generally experienced the slowest growth (Table 27). Since 1980, earnings per capita in manufacturing declined by 1.6 percent per year in Onondaga County and for the whole state. A sharp drop in earnings in durable manufacturing accounted for the decline. In contrast, earnings in the services and FIRE have grown by approximately 4 percent per year since 1980. Only earnings in trade have been below average due to a decline in wholesale trade. Earnings growth in Onondaga County exceeded growth in all upstate metropolitan areas except Albany and Glens Falls (Table 28), due to consistently strong growth in all its service sectors (except wholesale trade).

Wage Growth in High and Low Wage Industries. These results indicate a continued shift of jobs and earnings from manufacturing to services. The question is what effect this structural change has had on income distribution. While we don't have direct evidence, to examine this issue a comparison was made of growth rates in real wages between high paying and low paying sectors. Annual earnings per employee were calculated (Tables 29-31), which should indicate the relative salary differential between sectors of the economy and where salary growth has been the most rapid. The "shrinking middle class" hypothesis would suggest that low paying service sectors have been the primary source of employment growth and that wage growth in these sectors continues to lag behind the higher paying goods producing sectors. The evidence would appear to be mixed.

As identified in the employment section, manufacturing industries, particularly for durable products, headed the list of declining industries in Onondaga County and nationally. Average earnings per employee in manufacturing are higher than other major sectors of the economy (Table 29). Within manufacturing, employees in durable manufacturing industries tend to get paid more than those in non-durable industries. While growth in average earnings in manufacturing was slow during the 1980s, wages grew faster during the early years of the 1990s than all other major sectors (1 digit SIC) except financial services (Table 30). Among the major declining manufacturing industries, machinery, transportation and primary metals, which are all high wage sectors, experienced the most rapid wage growth from 1990 to 1995 (Table 31). Wages declined in textile mill products, stone, clay and glass products, and electronic equipment, relatively low wage manufacturing sectors.

As discussed earlier, the most rapid employment growth has been in service sectors, particularly business services, non-profit services, retail trade and, in the 1980s, financial services (F.I.R.E). Compensation in financial services and some business, health, government and educational service sectors are on par with manufacturing. Compensation in FIRE has grown rapidly since 1980 in Onondaga County and New York State. Government, business and educational service compensation grew during the 1980s but has declined or stagnated since 1990. Average compensation in health services has actually declined since 1980.

The other high growth service sectors, including retail trade, personal services and entertainment services, tend to pay below average wages. Compensation in retail trade in general and fast growing retail sectors in particular has grown slowly or declined since 1980. The same pattern of stagnant earnings applies to personal and entertainment services.

The evidence on whether wage growth in the low wage sectors lags behind other sectors also appears mixed. The fastest growth in earnings per employee has been in manufacturing and producer service sectors, particularly F.I.R.E., which tend to have higher than average earnings.

Employee earnings growth in some lower paying sectors, such as retail trade, has been slow. However, growth has also been fairly rapid in educational, lodging and amusement services which are low paying sectors.

While these results are far from conclusive, they lend some support to the hypothesis of widening income inequality, particularly in Onondaga County and in New York State generally where the structural transformation has occurred more rapidly than in the rest of the country. Much of the employment growth has been in low paying service sectors which continue to experience slow wage growth. High wage sectors in manufacturing have experienced the largest employment declines but continued growth in compensation. The exceptions to this pattern have been in some financial, business, health and government service sectors which are relatively high paying and experienced significant compensation increases in the 1980s. However, except for the FIRE sector, compensation has declined or stagnated in these other high-paying service sectors in the 1990s.

Poverty. How have low income families fared in the changing economy of the last several decades? A shrinking middle class would seem to imply increasing poverty rates particularly among minority and single-parent households. Using information from the *1990 Census*, it is possible to examine poverty rates by type of household and race during the 1980s (Tables 32 and 33). Unfortunately, poverty rates in the 1990s are only available at the regional level. Somewhat surprisingly, the family poverty rate decreased from 10.8 percent in 1979 to 10.0 percent in 1989 in New York State. This compares to a 1989 national rate of 10.3 percent and a rate of 16.3 percent in New York City. Onondaga County has historically had lower poverty rates than the state and the nation. However, the poverty rate actually went up slightly during the 1980s. The county has lower poverty rates than Buffalo, Elmira and Utica, but more poverty than Albany, Glens Falls and Binghamton.

Have the county's increasing poverty rate occurred across the board or has it affected some groups disproportionately? Tables 32 and 33 confirm that the poverty rate is much higher among black (31.7 percent) and Hispanic (32.8 percent) families than white families (4.7 percent). Particularly vulnerable were female-headed families with young children with a poverty rate of 33 percent for whites, 54 percent for blacks and 78 percent for Hispanics in Onondaga County. These poverty trends by race and household type apply statewide in New York (Table 33), but poverty rates for black and Hispanic families are higher in Onondaga County than most areas of the state including New York City. The poverty rate doubled for Hispanic families in the 1980s in Onondaga County. Of particular concern is evidence from the mid-1980s which indicated that those who do fall under the poverty line are getting poorer.[11]

Conclusions

The 1980s were relatively good years for the Onondaga County, especially in light of its poor performance during the 1970s. Population and employment began increasing again, and per capita income growth equaled the national average. It is tempting to conclude from these trends that the corner has been turned on the absolute and relative decline of the economy. The 1990s have been a period of economic stagnation in Onondaga County. A look beneath these general trends suggest additional reasons for concern about the future economic growth and fiscal health of the county. We have tried to highlight past trends and their future implications on the economy in three areas.

Population

After declining during the 1970s, Onondaga County's population began increasing again during the 1980s and by 1992 had returned to its 1970 level. This slightly positive picture must be qualified, however, for two reasons. First, the county's recent population growth was well below the national and even the regional rate of increase. The county continues to experience net out-migration, disproportionately among the working age population. Poor employment opportunities, particularly in manufacturing, may be a key reason for this employment related migration.

The most important story emerging since 1980 was not the renewed population growth but the significant demographic changes in New York's population. There has continued, on average, to be an aging of the population as the "baby boom" generation hits middle age. In the near future this will swell population in the prime working years, and could lead to generally higher productivity and income growth. However, whether the jobs will be available to support this growing cohort of working adults is questionable.

Accompanying these trends has been a continuation of the racial diversification within the state and rapid growth of single parent households. Both increasing rates of divorce and out-of-wedlock births account for the rise of single-parent households. Minority children are particularly likely to grow up in households with one parent and to experience poverty during their childhood.

Employment

Employment in New York State and the Syracuse metropolitan area in the 1980s began to grow again and enjoyed unemployment rates below the national average. Employment growth in Syracuse exceed both the state and national growth rates during this decade. During the long expansion from 1983 to 1990, Syracuse outperformed all metropolitan areas in the state.

It is tempting to conclude from this resurgence that the Onondaga County economy had turned the corner on the stagnant growth of the 1970s and that the county could look forward to continued rapid growth in the 1990s. However, the 1990s have not been a good decade for employment growth in the Syracuse area. Employment declined sharply during the last recession and there has been little recovery since then. Manufacturing employment continued to decline in the 1980s and dropped by 3 percent per year in the early 1990s. Many of Syracuse's major manufacturing industries have lost ground nationally since 1980.

The bright spots in the local economy remain several key service sectors including health, educational and social services and insurance carriers and retail trade. While the Onondaga County economy has lost ground as a national manufacturing center, it has gained in its position as a regional center for key service industries. This transformation has put the county at a difficult crossroads. Should continued emphasis be put on attracting manufacturing firms, particularly those with a high tech orientation, or should the focus be on building on the service sector strengths? Can these service sectors provide the linkages to other sectors in the county to stimulate broad based employment growth? Such decisions have important policy implications for county tax policy and the nature and level of public infrastructure investments.

Personal Income

Personal income growth in the 1980s appeared to provide the strongest evidence that the New York State economy "turned around" from the dismal performance of the 1970s. Real income grew by an annual growth rate of over 3 percent per year--above the national average in this decade. While not faring as well as the state as a whole, Onondaga County also experienced strong per capita income growth during this period. With the exception of a few manufacturing centers in western New York, income growth was rapid statewide. The rising income growth of the 1980s was driven by rising wages, transfer payments and capital and proprietor income.

Estimates of personal income for the early 1990s indicate that the rapid growth of the 1980s may be over, at least in the short run. Income dropped sharply in 1991 and has shown only slow recovery since then. Equally troubling is the changing sources of income. Wages and salaries have declined in the 1990s while transfer payments have increased rapidly. While some of the transfer payment increase (unemployment compensation and income support) is probably due to the recession early in the decade, rapid growth in pensions and medical payments are longer term commitments which may be particularly burdensome to state and local governments in New York.

Finally, there is the question of the impact of structural change on income distribution. Although the data to assess changes in disposable income among socioeconomic groups are not available, aggregate data on earnings per employee do shed light on this issue. There appears to be some evidence using aggregate wage data for the view that the middle class is shrinking, i.e., income inequality is worsening. With the exception of some financial services, the most rapid employment growth has been in lower paid service sectors which have experienced slow income growth. This would suggest that there is a significant group of low-income workers, the "working poor," who may have benefitted little from the rapid income growth in the state and county. This plus the higher unemployment rates among minorities, suggest that local governments, particularly central cities, may be faced with an increasing demand for social services.

Tables

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Appendix: Geographic Definitions

The levels of geographic disaggregation used in this study are the metropolitan statistical area (MSA) and "region" as defined by the state. All regions of New York State except the North Country Region contain at least one metropolitan area. This provides a sufficient disaggregation to capture the diversity of economic change in New York state without getting lost in details. The following are the definitions of regions and MSAs used:

1. **Region:** The regional definitions used by the New York Department of Economic Development were used in this study (see Table A-1). It is recognized that diversity exists within these regions, however, this division appears to capture the most important regional differences in the state.

2. **Metropolitan Area (MSA):** The definitions of metropolitan statistical areas developed by the U.S. Bureau of the Census (MSA, PMSA, and CMSA) were used for this study (Table A-1). The MSA concept is used by U.S. government agencies, including specifically the Bureau of Labor Statistics and the Bureau of Economic Analysis from whose sources we draw our employment and income data. (See OMB Report 83-20, June 1983, for the revised metropolitan area definitions.)

For the New York PMSA and Albany MSA, not the entire MSA is included in the New York City Region and Capital Region, respectively. New York PMSA contains more counties than New York City Region. Albany MSA includes Montgomery and Schoharie Counties which are outside the Capital Region. In this report, Montgomery and Schoharie Counties are included in the totals for the Capital Region, instead of the Mohawk Valley Region.

Table A-1. Geographic Divisions within New York State Used in this Report

Regions	**MSAs**
New York City Region:	New York PMSA:
Bronx County	New York City (Region) plus
Kings County	Putnam County
New York County	Rockland County
Queens County	Westchester County
Richmond County	
Long Island Region:	Nassau-Suffolk PMSA:
Nassau County	Nassau County
Suffolk County	Suffolk County
Mid-Hudson Region:	Dutchess County PMSA:
Dutchess County	Dutchess County
Orange County	Newburgh PMSA:
	Orange County (plus
	Pike County, PA)
Putnam County	New York PMSA
Rockland County	
Westchester County	
Sullivan County	
Ulster County	
Captial Region:	Glens Falls MSA:
Warren County	Warren County
Washington County	Washington County
Albany County	Albany-Schenectady-Troy MSA:
Rensselaer County	Albany County
Saratoga County	Rensselaer County
Schenectady County	Saratoga County
	Schenectady County
	Montgomery County
	Schoharie County
Columbia County	
Greene County	

Table A-1. Continued

REGIONS	**MSAs**
Mohawk Valley Region:	Utica-Rome MSA:
Herkimer County	Herkimer County
Oneida County	Oneida County
Montgomery County	Albany-Schenectady-Troy MSA
Schoharie County	
Fulton County	
Hamilton County	
North Country Region:	
Clinton County	
Essex County	
Franklin County	
Jefferson County	
Lewis County	
St. Lawerence County	
Central New York Region:	Syracuse MSA:
Cayuga County	Cayuga County
Madison County	Madison County
Onondaga County	Onondaga County
Oswego County	Oswego County
Cortland County	
Fingers Lakes Region:	Rochester MSA:
Genesee County	Genesee County
Livingston County	Livingston County
Monroe County	Monroe County
Ontario County	Ontario County
Orleans County	Orleans County
Wayne County	Wayne County
Seneca County	

Table A-1. Continued

REGIONS	MSAs
Southern Tier Region:	Elmira MSA:
Chemung County	Chemung County
	Binghamton MSA:
Broome County	Broome County
Chenango County	
Delaware County	
Otsego County	
Schuyler County	
Steuben County	
Tioga County	
Tompkins County	
Western New York Region:	Buffalo-Niagara Falls MSA:
Erie County	Erie County
Niagara County	Niagara County
Chautauqua County	Jamestown MSA:
	Chautauqua County
Allegany County	
Cattaraugus County	

Endnotes

1. Data on racial composition in the 1990 and 1970 Censuses are not strictly comparable, due to differences in the classification of the Hispanic population. The growth in the percent of non-white population is probably overstated due to this discrepancy.

2. For an excellent analysis of the impact of the recent recession on New York's labor market see Ehrenhalt (1992).

3. Ideally research on employment trends would utilize employment estimates which both provide the most complete coverage of employees and the greatest disaggregation by industry and geographic area. Unfortunately, no one source meets all of these criteria. Probably the most commonly used employment estimate is the "Current Employment Statistics (CES)" or "Establishment Survey" produced jointly by state labor departments and the U.S. Bureau of Labor Statistics. (This is the basic source used in this report.) It is based on an extensive survey of establishments and provides a consistent time series over the last several decades which is available in a timely fashion. However, it does not cover proprietors, self-employed or agricultural workers, and is only available for the Syracuse MSA and for a few 2-Digit industries. There are several other sources of employment data but none are able to meet all of these criteria. The sources include: (1) employment estimates by the U.S. Bureau of Economic Analysis (BEA) which provide the most complete coverage, are available at the county level but lack detailed industry estimates; and (2) the "Insured Employment Statistics" (ES-202) published by the U.S. Bureau of Labor Statistics, which provides county level data broken down by 2-digit industry but misses many employees working for small proprietors. The ES-202 data are used to examine growing or declining industries in the county. The BEA employment data are used to calculate average earnings per employee discussed in the next section and is the employment source used by the REMI model. Because of differences in coverage, employment estimates should never be combined.

4. Massachusetts, New Hampshire and Rhode Island were hit particularly hard with job losses in excess of 5 percent. For a good analysis of the impact of the recession on Massachusetts and New England, see Browne (1991 and 1992).

5. The service producing sector has usually been defined as a residual category, i.e., all those industries not involved primarily in the production of goods. The distinction between goods and services can become murky particularly within the transportation, communications and public utilities sectors (see Stanback 1979, 1981).

6. In fact the majority of employment in this sector, particularly upstate, tends to be in more retail rather than wholesale parts of this sector, (e.g., real estate and insurance agents, branch banks and stock brokers). See Gurwitz and Rappaport (1984-85).

7. For a review of the skills mismatch issue, see Chall (1985) and Baily and Waldinger (1984).

8. This section utilizes the personal income estimates prepared by the U.S. Bureau of the Economic Analysis. Personal income includes income from wages and salaries, dividends, rents, interest, transfer payments, other labor income and income of small proprietors. Social insurance contributions are removed, but not taxes, so this is an incomplete measure of disposal income. Resident adjustments are made to earnings by place of work to estimate the income by residence. The primary benefit of this income estimate is that it is disaggregated by source, industry (2-digit SIC and geographic area county level) on an annual basis. However, this is not a micro level survey, so it does not permit estimates by socio-economic group

9. Proprietor's income includes that from unincorporated sole proprietorships, partnerships and nonprofit cooperatives. Capital income includes income from personal dividends and interest, rental income (including imputed rent) and royalties

10. Bradbury (1994) compares the BLS employment estimates produced by the "Establishment Survey" versus the "Household Survey". The former is based on a survey given to a large sample of establishments and excludes self-employed or small proprietors and agricultural workers. The Household Survey is based on the Current Population Survey which is provided monthly to approximately 60,000 households. The estimates for local areas are adjusted using an elaborate method which utilizes information on employment from the employment security system (ES-202 data). The household estimates attempt to provide a comprehensive estimate of employment. To identify self-employed proprietors it is necessary to exclude agricultural employees from the Household Survey and then subtract the two employment estimates. It was not possible to exclude agricultural workers for Syracuse MSA; instead, we assumed that percentage changes in agricultural employees were the same as those for the self-employed.

11. The gap (per family member) between the average income of families below the poverty line and the poverty line increase from $1,041 in 1980 to $1,086 in 1986 (in 1986 dollars). The increase was considerably more for families headed by women. In addition, the percent of the poor below 50 percent of the poverty grew from 33.5 percent in 1980 to 39.2 percent in 1986 (Littman 1989).

References

Bailey, Thomas and Roger Waldinger. 1984. "A Skills Mismatch in New York's Labor Market?" *New York Affairs*, 8: 3-29.

Bennett, Neil, David Bloom and Cynthia Miller. 1995. "The Influence of Nonmarital Childbearing on the Formation of First Marriages," *Demography*, 32 (February): 47-62.

Bluestone, Barry and Bennett Harrison. 1982. *The Deindustrialization of America*. New York: Basic Books.

Bradbury, Katharine. 1990. "The Changing Fortunes of American Families in the 1980s," *New England Economic Review* (July/August): 25-40.

Bradbury, Katherine, 1994. "New England Job Changes During the Recession: The Role of Self-Employment," *New England Economic Review* (September/October): 45-60.

Brauer, David and Mark Flaherty. 1992. "The New York City Recession," *Federal Reserve Bank of New York Quarterly Review*, 17 (Spring): 66-71.

Browne, Lynn. 1991. "The Role of Services in New England's Rise and Fall: Engine of Growth or Along for the Ride?" *New England Economic Review* (July/August): 27-44.

Browne, Lynn. 1992. "Why New England Went the Way of Texas Rather Than California," *New England Economic Review* (January/February): 23-41.

Bumpass, Larry. 1990. "What's Happening to the Family? Interactions Between Demographic and Institutional Change," *Demography*, 27 (November): 483-498.

Chall, Daniel. 1985. "New York City's 'Skills Mismatch'," *Federal Reserve Bank of New York Quarterly Review*, 10 (Spring): 20-27.

Danziger, Sheldon and Peter Gottschalk. 1986. "Work, Poverty, and the Working Poor: A Multifaceted Problem," *Monthly Labor Review*, 109 (September): 17-21.

Duncan, Greg, Timothy Smeeding and Willard Rogers. 1992. "W(h)ither the Middle Class? A Dynamic View," Center for Policy Research, Policy Brief No. 1, The Maxwell School. Syracuse, NY: Syracuse University.

Duncombe, William. 1992. "New York's Economic Performance Since 1980, and Prospects for the 1990s." Metropolitan Studies Program Occasional Paper, No. 155, Center for Policy Research, The Maxwell School. Syracuse, NY: Syracuse University.

Ehrenhalt, Samuel. 1992. *Profile of a Recession: The New York Experience in the Early 1990s*. Albany, NY: The Nelson A. Rockefeller Institute of Government.

Franklin, James. 1995. “Industry Output and Employment Projections to 2005,” *Monthly Labor Review*, 118 (November): 45-59.

Gardner, Jennifer. 1995. “Worker Displacement: A Decade of Change,” *Monthly Labor Review*, 118 (April): 45-56.

Green, Gordon, John Coder and Paul Ryscavage. 1992. “International Comparisons of Earnings Inequality for Men in the 1980s,” *Review of Income and Wealth,* 38 (March): 1-15.

Gurwitz, Aaron and Julie Rappaport. 1984-85. “Structural Change and Slower Employment Growth in the Financial Services Sector,” *Federal Reserve Bank of New York Quarterly Review*, 9 (Winter): 39-45.

Herzog, Jr. and Alan Schlottmann. 1995. “Worker Displacement and Job-Search: A Regional Analysis of Structural Impediments to Reemployment,” *Journal of Regional Science,* 35: 553-577.

Howe, Wayne. 1986. “The Business Services Industry Sets Pace in Employment Growth,” *Monthly Labor Review*, 109 (April): 29-36.

Johnson, Kenneth and Calvin Beale. 1995. “The Rural Rebound.” *American Demographics* (July): 46-55.

Kirk, Robert. 1987. “Are Business Services Immune to the Business Cycle?” *Growth and Change,* 18 (Spring): 15-23.

Klein, Bruce and Philip Rones. 1989. “A Profile of the Working Poor,” *Monthly Labor Review*, 112 (October): 3-13.

Littman, Mark. 1989. “Poverty in the 1980s: Are the Poor Getting Poorer?” *Monthly Labor Review*, 112 (June): 13-18.

Loveman, Gary W. and Chris Tilly. 1988. “Good Jobs or Bad Jobs: What Does the Evidence Say?” *New England Economic Review* (January/February): 46-65.

Lynch, Gerald and Thomas Hyclak. 1984. “Cyclical and Noncyclical Unemployment Differences among Demographic Groups,” *Growth and Change*, 15 (January): 9-17.

Meisenheimer III, Joseph. 1992. “Job Market Slid in Early 1991, Then Struggled to Find Footing,” *Monthly Labor Review*, 115 (February): 3-17.

Rosen, Rae and John Wenninger. 1994. “Second District Update: A Moderate Recovery Is In Progress,” *FRBNY Quarterly Review,* 19 (Spring): 45-53.

Ryscavage, Paul and Peter Henle. 1990. “Earnings Inequality Accelerates in the 1980’s,” *Monthly Labor Review*, 114 (December): 3-16.

Silvestri, George. 1995. "Occupational Employment to 2005," *Monthly Labor Review*, 118 (November): 60-84.

Silvestri, George and John Lukasiewicz. 1991. "Occupational Employment Projections," *Monthly Labor Review*, 114 (November): 64-94.

Stanback, Thomas. 1979. *Understanding the Service Economy*. Baltimore: Johns Hopkins University Press.

Stanback, Thomas. 1981. *Services: The New Economy*. Totowa, NJ: Allenheld, Osmun & Co.

Steindel, Charles and Lois Banks. 1994. "Regional Employment Trends in the Second District," *FRBNY Quarterly Review*, 19 (Summer-Fall): 112-118.

Stevens, Benjamin and Craig Moore. 1980. "A Critical Review of the Literature on Shift-Share as a Forecasting Technique," *Journal of Regional Science*, 20: 419-437

Waite, Linda. 1995. "Does Marriage Matter?" *Demography*, 32 (November): 483-507.

Waldrop, Judith and Thomas Exter. 1991. "The Legacy of the 1980s," *American Demographics*, 13 (March): 32-38.

Wasylenko, Michael. 1990. "Syracuse, New York: A Reflection of the National Economy." In R. Bingham and R. Eberts (eds.), *Economic Restructuring of the American Midwest*. Boston: Kluwer Academic Publishers.

Wetzel, James. 1990. "American Families: 75 Years of Change," *Monthly Labor Review*, 113 (March): 4-13.

Wojtkiewicz, Roger. 1992. "Diversity in Experiences of Parental Structure During Childhood and Adolescence," *Demography*, 29 (February): 59-68.

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