New York City's "Skills Mismatch"

Even with the dramatic improvement in New York City's economy since 1977, many City residents with low levels of education remain unemployed or out of the workforce. Suburbanites, many of them well educated, appear to hold a growing share of the City's jobs. Many analysts believe these are fundamental labor force problems stemming from a "mismatch" between the skills held by City residents and those required by its available jobs.

Some of these observers have attributed the pattern largely to the decreasing size of the City's manufacturing sector and to deficiencies in its school system. From this "mismatch" model, many of them have concluded that the City's labor force problems should be attacked by creating manufacturing jobs and upgrading the City's schools.[1] But although the contraction of the manufacturing sector has clearly reduced the employment prospects of many less-educated City residents, tabulations from the 1980 Census and the 1983 Current Population Survey cast doubt on the efficacy of these recommendations and on how the "mismatch" model has been interpreted in their support.

Several pieces of evidence suggest that subsidizing manufacturing and upgrading the City's elementary and secondary schools might not successfully reduce the City's "mismatch". First, manufacturing firms hire as many commuters (as a percentage of their workforce) as do firms in the services industries or those in the finance, insurance, and real estate (FIRE) sectors. Second, the declining job share of less-educated workers since 1980 cannot really be explained by changes in industrial composition, but rather reflects broad-based changes in every industrial category. Third, the relative severity of the City's "mismatch" problem does not stem from the particular employment practices of its firms. A much more direct cause is the City's above-average concentration of persons who never finished high school.

But simply improving the elementary and secondary schools may not substantially reduce the magnitude of the City's labor force problems. Relatively few of the City's high school dropouts were born in New York State; in fact, half of them were born outside the fifty states. This suggests that the educational shortcomings of the City's workforce may have been largely caused by problems in *other* school systems.

Nor would policies directed toward increasing manufacturing's share of total employment substantially reduce the imbalance. Nearly two-thirds of manufacturing jobs are held by persons with at least high school diplomas. So even if the City could *double* the manufacturing share of total employment the proportion of jobs for dropouts would not be increased dramatically.

The manufacturing decline and high school dropouts

Many observers have pointed to the massive decline of the manufacturing sector over the last two decades as

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[1]See, for example, the panel discussion about New York City's labor market problems in *The New York Times,* January 20, 1985, Section 4, page 6E.

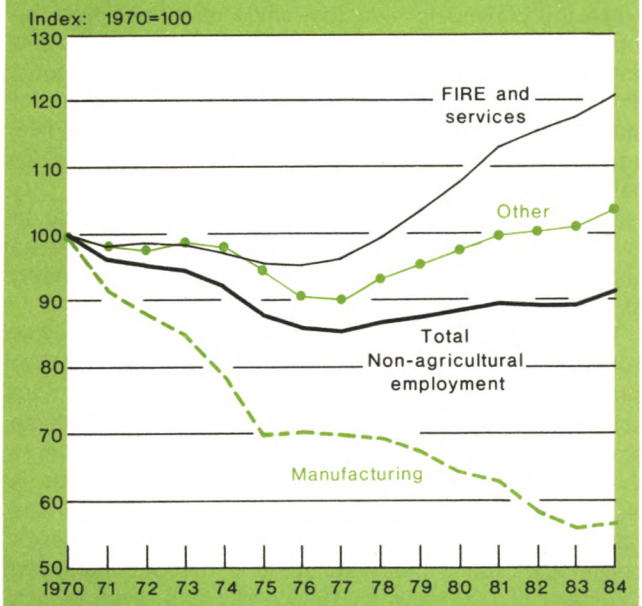
justification for policies that encourage manufacturing in New York City. While the evidence presented here raises some doubts about how well these policies would address the "skills mismatch", the profound impact of the manufacturing deterioration on the City's economy is well known. Manufacturing employment fell by 43 percent between 1970 and 1984, in a steady slide little affected by national recessions or recoveries (Chart 1). For the first half of that period total employment fell continuously, until a surge in the finance, insurance, and real estate industries and in business-related services sparked a dramatic turnaround. Even so, employment in the City has grown since 1977 at only half the rate prevailing nationally. Much of this shortfall can be explained by the loss of manufacturing jobs.

Furthermore, New York City residents have had even slower job growth. Employment in New York City firms rose by 7 percent between 1977 and 1984, but the number of employed City residents grew by only 1 percent (Chart 2).[2] And Census data indicate that City firms hired more suburban residents between 1970 and 1980, despite a decline in the total City employment.

City residents without high school diplomas, moreover, continue to have a hard time finding work; less than a third of the City's high school dropouts (over the age of 25) held jobs in 1983. The huge job losses since 1970 in the manufacturing sector appear to have contributed to the employment problems of many unskilled New York City residents. Based on the educational composition of the workforce in 1980 (Chart 3), the loss of 100,000 manufacturing jobs reflected something on the order of 37,000 lost jobs for dropouts and 21,000 lost jobs for college graduates.[3] In contrast, of the 300,000 jobs gained in the FIRE and services industries (gross of the declines in other sectors), probably only 42,000 new jobs went to dropouts, with nearly three times as many going to college graduates. On balance, then, about half of the 200,000 net job gains probably went to college graduates, but under 3 percent to dropouts.[4] In other words, the large gains in the FIRE and services sectors probably created as many jobs for dropouts as were lost in manufacturing, but that group

Chart 1

New York City Job Levels in Selected Industries

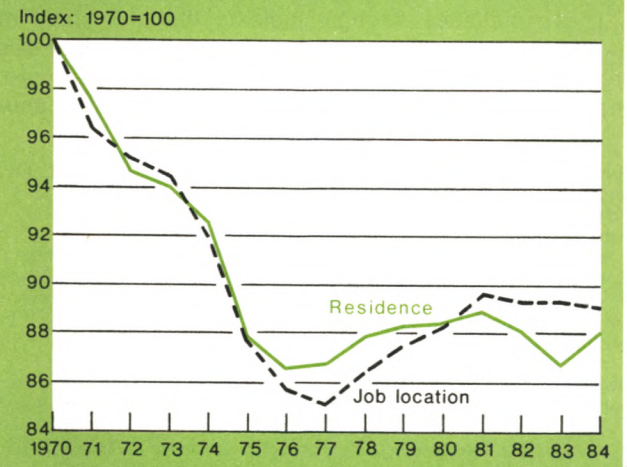


Source: New York State Department of Labor, Division of Research and Statistics.

Chart 2

New York City Employment

By job location and by residence



Sources: United States Department of Labor, Bureau of Labor Statistics and New York State Department of Labor, Division of Research and Statistics.

[2]Analysis is based on 1983 benchmark data. Preliminary information from 1984 benchmark figures suggests slightly smaller gains for employed City residents.

[3]The industrial breakdowns are derived from the Public Use Microdata Sample from the 1980 Census (Box 1). In this and all following comparisons, "services" refers to business, repair, and professional services only. Personal, entertainment, and recreational services are omitted.

[4]Other industries not directly related to the manufacturing-to-FIRE and services shift accounted for a net job gain of about 35,000 over this period.

most likely received only a minimal share of the substantial overall net employment gains.[5]

Industrial shifts and commuting

While the continuing industrial shifts may have hurt the job prospects of unskilled New Yorkers, it is important not to extend the "mismatch" model too far. A commonly heard argument, for example, is that the decline of manufacturing coupled with the increases in the FIRE and services sectors probably gave jobs to highly educated suburbanites at the expense of unskilled City residents. But an important part of this characterization is incorrect: manufacturing firms actually hire just as many commuters (as a proportion of City employment) as do firms in the services and FIRE sectors.

This is an unexpected finding. After all, even with New York's relatively high concentrations of central office sites, manufacturing firms hire more dropouts and blue collar workers than FIRE and services firms, and these employees are by far more likely to be City residents than college graduates and executives.[6] Moreover, a New York State Labor Department analysis of Census data on commuting practices in the New York metropolitan area found that commuting to the City increased by nearly 50,000 between 1970 and 1980—even though the number of jobs in the City actually fell.[7]

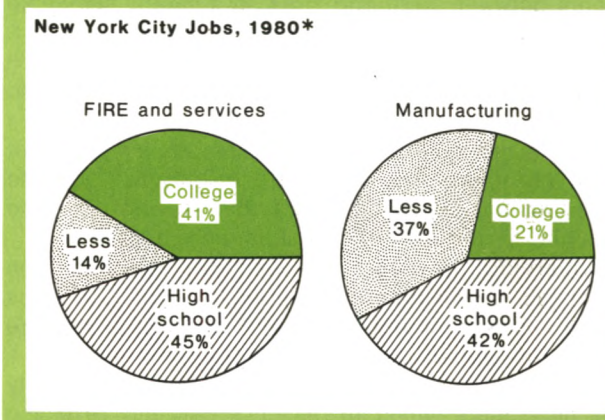
But the 1980 Census also shows that for dropouts, high school graduates, and college graduates, manufacturing workers with a given level of education were *more* likely to commute than similarly educated workers in the FIRE and services industries. So overall, 23 percent of City manufacturing employees lived outside the five boroughs; in the FIRE and services industries, the proportion of commuters was 20 percent (Chart 4).

These statistics strongly indicate that the shifts of industrial composition did not in and of themselves reduce the residents' share of City jobs. Furthermore, the analysis suggests that subsidies specific to manufacturing, as well as regulations discouraging the conversion of manufacturing properties for use in the FIRE and services sectors, might have very little effect on the proportion of City jobs held by City residents.

Chart 3

Education Distributions in FIRE and Services and Manufacturing

By highest level completed



*Workforce over age 25.

Source: United States Department of Commerce, Bureau of the Census, Public Use Microdata Sample, 1980.

Declining job shares for dropouts, 1980-83

The proportion of New York City employed residents (wherever employed) without high school diplomas fell from 28 percent in 1980 to 22 percent in 1983, while the population share of dropouts was virtually unchanged, at 40 percent.[8] Although no entirely satisfactory explanation for this decline is available, the data do suggest that only a very small part can be attributed to the shrinking employment proportion of manufacturing firms.

Declining job prospects for dropouts, in fact, are actually very broadly based. Tabulations based on the Census and the Current Population Survey show that the employment share of workers without high school diplomas fell in every major industrial category. Among all City residents, this group's share of manufacturing employment fell from 44 to 36 percent; for FIRE and

[5]These numbers do not estimate *actual* changes in jobs for dropouts and college graduates because they hold constant the workforce composition in each industry. As much as 80 percent of the manufacturing decline—a disproportionately large share—was among factory production workers. Samuel M. Ehrenhalt, "Changing Configurations in the Regional Labor Market", New York City Council on Economic Education, May 1984. But the point remains that over several years massive industrial shifts *per se* had substantial impacts on the New York economy.

[6]Over a third of college graduates working in New York City lived in suburban areas, while only 7 percent of dropouts were commuters.

[7]"Commuting in the New York City Metropolitan Area 1970 and 1980", BMLI Report No. 9, New York State Department of Labor, Division of Research and Statistics, June 1984. Commuters' share of City jobs may have grown further since 1980. See Samuel M. Ehrenhalt, "Changing Configurations", *op. cit.* However, it is also important to note that commuting is not especially prevalent in the New York City area, compared with other cities.

[8]Employment shares are compared here by place of residence because no place-of-work information was provided in the Current Population Survey (Box 1).

Box 1: Data Sources

All educational and occupational statistics for 1980 in this article, as well as other comparisons of industrial characteristics, are derived from the Public Use Microdata Sample from the 1980 Census. For national statistics and for data on New York City workplaces, national summary files for the A and B samples were combined, providing sampling rates of 1-in-500 and 1-in-1000 for the United States and New York City respectively. (Place-of-work and migration information was coded for only half the records on the files.) Data for households with New York City residence were obtained from the 1 percent New York State B sample.

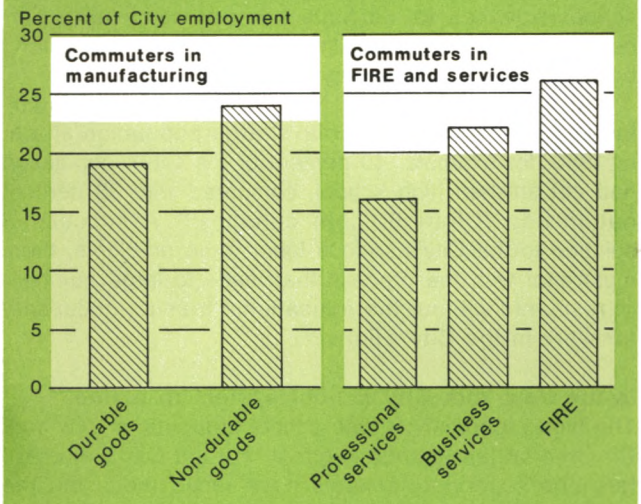
Data for 1983 came from the March 1983 Current Population Survey. Because the Survey does not provide place-of-work information, all comparisons for New York City involving 1983 are based on City residence. Comparisons over time should be used with caution, because the Census and Survey utilized different methodologies.

Following Census practice, all educational comparisons in this article are for the population or workforce over the age of 25. Problems of youth employment are therefore not considered in this article.

Chart 4

New York City Commuters

By industry*



* Workforce over age 25.

Source: United States Department of Commerce, Bureau of the Census, Public Use Microdata Sample, 1980.

services the decrease was from 18 to 13 percent. (This phenomenon was not unique to New York; similar declines occurred nationwide.) So even if the manufacturing sector and all other major industrial groups had each maintained their 1980 shares of total City resident employment, the percentage of dropouts among employed New Yorkers would have been only half a percentage point higher in 1983. Little of the reduction of their job share would have been prevented.

The data provide no clear explanations for these trends. One possibility might involve New York City's special role as a headquarters city, for which many functions require higher education. For instance, the management operations of manufacturing firms were not cut back as much as production work. Or perhaps as the workforce ages, the City's employers could be replacing retiring dropouts with high school graduates, in roughly the same positions. In any event, the breadth of these declines reveals that the problem lies not just in the loss of manufacturing firms but also in either the changing nature of all industries, or the labor force decisions of large numbers of dropouts.

The "skills mismatch" and jobs for dropouts

The term "skills mismatch" refers to an imbalance between the characteristics of New York City residents and the characteristics of the jobs being offered by the City's employers. The contrast is especially marked with regard to the proportions of dropouts: their 40 percent share in the City's population is nearly twice the share of jobs held by that educational group in the City's firms (Chart 5, top).[9] At the same time, college graduates represent about 18 percent of the City's population, but about a third of its jobs (Box 2). Neither of these imbalances can be explained by an unusual industrial composition in the City.

The relatively severe "mismatch" for New York City's dropouts comes not from unusually low availability of jobs for unskilled labor, but from the group's above-average population share. New York City firms employed the same proportion of high school dropouts in 1980, 22 percent, as did United States employers in the aggregate (Chart 5, left column). That is, the proportion of jobs held by dropouts is typical of employment practices throughout the country.

Furthermore, the share of New York City jobs held by

[9]Of course, some people prefer not to work, so an employment-population comparison is not an *absolute* measure of hardship. But the relative difficulties for dropouts are clearly shown.

dropouts is weakly influenced by differences between New York's industrial mix and that of the rest of the country. If in 1980 New York City's industrial composition (by major grouping) had matched the national average, the proportion of jobs going to persons without high school diplomas would have been at most three percentage points higher. Almost all of the "mismatch" between City jobs and City residents would remain.

The relative severity of New York City's "mismatch" instead stems from the group's large population share. In 1980, for example, 40 percent of the City's population had not finished high school, compared with 33 percent nationwide (Chart 5, right column).[10] A successful solution to the City's serious labor force problems, then, must deal with the process that leads to large numbers of residents without the educational training necessary for work in the City's firms.[11]

Is the New York City school system to blame?

The high proportion of high school dropouts in New York City may at first glance suggest that the City's elementary and secondary schools have failed them, but the evidence for that judgment is very weak. Two-thirds of New York City's dropouts were born outside New York State; fully half were born outside the fifty states. These statistics suggest that a large proportion of the City's dropouts may not have been City residents when they were of school age. Thus, much of the educational problem with the City's workforce probably lies entirely outside the control of the City's school system.

In fact, City residents born outside the fifty states can alone account for the City's high proportion of dropouts. Among all residents born in the fifty states, the proportion of high school dropouts in the City's population was virtually equal to the national average in 1980, just under one-third. Put another way, residents born abroad, as well as in U.S. possessions and other territories, account for almost 40 percent of New York City's population over age 25—far exceeding their 10 percent national share. About half of this group, a disproportionately large share, did not finish four years of high school.[12]

Actually, people born in New York State have been quite a bit more successful on average in finishing high school than have residents of other states. Throughout the country, only a quarter of adult New York State natives had failed to graduate from high school; this is well below the one-third share for the general population.

The charge has also been made that New York City's high school graduates are on average less well educated than those schooled elsewhere. Although the share of jobs held by high school graduates without college degrees is smaller in the City than nationally, the City schools may not be to blame for any weakness in their training. Half of the New York City residents in this educational group were born outside New York State, and about a third outside the fifty states. This latter percentage far exceeds the national average for this group, 7 percent. The benefit to New York City youth of improved schools may be enormous, but the impact on the skills mix of the labor force will only be gradual and vulnerable to further in-migration to the City.

Can manufacturing incentives help anyway?

The evidence presented in this article suggests that the City's industrial composition does not depress the employment proportion of high school dropouts, did not decrease this proportion since 1980, and did not increase the share of the City's jobs going to suburbanites. Nevertheless, policies aimed at attracting and retaining manufacturing firms still may seem a good way to generate jobs for low-skilled City residents. But in practice such policies could never make more than a small dent in the "skills mismatch". Manufacturing industries now make up a small proportion of the City's jobs. Even though the greatest concentration of jobs for dropouts is in manufacturing, it would still take a massive increase to alter the citywide shares of jobs held by high school dropouts to any great extent. After all, nearly two-thirds of manufacturing jobs in 1980 were held by high school or college graduates.

In 1980, for example, 16 percent of all jobs in New York City were in the manufacturing industry, while roughly half were in the FIRE and services sectors (table). If it were somehow possible to double the manufacturing share of total employment (holding all other industries at their 1980 relative proportions), then the proportion of jobs held by dropouts would rise only 3 percentage points. The share of jobs for college

[10]Among large cities, though, New York's dropout proportion is not unusually high. In 1983 the population shares of high school dropouts in Baltimore, Cleveland, Miami, Philadelphia, and St. Louis were all greater than that of New York.

[11]Regional migration patterns during the 1970s led to disproportionately high decreases in the City among persons with high educational levels, but the impact on the "mismatch" was minor. The net outflow from New York State reduced the number of college graduates by almost 5 percent between 1975 and 1980, but by only 2 percent for high school dropouts. These trends raised the population proportion of high school dropouts by less than one percentage point. See Richard D. Alba and Michael J. Batutis, *The Impact of Migration on New York State*, The Public Policy Institute and the New York State Job Training Partnership Council, September 1984.

[12]These numbers raise the question of why so many less-educated immigrants came to the City, given their poor job opportunities. In 1980, most of the City's foreign-born had been living there since at least 1975, so many may have arrived when their job prospects were better.

Employment Shares and Educational Composition in New York City, 1980

Industry	Percent of total employment*	Proportion college graduates*	Proportion high school dropouts*
Durable goods	5	20	36
Non-durable goods	11	22	38
Finance, insurance, and real estate	13	34	12
Business and repair services	7	29	24
Professional services	24	49	13
Construction	2	15	35
Public administration	6	35	9
Trade	14	20	27
Transportation, communications, and public utilities	13	17	17
Miscellaneous†	5	24	41
All industries			
Actual industrial share	100	30	22
Manufacturing share doubled	100	28	25
Manufacturing share doubled and FIRE and services halved	100	26	26

*Over the age of 25.
†Agriculture, mining, and personal and entertainment services.
Sources: United States Department of Commerce, Bureau of the Census, Public Use Microdata Sample, 1980, and Federal Reserve Bank of New York staff computations.

Box 2: The "Skills Mismatch" and Jobs for College Graduates

In contrast to the market for unskilled labor, a "mismatch" at higher educational levels can in fact be explained by the particular employment practices of the City's firms. The proportion of City jobs going to workers with college degrees, 30 percent, was well above the national average, 22 percent (Chart 5, left column).*

As with the job share for dropouts, differences in industrial mix between the City and the rest of the United States do little to explain the relatively high proportion of jobs held by college graduates. Even if the industrial employment proportions of New York City firms had been the national averages, the employment share of college graduates would have been only 2 percentage points lower. The tendency of New York City firms to hire relatively high proportions of college graduates extends to every major industrial category.

This disproportionate share of jobs going to college graduates, moreover, is not the result of an especially large proportion of that group in the City's population. In fact, the proportion of City residents who finished four years of college or more in 1983 was 18 percent, virtually equal to the national average, and 20 percent in the New York-Northeastern New Jersey Standard Metropolitan Statistical Area (SMSA).† However, in the suburban counties of the SMSA, the proportion of college graduates was about 30 percent—equal to the proportion of New York City jobs going to this educational group.

Of course, the high education levels of New York's suburban counties in part reflect the attractiveness of employment opportunities in the City. But the large numbers of highly educated suburbanites may also encourage firms to expand activities, such as headquarters, that require this kind of workforce.

*Since New York City's job share for high school dropouts matches the rest of the country, the people getting a smaller-than-average share of jobs compared with the nation are the high school graduates without college degrees. But in one respect this in-between educational group is not really hurt by any "mismatch"; its share of the City's jobs is still greater than its share of the City's population (Chart 5, top).

†If adjacent SMSAs of Nassau-Suffolk and Paterson-Clifton-Passaic are also considered, the proportion is only one percentage point higher. In 1983, the New York-Northeastern New Jersey SMSA comprised the five boroughs of New York City plus Putnam, Rockland, and Westchester Counties, New York, and Bergen County, New Jersey. The Nassau-Suffolk SMSA consisted of Nassau and Suffolk Counties, New York. The Paterson-Clifton-Passaic SMSA was defined as Passaic County, New Jersey.

graduates would fall even less. And if the FIRE and services proportions could be reduced further, to half their actual shares, then the dropout share would be just one percentage point higher.

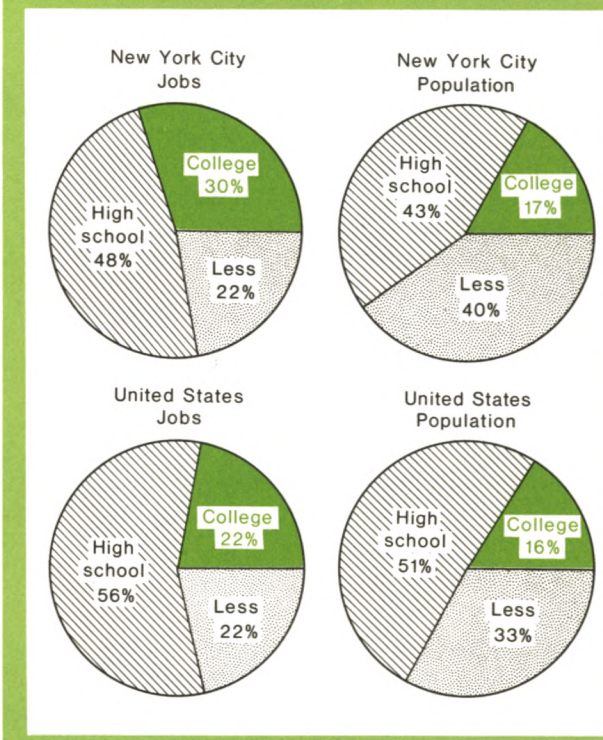
The numbers are indeed immense—industrial shifts of 400,000 jobs might bring about 100,000 new jobs for dropouts at the expense of other groups. But it is unlikely that such large increases in manufacturing employment could be accomplished. The sector has been declining nationwide as a percentage of total employment since 1960, and manufacturing employment has grown very little over the last fifteen years. This puts the City in the difficult position of competing with other areas for a limited number of jobs. But even in the best of cases the impact on the magnitude of New York City's "mismatch" would be minor.[13]

Of course, the City may choose to give special subsidies to manufacturing firms for other reasons. It might seek to eliminate any distortions discouraging manufacturing that other City policies may impose, or it may want to encourage growth of the industry for the sake of industrial diversity (even though nationally, the manufacturing sector is very sensitive to the business cycle). Policies that influence the City's industrial mix may attain these and other objectives. But restrictions on the conversion of manufacturing plants, and specific subsidies for manufacturing at the expense of other sectors, will most likely not change the educational composition of the workforce significantly.

Chart 5

Education Distributions

By highest level completed*



*Workforce and population over age 25.

Source: United States Department of Commerce, Bureau of the Census, Public Use Microdata Sample, 1980.

Conclusion

In several respects, the dramatic recovery of the New York City economy has not been "balanced". The FIRE and services industries have expanded rapidly but the manufacturing sector continues to contract. Jobs have increased steadily in New York City locations but gains for City residents have been weak and erratic. And job growth for the City's high school dropouts has been slower than for other City residents, even though their population share has not fallen.

The City's labor force problems are often summarized as a "skills mismatch" caused by the decline of goods production along with the rapid growth of service-related activities. Common policy prescriptions based on this characterization subsidize manufacturing activity in the City and prohibit the displacement of manufacturing firms by other uses.

The evidence presented in this article suggests that such policies would attack only the symptoms of a fundamental problem, and rather weakly at that. Industrial shifts have not caused the decline in the employment shares of high school dropouts since 1980 nor did they increase the percentage of jobs held by commuters. New York City firms hire no fewer high school dropouts as a proportion of the workforce than the rest of the country, and the City's industrial composition does not explain why City firms hire an unusually high proportion of college graduates.

Furthermore, policies aimed at increasing the manufacturing employment share of the City's economy must be enormous in scope to have a meaningful effect on the City's workforce. Even in the unlikely event that the City could double manufacturing's share, the composition of City employment would adjust by only a few percentage points.

Policies designed to improve the City's educational

[13]Policies targeted for production work would have a greater concentration of the desired kinds of jobs, but these have an even smaller share of total employment. So the required scope of a successful program would still be huge.

system address part of the problem, but a great deal is beyond their control. Half of City residents without high school diplomas were born outside the fifty states, and over two-thirds were born outside New York, suggesting that many of them are dropouts from other school systems. Certainly the potential gains to the City's young people from improved schools would be substantial, and the benefits from expanded adult educational programs may be significant. But the effect on the workforce will perforce be only gradual, as workers with better educations slowly become more prevalent. And if large numbers of high school dropouts continue moving to New York, the "mismatch" problems may grow even as the schools improve.

Daniel E. Chall