

# THE USE OF DEMOGRAPHIC ANALYSIS IN EVALUATING REGIONAL LABOR MARKETS: THE CASE OF THE MID-HUDSON REGION

George A. Schnell and Peter Fairweather  
College at New Paltz, State University of New York

*ABSTRACT. Demographic analysis is used to evaluate the supply of labor in the Mid-Hudson Region, New York, and to identify public policy issues related to providing adequate supplies of labor for local employers. Long-term projections of changes in the demographic composition of the labor force and the demand for labor indicate that, unless corrective action is taken, the region may experience chronic disparities between the quantity and quality of the skilled labor demanded by the region's employers and the availability of skilled workers in the region.*

This paper uses demographic analysis to evaluate the supply of labor in the Mid-Hudson Region of New York State (Figure 1) and to identify important public policy issues related to the provision of adequate supplies of labor to local employers. Research for this project was begun during a time of low unemployment and tight labor markets in much of the Mid-Hudson. Recent evidence suggests that those shortages may be easing. However, examination of long-term projections of change in the demographic composition of the labor force indicates that, unless corrective action is taken, the region may experience chronic disparities between the quantity and quality of skilled labor demanded by the region's employers and the quantity and quality of skilled labor available in the region (Riemann 1989).

## Demographic Change in the National Labor Force

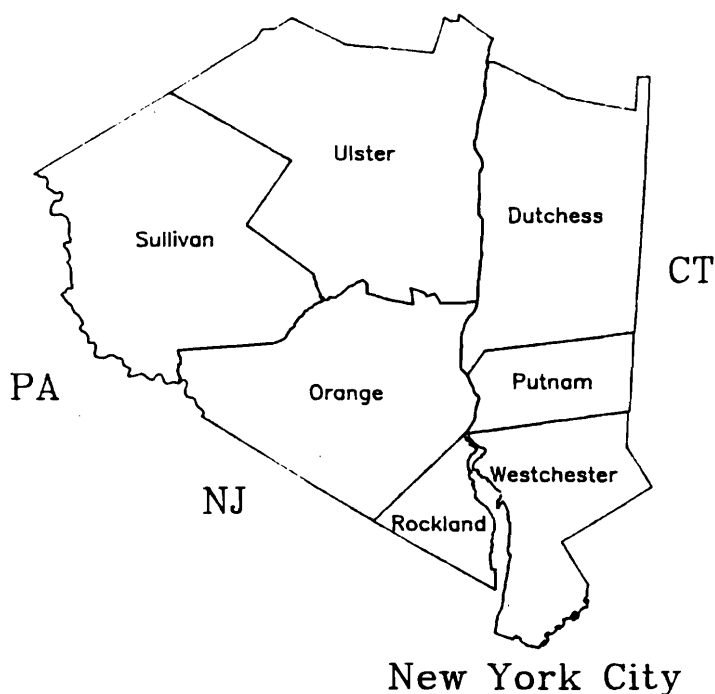
The initial section of this paper reviews the changing composition of the national labor force. An analysis of the existing and projected labor pool in the Mid-Hudson Region to the year 2000 illustrates the extent to which national conditions and trends are reflected locally.

Workforce 2000, a study prepared for the U.S. Department of Labor by the Hudson Institute, outlined several demographic trends that it predicts will reshape the labor force by the year 2000. The report lists several trends that suggest that the United States may no longer enjoy an almost unlimited supply of labor. It forecasts that the population and the work force will grow more slowly than at any time since the 1930s. Moreover, the average age of the population and work force are anticipated to rise, and the pool of young workers entering the work force is expected to shrink (Johnson and Packer 1988). On the other hand, other segments of the labor force are expected to grow. For example, it is projected that more women will enter the work force, although their rate of entry will taper off; minorities will be a larger share of new entrants into the labor force; and immigrants will represent the largest share of the increase in the population and work force since World War I (Johnson and Packer 1988).

According to various sources, the so-called "middle aging" of the work force is expected to be accompanied by a absolute and relative decline in the number of younger, entry-level workers. Workforce 2000 expects the number of people aged 20 to 29 to fall from 41 million in 1980 to 34 million by 2000 (Johnson and Packer 1988). The Office of Technology Assessment projects the percentage of the population under the age of 24 to decline from 30% in 1985 to 17% by 2005 (U.S. Congress 1988).

As the work force gets older, it is also projected to become increasingly female. In 1980, 52% of women over 16 participated in the labor force. By the year 2000, it is forecast that 61% of all women will participate, and that females will constitute 47%

Figure 1.  
Counties of the Mid-Hudson Region



---

of the work force, up from 43% in 1980. Should this projection hold true, women will comprise almost two-thirds of all new entrants into the labor force between 1985 and 2000 (Johnson and Packer 1988). The Office of Technology Assessment (OTA), found that "younger women today are participating in the work force at a rate approaching that of their male counterparts" (U.S. Congress 1988). The OTA also reports that, unlike years past, women are remaining in the work force even after they have children. "In 1984, over two-thirds of women with children aged 6 to 17 were in the labor force--more than double the rate of 1950" (U.S. Congress 1988). Workforce 2000 estimated that, in the period from 1960 to 1984, the percentage of children under six whose mothers worked increased from 19% to 52% (Johnson and Packer 1988).

By the year 2000, it is projected that a larger portion of the labor force will be black, Latin American or from other minority populations. Workforce 2000 estimates that from 1985 to 2000, nonwhites will account for 29% of the new participants in the labor force (Johnson and Packer 1988). The Bureau of Labor Statistics projects that the percentage of the work force that is black will increase from 9.2% in 1970 to 11.8% in 2000. The share of the work force of Latino origin will rise from 7% in 1985 to more than 10% by 2000 (U.S. Congress 1988).

#### The Future of the Mid-Hudson Labor Market: A Demographic Analysis

While national population growth is expected to slow by the turn of the century, projections for the Mid-Hudson Region show slightly increasing rates of growth. The data in Table 1 indicate that the Mid-Hudson Region has, or is projected to have, an average annual growth rate that is twice that of New York State's in both the 1980-1988 and 1988-2000 periods. Within the Mid-Hudson Region, the counties vary considerably but only Westchester reported a loss, albeit a slight one, in the earlier period. (Ex-

Table 1. Population Change and Projections, 1980-2000: Mid-Hudson Counties, Mid-Hudson Region and New York State

Place	1980 Population	annual % change 1980-1988	annual % change 1988-2000
Dutchess Co.	245,055	0.85	0.86
Orange Co.	259,603	1.54	0.97
Putnam Co.	77,193	1.01	1.22
Rockland Co.	259,530	0.30	1.44
Sullivan Co.	65,155	1.20	0.29
Ulster Co.	158,158	0.68	0.55
Westchester Co.	866,599	-0.03	0.06
Mid-Hudson Region	1,931,293	0.49	0.59
New York State	17,558,072	0.25	0.29

Source: State of New York, Department of Commerce, State Data Center (1985) and (1990). Trends computed by the authors.

cluding Westchester County, the Mid-Hudson's annual rate of growth, 1980-1988, was 0.9%, almost four times the state's.

Among the other counties, Orange, Putnam and Sullivan stand out in the 1980s with rates exceeding 1% per year. In the projections for 1988-2000, Orange and Putnam are joined by Rockland County with average annual rates exceeding 1%. Dutchess and Orange have projected rates for the 1990s that are slightly above the rates of growth they experienced in the 1980s. Westchester is shown as gaining slightly, whereas Sullivan's growth rate is projected to decline considerably. Again, the significance here is that recent and projected growth rates place the Mid-Hudson well above the state's rates.

Mirroring national projections, the 15-24 age group, the traditional source of entry-level workers, is expected to decline in the Mid-Hudson from 17% of the population in 1980 to 11% by the turn of the century (Table 2). In addition, this decline is expected to be more pronounced in the Mid-Hudson Region than for New York State as a whole. The decline in entry-level workers varies among the seven counties in the region, as might be expected. Orange county is projected to have a relatively large cohort aged 15-24 in 2000, as are Sullivan and Ulster. Both the state and the region are losing these young people through out-migration as they leave to attend college or seek work elsewhere. This situation, if it occurs as forecasted, will reduce the local labor force at the entry level and exacerbate any existing shortages.

Those 65 and older are projected to increase in both the Mid-Hudson and New York State throughout the periods shown on Table 3, and raises the possibility of greater numbers of "retirees" remaining in, joining, or rejoining the labor force in the future. Retirement-age individuals are shown to vary among counties with Orange, Putnam and Rockland projected to have low percentages of those 65 and over in 2000. Sullivan's,

Table 2. Age-Specific Population Projections: Mid-Hudson Region

Group (age range)	1980 Population (% of total)	1990 Population (% of total)	2000 Population (% of total)
Children (0-14)	415,853 (21.53)	405,654 (19.87)	435,939 (20.23)
Entrants (15-24)	331,918 (17.19)	269,305 (13.19)	243,575 (11.30)
Prime (25-54)	762,233 (39.47)	900,831 (44.13)	964,436 (44.75)
Older (55-64)	192,093 ( 9.95)	199,426 ( 9.77)	214,506 ( 9.95)
Retirees (>64)	229,196 (11.87)	266,198 (13.04)	296,743 (13.77)
Total	1,931,293	2,041,414	2,155,199

Source: Computed by authors from State of New York, Department of Commerce, State Data Center (1985).

Ulster's, and Westchester's shares of retirement-age individuals are projected to exceed shares for both the region and state.

According to New York State Department of Labor projections, female gains in labor force participation rates will far outstrip rates for males at both the Mid-Hudson and State levels. As Table 4 shows, the projected change in female participation is much greater for those over 16, 20-24, and 25 and older. In absolute terms, 140,000 females 16 and over are expected to join the Mid-Hudson labor market from 1987 to 2000 compared to only 23,000 males 16 and over. For the population 25 and older in the Mid-Hudson, female numbers gained in the labor force are far ahead of males, 1987-2000. Although the 20-24 population cohort for males and females is shown as declining, this post baby-boom group of females is expected to participate in the labor force at a rate exceeding 91% in 2000, and thereby offsetting the decline in workers in that age group to a much greater degree than will their male counterparts (Table 4).

The New York State Department of Labor projects that Mid-Hudson rates for female participation in 2000 will be much greater than those for the state in all four age groups shown in Table 4. The projected near parity in female-male participation in the labor force in the region and state, if even close to correct, has vast policy implications and heralds a new era in the workplace.

As Table 5 illustrates, the Mid-Hudson Region occupied a position between the very large absolute and relative numbers of blacks and persons of Latin American origin in New York City and the modest numbers and percentages of "upstate" New York (i.e.,

Table 3. Projected Change in Age Groups for the Mid-Hudson Region and for New York State: 1980-2000.

Mid-Hudson Region			
Age Range	1980 Population	% change 1980-1990	% change 1990-2000
0 - 14	415,853	-2.45	6.95
15 - 24	331,918	-18.86	-10.56
25 - 54	762,233	18.18	6.60
55 - 64	192,093	3.82	7.03
>65	229,196	16.14	10.29
Total	1,931,293	5.70	5.28

New York State			
Age Range	1980 Population	% change 1980-1990	% change 1990-2000
0 - 14	3,726,864	-4.45	1.95
15 - 24	3,118,517	-18.81	-10.22
25 - 54	6,731,547	14.76	5.15
55 - 64	1,820,377	-6.31	3.84
>65	1,160,767	15.67	7.46
Total	17,558,072	2.65	2.83

Source: Computed by authors from State of New York, Department of Commerce, State Data Center (1985).

New York State minus New York City). Although there are other groups listed in the federal census as nonwhites, they amount to little more than 58,000 people in the seven-county Mid-Hudson Region and constitute just 3% percent of the total population. These other groups, which include American Indians, Eskimos and Aleuts, Asian's, and and Pacific Islanders, are a small portion of the nonwhite labor pool in the Mid-Hudson Region compared to Blacks and persons of Hispanic origin.

Concerning Blacks, only Westchester County has them in a proportion that approaches the state's, and the percentage of Blacks in all the Mid-Hudson counties is well below that of New York City, where more than one-quarter of all of the inhabitants are so classified. Discounting Westchester and Putnam for their very high and low percentages, the other five counties are rather uniform, with 4% to 7% Black populations. Those of Latin American origin are more uniformly distributed in the region than Blacks, but about half as numerous.

Although the Region has small Black and Latino populations compared to both the New York City and the state, the rates exceed to a significant degree those of upstate counties. Although these numbers are for 1980, assuming that the rate of natural in-

Table 4. Labor Force Participation by Sex in 1987 and Projections for 2000 for the Mid-Hudson Region and New York State

Mid-Hudson Region				
	Number of Participants		Participation Rate	
	1987	2000	1987	2000
<b>Female</b>				
>16 years	464,144	604,146	55.9	68.4
16 - 19	33,423	33,890	58.5	64.9
20 - 24	61,019	49,242	76.9	91.3
>24	369,702	521,014	53.3	67.0
<b>Male</b>				
>16 years	586,356	609,531	77.8	75.4
16 - 19	36,912	37,774	63.0	69.1
20 - 24	67,960	47,901	83.0	85.5
>24	481,484	523,856	78.5	75.1
<b>New York State</b>				
	Number of Participants		Participation Rate	
	1987	2000	1987	2000
<b>Female</b>				
>16 years	3,786,581	4,693,639	52.7	62.7
16 - 19	239,901	221,034	48.3	49.9
20 - 24	488,035	409,866	68.8	76.2
>24	3,058,645	4,062,739	51.2	62.5
<b>Male</b>				
>16 years	4,702,020	4,734,522	74.6	72.2
16 - 19	253,914	240,288	50.8	52.8
20 - 24	564,189	405,632	81.0	77.8
>24	3,883,917	4,088,602	76.1	73.3

Source: Compiled by authors from State of New York, Department of Labor, Division of Research and Statistics (1990).

crease (the excess of births over deaths) would exceed that of the white population and that the proportion of Blacks and those of Latino origin in the region would remain above the proportion for upstate counties, in-migration should exceed out-migration among these two minority groups. Thus, Blacks and those of Latin American origin

Table 5. Selected Minority Populations, 1980.

Place	1980 Total Population	% Black	% Latino
Dutchess Co.	245,055	7.0	2.4
Orange Co.	259,603	6.2	4.3
Putnam Co.	77,193	0.5	1.6
Rockland Co.	259,530	6.9	4.5
Sullivan Co.	65,155	6.8	4.1
Ulster Co.	158,158	4.1	3.1
Westchester Co.	866,599	12.1	5.3
Mid-Hudson Region	1,931,293	8.7	4.3
Upstate New York	10,487,042	5.9	2.4
New York City	7,071,030	25.2	19.9
New York State	17,558,072	13.7	9.5

Source: Computed by authors U.S. Bureau of the Census (1981).

may well constitute a larger percentage of the labor force in the future, especially at entry-level, given the relative youth of these groups. If these events hold to any degree and the urban public education systems that serve many of the children in these groups are not strengthened and programs in English as a Second Language are not expanded, the labor force problems of today may well pale compared to those of tomorrow. In such a situation, population growth in the region could render the "skills gap" even more severe.

### Conclusions

The first step toward avoiding a shortage in the labor supply for a region is to recognize the important changes taking place in the characteristics of the labor force. Taken together, they raise several issues that must be addressed if the region wishes to maintain an adequate and competent labor force:

#### 1) Increase the Emphasis on Basic Skills Training.

Due to the decline of the population group that has traditionally comprised the entry-level work force (ages 16 to 24), economic growth can be sustained only if increasingly scarce human resources become more productive. Therefore, it is critically important that a much greater percentage of the participants in the labor force have a sound grasp of the fundamentals of reading, writing and simple mathematics. In this context, society can no longer afford substandard school systems serving urban areas. The performance of all public schools, especially those serving minority students, must be raised so that their graduates have the skills to participate in the modern workplace.

Further, since most of the work force for the year 2000 is already out of school, basic skills education programs must be designed to serve individuals in need who are already in the labor force.

## 2) Provide an Adequate Social Infrastructure for the Changing Supply of Labor

In the immediate post war era, the work force was comprised largely of white males. It was supported by two major subsidies: the unpaid work of female homemakers and federal subsidies for housing in the form of low interest loans and actual housing construction. As the characteristics of the work force change, the infrastructure supporting it must also change. The increase in female participation in the labor force must be accompanied by increased availability of affordable, high-quality child care. Workers with limited proficiency in English must be given training in English as a second language. Social Security and private pension systems must be revised to allow willing older workers to remain in the work force.

### References

- Johnson, W., and A. Packer (1987). Workforce 2000: Work and Workers for the Twentv-First Century (Indianapolis: Hudson Institute).
- New York State, Department of Commerce, State Data Center (1985). Official Population Projections for New York State Counties: 1980-2010 (Albany: State Data Center).
- New York State, Department of Labor, Division of Research and Statistics (1990). Unpublished data on labor force participation by age and gender.
- New York State, Department of Commerce, State Data Center (1990). Unpublished estimates of county populations for 1988.
- Reimann, R. (December 4, 1989). "Tight Labor Market Eases" Middletown Times Herald Record. Business Monday 1B, 8B, and 9B.
- U.S. Bureau of the Census (1981). 1980 Census of Population and Housing. Final Population and Housing Unit Counts, PHC80-V34, New York (Washington: U.S. Government Printing Office).
- U.S. Congress Office of Technology Assessment (1988). Technology and the American Economic Transition: Choices for the Future (Washington: U.S. Government Printing Office).